

A19.3c

**Groundwater Monitoring
Results Analytical Results 2021**

Geographical Area Ref.	AZ1													AZ2			
	NBH72(S)				NBH401		NBH402		NBH406		NBH60		NBH61				
Sample ID	Details - GROUNDWATER																
Round	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2			
Laboratory	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	N/A	N/A			
Report Ref.	21-53	21-6920	21-53	21-4292	21-53	21-4292	21-53	21-4292	21-53	21-4292	21-1428	N/A	21-1428	N/A			
Sample Type	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	N/A			
Sampling Date	05/01/2021	07/05/2021	05/01/2021	23/03/2021	05/01/2021	23/03/2021	05/01/2021	23/03/2021	05/01/2021	23/03/2021	02/02/2021	25/03/2021	02/02/2021	25/03/2021			
Parameters	Units	MDL	GTV	EPA IGV													
Aluminium	mg/l	0.02	0.15	0.2	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic	mg/l	0.0025	0.0075	0.010	0.0044	-	0.0034	-	-	-	0.0036	-	-	-	-	-	
Barium	mg/l	0.003	nv	0.1	0.09	0.079	0.057	0.059	0.046	0.043	0.074	0.072	0.04	-	0.094	-	
Boron	mg/l	0.012	0.75	1	0.06	0.056	0.075	0.089	0.048	0.033	0.118	0.106	-	-	0.043	-	
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	200	200	105.0	102.4	115.5	114.8	120.1	130.1	73.3	69.1	51.8	-	131.0	-	
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	0.2	0.237	-	-	-	-	-	0.16	0.031	0.031	-	-	-	
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	50	25.3	26.9	12.5	14.5	7.1	7.4	29	28.8	2.1	-	18.1	-	
Manganese	mg/l	0.002	nv	0.05	0.251	-	0.01	0.005	-	-	0.071	0.011	0.002	-	0.014	-	
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel	mg/l	0.002	0.015	0.02	-	-	0.004	-	0.003	-	-	-	-	-	-	-	
Phosphorus	mg/l	0.005	nv	nv	-	-	0.014	0.012	0.043	0.039	-	-	0.013	-	-	-	
Potassium	mg/l	0.1	nv	5	4.2	3.6	5.5	4.8	5.3	5.1	5.4	5.6	0.9	-	1.4	-	
Selenium	mg/l	0.003	nv	nv	-	-	-	0.004	-	0.005	-	-	-	-	-	-	
Sodium	mg/l	0.1	150	150	20.7	23.3	33.7	33.9	29.6	32.6	23.3	22.5	80.5	-	48.6	-	
Zinc	mg/l	0.003	0.075	0.1	-	-	-	0.004	-	0.003	-	0.007	0.008	-	0.007	-	
TPH CWG (Note 1)																	
Aliphatics																	
>C5-C6	mg/l	0.01	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C8-C120	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/l	0.005			0.01	-	-	-	-	-	-	-	-	-	-	-	-
>C12-C16	mg/l	0.01			0.25	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	0.15	-	-
Total aliphatics >C5-35	mg/l	0.01	0.26	-	-	-	-	-	-	-	-	-	0.15	-	-		
Aromatics																	
>EC5-EC7	mg/l	0.01	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/l	0.005			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC21-EC35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	0.28	-	-
Total aromatics >C5-35	mg/l	0.01	1.38	-	-	-	-	-	-	-	-	-	1.66	-	-		
Total aliphatics and aromatics >C10-35	mg/l	0.01	0.26	-	-	-	-	-	-	-	-	-	1.81	-	-		
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	0.0003	-	-	-	-	-	
Benzene	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
m/p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	0.26	-	-	-	-	-	-	-	0.15	-	-	-	
PFAS - D/ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	ND	
Total 12 PCBs (Note 3)	ug/l	1.2	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	ND	
VOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	D	ND	ND	ND	ND	ND	
SVOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	D	D	D	
Fluoride	mg/l	0.3	nv	1	-	-	0.6	0.9	-	-	0.6	0.5	-	-	-	-	
Sulphate as SO4	mg/l	0.5	187.5	200	50.9	53.4	53.6	53.6	50.1	55.2	40.7	39.6	-	23.6	-		
Chloride	mg/l	0.3	187.5	30	31.2	24.4	38.8	57.7	43.5	53.1	29.2	26.9	134.2	174.2	-		
Nitrate	mg/l	0.05	37.5	25	-	1.1	17.4	19	19.8	24.3	1.7	0.8	3	2.9	-		
Nitrite	mg/l	0.006	0.375	0.1	-	0.09	-	-	-	-	-	-	-	-	-	-	
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	0.34	0.08	-	0.07	-	-	0.1	0.11	0.06	-	0.1	-	
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	1,016	1,544	298	286	308	280	292	304	216	-	380	-	
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	98	91	93	86	129	86	91	74	41	-	163	-	
BOD	mg/l	1	nv	nv	-	2	-	-	-	-	-	-	2.0	-	1.0	-	
COD	mg/l	7	nv	nv	7.0	30.0	7.0	-	-	-	-	-	29.0	-	21.0	-	
Redox	mV	nv	nv	nv	287.8	365.5	283.8	278.2	208.0	278.5	155.1	275.8	256.3	-	271.3	-	
Total Dissolved Solids	mg/l	35	nv	1,000	474	573	472	509	499	487	383	373	393	-	743	-	
Total Suspended Solids	mg/l	10	nv	nv	3594	3173	22	-	67	-	183	206	1,131	-	2,849	-	
Turbidity	NTU	0.1	nv	nv	3200	34440	16.2	5.3	63.5	8.7	166	225	1,600	-	3,680	-	

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Undertlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes: GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)
 Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)
 IGV Interim Guideline Values (EPA, 2003)

Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m/p-Xylene, and o-Xylene.
 Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample


NBH62-X X refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL



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Geographical Area Ref.	Sample ID	AZ2												AZ3			
		NBH62		NBH62-X		NBH04		NBH06		NBH06W		AWN 01					
Round	Details - GROUNDWATER					Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2		
Laboratory						EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT		
Report Ref.						21-1428	21-4456	21-1428	21-4456	21-1428	21-4456	21-805	21-4673	21-805	21-4673	21-2750	21-4673
Sample Type						Primary	Primary	Duplicate	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sampling Date						02/02/2021	25/03/2021	02/02/2021	25/03/2021	02/02/2021	25/03/2021	21/01/2021	29/03/2021	21/01/2021	29/03/2021	25/02/2021	29/03/2021
Parameters	Units	MDL	GTV	EPA IGV													
Aluminium	mg/l	0.02	0.15	0.2	-	0.072	-	-	-	-	-	-	-	-	-	-	
Arsenic	mg/l	0.0025	0.0075	0.010	0.0026	-	-	-	-	-	-	-	0.0031	-	-	-	
Barium	mg/l	0.003	nv	0.1	0.126	0.145	0.126	0.146	0.101	0.116	0.067	0.068	0.089	0.088	0.075	0.077	
Boron	mg/l	0.012	0.75	1	0.025	0.023	0.019	0.022	0.039	0.047	0.068	0.087	0.299	0.304	0.065	0.074	
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	nv	200	83.6	87.1	81.4	87.3	120.0	137.9	113.2	110.7	45.6	45.0	102.8	119.4	
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	0.005	-	-	-	-	-	-	-	
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	0.2	-	0.107	-	-	0.68	0.601	6.558	7.856	-	-	0.064	0.442	
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	50	11.8	12.1	11.5	12.2	10	9.9	29.3	29.4	28.4	29	17.1	20.9	
Manganese	mg/l	0.002	nv	0.05	0.738	0.602	0.727	0.591	2.113	2.085	1.344	1.307	0.008	0.009	0.569	0.688	
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel	mg/l	0.002	0.015	0.02	-	-	-	-	0.004	-	-	-	-	-	0.003	-	
Phosphorus	mg/l	0.005	nv	nv	-	0.047	-	0.011	-	-	0.008	-	0.011	-	-	-	
Potassium	mg/l	0.1	nv	5	0.8	1	0.8	1.1	1.9	1.7	1.8	1.7	4.9	5.0	11.1	7.2	
Selenium	mg/l	0.003	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium	mg/l	0.1	150	150	116.3	117.5	113.0	120.3	56.2	59.9	28.9	28.8	62.1	62.4	43	25.8	
Zinc	mg/l	0.003	0.075	0.1	-	0.021	-	0.013	0.022	0.027	-	-	-	-	0.005	-	
TPH CWG (Note 1)																	
Aliphatics																	
>C5-C6	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C6-C8	mg/l	0.01			-	-	-	0.028	-	-	-	-	-	-	-	-	
>C8-C120	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C10-C12	mg/l	0.005	0.0075	0.01	-	0.13	-	0.206	-	-	-	-	-	-	-	-	
>C12-C16	mg/l	0.01			-	0.09	-	1.38	-	-	-	-	-	-	-	-	
>C16-C21	mg/l	0.01			-	-	-	0.04	-	-	-	-	-	-	-	-	
>C21-C35	mg/l	0.01			-	-	-	0.21	-	-	-	-	-	-	-	-	
Total aliphatics >C5-35	mg/l	0.01			-	0.22	-	1.864	-	-	-	-	-	-	-	-	
Aromatics																	
>EC5-EC7	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC10-EC12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC21-EC35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
Total aromatics >C5-35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
Total aliphatics and aromatics >C10-35	mg/l	0.01			-	0.22	-	1.864	-	-	-	-	-	-	-	-	
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
m,p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	-	1.836	-	-	-	-	-	-	-	
PFAS - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt	
Total 12 PCBs (Note 3)	ug/l	1.2	-	-	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt	
VOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	D	D	ND	ND	ND	ND	ND	ND	
SVOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	D	ND	ND	ND	ND	ND	ND	ND	
Fluoride	mg/l	0.3	nv	1	-	-	-	-	-	-	0.4	0.3	1.6	1.4	-	0.3	
Sulphate as SO4	mg/l	0.5	187.5	200	32.6	31.4	32.5	31.9	37.4	35.9	112.2	97.1	76.3	73.1	64	76	
Chloride	mg/l	0.3	187.5	30	127.8	132.4	127.7	133.9	88.2	113.8	29.2	29.6	37.2	40.8	75.2	36.9	
Nitrate	mg/l	0.05	37.5	25	-	-	-	-	1	-	-	-	-	-	-	-	
Nitrite	mg/l	0.006	0.375	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	0.04	0.04	0.05	0.04	0.59	0.2	0.24	0.25	0.59	0.59	0.48	0.25	
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	338	320	344	338	1,398	2,168	332	274	248	254	364	298	
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	37	28	36	29	67	83	136	128	74	71	84	103	
BOD	mg/l	1	nv	nv	2.0	-	2.0	-	2.0	-	-	1.0	11.0	8.0	-	-	
COD	mg/l	7	nv	nv	49.0	14.0	34.0	11.0	23.0	10.0	-	23.0	19.0	11	7		
Redox	mV	-	nv	nv	267.0	282.5	268.2	285.4	265.2	296.3	49.5	-	96.3	nt	89.2	nt	
Total Dissolved Solids	mg/l	35	nv	1,000	586	609	584	597	563	625	557	546	410	419	563	531	
Total Suspended Solids	mg/l	10	nv	nv	2,114	932	2,223	592	1,010	2,375	19	27	-	-	1,624	107	
Turbidity	NTU	0.1	nv	nv	2,710	1,225	3,200	835	1,590	3,045	97.2	nt	2.9	nt	792	nt	

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Underlined Value exceeds the EPA Interim Guideline Values (IGV)

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample

NBH62-X X* refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL

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Geographical Area Ref. Sample ID Round	Details - GROUNDWATER					AZ3						AZ4						
						AWN02		NBH12		NBH12-X	NBH73(S)		NBH203A(S)		NBH203A(S)-X		NBH203A(D)	
						Round 1	Round 2	Round 1	Round 2	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
						EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	N/A	EMT	N/A
Report Ref.	21-2750	21-4673	21-78	21-3800	21-3800	21-78	21-3800	21-78	21-3800	21-78	N/A	21-78	N/A	21-78	21-3800			
Sample Type	Primary	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	N/A	Duplicate	N/A	Primary	Primary			
Sampling Date	25/02/2021	29/03/2021	06/01/2021	12/03/2021	12/03/2021	06/01/2021	12/03/2021	06/01/2021	12/03/2021	06/01/2021	12/03/2021	06/01/2021	12/03/2021	06/01/2021	12/03/2021			
Parameters	Units	MDL	GTV	EPA IGV														
Aluminium	mg/l	0.02	0.15	0.2	-	-	-	-	-	-	-	-	-	-	0.359			
Arsenic	mg/l	0.0025	0.0075	0.010	-	-	0.0042	-	-	-	0.0028	-	-	-	0.0048			
Barium	mg/l	0.003	nv	0.1	0.027	0.043	0.045	0.041	0.041	0.062	0.058	0.061	0.061	0.037	0.036			
Boron	mg/l	0.012	0.75	1	0.08	0.085	0.059	0.058	0.058	0.042	0.044	0.111	0.111	0.115	0.108			
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-			
Calcium	mg/l	0.2	nv	200	62.8	50.3	86.9	84.4	86.3	102.8	111.8	62.9	65.0	36.9	82.8			
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	-	-	-	-	-	-	-	-			
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	-	-	-	-	-			
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-			
Iron	mg/l	0.02	nv	0.2	0.026	-	0.069	0.036	0.038	-	-	-	-	-	0.097			
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-			
Magnesium	mg/l	0.1	nv	50	14.5	13.7	22.1	20	20.1	12.6	11.6	22.9	23.4	14.8	24.2			
Manganese	mg/l	0.002	nv	0.05	0.04	0.069	0.152	0.148	0.147	-	0.068	0.168	0.17	0.062	0.333			
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-			
Nickel	mg/l	0.002	0.015	0.02	-	0.002	-	-	-	-	-	-	-	-	0.003			
Phosphorus	mg/l	0.005	nv	nv	-	0.006	0.006	-	-	-	-	0.005	-	0.009	0.006			
Potassium	mg/l	0.1	nv	5	4.7	4.5	1.9	1.7	1.8	1.6	1.5	5.0	5.2	5.7	3.4			
Selenium	mg/l	0.003	nv	nv	0.018	-	-	-	-	-	-	-	-	-	-			
Sodium	mg/l	0.1	150	150	51.4	90	28.1	27.3	27.8	19.6	15.8	80.9	78.6	128.3	44.1			
Zinc	mg/l	0.003	0.075	0.1	0.003	0.004	-	-	-	-	-	-	-	-	-			
TPH CWG (Note 1)																		
Aliphatics																		
>C5-C6	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-			
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-			
>C8-C120	mg/l	0.01			-	-	-	-	-	-	-	0.13	0.14	0.036	-			
>C10-C12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	1.05	0.813	0.074	-			
>C12-C16	mg/l	0.01			-	-	-	-	-	-	-	0.11	0.11	2.12	-			
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	0.07	-			
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	1.1	1.18	-	-			
Total aliphatics >C5-35	mg/l	0.01			-	-	-	-	-	-	-	2.39	2.133	2.3	-			
Aromatics																		
>EC5-EC7	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-			
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-			
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-			
>EC10-EC12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-			
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	0.09	-			
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-			
>EC21-EC35	mg/l	0.01			-	-	-	-	-	-	-	0.49	0.6	-	-			
Total aromatics >C5-35	mg/l	0.01			-	-	-	-	-	-	-	0.49	0.6	0.09	-			
Total aliphatics and aromatics >C10-35	mg/l	0.01			-	-	-	-	-	-	-	2.88	2.733	2.39	-			
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-			
Benzene	mg/l	0.0005	0.00075	0.001	-	-	0.0005	-	-	-	-	-	-	-	-			
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-			
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-			
m,p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-			
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-			
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	-	-	-	-	2.43	1.993	2.264	-			
PFAS - D/ ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt			
Total 12 PCBs (Note 3)	ug/l	1.2	-	-	nt	nt	nt	nt	nt	nt	nt	ND	ND	ND	ND			
VOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	D	ND	ND	ND	D	D	D	ND			
SVOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	D	D	ND			
Fluoride	mg/l	0.3	nv	1	-	0.5	0.3	0.3	0.3	-	-	0.3	0.4	0.5	0.4			
Sulphate as SO4	mg/l	0.5	187.5	200	69.2	95.5	57.9	72.5	72.6	30.1	35	140.5	139	129.9	111.3			
Chloride	mg/l	0.3	187.5	30	29.5	29.3	34.4	26.4	25	-	16.7	-	-	-	30.1			
Nitrate	mg/l	0.05	37.5	25	0.8	-	-	-	-	-	-	-	-	-	-			
Nitrite	mg/l	0.006	0.375	0.1	-	-	-	0.08	0.07	-	-	-	-	-	-			
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	0.39	0.33	0.23	0.09	0.09	0.06	0.07	0.47	0.53	0.69	0.34			
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	2,118	268	296	274	266	3,502	2,118	576	556	4,274	4,960			
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	50	26	80	110	109	69	70	90	100	35	130			
BOD	mg/l	1	nv	nv	-	-	-	2.0	2.0	2.0	1.0	10.0	98.0	1.0	-			
COD	mg/l	7	nv	nv	-	40.0	-	14.0	9.0	8.0	62.0	180.0	580.0	-	40.0			
Redox	mV	-	nv	nv	192.8	nt	116.7	217.0	232.7	273.4	234.4	255.9	249.8	245.3	226.0			
Total Dissolved Solids	mg/l	35	nv	1,000	411	446	425	498	433	426	411	528	498	718	578			
Total Suspended Solids	mg/l	10	nv	nv	5,746	2,278	19	17	-	3,746	7,286	17,232	13,472	41,243	39,856			
Turbidity	NTU	0.1	nv	nv	5,020	nt	9.5	14.5	10.8	18,950	11,000	18,075	15,800	39,600	45,300			

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Undertlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes:

- GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)
- IGV Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)
- Interim Guideline Values (EPA, 2003)

Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m,p-Xylene, and o-Xylene.

Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample


NBHG2-X X* refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL



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Geographical Area Ref.		AZ4															
Sample ID	Details - GROUNDWATER					NBH203A(D)-X		NBH207(D)		NBH102(S)		ABH30I		NBH211		NBH223(S)	
Round	Parameters	Units	MDL	GTV	EPA IGV	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
Laboratory	Report Ref.	Sample Type	Sampling Date			EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT
						21-78	21-3800	21-78	21-3800	21-142	21-3800	21-1833	21-4292	21-142	21-3800	21-142	21-3800
						Duplicate	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
						06/01/2021	12/03/2021	06/01/2021	12/03/2021	07/01/2021	12/03/2021	09/02/2021	23/03/2021	07/01/2021	15/03/2021	07/01/2021	15/03/2021
Aluminium	mg/l	0.02	0.15	0.2	-	-	0.059	-	-	-	-	-	-	-	0.187	-	-
Arsenic	mg/l	0.0025	0.0075	0.010	0.0041	0.0035	-	-	-	-	-	-	-	-	-	-	0.0083
Barium	mg/l	0.003	nv	0.1	0.034	0.038	0.043	0.035	0.074	0.064	0.044	0.055	0.034	0.029	0.106	0.106	0.106
Boron	mg/l	0.012	0.75	1	0.107	0.122	0.067	0.063	0.075	0.065	0.063	0.052	0.067	0.063	0.737	0.675	0.675
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	mg/l	0.2	nv	200	30.8	80.5	83.5	79.2	99.9	98.3	101.9	119.8	114.0	107.3	78.8	74.4	74.4
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/l	0.02	nv	0.2	-	-	0.179	0.48	0.627	0.026	0.145	0.414	0.519	-	-	-	1.535
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/l	0.1	nv	50	12.6	25.5	18.5	16.3	26.1	23.9	11.8	14.6	23.4	20.6	26.5	24.3	24.3
Manganese	mg/l	0.002	nv	0.05	0.043	0.354	0.068	0.078	0.809	0.843	0.306	0.631	0.057	0.056	1.003	0.601	0.601
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/l	0.002	0.015	0.02	0.002	-	0.008	-	0.002	-	0.007	-	-	-	0.008	0.002	0.002
Phosphorus	mg/l	0.005	nv	nv	0.011	-	0.009	-	0.011	-	0.007	-	0.007	-	-	-	-
Potassium	mg/l	0.1	nv	5	5.5	3.9	3.7	3.0	2.7	5.1	1.7	3.0	3.0	6.3	6.2	6.2	6.2
Selenium	mg/l	0.003	nv	nv	-	-	-	-	-	-	0.012	-	-	-	-	-	-
Sodium	mg/l	0.1	150	150	142.8	47.0	45.0	28.9	31.8	29.5	32.8	21.7	37.5	34.5	55.9	48.4	48.4
Zinc	mg/l	0.003	0.075	0.1	-	-	-	0.004	-	0.015	-	-	-	0.01	-	-	-
TPH CWG (Note 1)																	
Aliphatics																	
>C5-C6	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C8-C120	mg/l	0.01			0.117	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12-C16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
Total aliphatics >C5-35	mg/l	0.01			0.117	-	-	-	-	-	-	-	-	-	-	-	-
Aromatics																	
>EC5-EC7	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC21-EC35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
Total aromatics >C5-35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
Total aliphatics and aromatics >C10-35	mg/l	0.01			0.117	-	-	-	-	-	-	-	-	-	-	-	-
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	0.003	0.003	0.003
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
m/p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-
PFAS - D/ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Total 12 PCBs	ug/l	1.2	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	D	D
SVOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	mg/l	0.3	nv	1	0.5	0.4	0.5	0.5	0.4	0.3	0.3	-	-	-	0.5	0.4	0.4
Sulphate as SO4	mg/l	0.5	187.5	200	131.6	130.2	75.7	69.5	70.5	73	74.8	88	109.9	103.9	34.1	30.7	30.7
Chloride	mg/l	0.3	187.5	30	34.1	32.3	31.7	29.6	37.1	37.4	30.3	36.1	54.5	54.8	60.5	48.6	48.6
Nitrate	mg/l	0.05	37.5	25	-	-	-	-	-	-	-	-	-	-	0.3	-	-
Nitrite	mg/l	0.006	0.375	0.1	-	-	-	-	-	-	0.31	-	-	-	-	-	-
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	0.71	0.35	0.4	0.34	0.8	0.74	0.22	-	0.18	0.13	2.15	2.09	2.09
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	2756	6484	5656	1228	320	312	270	280	292	492	2,272	360	360
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	28	135	116	100	99	115	58	106	144	161	87	89	89
BOD	mg/l	1	nv	nv	-	-	-	-	-	-	2	-	-	-	-	12.0	12.0
COD	mg/l	7	nv	nv	101.0	41.0	16.0	34.0	-	12.0	10	-	-	23.0	20.4	19.0	19.0
Redox	mV	-	nv	nv	240.6	222.5	252.7	224.8	202.5	221.4	40.09	279.81	211.4	230.4	200.4	230.0	230.0
Total Dissolved Solids	mg/l	35	nv	1,000	1,113	520	459	466	486	486	419	494	547	597	522	459	459
Total Suspended Solids	mg/l	10	nv	nv	37,095	27,812	15,851	2,632	34	11	105	25	199	1,242	8,139	226	226
Turbidity	NTU	0.1	nv	nv	55.900	44.600	17.275	781	39.2	15.4	70.2	26.2	242.0	1,710.0	5.900	208	208

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Undertlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes: GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)

IGV Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)

Interim Guideline Values (EPA, 2003)

Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m/p-Xylene, and o-Xylene.

Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample

NBHG2-X X* refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL

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Geographical Area Ref.		AZ4															
Sample ID	Details - GROUNDWATER																
Round	NBH17		NBH18(S)		NBH19A		NBH19W		NBH19W-X		NBH20(S)						
Laboratory	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2					
Report Ref.	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT					
Sample Type	21-142	21-3800	21-243	21-4144	21-243	21-4144	21-243	21-4144	21-243	21-4144	21-243	21-4144					
Sampling Date	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Duplicate	Primary	Primary	Primary					
Parameters	07/01/2021	12/03/2021	08/01/2021	16/03/2021	08/01/2021	16/03/2021	08/01/2021	16/03/2021	08/01/2021	16/03/2021	08/01/2021	16/03/2021					
Units	MDL	GTV	EPA IGV														
Aluminium	mg/l	0.02	0.15	0.2	-	-	-	-	-	-	-	-					
Arsenic	mg/l	0.0025	0.0075	0.010	-	-	0.0026	-	-	-	-	-					
Barium	mg/l	0.003	nv	0.1	0.091	0.08	0.058	0.063	0.032	0.029	0.042	0.035	0.041	0.036	0.104	0.098	
Boron	mg/l	0.012	0.75	1	0.04	0.036	0.127	0.116	0.129	0.116	0.09	0.077	0.088	0.073	0.036	0.03	
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	nv	200	156.2	149.7	111.1	110.9	143.9	149.0	103.8	97.1	100.5	97.9	74.9	76.4	
Chromium	mg/l	0.0015	0.0375	0.03	-	-	0.0018	-	-	-	-	-	-	-	-	0.0022	
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	0.2	-	-	0.317	0.409	-	-	6.477	4.19	5.836	4.291	-	-	
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	50	14.3	13.3	41.4	41.4	28.6	29.9	26.8	25.6	25.2	25.8	14.5	15.3	
Manganese	mg/l	0.002	nv	0.05	0.092	0.156	1.005	1.09	0.195	0.268	0.382	0.307	0.358	0.313	0.312	0.304	
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel	mg/l	0.002	0.015	0.02	-	-	-	-	0.002	-	-	-	-	-	0.002	-	
Phosphorus	mg/l	0.005	nv	nv	0.011	0.007	0.008	0.005	-	-	-	-	0.005	-	0.008	0.006	
Potassium	mg/l	0.1	nv	nv	7.3	7	3.1	3.3	3.3	3.4	2.0	1.9	2.0	1.9	1.5	1.4	
Selenium	mg/l	0.003	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium	mg/l	0.1	150	150	13.8	12.9	73.8	74.1	29.5	30.5	34.0	33.7	32.9	34.0	19.1	20.2	
Zinc	mg/l	0.003	0.075	0.1	0.004	0.004	0.003	-	0.003	-	-	-	0.003	-	-	-	
TPH CWG (Note 1)																	
Aliphatics																	
>C5-C6	mg/l	0.01	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C8-C120	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/l	0.005			-	-	-	-	-	-	-	-	-	-	-	-	-
>C12-C16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
Total aliphatics >C5-35	mg/l	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-		
Aromatics																	
>EC5-EC7	mg/l	0.01	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/l	0.005			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
>EC21-EC35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	-
Total aromatics >C5-35	mg/l	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total aliphatics and aromatics >C10-35	mg/l	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-		
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	0.0001	-	-	-	-	
Benzene	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
m/p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
PFAS - D/ ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	ND	nt	ND	nt	ND	nt	nt	nt	
Total 12 PCBs (Note 3)	ug/l	1.2	-	-	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	
VOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	D	ND	ND	ND	ND	
SVOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fluoride	mg/l	0.3	nv	1	-	-	0.5	0.5	-	-	-	-	-	-	0.6	0.5	
Sulphate as SO4	mg/l	0.5	187.5	200	78.5	83.1	137.4	119.4	143.7	134.1	90.8	89.9	88.2	89.8	23.8	31.9	
Chloride	mg/l	0.3	187.5	30	17.8	17.8	148.9	131	25.2	25.7	39.7	40.3	41.4	40.3	25.6	27	
Nitrate	mg/l	0.05	37.5	25	30	36.2	0.2	-	0.4	-	0.4	-	1.1	-	0.4	0.2	
Nitrite	mg/l	0.006	0.375	0.1	-	-	0.33	-	0.19	-	-	-	-	-	-	-	
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	-	0.04	0.66	0.63	-	-	0.1	0.12	0.11	0.11	0.25	0.15	
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	382	696	312	300	408	382	330	312	320	296	7,498	466	
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	114	213	247	188	151	139	139	105	130	104	82	56	
BOD	mg/l	1	nv	nv	-	-	-	2.0	-	-	-	-	-	-	-	-	
COD	mg/l	7	nv	nv	-	23.0	13.0	-	8.0	-	-	-	-	-	27.0	15.0	
Redox	mV	-	nv	nv	177.4	242.5	201.4	39.4	208.6	193.1	200.9	204.9	179.0	223.1	195.6	234.7	
Total Dissolved Solids	mg/l	35	nv	1,000	587	725	859	843	682	658	525	491	530	498	428	356	
Total Suspended Solids	mg/l	10	nv	nv	195	2654	62	158	-	-	12	-	11	-	37,789	1,648	
Turbidity	NTU	0.1	nv	nv	166.0	2910.0	82.3	195.0	3.3	8.9	98.5	64.8	82.4	72.1	40,100.0	2,050.0	

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Undertlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes:

- GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)
- IGV Interim Guideline Values (EPA, 2003)

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample


NBH62-X X* refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL



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Geographical Area Ref.					AZ4											
Sample ID	Details - GROUNDWATER				NBH21(S)		NBH21(D)		NBH216A(S)		NBH216A(D)		NBH22(S)		NBH23A	
Round	Units	MDL	GTV	EPA IGV	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
Laboratory					EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT
Report Ref.					21-276	21-4178	21-276	21-4178	21-331	21-4178	21-331	21-4178	21-1833	21-4228	21-331	21-4228
Sample Type					Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Sampling Date					11/01/2021	18/03/2021	11/01/2021	18/03/2021	12/01/2021	18/03/2021	12/01/2021	18/03/2021	09/02/2021	19/03/2021	12/01/2021	19/03/2021
Parameters	Units	MDL	GTV	EPA IGV												
Aluminium	mg/l	0.02	0.15	0.2	-	-	-	-	-	-	-	0.059	-	-	-	-
Arsenic	mg/l	0.0025	0.0075	0.010	0.0037	-	0.0028	0.0031	-	-	0.0113	-	-	-	-	-
Barium	mg/l	0.003	nv	0.1	0.086	0.088	0.068	0.055	0.063	0.07	0.057	0.054	0.056	0.042	0.025	0.021
Boron	mg/l	0.012	0.75	1	0.118	0.103	0.177	0.092	0.037	0.053	0.073	0.079	0.11	0.119	0.066	0.046
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	mg/l	0.2	200	200	109.7	107.3	55.9	75.0	140.3	125.8	98.4	85.8	127.4	117.7	88.2	70.2
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	0.0016	-	-	-	-	-	-	0.0016	-
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/l	0.02	nv	0.2	-	-	0.147	0.535	-	0.022	-	0.055	-	0.022	-	-
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/l	0.1	nv	50	36	36.6	14.1	7.8	36.4	35.9	25.7	24.7	16.9	15.9	7.1	6.1
Manganese	mg/l	0.002	nv	0.05	1.042	1.03	0.825	0.378	0.072	0.003	0.307	0.339	0.969	0.799	0.112	0.003
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/l	0.002	0.015	0.02	-	-	0.008	-	0.005	-	0.007	0.008	0.005	-	-	-
Phosphorus	mg/l	0.005	nv	nv	0.01	0.006	0.01	0.013	0.009	0.009	0.005	0.006	-	-	0.008	-
Potassium	mg/l	0.1	nv	5	2.3	2.3	4.6	4.5	2.6	2.2	1.9	14.1	13.4	8.8	7.9	-
Selenium	mg/l	0.003	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/l	0.1	150	150	40.3	40.4	35.2	62.4	35.0	33.7	42.3	39.3	37.4	34.8	33.9	23.4
Zinc	mg/l	0.003	0.075	0.1	-	-	-	0.005	-	-	-	0.003	-	0.005	-	0.004
TPH CWG (Note 1)																
Aliphatics																
>C5-C6	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>C8-C120	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/l	0.005	0.0075	0.01	-	-	-	0.014	-	-	-	-	-	-	-	-
>C12-C16	mg/l	0.01			-	-	0.13	0.32	-	-	-	-	-	-	-	-
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
Total aliphatics >C5-35	mg/l	0.01			-	-	0.13	0.334	-	-	-	-	-	-	-	-
Aromatics																
>EC5-EC7	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-
>EC21-EC35	mg/l	0.01			-	-	-	-	0.14	-	0.14	-	-	-	-	-
Total aromatics >C5-35	mg/l	0.01			-	-	-	-	0.14	-	0.14	-	-	-	-	-
Total aliphatics and aromatics >C10-35	mg/l	0.01			-	-	0.13	0.334	0.14	-	0.14	-	-	-	-	-
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	-	0.0007	0.0007	-	-
Benzene	mg/l	0.0005	0.00075	0.001	-	-	0.0027	-	-	-	-	-	-	-	-	-
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-
m,p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	0.13	0.334	-	-	-	-	-	-	-	-
PFAS - D/ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Total 12 PCBs	ug/l	1.2	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
VOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	D	ND	ND	ND	ND	D	D	D	D	D
SVOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	D	ND	ND	ND	ND	ND	ND	ND
Fluoride	mg/l	0.3	nv	1	0.3	0.3	0.3	-	0.4	0.3	0.4	0.4	-	-	0.5	0.5
Sulphate as SO4	mg/l	0.5	187.5	200	125.9	123	21.3	80.6	194.9	190.2	79	81.8	184.3	158.8	85.3	70.6
Chloride	mg/l	0.3	187.5	30	80.1	58.1	57	114.7	54.60	54.40	43.2	44.4	42.9	38.7	37.6	29.6
Nitrate	mg/l	0.05	37.5	25	-	0.3	-	0.4	-	-	-	0.3	12.4	13.1	14.4	7.6
Nitrite	mg/l	0.006	0.375	0.1	0.09	0.25	0.03	0.03	-	-	0.02	-	0.16	0.15	0.03	-
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	0.62	0.66	2.34	0.85	0.08	0.1	0.18	0.2	0.05	-	-	-
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	470	1,062	330	884	19,660	3,548	9,240	20,280	530	248	192	160
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	231	154	105	101	239	214	98	94	171	156	80	71
BOD	mg/l	1	nv	nv	-	-	13.0	3.0	-	-	-	-	-	-	-	-
COD	mg/l	7	nv	nv	17.0	35.0	79.0	36.0	37.0	28.0	92.0	55.0	12	-	9.0	-
Redox	mV	-	nv	nv	160.1	130.9	90.6	187.6	188.1	183.4	201.3	175.0	88.32	271.79	109.4	246.2
Total Dissolved Solids	mg/l	35	nv	1,000	629	672	395	481	752	787	506	502	599	579	395	311
Total Suspended Solids	mg/l	10	nv	nv	1,288	20	442	1804	98,950	19,940	33,143	56,660	1914	10	20	-
Turbidity	NTU	0.1	nv	nv	1,470	5,980	222.0	658.0	239,000	28,750	47,900	77,800	2,160	19	30.8	14.7

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Undertlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes:

- GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)
- IGV Interim Guideline Values (EPA, 2003)

Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m,p-Xylene, and o-Xylene.

Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l

Note 3. D -Detected, refer separate summary sheet; ND - Not Detected in sample


NBHG2-X X refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL



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Geographical Area Ref.		AZ4															
Sample ID	Details - GROUNDWATER					NBH23W		NBH24(S)		NBH63		NBH25(S)		NBH26CA		NBH26CA-X	
Round	Units	MDL	GTV	EPA IGV	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	
Laboratory					EMT	EMT	EMT	EMT	N/A	N/A	EMT	EMT	EMT	EMT	EMT	EMT	
Report Ref.					21-331	21-4228	21-331	21-4228	N/A	N/A	21-381	21-3591	21-381	21-3591	21-381	21-3591	
Sample Type					Primary	Primary	Primary	Primary	N/A	N/A	Primary	Primary	Primary	Primary	Duplicate	Duplicate	
Sampling Date					12/01/2021	19/03/2021	12/01/2021	19/03/2021	12/01/2021	19/03/2021	13/01/2021	11/03/2021	13/01/2021	11/03/2021	13/01/2021	11/03/2021	
Parameters	Units	MDL	GTV	EPA IGV													
Aluminium	mg/l	0.02	0.15	0.2	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic	mg/l	0.0025	0.0075	0.010	-	-	-	-	-	-	0.0026	0.0043	-	-	-	-	
Barium	mg/l	0.003	nv	0.1	0.004	-	-	0.013	0.012	-	0.08	0.117	0.236	0.101	0.243	0.1	
Boron	mg/l	0.012	0.75	1	0.024	0.013	-	0.035	0.038	-	1.383	1.78	1.565	1.498	1.599	1.502	
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	nv	200	45.4	38	-	53.2	54.3	-	378.8	434.4	405.6	301.1	410.3	291.9	
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	-	-	-	-	-	-	-	0.0021	-	
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	0.016	0.004	-	-	-	-	
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	0.2	-	-	-	-	0.021	-	-	-	2.248	0.881	2.294	0.869	
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	50	2.5	2.1	-	3	3.2	-	780.6	776.9	561.7	505.7	415.5	502.9	
Manganese	mg/l	0.002	nv	0.05	-	-	-	0.003	0.004	-	1.133	0.817	0.884	0.422	0.691	0.422	
Mercury	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel	mg/l	0.002	0.015	0.02	-	-	-	-	-	-	0.048	0.012	-	-	-	-	
Phosphorus	mg/l	0.005	nv	nv	0.014	0.01	-	0.215	0.205	-	0.01	0.009	1.346	1.199	1.357	1.204	
Potassium	mg/l	0.1	nv	5	3.6	2.9	-	4.7	5.3	-	162.2	261.7	180.4	163.1	180.0	159.6	
Selenium	mg/l	0.003	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium	mg/l	0.1	150	150	13.3	8.9	-	11.4	11.0	-	5.968.2	6.108.5	4.464.3	3.954.4	4.151.6	3.991.4	
Zinc	mg/l	0.003	0.075	0.1	-	-	-	-	-	-	0.01	0.009	-	-	-	-	
TPH CWG (Note 1)																	
Aliphatics																	
>C5-C6	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C8-C120	mg/l	0.01			-	-	-	-	0.011	-	-	-	-	-	-	-	
>C10-C12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>C12-C16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
Total aliphatics >C5-35	mg/l	0.01			-	-	-	-	0.011	-	-	-	-	-	-	-	
Aromatics																	
>EC5-EC7	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC10-EC12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC21-EC35	mg/l	0.01			-	-	-	0.14	-	-	-	-	-	-	-	-	
Total aromatics >C5-35	mg/l	0.01			-	-	-	0.14	-	-	-	-	-	-	-	-	
Total aliphatics and aromatics >C10-35	mg/l	0.01			-	-	-	0.14	0.011	-	-	-	-	-	-	-	
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
m/p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
PFAS - D/ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
Total 12 PCBs	ug/l	1.2	-	-	nt	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	
VOCs - D/ND (Note 3)	ug/l	-	-	-	ND	D	D	D	D	D	ND	ND	ND	ND	ND	ND	
SVOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fluoride	mg/l	0.3	nv	1	0.7	0.8	-	0.6	0.5	-	0.6	0.6	-	-	-	-	
Sulphate as SO4	mg/l	0.5	187.5	200	33.9	26.8	-	53.2	52.3	-	1.267.7	1.558.3	1.359.3	1.001.0	1.352.1	1.008.3	
Chloride	mg/l	0.3	187.5	30	13.6	12.3	-	15.7	17.4	-	8.307.8	11.078.5	9.141.8	7.193.2	9.119.6	7.268.4	
Nitrate	mg/l	0.05	37.5	25	5.8	4.3	-	24.8	24.1	-	-	-	-	-	-	-	
Nitrite	mg/l	0.006	0.375	0.1	-	-	-	-	-	-	-	-	0.04	-	-	0.03	
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	0.07	-	-	-	-	-	5.99	6.1	9.09	11.47	8.98	11.55	
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	98	80	-	92	100	-	57.400	47.640	330	342	322	302	
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	41	39	-	79	78	-	3.182	4.136	3.697	2.530	3.122	2.362	
BOD	mg/l	1	nv	nv	-	-	-	-	-	-	-	2.0	-	2.0	1.0	-	
COD	mg/l	7	nv	nv	11.0	-	-	12.0	-	-	203.0	415.0	783.0	201.0	306.0	209.0	
Redox	mV	-	nv	nv	84.8	240.8	-	85.2	218.1	-	216.0	158.5	155.0	168.7	184.1	170.5	
Total Dissolved Solids	mg/l	35	nv	1,000	166	147	-	245	252	-	16.372	20.114	17.152	13.512	17.768	13.894	
Total Suspended Solids	mg/l	10	nv	nv	-	-	-	-	-	-	174.198	116.676	37	30	38	37	
Turbidity	NTU	0.1	nv	nv	2.2	1.0	-	2.4	14.6	-	492.500	172.750	31.3	19.1	36.5	19.6	

Key
BOLD Value exceeds the Groundwater Threshold Value (GTV)
Underlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes:
GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)
Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)
IGV Interim Guideline Values (EPA, 2003)

Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m/p-Xylene, and o-Xylene.
Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample
NBH62-X X refers to the Duplicate Sample
nv No value
nt Not Tested
MDL Laboratory Method Detection Limit (shown in mg/l)
- Less than the MDL

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Geographical Area Ref.		AZ4															
Sample ID	Details - GROUNDWATER					NBH26CW		NBH26CW-X		NBH64		NBH219B(S)		NBH219B(D)		NBH31	
Round	Units	MDL	GTV	EPA IGV	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	
Laboratory					EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	EMT	
Report Ref.					21-381	21-3591	21-381	21-3591	21-381	21-3591	21-609	21-4357	21-609	21-4357	21-609	21-4357	
Sample Type					Primary	Primary	Duplicate	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Sampling Date					13/01/2021	11/03/2021	13/01/2021	11/03/2021	13/01/2021	11/03/2021	18/01/2021	24/03/2021	18/01/2021	24/03/2021	18/01/2021	24/03/2021	
Parameters	Units	MDL	GTV	EPA IGV													
Aluminium	mg/l	0.02	0.15	0.2	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic	mg/l	0.0025	0.0075	0.010	0.0033	0.0027	-	0.0032	0.0083	0.0099	-	-	-	-	-	-	
Barium	mg/l	0.003	nv	0.1	0.203	0.214	0.197	0.212	0.043	0.035	0.052	0.046	0.03	0.03	0.057	0.047	
Boron	mg/l	0.012	0.75	1	1.763	1.398	1.715	1.889	0.151	0.142	0.068	0.058	0.075	0.072	0.09	0.086	
Cadmium	mg/l	0.0005	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	200	200	381.1	404.3	394.3	365.1	209.2	187.7	78.3	86.3	125.2	118.9	97	96	
Chromium	mg/l	0.0015	0.0375	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Cobalt	mg/l	0.002	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Copper	mg/l	0.007	1.5	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	0.2	1.927	1.831	1.88	1.817	-	-	0.111	0.211	0.391	0.361	0.072	0.193	
Lead	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	50	591.2	513.6	659.3	512.9	15.5	14.4	11.2	12.6	28.7	26.5	32.7	32.3	
Manganese	mg/l	0.002	nv	0.05	0.869	0.854	0.862	0.855	0.03	0.011	0.282	0.305	0.097	0.123	0.113	0.103	
Mercury	mg/l	0.001	0.0075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel	mg/l	0.002	0.015	0.02	-	-	-	-	0.003	0.002	-	-	-	-	-	-	
Phosphorus	mg/l	0.005	nv	nv	1.08	0.374	1.077	0.375	0.108	0.084	-	-	-	0.005	-	0.007	
Potassium	mg/l	0.1	5	5	186.1	186.7	192.0	169.9	22.3	18.7	5	4.9	3.6	3.4	3.1	3.1	
Selenium	mg/l	0.003	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium	mg/l	0.1	150	150	4,930.7	4,078.3	4,678.6	4,330.1	12.8	12.5	18.6	20.4	37.6	35	40.6	38.4	
Zinc	mg/l	0.003	0.075	0.1	-	-	-	-	0.004	-	-	-	0.003	0.004	0.005	0.004	
TPH CWG (Note 1)																	
Aliphatics																	
>C5-C6	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C6-C8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C8-C120	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C10-C12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>C12-C16	mg/l	0.01			-	-	-	-	-	-	-	-	0.1	-	-	-	
>C16-C21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>C21-C35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
Total aliphatics >C5-35	mg/l	0.01			-	-	-	-	-	-	-	-	0.1	-	-	-	
Aromatics																	
>EC5-EC7	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC7-EC8	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC8-EC10	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC10-EC12	mg/l	0.005	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
>EC12-EC16	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC16-EC21	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
>EC21-EC35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
Total aromatics >C5-35	mg/l	0.01			-	-	-	-	-	-	-	-	-	-	-	-	
Total aliphatics and aromatics >C10-35	mg/l	0.01			-	-	-	-	-	-	-	-	0.1	-	-	-	
MTBE	mg/l	0.0001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/l	0.005	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
m/p-Xylene	mg/l	0.002	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	nt	-	-	-	-	0.1	-	-	-	
PFAS - D/ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
Total 12 PCBs (Note 3)	ug/l	1.2	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
VOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
SVOCs - D/ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fluoride	mg/l	0.3	nv	1	-	-	-	-	-	-	0.3	0.3	0.3	-	0.7	0.7	
Sulphate as SO4	mg/l	0.5	187.5	200	1,439.2	1,064.4	1,446.9	1,071.4	86.8	92.9	69.1	80.6	157.1	144.6	117.1	106.7	
Chloride	mg/l	0.3	187.5	30	9,853.4	7,851.5	9,901.2	7,828.5	14.9	19.7	18.1	20.3	54.4	49.2	43.4	42.5	
Nitrate	mg/l	0.05	37.5	25	-	-	-	-	14.7	10.9	-	-	-	-	-	-	
Nitrite	mg/l	0.006	0.375	0.1	-	-	-	-	0.04	-	-	-	-	-	0.05	0.23	
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.03	nv	nv	8.78	7.4	8.83	7.42	0.05	0.08	0.16	0.13	0.17	0.15	0.2	0.2	
Total Alkalinity as CaCO3	mg/l	1	nv	No abnormal change	308	334	302	380	578	674	260	228	938	346	440	328	
Non Carbonate Hardness (as CaCO3)	mg/l	1	nv	200	3,572	2,525	3,631	2,583	95	97	260	75	439	161	323	128	
BOD	mg/l	1	nv	nv	1.0	-	-	-	-	-	-	-	-	-	-	-	
COD	mg/l	7	nv	nv	323.0	224.0	345.0	232.0	14.0	18.0	-	-	25.0	9.0	27.0	17.0	
Redox	mV	-	nv	nv	100.8	85.3	106.3	158.2	165.6	197.3	99.7	244.7	164.5	261.8	131.2	257.4	
Total Dissolved Solids	mg/l	35	nv	1,000	19,328	15,102	19,430	14,729	754	711	328	378	641	613	542	560	
Total Suspended Solids	mg/l	10	nv	nv	28	187	37	199	4,026	6,004	268	26	2696	298	1,114	271	
Turbidity	NTU	0.1	nv	nv	25.5	167.0	31.5	181.0	3,940	4,650	334.0	33.1	3,590	526	1,770	567	
Key					Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample NBH62-X X* refers to the Duplicate Sample nv No value nt Not Tested MDL Laboratory Method Detection Limit (shown in mg/l) - Less than the MDL												
BOLD	Value exceeds the Groundwater Threshold Value (GTV)																
Underlined	Value exceeds the EPA Interim Guideline Values (IGV)																
Notes:	GTV	Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)															
	IGV	Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)															
		Interim Guideline Values (EPA, 2003)															
		Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m/p-Xylene, and o-Xylene.															
		Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l															



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Geographical Area Ref.		AZ4													
Sample ID	Details - GROUNDWATER														
Round	GBH01(S)		GBH01(D)		GBH02(S)		GBH02(D)		GBH04(S)		GBH04(D)				
Laboratory	Phase 4 Report	Round 1	Phase 4 Report	Round 1	Phase 4 Report	Round 1	Phase 4 Report	Round 1	Phase 4 Report	Round 1	Phase 4 Report	Round 1	Phase 4 Report	Round 1	
Report Ref.	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	
Sample Type	20-20162	21-01104-2	20-20162	21-01104-2	20-20176	21-01104-2	20-20176	21-01104-2	20-20176	21-01104-2	20-20162	21-01104-2	20-20162	21-01104-2	
Sampling Date	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
	30/07/2020	14/01/2021	30/07/2020	14/01/2021	31/07/2020	14/01/2021	31/07/2020	14/01/2021	30/07/2020	14/01/2021	30/07/2020	14/01/2021	30/07/2020	14/01/2021	
Parameters	Units	MDL	GTV	EPA IGV											
Aluminium	mg/l	0.01	0.15	0.2	nt	-	nt	-	nt	-	nt	-	nt	-	nt
Arsenic	mg/l	0.001	0.0075	0.010	0.0018	0.0019	0.0012	0.0017	-	0.0025	0.0012	0.001	-	0.0012	0.0031
Barium	mg/l	0.005	nv	0.1	nt	0.058	nt	0.079	nt	0.086	nt	0.068	nt	0.09	0.11
Boron	mg/l	0.02	0.75	1	nt	0.059	nt	0.072	nt	0.097	nt	0.11	nt	0.074	0.097
Cadmium	mg/l	0.00008	0.00375	0.005	-	-	-	-	-	-	-	0.00019	0.00019	-	-
Calcium	mg/l	5	nv	200	-	110	-	130	-	84	-	82	-	180	110
Chromium	mg/l	0.001	0.0375	0.03	0.0075	0.0018	0.0068	0.0032	0.0052	0.0041	0.01	0.0021	0.0069	0.0018	0.0063
Cobalt	mg/l	0.001	nv	nv	nt	-	nt	-	nt	-	nt	-	nt	0.0036	0.002
Copper	mg/l	0.001	1.5	0.03	0.0022	-	nt	-	0.0012	-	0.003	-	0.003	0.0014	0.0023
Iron	mg/l	0.02	nv	0.2	nt	0.29	nt	0.48	nt	0.39	nt	0.35	nt	0.65	0.42
Lead	mg/l	0.001	0.0075	0.01	-	-	-	-	-	0.0026	-	-	-	-	-
Magnesium	mg/l	0.5	nv	50	-	31	-	42	-	26	-	23	-	44	35
Manganese	mg/l	0.001	nv	0.05	nt	0.57	nt	0.82	nt	0.51	nt	0.12	nt	2	0.37
Mercury	mg/l	0.0005	0.00075	0.001	0.00051	-	0.00059	0.00051	-	-	-	-	-	-	-
Nickel	mg/l	0.001	0.015	0.02	0.0053	0.0024	0.0036	0.0014	0.0034	-	0.0063	0.0022	0.016	0.015	0.028
Phosphorus	mg/l	0.02	nv	nv	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/l	0.5	nv	5	-	5.2	-	3.6	-	3.5	-	5.1	-	4.6	6.5
Selenium	mg/l	0.001	nv	nv	0.0029	-	0.0036	0.0019	0.002	0.0018	0.0041	0.0025	0.0029	0.0032	0.0048
Sodium	mg/l	0.5	150	150	-	62.0	-	65.0	-	40.0	-	42.0	-	73.0	62.0
Zinc	mg/l	0.001	0.075	0.1	0.0075	0.0055	0.0096	0.0098	0.0049	0.0057	0.0053	0.005	0.013	0.015	0.046
TPH CWG (Note 1)															
Aliphatics															
>C5-C6	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>C6-C8	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>C8-C120	mg/l	0.0001	0.0075	0.01	0.074	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/l	0.0001			0.049	-	-	-	-	-	-	-	-	-	-
>C12-C16	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>C16-C21	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>C21-C35	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
Total aliphatics >C5-35	mg/l	0.005			0.12	-	-	-	-	-	-	-	-	-	-
Aromatics															
>EC5-EC7	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>EC7-EC8	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/l	0.0001	0.0075	0.01	0.038	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>EC16-EC21	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
>EC21-EC35	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-
Total aromatics >C5-35	mg/l	0.005			0.038	-	-	-	-	-	-	-	-	-	-
Total aliphatics and aromatics >C10-35	mg/l	0.005			0.16	-	-	-	-	-	-	-	-	-	-
MTBE	mg/l	0.001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/l	0.001	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-
m/p-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	nt	-	nt	-	nt	-	nt	-	nt	-	nt
PFAS - D/ ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Total 12 PCBs	ug/l	0.01	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	mg/l	0.05	nv	1	0.62	0.4	0.4	0.4	0.44	0.51	0.62	0.32	0.24	0.36	0.31
Sulphate as SO4	mg/l	1	187.5	200	98	150	110	180	73	57	45	52	300	53	39
Chloride	mg/l	1	187.5	30	51	71	57	82	35	36	24	41	32	36	28
Nitrate	mg/l	0.5	37.5	25	-	-	-	-	-	-	-	-	-	-	-
Nitrite	mg/l	0.02	0.375	0.1	-	-	-	-	-	-	-	0.28	-	-	0.039
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.05	nv	nv	1.5	1.3	0.93	0.53	0.93	0.54	1.2	0.27	0.16	0.44	0.84
Total Alkalinity as CaCO3	mg/l	10	nv	No abnormal change	nt	260	nt	290	nt	270	nt	280	nt	280	290
Non Carbonate Hardness (as Ca)	mg/l	6	nv	200	69	160	140	200	120	130	61	120	210	250	79
BOD	mg/l	4	nv	nv	5.0	6.0	6.0	-	3.0	-	5.0	-	5.0	-	6.0
COD	mg/l	10	nv	nv	6.2	35.0	1.3	37.0	2.9	34.0	3.1	31.0	7.9	33.0	34.0
Redox	mV	-	nv	nv	nt	0.0	nt	5.8	nt	5.1	nt	22.0	nt	37.0	nt
Total Dissolved Solids	mg/l	1	nv	1,000	nt	580	nt	650	nt	470	nt	440	nt	720	550
Total Suspended Solids	mg/l	5	nv	nv	nt	-	nt	680	nt	280	nt	730	nt	17,000	7,900
Turbidity	NTU	1	nv	nv	nt	11.0	nt	720.0	nt	370.0	nt	> 1,100	nt	> 1,100	> 1,100
Key	<p>Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample</p> <p>NBHG2-X X* refers to the Duplicate Sample</p> <p>nv No value</p> <p>nt Not Tested</p> <p>MDL Laboratory Method Detection Limit (shown in mg/l)</p> <p>- Less than the MDL</p>														
BOLD	Value exceeds the Groundwater Threshold Value (GTV)														
Underlined	Value exceeds the EPA Interim Guideline Values (IGV)														
Notes:	GTV	Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)													
	IGV	Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)													
		Interim Guideline Values (EPA, 2003)													
		Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range; hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m/p-Xylene, and o-Xylene.													
		Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l													

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Geographical Area Ref.		AZ4																
Sample ID	Details - GROUNDWATER																	
Round	GBH06				GBH06-X				GBH09				GBH09-X		GBH11		GBH13	
	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Phase 4 Report	Round 1	Phase 4 Report	Round 1		
Laboratory	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest	Chemtest		
Report Ref.	21-01104-2	21-09222-1	21-01104-2	21-09222-1	21-01104-2	21-01104-2	21-01104-2	21-01104-2	21-01104-2	21-01104-2	21-09222-1	20-20162	21-01104-2	20-20162	21-01104-2			
Sample Type	Primary	Primary	Duplicate	Duplicate	Primary	Primary	Primary	Primary	Primary	Duplicate	Duplicate	Primary	Primary	Primary	Primary			
Sampling Date	14/01/2021	22/03/2021	14/01/2021	22/03/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	22/03/2021	30/07/2020	14/01/2021	30/07/2020	14/01/2021				
Parameters	Units	MDL	GTV	EPA IGV														
Aluminium	mg/l	0.01	0.15	0.2	-	-	-	-	0.012	-	-	-	nt	-	nt	-		
Arsenic	mg/l	0.001	0.0075	0.010	0.001	0.00086	0.001	0.00073	-	0.00056	-	0.00063	0.0014	0.0014	-	-		
Barium	mg/l	0.005	nv	0.1	0.075	0.079	0.076	0.075	0.063	0.076	0.071	0.078	nt	0.072	nt	0.059		
Boron	mg/l	0.02	0.75	1	0.12	0.13	0.13	0.11	0.065	0.072	0.069	0.075	nt	0.063	nt	0.049		
Cadmium	mg/l	0.00008	0.00375	0.005	-	-	-	-	-	-	-	-	-	-	0.00013	-		
Calcium	mg/l	5	200	nv	55	55	55	54	64	64	66	66	-	63	-	65		
Chromium	mg/l	0.001	0.0375	0.03	0.0039	0.0036	0.004	0.0012	0.0032	0.0067	0.0059	0.0024	0.0066	0.0021	0.0039	0.0054		
Cobalt	mg/l	0.001	nv	nv	-	-	-	-	-	-	-	-	nt	-	nt	-		
Copper	mg/l	0.001	1.5	0.03	-	0.00084	-	0.0013	0.0014	0.001	0.0015	0.0011	0.0028	-	0.0028	0.0017		
Iron	mg/l	0.02	nv	0.2	0.23	-	0.21	-	0.19	-	0.24	-	nt	0.18	nt	0.2		
Lead	mg/l	0.001	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
Magnesium	mg/l	0.5	nv	50	26	26	26	26	29	28	30	30	-	27	-	20		
Manganese	mg/l	0.001	nv	0.05	0.35	0.31	0.36	0.31	0.29	0.25	0.29	0.26	nt	0.74	nt	0.24		
Mercury	mg/l	0.0005	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	0.0041	-		
Nickel	mg/l	0.001	0.015	0.02	0.0013	0.00079	0.0012	0.0011	0.0017	0.00086	0.0029	0.00077	0.0091	0.0034	0.0054	0.0028		
Phosphorus	mg/l	0.02	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-		
Potassium	mg/l	0.5	nv	5	3.4	2.9	3.5	2.9	3.6	3.0	3.8	3.3	-	5.0	-	3.3		
Selenium	mg/l	0.001	nv	nv	0.0016	-	0.0013	-	-	-	0.0018	-	0.001	-	0.014	0.0043		
Sodium	mg/l	0.5	150	150	48.0	40.0	48.0	42.0	37.0	31.0	38.0	40.0	-	78.0	-	53.0		
Zinc	mg/l	0.001	0.075	0.1	0.0058	-	0.0046	-	0.0057	0.0033	0.0048	-	0.0053	0.0048	0.0031	0.0029		
TPH CWG (Note 1)																		
Aliphatics																		
>C5-C6	mg/l	0.0001	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
>C6-C8	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8-C120	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C12	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12-C16	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C35	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total aliphatics >C5-35	mg/l	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Aromatics																		
>EC5-EC7	mg/l	0.0001	0.0075	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
>EC7-EC8	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC8-EC10	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC10-EC12	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC12-EC16	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC16-EC21	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
>EC21-EC35	mg/l	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total aromatics >C5-35	mg/l	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total aliphatics and aromatics >C10-35	mg/l	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MTBE	mg/l	0.001	0.01	0.03	-	-	-	-	-	-	-	-	-	-	-	-		
Benzene	mg/l	0.001	0.00075	0.001	-	-	-	-	-	-	-	-	-	-	-	-		
Toluene	mg/l	0.001	0.525	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
Ethylbenzene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
m,p-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
o-Xylene	mg/l	0.001	nv	0.01	-	-	-	-	-	-	-	-	-	-	-	-		
Mineral Oil (C10-C40)	mg/l	0.01	nv	nv	-	-	-	-	-	-	-	-	nt	-	nt	-		
PFAS - D/ ND (Note 3)	ug/l	-	-	-	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt		
Total 12 PCBs	ug/l	0.01	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
VOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
SVOCs - D/ ND (Note 3)	ug/l	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Fluoride	mg/l	0.05	nv	1	0.95	1	1	1	0.39	0.45	0.68	0.45	0.3	0.35	0.43	0.32		
Sulphate as SO4	mg/l	1	187.5	200	41	38	41	38	43	41	43	42	94	99	56	40		
Chloride	mg/l	1	187.5	30	33	35	35	36	36	36	36	43	38	29	24	32		
Nitrate	mg/l	0.5	37.5	25	-	-	-	-	-	-	-	-	-	-	-	-		
Nitrite	mg/l	0.02	0.375	0.1	-	0.035	-	0.026	-	0.054	-	0.048	0.023	-	0.18	-		
Ammoniacal Nitrogen as NH3 (Note 2)	mg/l	0.05	nv	nv	0.46	0.053	0.5	-	0.42	-	0.43	-	0.93	0.55	0.3	0.3		
Total Alkalinity as CaCO3	mg/l	10	nv	No abnormal change	270	310	230	300	270	320	250	320	nt	260	nt	280		
Non Carbonate Hardness (as Ca)	mg/l	6	nv	200	98	97	98	97	110	110	120	120	97	110	87	98		
BOD	mg/l	4	nv	nv	-	-	5.0	-	11.0	5.0	-	4.0	4.0	-	3.0	-		
COD	mg/l	10	nv	nv	40.0	-	39.0	-	34.0	-	32.0	-	10.0	36.0	6.6	32.0		
Redox	mV	-	nv	nv	26.0	12.0	22.0	6.2	29.0	24.0	36.0	31.0	nt	36.0	nt	35.0		
Total Dissolved Solids	mg/l	1	nv	1,000	400	390	390	400	420	410	400	420	nt	500	nt	400		
Total Suspended Solids	mg/l	5	nv	nv	500	62	530	37	2,600	120	2,400	130	nt	1,600	nt	4,200		
Turbidity	NTU	1	nv	nv	1,000	110	950	88	> 1,100	170.0	> 1,100	160.0	nt	> 1,100	nt	> 1,100		

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Undertlined Value exceeds the EPA Interim Guideline Values (IGV)

Notes:

- GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)
- IGV Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amendment) Regulations)
- IGV Interim Guideline Values (EPA, 2003)

Note 1. Sum of Total Petroleum Hydrocarbons (TPH) including the volatile petroleum hydrocarbons (VPH) range and extractable petroleum hydrocarbons (EPH) range: hydrocarbons C2-C5 and hydrocarbons C6-C40 respectively (S.I. 366 of 2016). The IGV value is a 'catch-all' and includes for analysis of TPH, MTBE, as well as Toluene, Ethylbenzene, m,p-Xylene, and o-Xylene.

Note 2. For reference, IGV for Ammonia (as ammonium) is 0.15mg/l

Note 3. D - Detected, refer separate summary sheet; ND - Not Detected in sample


NBHG2-X X* refers to the Duplicate Sample

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)

- Less than the MDL



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Geographical Area Ref.	Sample ID	Round	Details - GROUNDWATER																			
			AZ1	AZ2			AZ3	AZ4		AZ4		AZ4		AZ4		AZ4		AZ4				
Report Ref.	Laboratory	Sample Type	NBH406	NBH04	NBH04	NBH12	NBH203A(S)	NBH203A(S)-X	NBH203A(D)	NBH223(S)	NBH223(S)	NBH19W-X	NBH215(D)	NBH22(S)	NBH22(S)	NBH23A	NBH23A	NBH23W	NBH23W	NBH24(S)	NBH24(S)	
Overall sampling period	Parameters	Units	MDL	GTV	EPA IGV	05/01/2017 - 26/03/2021																
Round 1	Round 1 EMT	Round 2 EMT	Round 2 EMT	Round 2 EMT	Round 2 EMT	Round 1 EMT	Round 1 EMT	Round 1 EMT	Round 1 EMT	Round 2 EMT	Round 2 EMT	Round 1 EMT	Round 1 EMT	Round 1 EMT	Round 2 EMT	Round 2 EMT	Round 1 EMT	Round 2 EMT	Round 1 EMT	Round 2 EMT	Round 1 EMT	Round 2 EMT
21-53	21-1428	21-4456	21-3800	21-78	21-78	21-3800	21-78	21-78	21-142	21-3800	21-243	21-276	21-1833	21-4228	21-331	21-4228	21-331	21-4228	21-331	21-4228	21-331	21-4228
	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
VOCs																						
Dichlorodifluoromethane	ug/l	<2	nv	nv																		
Methyl Tertiary Butyl Ether	ug/l	<0.1	10	30	0.3							0.1		0.7	0.7							
Chloromethane	ug/l	<3	nv	nv																		
Vinyl Chloride	ug/l	<0.1	0.375	nv		0.2		0.3	0.7			0.1										
Bromomethane	ug/l	<1	nv	nv																		
Chloroethane	ug/l	<3	nv	nv																		
Trichlorofluoromethane	ug/l	<3	nv	nv																		
1,1-Dichloroethene (1,1 DCE)	ug/l	<3	nv	nv																		
Dichloromethane (DCM)	ug/l	<5	15	10																		
trans-1,2-Dichloroethene	ug/l	<3	nv	nv																		
1,1-Dichloroethane	ug/l	<3	nv	nv																		
cis-1,2-Dichloroethene	ug/l	<3	0.375	nv																		
2,2-Dichloropropane	ug/l	<1	nv	nv																		
Bromochloromethane	ug/l	<2	nv	nv																		
Chloroform	ug/l	<2	nv	12														8	8	10	11	
1,1,1-Trichloroethane	ug/l	<2	nv	nv																		
1,1-Dichloropropene	ug/l	<3	nv	nv																		
Carbon tetrachloride	ug/l	<2	nv	nv																		
1,2-Dichloroethane	ug/l	<2	2.25	3																		
Benzene	ug/l	<0.5	0.75	1			0.5			3	3		2.7									
Trichloroethene (TCE)	ug/l	<3	7.5	70			4	4							5	4					4	
1,2-Dichloropropane	ug/l	<2	nv	nv																		
Dibromomethane	ug/l	<3	nv	nv																		
Bromodichloromethane	ug/l	<2	nv	nv																		
cis-1,3-Dichloropropene	ug/l	<2	nv	nv																		
Toluene	ug/l	<5	525	nv																		
trans-1,3-Dichloropropene	ug/l	<2	nv	nv																		
1,1,2-Trichloroethane	ug/l	<2	nv	nv																		
Tetrachloroethene (PCE)	ug/l	<3	7.5	nv																		
1,3-Dichloropropane	ug/l	<2	nv	nv																		
Dibromochloromethane	ug/l	<2	nv	nv																		
1,2-Dibromoethane	ug/l	<2	nv	nv																		
Chlorobenzene	ug/l	<2	nv	1																		
1,1,1,2-Tetrachloroethane	ug/l	<2	nv	nv																		
Ethylbenzene	ug/l	<1	nv	10																		
m,p-Xylene	ug/l	<2	nv	10																		
o-Xylene	ug/l	<1	nv	10																		
Styrene	ug/l	<2	nv	nv																		
Bromoform	ug/l	<2	nv	nv																		
Isopropylbenzene	ug/l	<3	nv	nv																		
1,1,2,2-Tetrachloroethane	ug/l	<4	nv	nv																		
Bromobenzene	ug/l	<2	nv	nv																		
1,2,3-Trichloropropane	ug/l	<3	nv	nv																		
Propylbenzene	ug/l	<3	nv	nv																		
2-Chlorotoluene	ug/l	<3	nv	nv																		
1,3,5-Trimethylbenzene	ug/l	<3	nv	nv																		
4-Chlorotoluene	ug/l	<3	nv	nv																		
tert-Butylbenzene	ug/l	<3	nv	nv																		
1,2,4-Trimethylbenzene	ug/l	<3	nv	nv																		
sec-Butylbenzene	ug/l	<3	nv	nv																		
4-Isopropyltoluene	ug/l	<3	nv	nv																		
1,3-Dichlorobenzene	ug/l	<3	nv	nv																		
1,4-Dichlorobenzene	ug/l	<3	nv	nv																		
n-Butylbenzene	ug/l	<3	nv	nv																		
1,2-Dichlorobenzene	ug/l	<3	nv	nv																		
1,2-Dibromo-3-chloropropane	ug/l	<2	nv	nv																		
1,2,4-Trichlorobenzene	ug/l	<3	nv	nv																		
Hexachlorobutadiene	ug/l	<3	nv	0.1																		
Naphthalene	ug/l	<2	nv	1																		
1,2,3-Trichlorobenzene	ug/l	<3	nv	nv																		

Key

BOLD Value exceeds the Groundwater Threshold Value (GTV)

Underlined Value exceeds the EPA Interim Guideline Values (IGV)

NBH2-X 'X' refers to the Duplicate Sample



nv No value

Notes: GTV Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)

IGV Groundwater Threshold Value (S.I. No. 306, 2016 Groundwater (Amendment) Regulations)

MDL Laboratory Method Detection Limit (shown in ng/l)

- Less than the MDL

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Geographical Area Ref. Sample ID Round Laboratory Report Ref. Sample Type Overall sampling period	Details - GROUNDWATER				AZ2			AZ4	
					NBH60	NBH61	NBH04	NBH203A(S)-X	NBH216A(S)
					Round 1	Round 1	Round 1	Round 1	Round 1
					EMT	EMT	EMT	EMT	EMT
					21-1428	21-1428	21-1428	21-78	21-331
			Primary	Primary	Primary	Primary	Primary	Primary	
05/01/2021 - 02/02/2021									
Parameters	Units	MDL	GTV	EPA IGV					
SVOCs									
Phenols									
2-Chlorophenol	ug/l	<1	nv	200	-	-	-	-	
2-Methylphenol	ug/l	<0.5	nv	nv	-	-	-	-	
2-Nitrophenol	ug/l	<0.5	nv	nv	-	-	-	-	
2,4-Dichlorophenol	ug/l	<0.5	nv	nv	-	-	-	-	
2,4-Dimethylphenol	ug/l	<1	nv	nv	-	-	-	-	
2,4,5-Trichlorophenol	ug/l	<0.5	nv	nv	-	-	-	-	
2,4,6-Trichlorophenol	ug/l	<1	nv	200	-	-	-	-	
4-Chloro-3-methylphenol	ug/l	<0.5	nv	nv	-	-	-	-	
4-Methylphenol	ug/l	<1	nv	nv	-	-	-	-	
4-Nitrophenol	ug/l	<10	nv	nv	-	-	-	-	
Pentachlorophenol	ug/l	<1	nv	2	-	-	-	-	
Phenol	ug/l	<1	nv	0.5	-	-	-	-	
PAHs									
2-Chloronaphthalene	ug/l	<1	nv	nv	-	-	-	-	
2-Methylnaphthalene	ug/l	<1	nv	nv	-	-	-	1	
Naphthalene	ug/l	<1	nv	1	-	-	-	1	
Acenaphthylene	ug/l	<0.5	nv	nv	-	-	-	-	
Acenaphthene	ug/l	<1	nv	nv	-	-	-	3	
Fluorene	ug/l	<0.5	nv	nv	0.9	-	-	3.2	
Phenanthrene	ug/l	<0.5	nv	nv	6.3	-	0.6	12.1	
Anthracene	ug/l	<0.5	nv	10,000	3.4	-	-	3.9	
Fluoranthene	ug/l	<0.5	nv	1	53.9	0.7	-	13.7	
Pyrene	ug/l	<0.5	nv	nv	51.6	0.7	-	11.4	
Benzo(a)anthracene	ug/l	<0.5	nv	nv	41.4	0.9	-	5.5	
Chrysene	ug/l	<0.5	nv	nv	40.8	0.5	-	4.7	
Benzo(b)fluoranthene	ug/l	<1	nv	0.5	74	1	-	8	
Benzo(a)pyrene	ug/l	<1	nv	0.01	42	-	-	4	
Indeno(123cd)pyrene	ug/l	<1	nv	0.05	22	-	-	2	
Dibenzo(ah)anthracene	ug/l	<0.5	nv	nv	9.9	-	-	1.1	
Benzo(ghi)perylene	ug/l	<0.5	nv	0.05	22.5	-	-	2.7	
Phthalates									
Bis(2-ethylhexyl) phthalate	ug/l	<5	nv	nv	-	-	7	12	
Butylbenzyl phthalate	ug/l	<1	nv	nv	-	-	-	-	
Di-n-butyl phthalate	ug/l	<1.5	nv	2	-	-	-	1.9	
Di-n-Octyl phthalate	ug/l	<1	nv	nv	-	-	-	-	
Diethyl phthalate	ug/l	<1	nv	nv	-	-	-	-	
Dimethyl phthalate	ug/l	<1	nv	nv	-	-	-	-	
Other SVOCs									
1,2-Dichlorobenzene	ug/l	<1	nv	10	-	-	-	-	
1,2,4-Trichlorobenzene	ug/l	<1	nv	nv	-	-	-	-	
1,3-Dichlorobenzene	ug/l	<1	nv	nv	-	-	-	-	
1,4-Dichlorobenzene	ug/l	<1	nv	nv	-	-	-	-	
2-Nitroaniline	ug/l	<1	nv	nv	-	-	-	-	
2,4-Dinitrotoluene	ug/l	<0.5	nv	nv	-	-	-	-	
2,6-Dinitrotoluene	ug/l	<1	nv	nv	-	-	-	-	
3-Nitroaniline	ug/l	<1	nv	nv	-	-	-	-	
4-Bromophenylphenylether	ug/l	<1	nv	nv	-	-	-	-	
4-Chloroaniline	ug/l	<1	nv	nv	-	-	-	-	
4-Chlorophenylphenylether	ug/l	<1	nv	nv	-	-	-	-	
4-Nitroaniline	ug/l	<0.5	nv	nv	-	-	-	-	
Azobenzene	ug/l	<0.5	nv	nv	-	-	-	-	
Bis(2-chloroethoxy)methane	ug/l	<0.5	nv	nv	-	-	-	-	
Bis(2-chloroethyl)ether	ug/l	<1	nv	nv	-	-	-	-	
Carbazole	ug/l	<0.5	nv	nv	0.6	-	-	1.4	
Dibenzofuran	ug/l	<0.5	nv	nv	-	-	-	2.1	
Hexachlorobenzene	ug/l	<1	nv	0.03	-	-	-	-	
Hexachlorobutadiene	ug/l	<1	nv	nv	-	-	-	-	
Hexachlorocyclopentadiene	ug/l	<1	nv	nv	-	-	-	-	
Hexachloroethane	ug/l	<1	nv	nv	-	-	-	-	
Isophorone	ug/l	<0.5	nv	nv	-	-	-	-	
N-nitrosodi-n-propylamine	ug/l	<0.5	nv	nv	-	-	-	-	
Nitrobenzene	ug/l	<1	nv	10	-	-	-	-	

Key			
BOLD	Value exceeds the Groundwater Threshold Value (GTV)		NBH62-X
Underlined	Value exceeds the EPA Interim Guideline Values (IGV)		nv
			X' refers to the Duplicate Sample
			No value
Notes:	GTV	Groundwater Threshold Value (S.I. No. 9, 2010 Groundwater Regulations)	MDL
	IGV	Groundwater Threshold Value (S.I. No. 366, 2016 Groundwater (Amend.) Regulations)	-
		Interim Guideline Values (EPA, 2003)	Less than the MDL