



STAR-ORION SOUTH DIAMOND PROJECT
ENVIRONMENTAL IMPACT ASSESSMENT

APPENDIX 6.2.8-C
Water Chemistry Results

Water chemistry results from stations MWS-0 1 collected in January 2007 at the Star Diamond Project, Saskatchewan, and stations NSRS-01 and NSRS-02 on the Saskatchewan River,

Total Metals and Anions	Units	SWQO (SE, 2006)	CWQG (CCME, 2007)	Other Guidelines	MWS-01 7-Jan	NSRS-01 Jul-06	NSRS-02 July 2007
Aluminium ¹	mg/L	0.1	0.1	-	2.91	0.14	0.14
Ammonia - N ²	mg/L	0.502	0.502	-	1.6	0.05	0.03
Antimony	mg/L	-	-	1.6 ^a	-	<0.0002	<0.0002
Arsenic	mg/L	0.005	0.005	-	0.003	0.0009	0.0009
Barium	mg/L	-	-	2.3 ^a	0.03	0.084	0.083
Beryllium	mg/L	-	-	0.0053 ^a	<0.001	<0.0001	<0.0001
Bicarbonate	mg/L	-	-	-	237	188	188
Bismuth	mg/L	-	-	-	<0.001	-	-
Boron	mg/L	-	-	1.2 ^b	2.28	0.02	0.02
Bromide	mg/L	-	-	-	1.4	-	-
Cadmium ³	mg/L	0.0001	0.0001	-	0.0004	<0.0001	<0.0001
Calcium	mg/L	-	-	116 ^c	23.9	47	49
Carbonate	mg/L	-	-	-	13	5	5
Chloride	mg/L	-	128**	-	2120	7	6
Chromium	mg/L	0.001	0.001	-	0.012	<0.0005	<0.0005
Cobalt	mg/L	-	-	0.11 ^b	0.0006	0.0003	0.0003
Copper ³	mg/L	0.003	0.003	-	0.002	0.0009	0.0009
Fluoride	mg/L	-	0.12	-	0.6	0.1	0.13
Hydroxide	mg/L	-	-	-	<5.0	<1	<1
Iron	mg/L	0.3	0.3	-	<0.05	0.28	0.3
Lead ³	mg/L	0.004	0.004	-	<0.001	0.0002	0.0002
Magnesium	mg/L	-	-	82 ^c	77.4	17	17
Manganese	mg/L	-	-	<1.1 ^c	0.002	0.021	0.021
Molybdenum	mg/L	-	0.073	-	0.012	0.0011	0.0011
Nickel ³	mg/L	0.11	0.11	-	0.029	0.0013	0.0013
Nitrate	mg/L	-	13	-	1.6	0.04	<0.04
Nitrite	mg/L	-	-	-	<0.5	-	-
Organic carbon, dissolved	mg/L	-	-	-	2	4.9	4.7
pH	pH units	-	6.5-9	-	8.76	8.45	8.45
Potassium	mg/L	-	-	53 ^c	32	2.6	2.7
Selenium	mg/L	0.001	0.001	-	0.012	0.0004	0.0004
Silicon	mg/L	-	-	-	22.6	-	-
Silver	mg/L	0.0001	0.0001	-	<0.0001	<0.0001	<0.0001
Sodium	mg/L	-	-	680 ^c	1587	18	17
Specific Conductivity	µS/cm	NA	NA	NA	7788	443	436
Strontium	mg/L	-	-	42 ^c	0.538	0.38	0.38
Sulphate	mg/L	-	-	Based on dissolved	442	64	65
Thallium	mg/L	-	0.0008	-	<0.0003	<0.0002	<0.0002
Tin	mg/L	-	-	0.35 ^c	<0.001	<0.0001	<0.0001
Titanium	mg/L	-	-	-	0.391	0.0032	0.0032
Tungsten	mg/L	-	-	-	<0.01	-	-