FWS

APPENDIX 3

TABLES



Original	I Construction			Ground		Response Zone		
Borehole	Phase Borehole	Co-ord	linates	Level	Aquifer	(m bgl)		
Name	Name	100152.6		(m AOD)	Maran Calif	21 0.75		
-	GW101	489152.6	505656.5	206.8	Woor Grit	2 to 9.75		
	GW101A	489152.9	505650.8	206.7	Scarborough formation	10.8 to 13		
-	GW102	489150.4	505665.5	207.0	Cloughton Formation	19 to 30		
-	GW103	489342.5	505678.8	203.4	Moor Grit	3 to 8.5		
HG10	GW104	489333.0	505678.0	203.7	Cloughton Formation	31.0 to 45.0		
-	GW105	489449.4	505667.3	197.4	Scarborough formation	8 to 10		
-	GW106	489559.6	505668.1	190.0	Cloughton Formation	9 to 14.4		
-	GW107	489811.4	505523.0	176.6	Cloughton Formation	6.8 to 14.5		
-	GW108	489658.1	505397.3	186.7	Cloughton Formation	7 to 13		
-	GW109	489610.1	505119.6	193.4	Scarborough Formation	4.2 to 6.6		
HG6	GW111	489761.0	504974.0	188.2	Cloughton Formation	2.5 to 5.4		
HG119	GW112	489843.0	504759.0	197.2	Scarborough formation	8.75 - 6.2		
-	GW113	Not Drilled			Moor Grit			
-	GW114	Not Drilled			Moor Grit			
-	GW115	489452.9	504645.1	209.3	Scarborough Formation	11 to 14		
-	GW116 (SAC8)	489270.5	504711.8	213.0	Moor Grit	2.7 to 9.6		
-	GW117	489236.7	505102.8	208.7	Scarborough formation	14.2 to 16.5		
-	GW117A	489234.4	505096.9	209.0	Cloughton Formation	24 to 29		
HG122	GW118	489230.0	505095.0	208.9	Moor Grit	4.0 to 14.5		
HG106	GW121	488934.0	505608.0	212.0	Superficials	1.0 to 4.0		
-	GW121A	488928.6	505613.8	211.7	Moor Grit	3.4 to 6.6		
HG106A	GW121B	488921.0	505605.0	211.6	Scarborough Formation	4.0 to 14.0		
HG105	GW122	489139.0	505500.0	208.3	Superficials	1.0 to 2.5		
HG105A	GW122A (SAC1)	489139.0	505494.0	208.3	Moor Grit	3.5 to 13.0		
-	GW123 (SAC2)	489177.0	505427.1	208.9	Moor Grit	6 to 12.8		
-	GW124 (SAC3)	489184.5	505377.0	209.7	Moor Grit	5 to 13.2		
-	GW125 (SAC4)	489215.7	505221.8	206.5	Moor Grit	4.1 to 8.5		
HG108	GW126	489128.0	505165.0	203.4	Superficials	1.0 to 3.0		
HG108A	GW126A	489128.0	505165.0	203.4	Scarborough Formation	6.5 to 10.0		
HG108B	GW126B	489129.0	505167.0	203.4	Superficials	0.0 to 1.0		
HG109	GW127	488992.0	505157.0	199.2	Superficials	1.0 to 4.5		
HG109B	GW127A	488985.0	505158.0	199.3	Superficials	0.0 to 1.0		
HG110	GW128	488834.0	505167.0	196.2	Superficials	1.0 to 2.8		
HG110B	GW128B	488836.0	505166.0	196.1	Superficials	0.0 to 1.0		
-	GW129 (SAC5)	489219.4	505118.0	207.6	Moor Grit	3.4 to 9		
_	GW130 (SAC6)	489236.1	504928 7	209.7	Moor Grit	2 to 10 8		
_	GW131 (SAC7)	489246.9	504815 5	211 5	Moor Grit	1 9 to 10 5		
HG112	GW132	488934.0	504801.0	197.5	Superficials	1.0 to 2.7		
HG112B	GW132B	488941.0	504799.0	197.5	Superficials	0.0 to 1.0		
HG1120	GW132D	489042.0	504807.0	201.3	197.7 Superficials			
HG112D	GW/1320	489042.0 489030 n	50/1798 0	201.5	Superficials	0.0 to 1.0		
HG112E	GW/122F	180035.0	504750.0	201.0	Superficials	0.0 to 1.0		
HG111	G\\/122	480017 0	504792.0	201.0	Superficials	1 0 to 1 5		
HG111A	GW133	409217.2	504714.1	212.7	Moor Crit	2.0 to 10.0		
	GW133A	403211.0	504700.0	213.0	Superficiale			
LOIIIR	GW133B	40921U./	504707.9	212.9		0.0 t0 1.0		
-	GW134		505052.2	202.2		2 4 ±= 0		
-	GW135	489487.4	505052.2	202.3	Nioor Grit	3.4 to 8		



HG118A	GW136A	489400.8	504126.5	224.1	Moor Grit	6.5 to 9.3
HG118C	GW136C	489401.6	504121.0	224.3	Scarborough formation	11.0 to 16.8
HG2	GW137	489498.5	505506.4	193.6	Cloughton Formation	4.0 to 14.0
HG4	GW138	489496.3	505206.9	198.4	Cloughton Formation	23.0 to 33.0
HG5	GW139	489240.4	504965.2	209.2	Scarborough formation	12 to 29.8
HG120	GW140	489606.1	505068.9	194.4	Scarborough formation	3.0 to 5.5 m
HG124	GW141	489412.0	504958.6	207.5	Scarborough formation	11.0 to 15.5 m
HG116		489206.5	505526.0	207.2	Moor Grit	2.0 to 6.0 m
HG119		489842.5	504759.1	197.2	Scarborough formation	
HG135		489335.7	505348.0	203.2	Moor Grit	3.0 to 8.5 m
SS2		489340.8	505315.6	203.0	Moor Grit	4.0 to 7.0 m
BH505		489272.5	505422.8	203.5	Moor Grit	2.50 to 10.05 m
BH507		489305.3	505457.3	203.6	Moor Grit	2.90 to 10.90 m
BH515		489400.2	505469.1	201.0	Moor Grit	2.5 to 9.9 m
BH520		489318.0	505422.0	203.5	Moor Grit	3.5 to 11 m
BH521		489292.0	505328.0	203.0	Moor Grit	3.5 to 8.0 m
BH522		489388.0	505456.0	201.0	Moor Grit	2.5 to 8.0 m

						Phase 3 Work	s Activities And Associ	ated Geology			
			Shaft Platform and Platform Extension	Working Platform & Batching Plant	Bunds and Stockpiles	Site Roads	Diaphragm Walls	NHNI Extractive Material Management Facility	Groundwater Drainage Layer	Reinjection Well & Saline Lagoon	Site Compound
Receptor and As	sociated Geology	() = overlying	Superficial Deposits (Moor Grit)	Superficial Deposits (Moor Grit)	Superficial Deposits (Moor Grit)	Superficial Deposits (Moor Grit / Scarborough / Cloughton)	Superficial Deposits / Moor Grit / Scarborough / Cloughton / Saltwick / Whitby Mudstone	Superficial Deposits (Scarborough / Cloughton)	Superficial Deposits (Scarborough / Cloughton)	Superficial Deposits (Moor Grit)	Superficial Deposits (Moor Grit / Scarborough)
Ugglebarnby		Distance (m)	75	210	10	135	85	385	385	560	330
Moor Northern	Dry Heath	Horizontal Proximity	High	High	Very High	High	High	Medium	Medium	Low	Medium
Dry Heath Area	Ecology	Calculated Proximity	High	High	Very High	High	High	Medium	Medium	Low	Medium
Ugglebarnby		Distance (m)	110	225	40	180	120	482	460	210	290
Moor Central	Wetland Ecology	Horizontal Provimity	High	High	Very High	High	High	Medium	Medium	High	Medium
Wet Heath Area	wetiana Leology	Calculated Proximity	High	High	Very High	High	High	Medium	Medium	High	Medium
Ugglebarnby		Distance (m)	335	245	30	505	185	760	700	160	315
Moor Southern	Dry Heath	Horizontal Provimity	Medium	High	Very High	Low	High	Very Low		High	Medium
Dry Heath Area	Ecology	Calculated Proximity	Medium	High	Very High	Low	High	Very Low	LOW	High	Medium
Ugglobarny		Distance (m)	470	410	105	EOW	225	010	250	215	400
Moor Southorn	Watland Ecology	Horizontal Provimity	470 Modium	410 Modium	195 High	595	525 Modium	Vorulow	Vory Low	515 Modium	490 Modium
Spring Eluch	wettand Ecology		Medium	Madium	nigii Hiab	LOW	Medium	Very Low	Very Low	Medium	Medium
Spring Flush			riedium	iviedium	High 150	LOW	iviedium			wiedium	iviedium 425
Sneaton Low	Dry Heath	Distance (m)	528	325	150	685	335 Maaliuus	945	885	90	425 Na alium
Noor Dry Heath	Ecology	Horizontal Proximity	LOW	iviedium	High	LOW	iviedium	Very Low	Very Low	High	iviedium
Area		Calculated Proximity	LOW	iviedium	Hign	LOW	iviedium	very Low	very Low	Hign	iviedium
			470	200	470			070	075	500	270
Sneaton Thorpe		Distance (m)	470	290	470	550	290	370	375	590	370
Beck	Surface Water	Horizontal Proximity	Low	High	Low	Low	Medium	Medium	Medium	Low	Medium
		Calculated Proximity	Low	High	Low	Low	Medium	Medium	Medium	Low	Medium
Little Beck		Distance (m)	1160	1120	950	1230	1110	1500	1500	990	1290
	Surface Water	Horizontal Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
		Calculated Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Sneaton Low		Distance (m)	1420	665	1020	1550	1210	1770	1670	870	1200
Moor Caravan	Drinking Water	Horizontal Proximity	Verv Low	Low	Verv Low	Verv Low	Verv Low	Verv Low	Verv Low	Verv Low	Verv Low
Park	Ū	Calculated Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Cloughton Fm											
MF2		Distance (m)	460	325	120	615	285	900	935	205	430
	Drinking Water	Horizontal Proximity	Medium	Medium	High	Low	Medium	Very Low	Very Low	Medium	Medium
Moor Grit		Calculated Proximity	Medium	Medium	High	Low	Medium	Very Low	Very Low	Medium	Medium
SF1		Distance (m)	1150	610	805	1300	960	1350	1260	785	930
	Drinking Water	Horizontal Proximity	Very Low	Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Scarborough Fm		Calculated Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
NHF		Distance (m)	1260	850	890	1410	1080	1720	1620	860	1180
	Drinking Water	Horizontal Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Cloughton Fm		Calculated Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
SP01		Distance (m)	720	563	400	865	580	1170	915	430	710
	Baseflow	Horizontal Proximity	Low	Low	Medium	Very Low	Low	Very Low	Very Low	Medium	Low
Moor Grit		Calculated Proximity	Low	Low	Medium	Very Low	Low	Very Low	Very Low	Medium	Low
SP02, SP03		Distance (m)	955	1165	870	1030	1120	1190	1230	1495	1320
	Baseflow	Horizontal Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
Cloughton Fm		Calculated Proximity	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
SP04		Distance (m)	465	690	350	535	795	405	505	1270	875
	Baseflow	Horizontal Proximity	Medium	Low	Medium	Low	Very Low	Medium	Low	Very Low	Very Low
Moor Grit		Calculated Proximity	Medium	Low	Medium	Low	Very Low	Medium	Low	Very Low	Very Low



FWS

DNS1		Distance (m)	115	75	195	260	90	410	310	440	20
DIGI	Pacoflow	Horizontal Provimity	Ligh	High	Ligh	Modium	High	Modium	Madium	Modium	Von High
	Dasenow		nigri	nign	nigii	weatum	nigri	iviedium	Iviedium	Wedlum	very High
Moor Grit		Calculated Proximity	High	High	High	Medium	High	Medium	Medium	Medium	Very High
Knaggy House		Distance (m)	480	700	400	550	800	340	435	1280	855
Farm Spring	Baseflow	Horizontal Proximity	Medium	Low	Medium	Low	Very Low	Medium	Medium	Very Low	Very Low
Scarborough Fm		Calculated Proximity	Low	Very Low	Medium	Low	Very Low	Medium	Medium	Very Low	Very Low
Moor Grit	"Shallow aquifer/	Distance (m)	0	0	0	0	0	70	70	0	0
Secondary A	Drinking water/	Horizontal Proximity	Very High	Very High	Very High	Very High	Very High	High	High	Very High	Very High
Aquifer	Baseflow"	Calculated Proximity	Very High	Very High	Very High	Very High	Very High	High	High	Very High	Very High
Scarborough Fm	"Shallow aquifer/	Distance (m)	0	0	0	0	0	0	0	0	0
Secondary A	Drinking water/	Horizontal Proximity	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High
Aquifer	Baseflow"	Calculated Proximity	High	Very High	Very High	High	Very High	Very High	Very High	High	Very High
Cloughton Fm	"Moderate depth	Distance (m)	0	0	0	0	0	0	0	0	0
Secondary A	aguifer/	Distance (III)	0	0	0	U	U	0	0	0	0
Aquifer	Drinking water/	Horizontal Proximity	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High
Aquilei	Baseflow"	Calculated Proximity	Medium	Very High	High	Medium	Very High	Very High	Very High	Medium	High
Saltwick Em	Dascriow	Distance (m)	0	0	0	0	0	0	0	0	0
	Moderate depth			Nama Ulada) (a.e., tilleda) (a ma Liliada	V and High) (am think			Name Ulark
Secondary A	aquifer	Horizontal Proximity	very High	very High	very High	very High	very High	very High	very High	very High	very High
Aquifer	aquiler	Calculated Proximity	Low	High	Medium	Low	Very High	High	High	Low	Medium

Calculated Proximity is determined from the Horizontal Proximity and the Vertical Proximity as detailed in Section 6.1.2.



Table 3 - Qualitative Hydrogeological Risk Assessment - Phase 2 & 3 Works

			Ugglebarnby	Ugglebarnby	Ugglebarnby	Ugglebarny Moor	Sneaton Low	Speaton Thorne										Knaggy House	Moor Grit	Scarborough Fm	Cloughton Fm	Saltwick Fm
			Moor Northern	Moor Central	Moor Southern	Southern Spring	Moor Dry Heath	Beck	Little Beck	Caravan Park	MF2	SF1	NHF	SP01	SP02, SP03	SP04	DNS1	Farm Spring	Secondary A	Secondary A	Secondary A	Secondary A
			Dry Heath Area	wet Heath Area	Dry Heath Area	Flush	Area												Aquifer	Aquirer	Aquirer	Aquirer
																			Shallow aquifer/	Shallow aquifer/	Moderate depth	
			Dry Heath Ecology	Wetland Ecology	Dry Heath	Wetland Ecology	Dry Heath Ecolomy	Surface Water	Surface Water	Drinking Water	Drinking Water	Drinking Water	Drinking Water	Baseflow	Baseflow	Baseflow	Baseflow	Baseflow	Drinking water/	Drinking water/	aquifer/	Moderate depth
			Ecology		Ecology		Ecology												Baseflow	Baseflow	Baseflow	aquiter
		Construite bottom Anthuke and Docentra	1	1.000	1	Mary Illah	1.000	h é a alluma	Manufacture	Manufau	Mary Ulah	111-h	1 U alta	h da alle una	1	Mary High	Mary High	Mary Mark	Mary High	h da alluras	Manulau	Manulau
	Alteration of groundwater flow paths and levels in the Moor Grit and	Connectivity between Activity and Receptor	LOW	LOW	LOW	very High	LOW	Medium	very Low	very Low	very High	High	High	wiedium	LOW	very High	very High	very High	very High	Medium	very Low	very Low
	Scarborough Secondary A Aquiter may arise due to the introduction of a permanent and temporary inert soil bunds and storage mounds.	Receptor Proximity to Activity	Very High	Very High	Very High	High Very High	High	Low Very High	Very Low	Very Low	High Very High	Very Low	Very Low	Medium	Very Low	Medium	High Very High	Medium	Very High	Very High	Very High Medium	High
	tiered Shaft Platform area, platform extension, a Working Platform	Magnitude of Effect at Source	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	and Batching Plant area and access roads that will limit infiltration	Magnitude of Effect at Receptor	Medium	Medium	Medium	Medium	Low	Medium	Very Low	Very Low	Medium	Low	Low	Low	Low	Medium	Medium	Medium	Medium	Medium	Low	Low
	promoting aquifer recharge.	Sensitivity (Value of Resource)	Low	Low	Low	Very High	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Minor	Minor	Minor	Moderate	Negligible	Minor	Negligible	Negligible	Moderate	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Minor	Minor	Minor	Minor
		Construite bottom Anthula and Docentra	1	1.000	1	Mary Illah	1.000	h é a alluma	Manufacture	Manufau	Mary Ulah	1	1.000	Man dia ma	1	Mary High	Mary High	Mary Mark	Mary High	h da alluras	Manulau	Manulau
		Connectivity between Activity and Receptor	LOW	Low	LOW	Very High	Low	Medium	Very Low	Very Low	Very High	LOW	Low	Medium	LOW	Very High	Very High	Very High	Very High	Medium	Very Low	Very Low
	Alteration of groundwater flow paths and levels in the Moor Grit	Receptor Proximity to Activity	High	High	High	Medium	Medium	Low	Very Low	Very Low	Medium	Very Low	Very Low	Low	Very Low	Very Low	High	Very Low	Very High	High	Medium	Low
	Diaphragm Walling Operations to maintain groundwater levels a	Magnitude of Effect at Source	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	minimum of 3 m bspl	Magnitude of Effect at Receptor	Low	Low	Low	Medium	Low	Medium	Very Low	Very Low	Medium	Low	Low	Low	Low	Low	Medium	Low	Medium	Medium	Low	Low
		Sensitivity (Value of Resource)	Low	Low	Low	Very High	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Moderate	Negligible	Minor	Negligible	Negligible	Moderate	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Minor	Minor	Minor	Minor
CTS		Connectivity between Activity and Receptor	LOW	LOW	LOW	Very High	LOW	Medium	very Low	very High	very High	very High	very High	very High	very High	very High	very High	very High	very High	very High	very High	very High
MPA	Alteration of groundwater flow paths and levels in the Moor Grit,	Receptor Proximity to Activity	High	High	High	Medium	Medium	Low	Very Low	Very Low	Medium	Very Low	Very Low	Low	Very Low	Very Low	High	Very Low	Very High	Very High	Very High	Very High
۹۲ II	bentonite fluid losses within fracture zones of high nermeability	Likelinood Magnitude of Effect at Source	Medium Very Low	Medium Very Low	Medium Ven: Low	High	Medium Very Low	High	Very Low	Medium Very Low	High	Medium Very Low	Medium Very Low	High	Medium Ven: Low	Medium Very Low	Very High	Medium Venulow	Very High	Very High	Very High	Very High
SIC	during the Diaphragm Walling Operations.	Magnitude of Effect at Receptor	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
H		Sensitivity (Value of Resource)	Low	Low	Low	Very High	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
								1				1			L		1	1		1		
		Connectivity between Activity and Receptor	Low	Low	Low	Very High	Low	Medium	Very Low	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High
1	Alteration of groundwater flow paths and levels in the Moor Grit,	Receptor Proximity to Activity	High	High	High	Medium	Medium	Low	Very Low	Very Low	Medium	Very Low	Very Low	Low	Very Low	Very Low	High	Very Low	Very High	Very High	Very High	Very High
	Scarborough, Cloughton and Saltwick aquifers will arise around the	Likelihood	Medium	Medium	Medium	High	Medium	High	Very Low	Medium	High	Medium	Medium	High	Medium	Medium	Very High	Medium	Very High	Very High	Very High	Very High
	permanent Diaphragm Wall structures.	Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
		Sensitivity (Value of Resource)	Low	Low	Low	Very High	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
						-																
		Connectivity between Activity and Receptor	Low	Low	Low	Medium	Low	Medium	Very Low	Very High	Medium	Very High	Very High	Very High	Very High	Medium	Medium	Very High	Medium	Very High	Very High	Low
		Receptor Proximity to Activity	Medium	High	Low	Very Low	Very Low	Very Low	Very Low	Very Low	Medium	Very Low	Very Low	Very Low	Very Low	Low	Medium	Medium	Very High	Very High	Very High	High
	Groundwater Drainage layer	Likelihood	Medium	Medium	Low	Low	Low	High	Very Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	High	High	Very High	Very High	Medium
		Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
		Sensitivity (Value of Resource)	Low	Low	Low	Very High	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
		Connectivity between Activity and Receptor	Low	Low	Low	Very High	Low	Medium	Very Low	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High
	Construction estated as theter, we billed within surface water are off	Receptor Proximity to Activity	High	High	High	Medium	Medium	Low	Very Low	Very Low	Medium	Very Low	Very Low	Low	Very Low	Very Low	High	Very Low	Very High	Very High	Very High	Very High
	on the Shaft Platform area and Working Platform / Batching Plant	Likelihood	Medium	Medium	Medium	High	Medium	High	Very Low	Medium	High	Medium	Medium	High	Medium	Medium	Very High	Medium	Very High	Very High	Very High	Very High
	area could infiltrate into the Moor Grit and Scarborough Aquifers.	Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
		Magnitude of Effect at Receptor	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low Medium	Very Low High	Very Low High	Very Low High	Very Low High	Very Low	Very Low Medium	Very Low Medium	Very Low Medium	Very Low Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
		Connectivity between Activity and Receptor	Low	Low	Low	Medium	Low	Medium	Very Low	Very High	Medium	Very High	Very High	Very High	Very High	Medium	Medium	Very High	Medium	Very High	Very High	Low
	Polluted surface water runoff from the Phase 3 Site Compound Area	Receptor Proximity to Activity	Medium	High	Low	Very Low	Very Low	Very Low	Very Low	Very Low	Medium	Very Low	Very Low	Very Low	Very Low	Low	Medium	Medium	Very High	Very High	Very High	High
	to be temporarily constructed to the east of the Welfare access road	Likelihood	Medium	Medium	Low	Low	Low	High	Very Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	High	High	Very High	Very High	Medium
	(Arup Drawing YP-P10-DNF-CX-50) could infiltrate into the Moor Grit	Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
	and Scarborough aquifers.	Magnitude of Effect at Receptor	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
		Connectivity between Activity and Receptor	Low	Low	Low	Low	Low	Medium	Very Low	Low	Low	Low	Low	Low	Low	Very High	Very High	Very High	Very High	High	Very Low	Very Low
		Receptor Proximity to Activity	Medium	Medium	Medium	Medium	Medium	Low	Verviow	Vervlow	Medium	Verviow	Very Low	Low	Verviow	Vervlow	Very High	Verviow	Very High	High	Medium	Low
	Polluted surface water runoff from the Diaphragm Walling	Likelihood	Medium	Medium	Medium	Medium	Medium	High	Very Low	Low	Medium	Low	Low	Low	Low	Medium	Very High	Medium	Very High	High	Low	Low
	operations.	Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
CI S		Magnitude of Effect at Receptor	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
MP/		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
AL II	Comments																					
MIC		Connectivity between Activity and Receptor	Low	Low	Low	Low	Low	Medium	Very Low	Low	Low	Low	Low	Low	Low	Very High	Very High	Very High	Very High	Medium	Low	Very Low
Ë		Receptor Proximity to Activity	High	High	High	Medium	Medium	Low	Very Low	Verv Low	Medium	Verv Low	Very Low	Low	Verv Low	Medium	High	Low	Verv High	Very High	Very High	High
	Reinjection Well Drill Pad (***Not drilled in this phase**	Likelihood	Medium	Medium	Medium	Medium	Medium	Very High	Very Low	Low	Medium	Low	Low	Low	Low	High	Very High	High	Very High	High	High	Medium
		Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
1		Sensitivity (Value of Resource)	Low	Low	Low	Very Low	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	Comments					+		+			+	+		+								
		Connectivity between Activity and Receptor	Low	Low	Low	Low	Low	Medium	Very Low	Low	Low	Low	Low	Low	Low	Very High	Very High	Very High	Very High	Medium	Very Low	Very Low
1		Receptor Proximity to Activity	High	High	High	Medium	Medium	Low	Very Low	Very Low	Medium	Very Low	Very Low	Low	Very Low	Very Low	High	Very Low	Very High	High	Medium	Low
1	Reinjection Well Saline Lagoon (***Not drilled in this phase**	Likelihood	Medium	Medium	Medium	Medium	Medium	High	Very Low	Low	Medium	Low	Low	Low	Low	Medium	Very High	Medium	Very High	High	Low	Low
1		Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
		Sensitivity (Value of Resource)	Low	Low	Low	Very Low	Low	Low	Medium	High	High	High	High	Very Low	Medium	Medium	Medium	Medium				
		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	Comments							+				+	┼─────					+				
		Connectivity between Activity and Receptor	Low	Low	Low	Low	Low	Medium	Very Low	Low	Low	Low	Low	Low	Low	Very High	Very High	Very High	Very High	Medium	Low	Very Low
		Receptor Proximity to Activity	Low	High	High	Medium	High	Very Low	Very Low	Very Low	Medium	Very Low	Very Low	Medium	Very Low	Very Low	Medium	Very Low	Very High	High	Medium	Low
	Polluted leachate and surface water runoff from the NHNI Extractive	Likelihood	Low	Medium	Medium	Medium	Medium	High	Very Low	Low	Medium	Low	Low	Medium	Low	Medium	High	Medium	Very High	High	Medium	Low
1	material Management Facility including metal and acidic leachates.	Magnitude of Effect at Source	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low
1		Sensitivity (Value of Resource)	Low	Low	Low	Very Low Very High	Low	Low	Medium	Very Low High	Very Low High	Very Low High	Very Low High	Very Low Very Low	Medium	Medium	Medium	Very Low Medium				
1		Significance of Impact	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Ma all all la	Negligible	Negligible	No ellettele	Manthallala	Negligible	Negligible	Negligible	Manifallata	Ma all allel a	Maallallala	Negligible



FWS

TABLE 4:- Contaminants of Concern from Phase 3 Works

Contaminant of Concern	Source	Receptor
рН	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Conductivity	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Aluminium	NHNI WMF	Groundwater, Surface Waters and Springs
Cobalt	NHNI WMF	Groundwater, Surface Waters and Springs
Sodium	Construction Works/NHNI WM	Groundwater, Surface Waters and Springs
Chloride	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Sulphate	NHNI WMF	Groundwater, Surface Waters and Springs
Turbidity	Construction Works/NHNI WMF	Surface Waters Only
Suspended Solids	Construction Works/NHNI WMF	Surface Waters Only
Biological Oxygen Demand (BOD)	Construction Works/NHNI WMF	Surface Waters Only
Free Ammonia (NH3)	Construction Works/NHNI WMF	Surface Waters Only
Benzene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Toluene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Ethylbenzene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Xylene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Anthracene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Benzo(a)pyrene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Benzo(b)fluoranthene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Benzo(g,h,i)perylene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Benzo(k)fluoranthene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Fluoranthene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Indeno(1,2,3-cd)pyrene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Naphthalene	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C5-C6	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C6-C8	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C8-C10	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C10-C12	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C12-C16	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C16-C21	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aliphatic C21-C35	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aromatic C5-C7	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs



TPH Aromatic C7-C8	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aromatic C8-C10	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aromatic C10-C12	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aromatic C12-C16	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aromatic C16-C21	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
TPH Aromatic C21-C35	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs
Total TPH	Construction Works/NHNI WMF	Groundwater, Surface Waters and Springs