

ANNEXURE F – CHAMPIONS QUARRY ENVIRONMENTAL ASSESSMENT WATER RESULTS

RESULTS OF WATER ANALYSIS (Page 1 of 1)

4 surface water samples collected by EAL for Champions Quarry on the 1st February, 2008 - Lab. Job No. E8684

Analysis requested by Geoff Champion - Your Project: Predevelopment Monitoring

PARAMETER	METHODS REFERENCE	Sample 1 SW1	Sample 2 SW2	Sample 3 SW3	Sample 4 SW4
	<i>Job No.</i>	<i>E8684/1</i>	<i>E8684/2</i>	<i>E8684/3</i>	<i>E8684/4</i>
Redox (mV)	field	216.8	214.8	113.0	-55.1
pH	Field meter	6.42	6.44	5.80	6.16
CONDUCTIVITY (EC) (dS/m)	Field meter	0.13	0.13	0.20	0.32
TOTAL DISSOLVED SALTS (mg/L)	calculation using EC x 680	88	88	136	215
DISSOLVED OXYGEN (mg/L O ₂)	Field meter	6.0	7.1	1.0	1.3
TURBIDITY (ntu)	Field meter	4.3	7.5	139.0	46
TOTAL SUSPENDED SOLIDS (mg/L)	GFC equiv. filter - APHA 2540-D	4	4	26	16
WATER HARDNESS (mg/L CaCO ₃ equivalent)	** using Ca&Mg calculation	22	22	30	29
TOTAL PHOSPHORUS (mg/L P)	APHA 4500 P-H	0.08	0.07	0.13	0.18
ORTHOPHOSPHATE (mg/L P)	APHA 4500 P-G	0.01	0.01	0.01	<0.01
TOTAL NITROGEN (mg/L N)	APHA 4500 N-C	0.34	0.31	1.49	1.59
TOTAL KJELDAHL NITROGEN (mg/L N)	CALCULATION: TN - NO _x	0.31	0.28	1.48	1.58
NITRATE (mg/L N)	APHA 4500 NO ₃ -F	0.023	0.029	0.010	0.001
NITRITE (mg/L N)	APHA 4500 NO ₂ -C	0.001	0.003	<0.001	0.007
AMMONIA (mg/L N)	APHA 4500 NH ₃ -H	0.018	0.014	0.009	0.009
SODIUM (mg/L)	** APHA 3120 ICPOES ^{note 2}	15.9	16.0	19.1	29.0
POTASSIUM (mg/L)	** APHA 3120 ICPOES ^{note 2}	1.1	0.8	1.2	3.1
CALCIUM (mg/L)	** APHA 3120 ICPOES ^{note 2}	3.5	3.6	4.8	3.3
MAGNESIUM (mg/L)	** APHA 3120 ICPOES ^{note 2}	3.1	3.2	4.4	4.9
SODIUM ABSORPTION RATIO	BY CALCULATION	1.5	1.5	1.5	2.4
CHLORIDE (mg/L)	** APHA 4500-Cl ⁻	23	22	32	47
SULPHATE (mg/L SO ₄ ²⁻)	** APHA 3120 ICPOES ^{note 2}	3	3	4	3
CHLORIDE/ SULPHATE RATIO	Calculation	7.5	7.3	8.0	15.8
SILVER (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	<0.001	<0.001
ALUMINIUM (mg/L)	** APHA 3120 ICPMs/OES ^{note 1&2}	0.046	0.056	0.194	0.255
ARSENIC (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	0.001	0.002
CADMIUM (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	<0.001	0.002
CHROMIUM (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	0.001	0.002
COPPER (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	<0.001	<0.001
IRON (mg/L)	** APHA 3120 ICPMs/OES ^{note 1&2}	2.264	2.340	15.940	56.280
MANGANESE (mg/L)	** APHA 3120 ICPMs/OES ^{note 1&2}	0.086	0.068	1.756	1.081
NICKEL (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	<0.001	0.001
LEAD (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	0.004	0.006	<0.001	0.002
SELENIUM (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	<0.001	0.001
ZINC (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	0.009	0.003	0.005	0.023
MERCURY (mg/L)	** APHA 3120 ICPMs ^{note 1&2}	<0.001	<0.001	<0.001	<0.001
BTEX					
Benzene (µg/L)	subcontracted - results attached	<1	<1	<1	<1
Toluene (µg/L)	subcontracted - results attached	<1	<1	<1	30
Ethylbenzene (µg/L)	subcontracted - results attached	<1	<1	<1	<1
Meta-And-Para-Xylene (µg/L)	subcontracted - results attached	<2	<2	<2	<2
Ortho-Xylene (µg/L)	subcontracted - results attached	<1	<1	<1	<1
Volatile Halogenated Compounds (VHC's)	subcontracted - results attached	N.D	N.D	N.D	N.D
Semivolatile Organic Compounds (SVOC)	subcontracted - results attached	N.D	N.D	N.D	N.D
Total Petroleum Hydrocarbons (TPH)					
C10-C14 Fraction (µg/L)	subcontracted - results attached	<50	<50	9,180	<50
C15-C28 Fraction (µg/L)	subcontracted - results attached	<200	<200	60,300	<200
C28-C36 Fraction (µg/L)	subcontracted - results attached	<50	<50	740	120
SUM C10-C36 (µg/L)		70,220	120

Notes:

- 1a. Total Available metals - samples acidified with nitric acid and then filtered through 0.45µm cellulose acetate
2. Metals/ salts analysed by ICP-MS (Inductively Coupled Plasma - Mass Spectrometry) or ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry)
3. 1 mg/L (milligram per litre) = 1 ppm (part per million) = 1000 µg/L (micrograms per litre) = 1000 ppb (part per billion)
4. For conductivity - 1 dS/m = 1 mS/cm = 1000 µS/cm
5. No other pesticides occurred above reportable levels for chemicals screened in the attached list
6. For Bacteria - cfu= colony forming unit
7. Analysis performed according to APHA, 1998, "Standard Methods for the Examination of Water & Wastewater", 20th Edition, except where stated otherwise.
8. Analysis conducted between sample arrival date and Report provision date
9. ** denotes these test procedures are as yet not NATA registered but quality control data is available
10. N.D = Not detected



checked:

NOTE: Monitoring Point 1 (SW1); Monitoring Point 2 (SW2); Monitoring Point 3 (SW3) and Monitoring Point 4 (SW4).

ANNEXURE G – CHAMPIONS QUARRY GROUNDWATER MONITORING RESULTS (MP8-MP12)

Monitoring Point	Date	Sampling Conditions	pH	Conductivity (dS/m)	Nitrate (NO ₃) (mg/L)	Aluminium (Al) (mg/L)	Total Arsenic (As) (mg/L)	Cadmium (Cd) (mg/L)	Total Chromium (Cr) (mg/L)	Copper (Cu) (mg/L)	Mercury (Hg) (mg/L)	Nickel (Ni) (mg/L)	Lead (Pb) (mg/L)	Zinc (Zn) (mg/L)	Recharge Rate (L/Hour)
ANZECC 2000 Trigger Values ¹			6.5 - 8.5 ³	0.35	0.7	0.055	0.024	0.0002	n/s	0.0014	0.0006	0.011	0.0034	0.008	N/A
NHMRC Drinking Water Guidelines ²			6.5 - 8.5 ³	n/s	50	0.2	0.01	0.002	0.05	2	0.001	0.02	0.01	3	N/A
MP8	17/06/2014	Unable to Collect Sample	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/10/2014	Unable to Collect Sample	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/11/2014	Sample Collected	3.66	0.448	0.11	0.131	<0.001	<0.001	<0.001	0.002	<0.0005	0.007	0.002	0.044	0.86
	22/01/2015	Sample Collected	3.81	0.736	0.083	0.118	0.001	<0.001	0.001	0.002	<0.0005	0.01	0.001	<0.054	0.58
	9/04/2015	Sample Collected	4.47	0.509	0.897	0.089	<0.001	<0.001	<0.0001	0.002	<0.0005	0.007	0.001	0.039	0.71
	13/08/2015	Sample Collected	3.49	0.762	<0.005	0.083	0.001	<0.0001	<0.001	0.001	<0.0005	0.009	0.001	0.036	0.86
	18/12/2015	Sample Collected	3.32	0.563	<0.005	0.165	<0.001	<0.0001	<0.001	0.004	<0.0005	0.007	0.001	0.036	0.54
	26/05/2016	Sample Collected	3.82	0.613	<0.005	0.137	0.001	<0.0001	<0.001	0.002	<0.0005	0.008	0.001	0.031	0.33
	11/08/2016	Sample Collected	4	0.48	<0.005	0.088	<0.001	<0.0001	<0.001	0.001	<0.0005	0.006	<0.001	0.026	0.79
	16/11/2016	Sample Collected	3.55	0.66	0.014	0.14	<0.001	<0.001	0.001	0.005	<0.005	0.007	0.001	0.036	0.75
MP9	17/06/2014	Unable to Collect Sample	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/10/2014	Unable to Collect Sample	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/11/2014	Sample Collected	5.38	0.257	0.025	0.023	<0.001	<0.001	<0.001	0.001	<0.0005	0.001	<0.001	0.019	1.25
	22/01/2015	Sample Collected	5.34	0.317	0.033	0.036	<0.001	<0.001	<0.001	0.001	<0.0005	0.001	0.001	0.019	1.88
	9/04/2015	Sample Collected	5.37	0.247	0.174	0.042	<0.001	<0.001	<0.0001	0.003	<0.0005	0.002	<0.001	0.016	2.83
	13/08/2015	Sample Collected	5.61	0.252	0.091	0.034	<0.001	<0.0001	<0.001	0.001	<0.0005	0.001	<0.001	0.02	1.88
	18/12/2015	Sample Collected	4.89	0.26	0.068	0.015	<0.001	<0.0001	<0.001	0.001	<0.0005	0.001	<0.001	0.026	1.08
	26/05/2016	Sample Collected	5.27	0.284	0.029	0.009	<0.001	<0.0001	<0.001	0.001	<0.0005	0.001	<0.001	0.01	1.92
	11/08/2016	Sample Collected	5.27	0.265	0.09	0.02	<0.001	<0.0001	<0.001	0.001	<0.0005	0.001	<0.001	0.011	2.25
	16/11/2016	Sample Collected	5.22	0.286	0.13	0.024	<0.001	<0.001	<0.001	0.001	<0.005	0.001	<0.001	0.013	1.42
MP10	17/06/2014	Unable to Collect Sample	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/10/2014	Unable to Collect Sample	-	-	-	-	-	-	-	-	-	-	-	-	-
	5/11/2014	Sample Collected	6.1	0.212	0.029	0.074	<0.001	<0.001	0.001	0.002	<0.0005	0.001	<0.001	0.01	0.92
	22/01/2015	Sample Collected	4.91	0.143	0.008	0.108	<0.001	<0.001	0.001	<0.001	<0.0005	0.002	0.001	0.015	1.29
	9/04/2015	Sample Collected	4.48	0.096	0.115	0.064	<0.001	<0.001	<0.0001	0.001	<0.0005	0.001	0.002	0.019	1.63
	13/08/2015	Sample Collected	4.44	0.105	0.126	0.094	<0.001	<0.0001	<0.001	0.002	<0.0005	0.001	0.001	0.012	1.54
	18/12/2015	Sample Collected	3.8	0.123	0.026	0.165	<0.001	<0.0001	<0.001	0.008	<0.0005	0.002	0.001	0.016	1.42
	26/05/2016	Sample Collected	4.28	0.128	0.021	0.159	0.001	<0.0001	<0.001	0.003	<0.0005	0.002	0.002	0.014	1.5
	11/08/2016	Sample Collected	4.38	0.101	0.717	0.149	<0.001	<0.0001	0.001	0.002	<0.0005	0.002	0.002	0.011	1.83
	16/11/2016	Sample Collected	4.21	0.135	0.419	0.117	<0.001	<0.001	<0.001	0.002	<0.005	0.002	<0.001	0.013	1.5

Monitoring Point	Date	Sampling Conditions	pH	Conductivity (dS/m)	Nitrate (NO ₃) (mg/L)	Aluminium (Al) (mg/L)	Total Arsenic (As) (mg/L)	Cadmium (Cd) (mg/L)	Total Chromium (Cr) (mg/L)	Copper (Cu) (mg/L)	Mercury (Hg) (mg/L)	Nickel (Ni) (mg/L)	Lead (Pb) (mg/L)	Zinc (Zn) (mg/L)	Recharge Rate (L/Hour)
ANZECC 2000 Trigger Values ¹			6.5 - 8.5 ³	0.35	0.7	0.055	0.024	0.0002	n/s	0.0014	0.0006	0.011	0.0034	0.008	N/A
NHMRC Drinking Water Guidelines ²			6.5 - 8.5 ³	n/s	50	0.2	0.01	0.002	0.05	2	0.001	0.02	0.01	3	N/A
MP11	22/01/2015	Level Measured - 0.65m	-	-	-	-	-	-	-	-	-	-	-	-	-
	7/04/2015	Level Measured - 0.60m	-	-	-	-	-	-	-	-	-	-	-	-	-
	13/08/2015	Level Measured - 0.61m	-	-	-	-	-	-	-	-	-	-	-	-	-
	18/12/2015	Level Measured - 0.51m	-	-	-	-	-	-	-	-	-	-	-	-	-
	26/05/2016	Level Measured - 0.56m	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/08/2016	Level Measured - 0.50m	-	-	-	-	-	-	-	-	-	-	-	-	-
	16/11/2016	Level Measured - 0.54m	-	-	-	-	-	-	-	-	-	-	-	-	-
MP12	13/08/2015	Sample Collected	10.1	0.396	0.165	0.059	0.001	<0.0001	0.005	0.005	<0.0005	0.001	<0.001	0.001	0.29
	18/12/2015	Sample Collected	7.27	0.615	0.113	0.058	0.002	<0.0001	<0.001	0.001	<0.0005	0.001	0.001	0.002	0.25
	26/05/2016	Sample Collected	6.9	0.6	0.116	0.049	0.001	<0.0001	<0.001	0.001	<0.0005	0.001	0.001	0.005	0.38
	11/08/2016	Sample Collected	6.78	0.585	0.083	0.061	0.001	<0.0001	<0.001	0.001	<0.0005	0.001	0.001	0.005	0.21
	16/11/2016	Sample Collected	6.48	0.607	0.104	0.041	<0.001	<0.001	<0.001	0.001	<0.005	0.001	0.001	0.008	0.25

1. Initially data will be compared against ANZECC Trigger Values with the aim to develop site specific trigger levels after 3 years of operations once a larger data set is available.

2. Initially data will be compared against NHMRC Drinking Water Guidelines with the aim to develop site specific trigger levels after 3 years of operations once a larger data set is available.

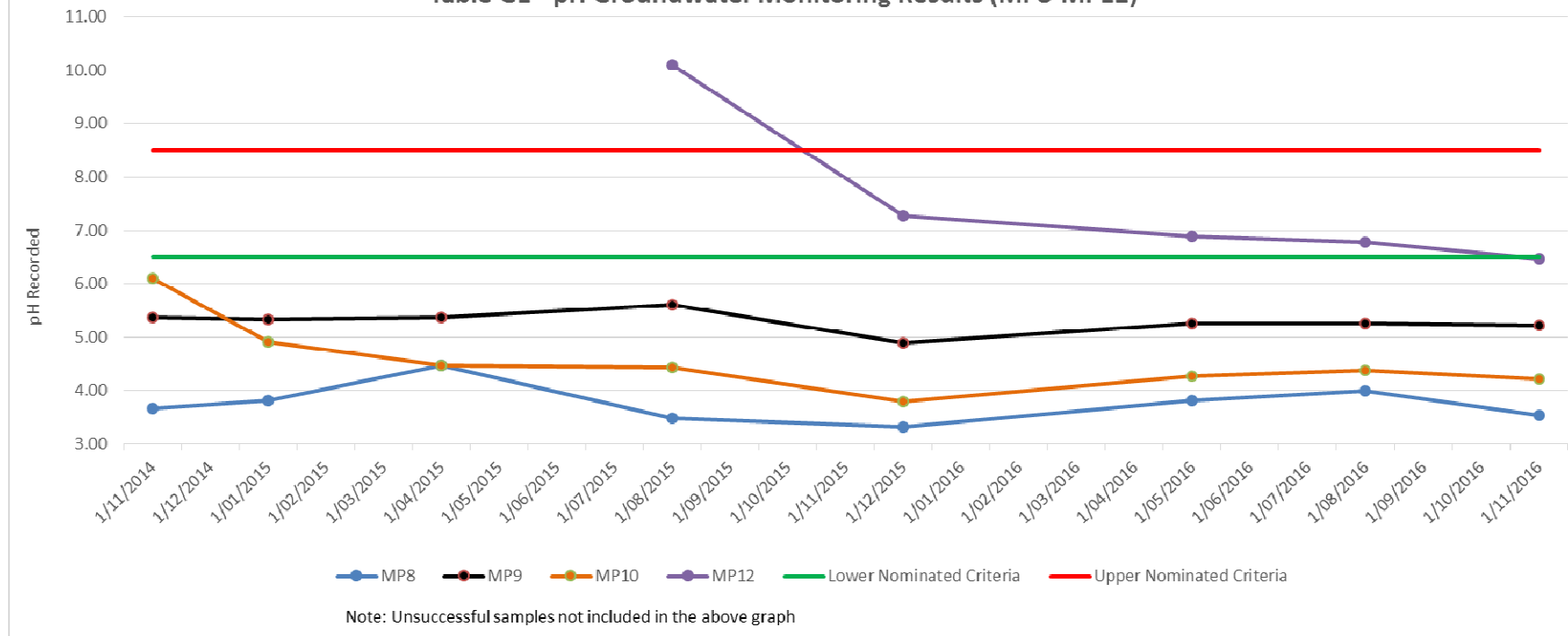
3. pH level required will be reviewed following collection of baseline monitoring data in accordance with the Project Approval. Specifically it is noted that the pH of nearby soil and receiving waters are mildly acidic pH4.5-pH5.3. The natural acidic soil conditions encountered at the Project Site and subsequent influence on runoff may require that maintenance of ambient condition is the preferred water quality goal.

4. Data in **bold** indicates the data is outside the trigger levels.

5. Monitoring Point 11 measures levels only not water quality. Monitoring Point 11 was officially added to the monitoring regime in 2015.

6. Monitoring Point 12 was officially added to the monitoring regime in late 2015 but earlier results have been included.

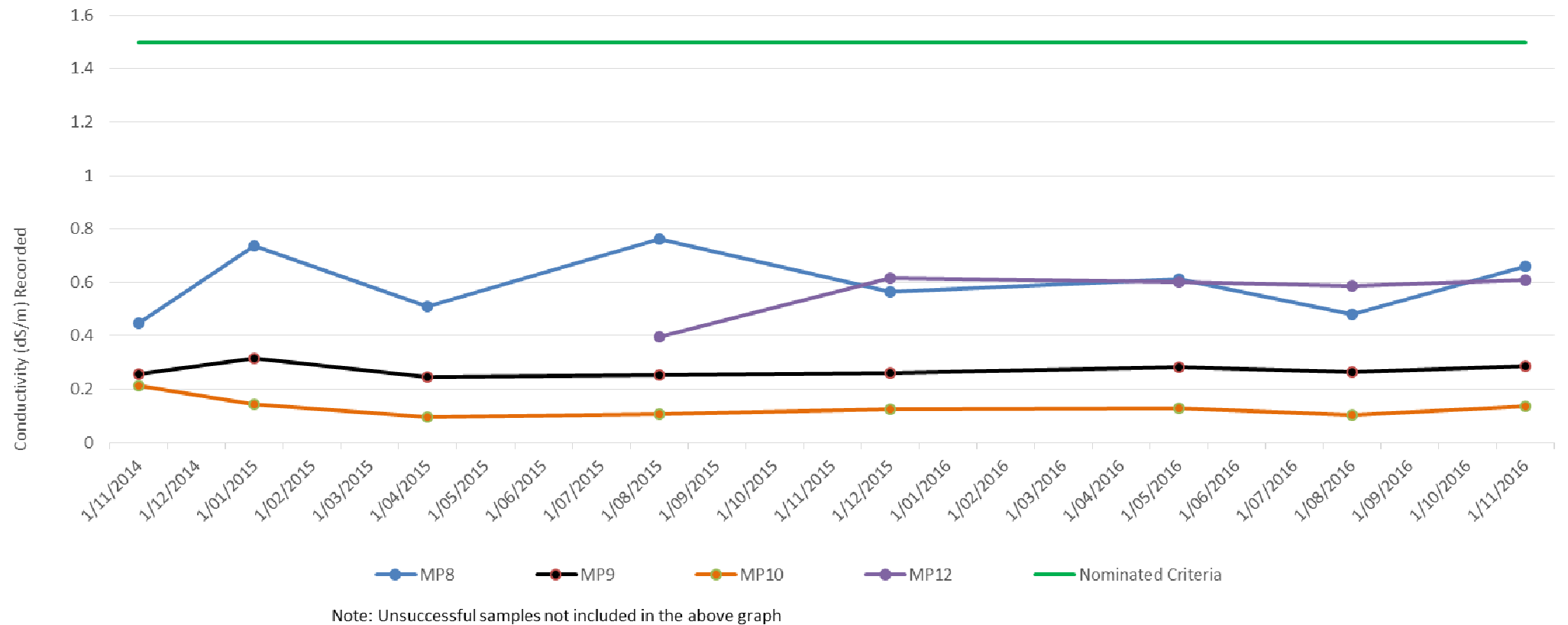
Table G1 - pH Groundwater Monitoring Results (MP8-MP12)



Note: Results with a < value are shown at maximum possible value

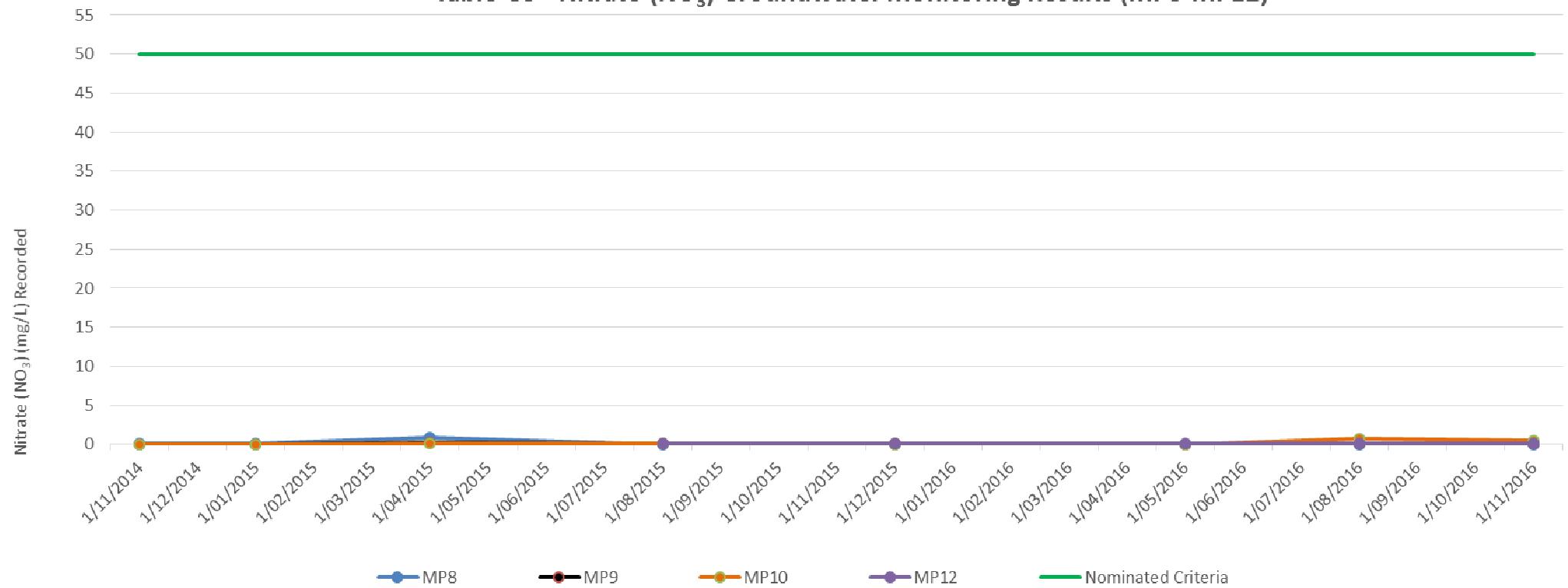
Note: the pH reading of 10.10 at MP12 on 13 August 2015 was unreliable as it was the first time the groundwater bore had been pumped and tested in over 3 years. Further the sample was cloudy. Later tests are more reliable.

Table G2 - Conductivity (dS/m) Groundwater Monitoring Results (MP8-MP12)



Note: Results with a < value are shown at maximum possible value

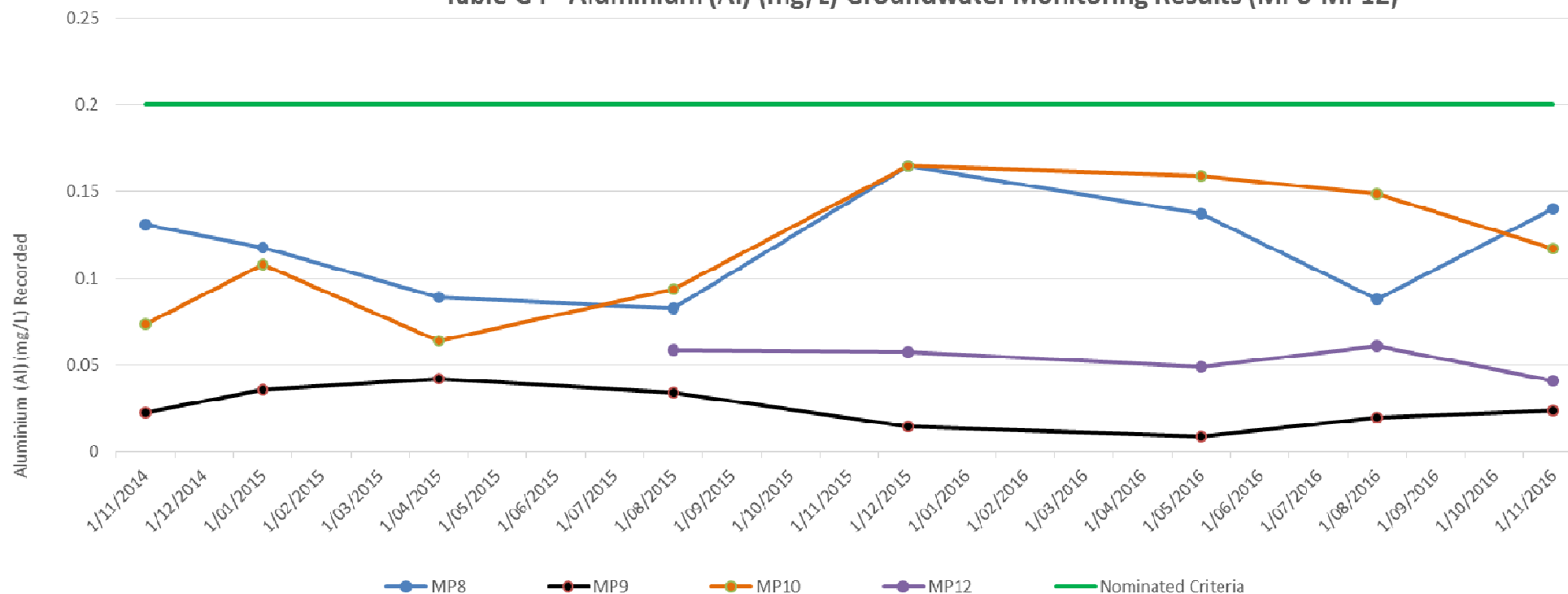
Table G3 - Nitrate (NO₃) Groundwater Monitoring Results (MP8-MP12)



Note: Unsuccessful samples not included in the above graph

Note: Results with a < value are shown at maximum possible value

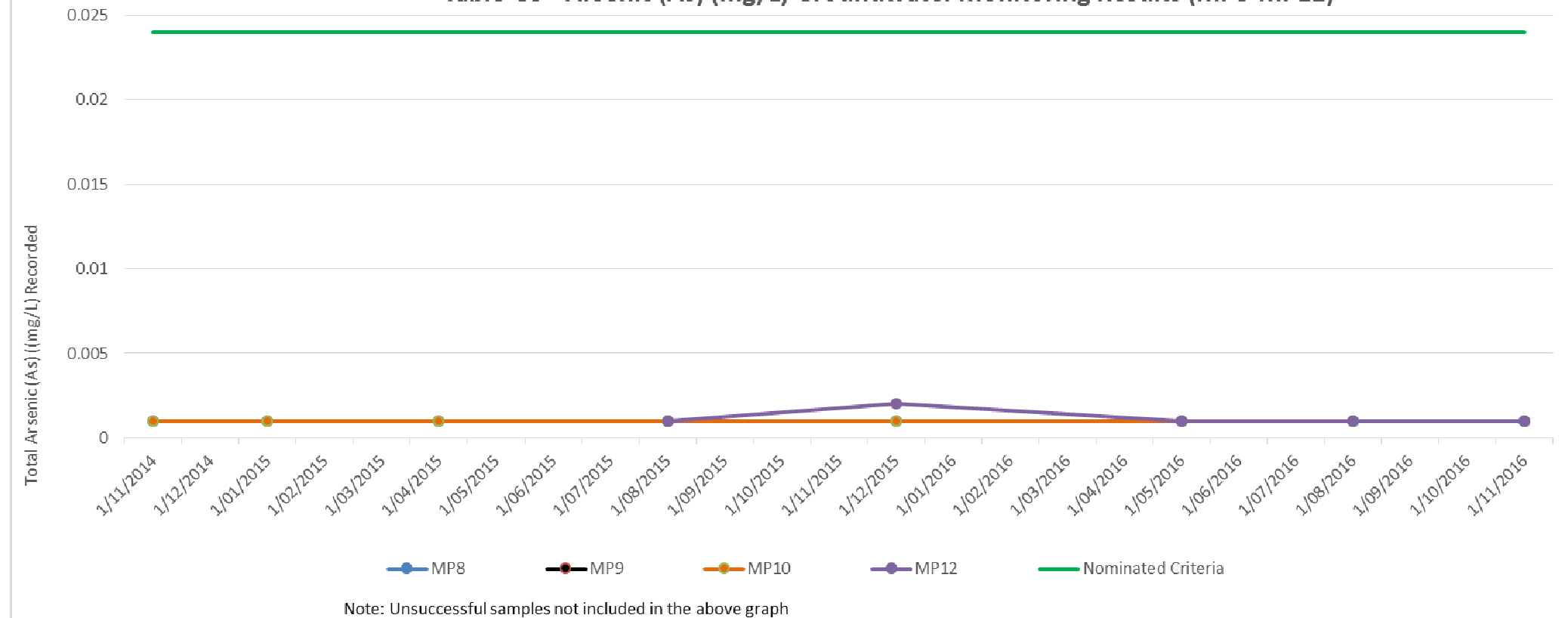
Table G4 - Aluminium (Al) (mg/L) Groundwater Monitoring Results (MP8-MP12)



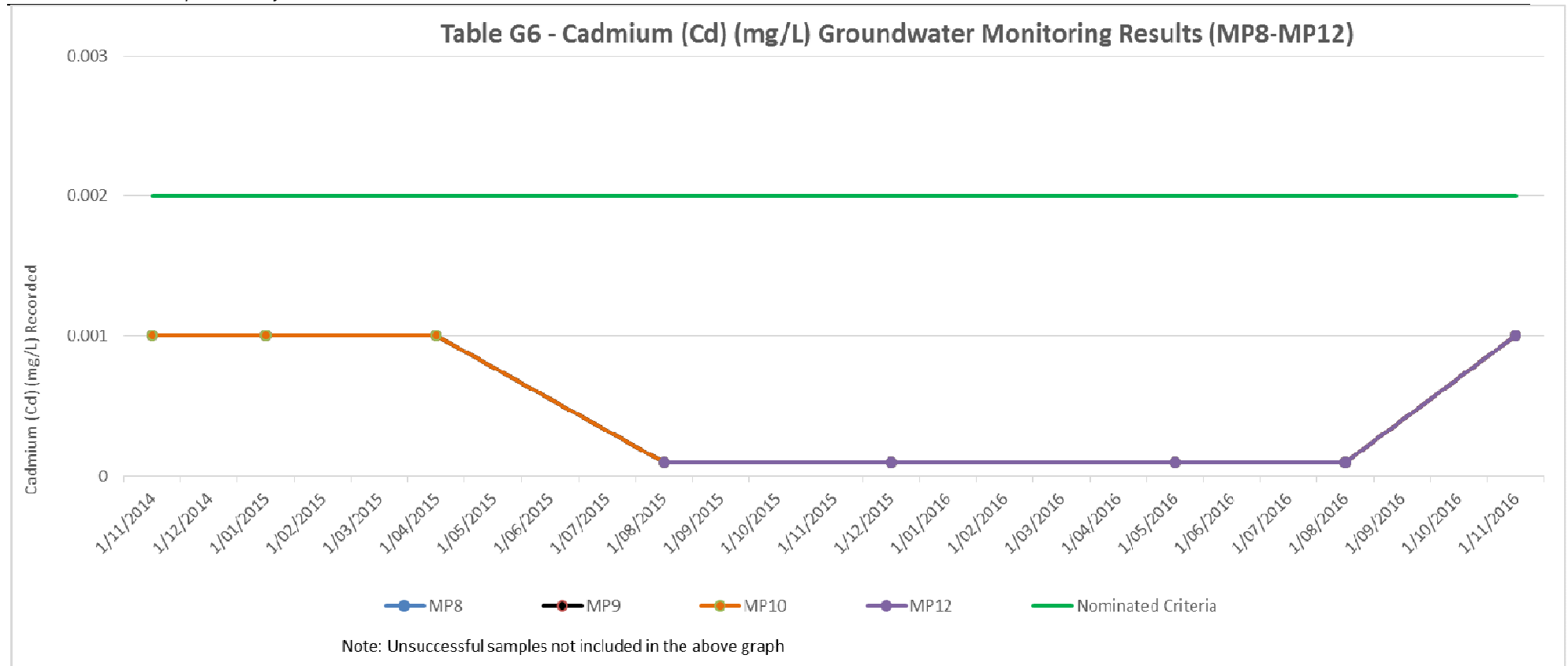
Note: Unsuccessful samples not included in the above graph

Note: Results with a < value are shown at maximum possible value

Table G5 - Arsenic (As) (mg/L) Groundwater Monitoring Results (MP8-MP12)

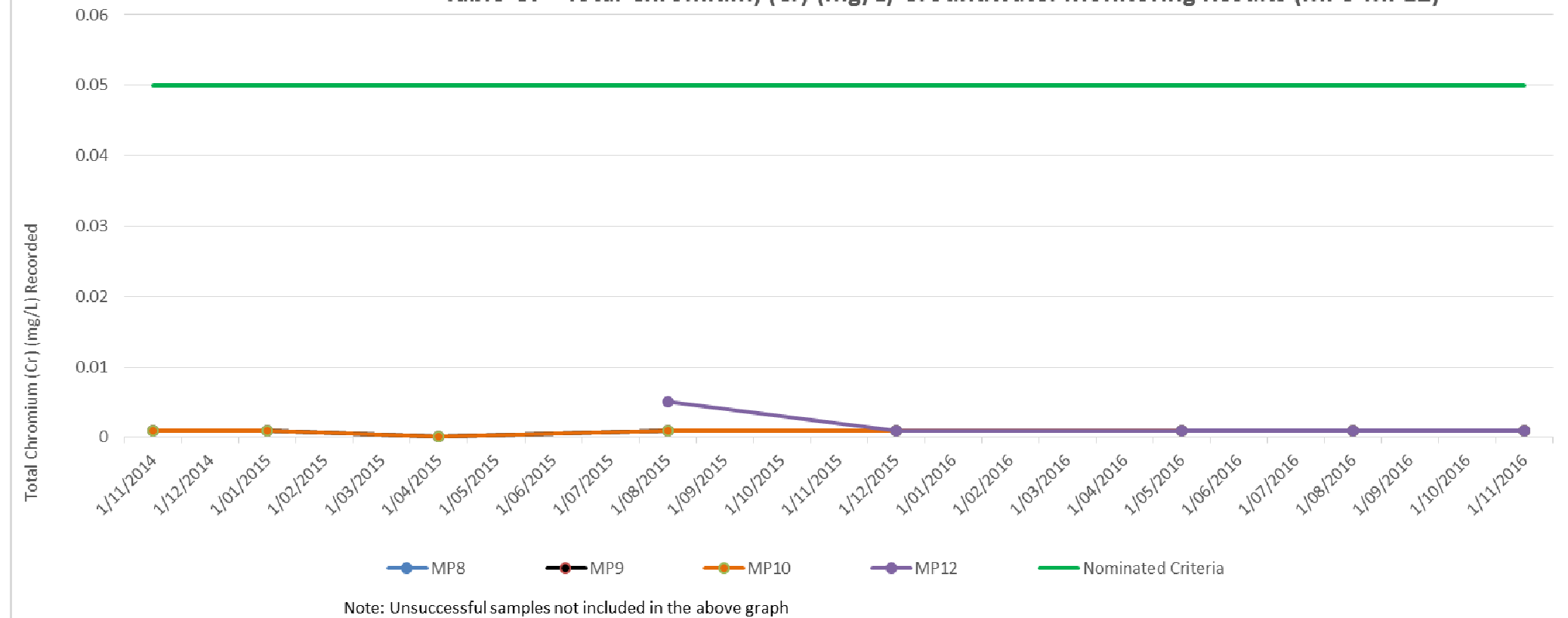


Note: Results with a < value are shown at maximum possible value



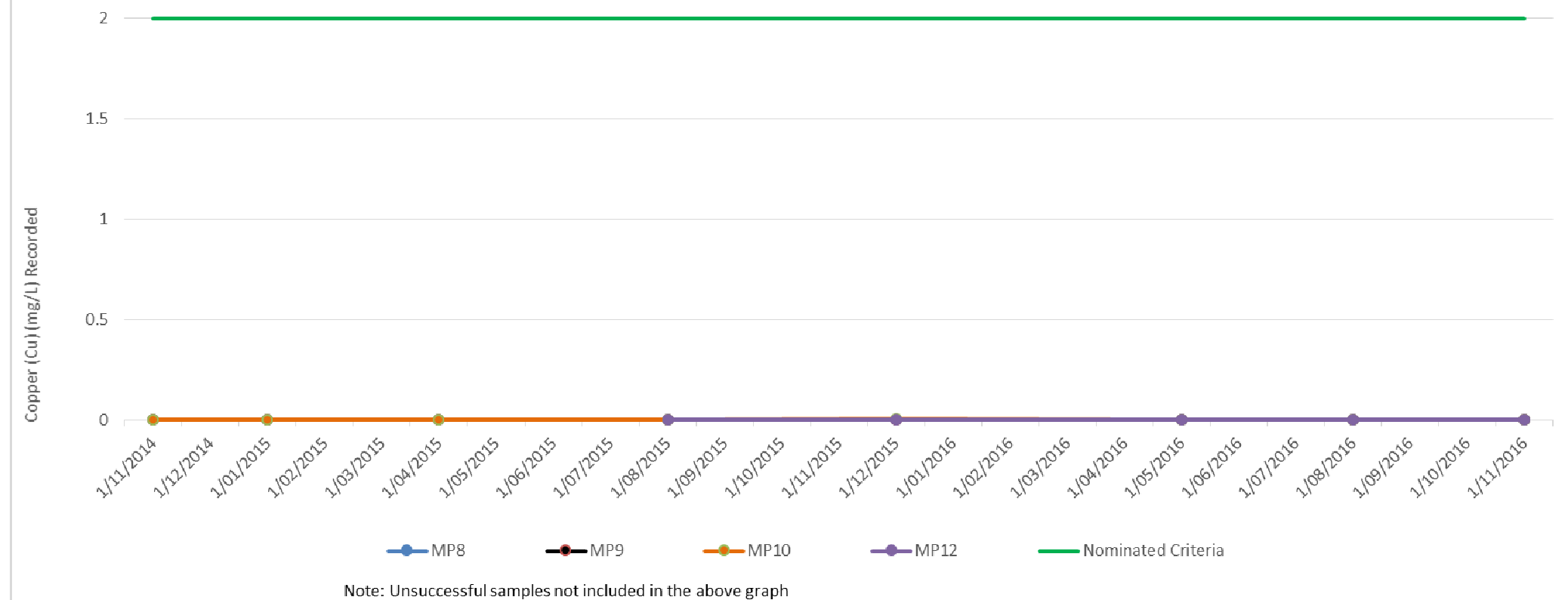
Note: Results with a < value are shown at maximum possible value

Table G7 - Total Chromium) (Cr) (mg/L) Groundwater Monitoring Results (MP8-MP12)



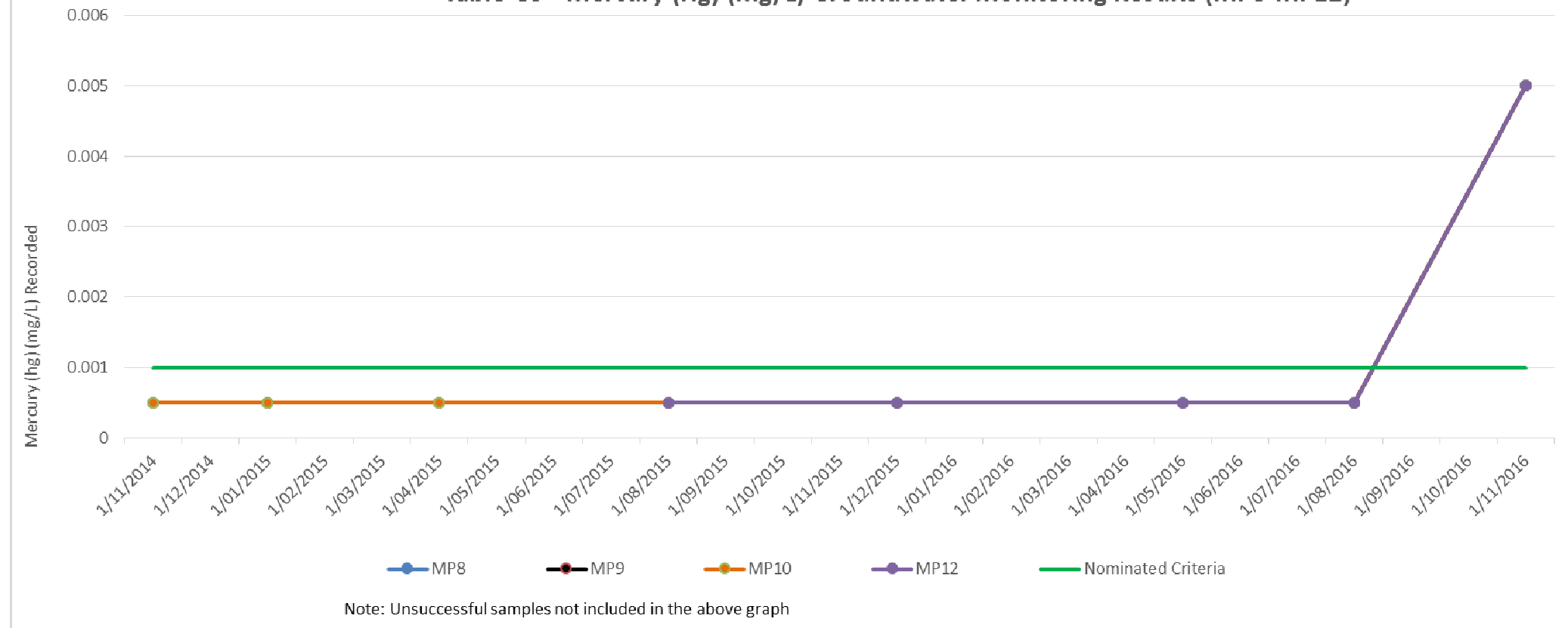
Note: Results with a < value are shown at maximum possible value

Table G8 - Copper (Cu) (mg/L) Groundwater Monitoring Results (MP8-MP12)



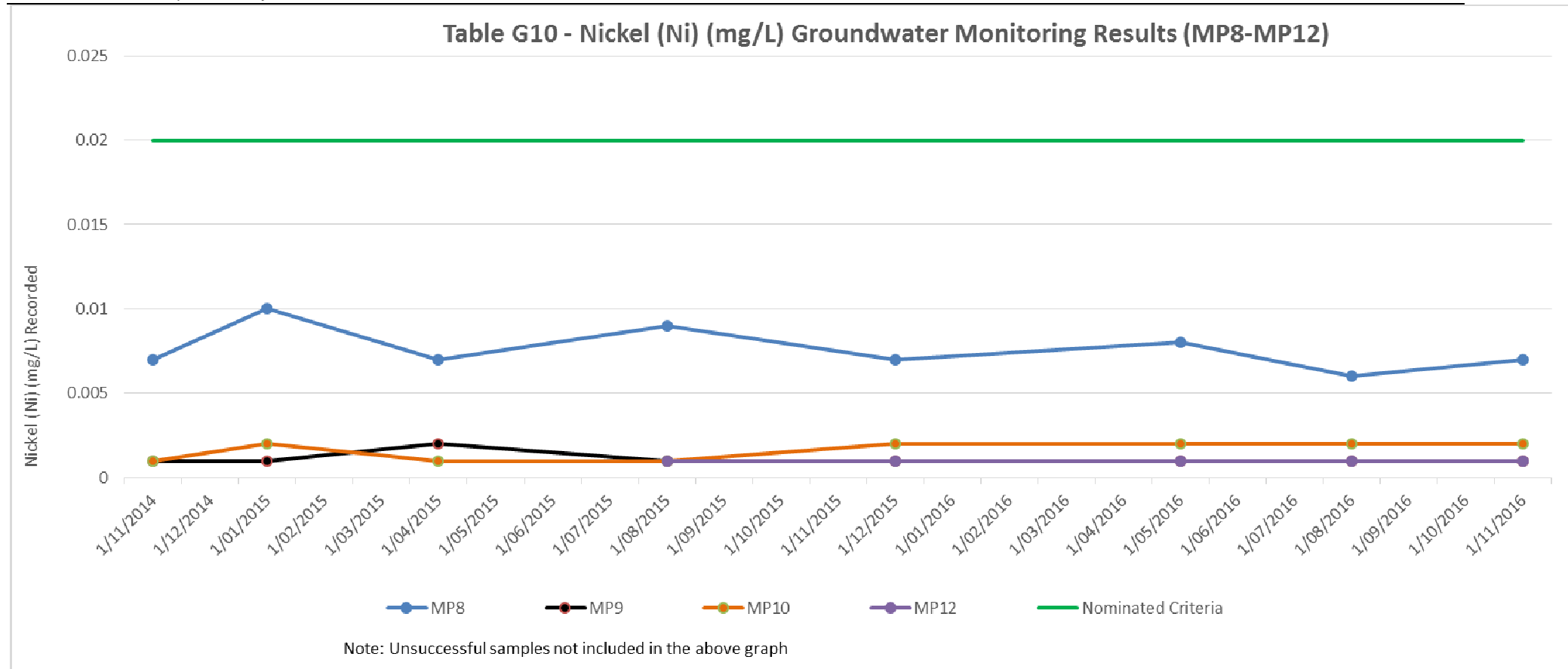
Note: Results with a < value are shown at maximum possible value

Table G9 - Mercury (Hg) (mg/L) Groundwater Monitoring Results (MP8-MP12)

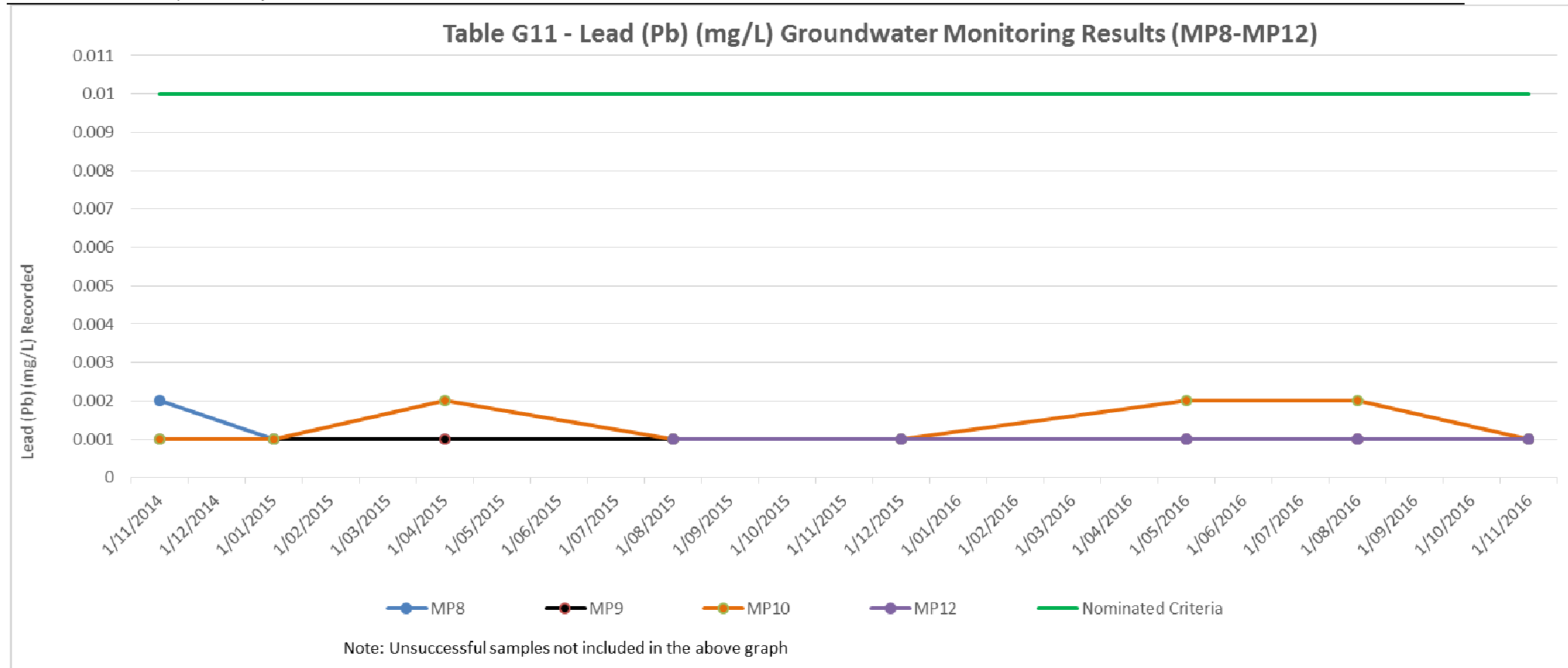


Note: Results with a < value are shown at maximum possible value

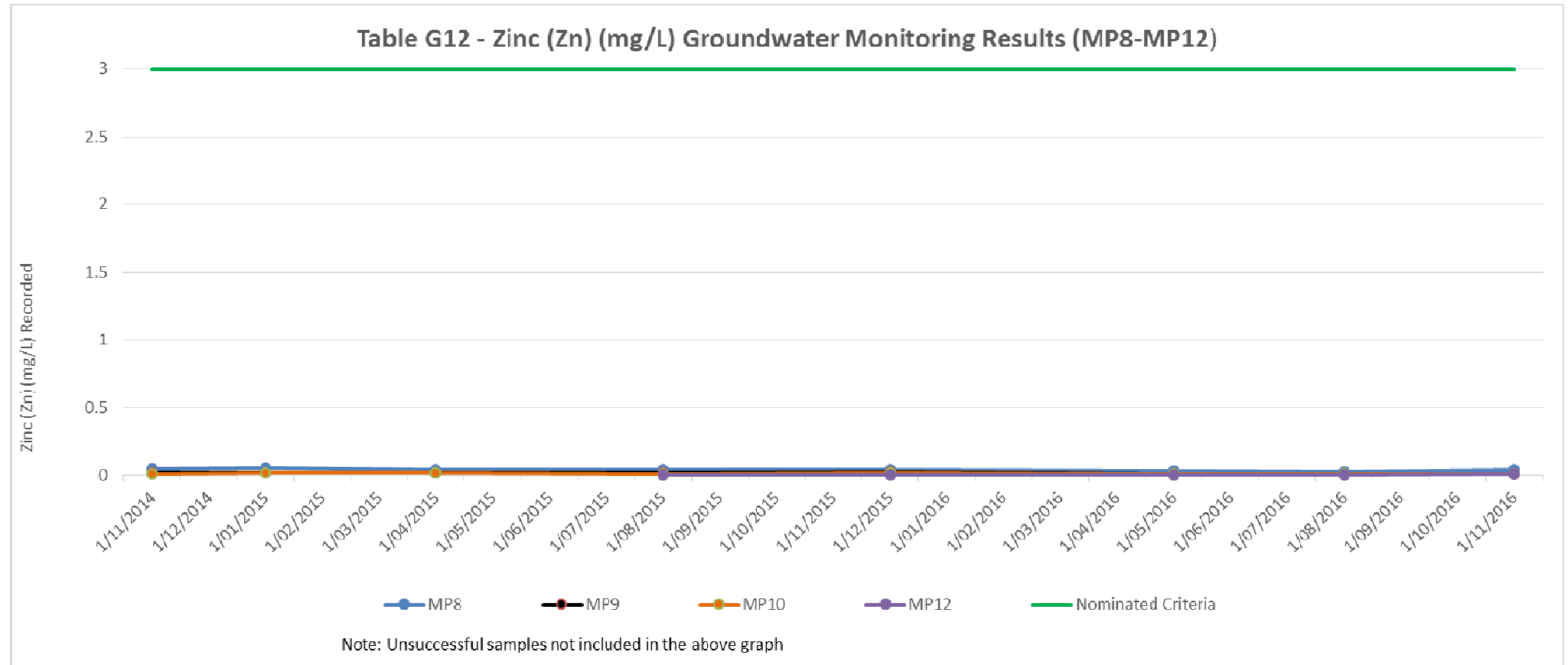
Note: MP8, MP9, MP10 and MP12 all recorded a level of <0.005mg/L mercury on 16 November 2016, this is artificially inflated. Without request EAL have commenced testing Mercury to only <0.005mg/L instead of to <0.0005mg/L as previously done.



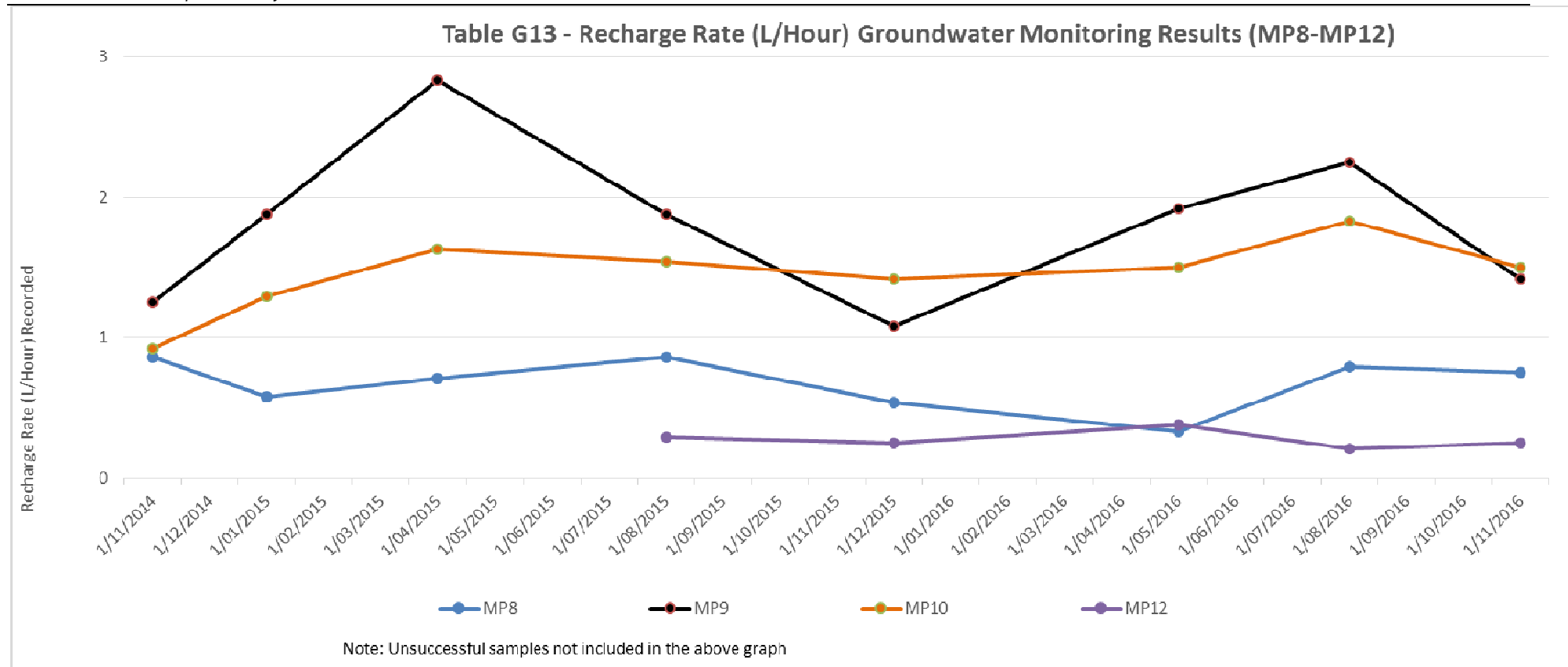
Note: Results with a < value are shown at maximum possible value



Note: Results with a < value are shown at maximum possible value



Note: Results with a < value are shown at maximum possible value



Note: Results with a < value are shown at maximum possible value

Note: Results may vary, however, the relatively slight variation between MP8, MP9, MP10 and MP12 is insignificant and representative of a dry bore.

ANNEXURE H – CHAMPIONS QUARRY AIR QUALITY/DUST MONITORING RESULTS

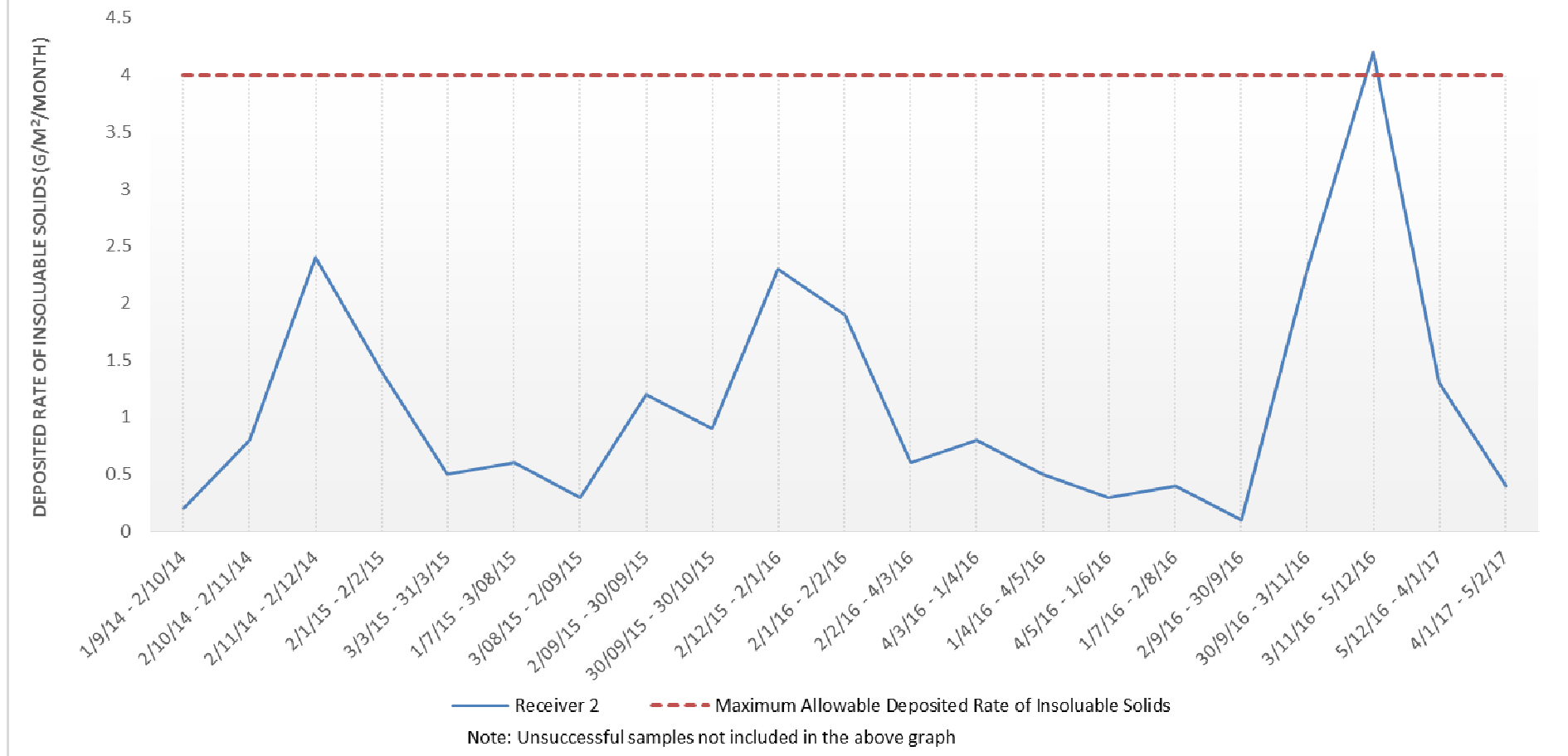
Sample Point	Exposure Period	Sampling Days (30 days +/- 2)	Sample Comments	Sample Volume (L)	Deposit Rate of Insoluble Solids Total		Deposit Rate of Ash (g/m ² /mth) Limit - 2g/m ² /mth	Deposit Rate of Combustible Matter (g/m ² /mth)
					(g/m ² /mth) Limit - 4g/m ² /mth	(mg/m ² /day)		
Receiver 2	1/8/14 - 1/9/14	31 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	1/9/14 - 2/10/14	31 days	-	0.560L	0.2	6	0.1	0.1
Receiver 2	2/10/14 - 2/11/14	31 days	-	0.220L	0.8	26	0.4	0.4
Receiver 2	2/11/14 - 2/12/14	30 days	Small amount of organic matter present	1.1L	2.4	80	0.5	1.9
Receiver 2	2/12/14 - 2/1/15	31 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	2/1/15 - 2/2/15	31 days	-	2.380L	1.4	46	0.3	1.1
Receiver 2	2/2/15 - 3/3/15	29 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	3/3/15 - 31/3/15	28 days	-	0.920L	0.5	18	0.3	0.2
Receiver 2	31/3/15 - 1/05/15	31 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	1/05/15 - 1/06/15	30 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	1/06/15 - 1/07/15	30 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	1/7/15 - 3/08/15	33 days	Sample Frothy	0.7L	0.6	17	0.2	0.4
Receiver 2	3/08/15 - 2/09/15	30 days	-	0.6L	0.3	8	0.1	0.1
Receiver 2	2/09/15 - 30/09/15	28 days	-	1.5L	1.2	42	0.6	0.6
Receiver 2	30/09/15 - 30/10/15	30 days	-	0.7L	0.9	30	0.4	0.5

Sample Point	Exposure Period	Sampling Days (30 days +/- 2)	Sample Comments	Sample Volume (L)	Deposit Rate of Insoluble Solids Total		Deposit Rate of Ash (g/m ² /mth) Limit - 2g/m ² /mth	Deposit Rate of Combustible Matter (g/m ² /mth)
					(g/m ² /mth) Limit - 4g/m ² /mth	(mg/m ² /day)		
Receiver 2	30/10/15 - 2/12/15	33 days	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	2/12/15 - 2/1/16	31 days	Cloudy, organic matter present	1.8L	2.3	75	0.9	1.5
Receiver 2	2/1/16 - 2/2/16	31 days	Organic matter present	1.25L	1.9	62	0.5	1.4
Receiver 2	2/2/16 - 4/3/16	31 days	-	1.98L	0.6	20	0	0.6
Receiver 2	4/3/16 - 1/4/16	28 days	-	2.63L	0.8	28	0.1	0.7
Receiver 2	1/4/16 - 4/5/16	33 days	-	1.7L	0.5	14	0.2	0.3
Receiver 2	4/5/16 - 1/6/16	28	-	0.11L	0.3	11	0.2	0.1
Receiver 2	1/6/16 - 1/7/16	30	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	1/7/16 - 2/8/16	32	Cane ash	0.25L	0.4	11	0.1	0.2
Receiver 2	2/8/16 - 2/9/16	31	Sample unsuccessful - excess rain, DDG overflowed	N/A	-	-	-	-
Receiver 2	2/9/16 - 30/9/16	28	Dead bugs	0.45L	0.1	3	0.1	0
Receiver 2	30/9/16 - 3/11/16	34	Cloudy, organic matter present	0.27L	2.3	67	1.3	0.9
Receiver 2	3/11/16 - 5/12/16	32	Beetles	2.35L	4.2	130	1.1	3.1
Receiver 2	5/12/16 - 4/1/17	30	-	1.78	1.3	42	0.3	1

Notes

1. Data in **bold** indicates the data is outside the trigger levels.

Table H1 - Air Quality/Dust Monitoring Results - Receiver 2



Note: Records show one spike above the allowable level of 4g/m²/month. Notwithstanding this, the average monthly rate of deposited dust is well below the allowable average level of 4g/m²/month.

ANNEXURE I – CHAMPIONS QUARRY PART 3A COMPLAINTS REGISTER

Date of Complaint	Time of Complaint	Addressed to	From	Subject	Date/Time of Activity Complained Of	Written or Verbal	Date Received Complaint	Action
26/09/2014	10:35am	Champions Quarry	Kim Woolley (NAL 2)	Noise complaint	Morning of 26/09/14	Written - Email	26/09/2014	Conducted noise monitoring at NAL 2 on 26/09/14. Results were compliant with relevant noise criteria. Advised Complainant.
29/09/2014	1:39pm	Champions Quarry	Lachlan Woolley (NAL 2)	Noise complaint	Day of 29/09/14	Written - Email	29/09/2014	Requested complaint be registered as non-legitimate with the NSW Department of Planning. Advised Complainant.
4/03/2015	11:34am	Champions Quarry	Chris Woolley (NAL 2)	Noise complaint	Day of 3/03/15 and 4/03/15	Written - Email	4/03/2015	Ceased excavation until noise testing was carried out. Conducted noise monitoring at NAL 2 on 05/03/15. Results were compliant with relevant noise criteria. Advised Complainant.
27/01/2016	12:03pm	Champions Quarry	Chris Woolley (NAL 2)	Noise complaint	Day of 27/1/16 between 11:15-11:45am	Written - Email	27/01/2016	Ceased excavation until noise testing could be carried out (adverse meteorological conditions). Conducted noise monitoring at NAL 2 on 29/1/16. Operational noise was below background noise. Advised Complainant.

**ANNEXURE J – CHAMPIONS QUARRY INDEPENDENT ENVIRONMENTAL AUDIT
REPORT**

Champions Quarry Expansion

RESPONSE TO RECOMMENDATIONS CONTAINED WITHIN THE INDEPENDENT ENVIRONMENTAL AUDIT 2015

Champions Quarry
“Working with the Environment”

CHAMPIONS QUARRY

RESPONSE TO RECOMMENDATIONS CONTAINED WITHIN THE INDEPENDENT ENVIRONMENTAL AUDIT 2015

CORRECTIVE ACTION					
Number	Condition	Corrective Action	Response	Timeframe	Completion
CAR 1	Project Approval, Schedule 2, Condition 12	Seal the access road between CEA and SEA. Alternatively, seek a modification to the Project Approval that removes the requirement.	A s75W modification is to be lodged with the DP & E removing the requirement to seal the internal haul road between the CEA and SEA.	CQ to lodge a modification with DP & E by 19 February 2015.	Completed
CAR 2	Project Approval, Schedule 3, Condition 18	Submit a modification to address the inconsistencies with the LMP and Project Approval so that the LMP can be approved and then obtain confirmation that the construction of the bunds are to the satisfaction of DP & E.	A s75W modification is to be lodged with DP & E and then amendments are required to the Landscape Management Plan. A revised Landscape Management Plan will then be lodged with DP & E, following which CQ will seek confirmation from DP & E that the bunds listed as A-D have been vegetated to the satisfaction of DP & E.	<ul style="list-style-type: none"> • CQ to lodge a modification with DP & E by 19 February 2015. • CQ to lodge revised Landscape Management Plan with DP & E within 6 weeks of the approval of the modification. • CQ to seek confirmation from DP & E within 4 weeks of approval of the Landscape Management Plan. 	<ul style="list-style-type: none"> • CQ to lodge a modification with DP & E by 19 February 2015 – Completed • CQ to lodge revised Landscape Management Plan with DP & E within 6 weeks of the approval of the modification – Completed • CQ to seek confirmation from DP & E within 4 weeks of approval of the Landscape Management Plan – In progress.
CAR 3	Project Approval, Schedule 3, Condition 19	Submit a modification to address the inconsistencies with the LMP and Project Approval so that the LMP can be approved and then obtain confirmation that the vegetated screening along the access road is established to the satisfaction of DP & E.	A s75W modification is to be lodged with DP & E and then amendments are required to the Landscape Management Plan. A revised Landscape Management Plan will then be lodged with DP & E, following which CQ will seek confirmation from DP & E that the vegetated screening to the north of the main access road is established to the satisfaction of DP & E.	<ul style="list-style-type: none"> • CQ to lodge a modification with DP & E by 19 February 2015. • CQ to lodge revised Landscape Management Plan with DP & E within 6 weeks of the approval of the modification. • CQ to seek confirmation from DP & E within 4 weeks of approval of the Landscape Management Plan. 	Refer to CAR 2 above.
CAR 4	Project Approval, Schedule 3, Condition 35	Obtain confirmation that DP & E are satisfied with the sub-surface archaeological investigations.	<ul style="list-style-type: none"> • Confirmation sought from DP & E in September 2013 of proposed targeted sub-surface investigations. • DP & E advised that targeted sub-surface archaeological investigations should be contained within the Heritage 	No further action required.	Completed

			<p>Management Plan (email dated 24 September 2013).</p> <ul style="list-style-type: none"> • The Heritage Management Plan containing the proposed targeted sub-surface investigations was approved by DP & E on 20 November 2013. • Archaeological investigations were carried out on 29 November 2013. • Archaeological Report was prepared and dated 11 December 2013. • Report was submitted to DP & E on 20 December 2013. • CQ sought confirmation from DP & E on 11 November 2015. • DPE advised on 23 November 2015 that sub-surface investigations have been carried out to the satisfaction of the Secretary. 		
CAR 5	Project Approval, Schedule 3, Condition 40	Ensure conditions on the ground are consistent with the approved offset areas. Alternatively, seek a modification to the Project Approval so that the offset areas are consistent with those on the ground.	A s75W modification is to be lodged with the DP & E so that the mapped offset areas are consistent with groundtruthed areas on the ground. This will involve updating the figure in Appendix 6 of the Project Approval.	CQ to lodge a modification with DP & E by 19 February 2015.	Completed
CAR 6	Project Approval, Schedule 3, Condition 42	Finalise the conservation agreement for the offset areas or seek a further extension of the deadline from DP & E.	<ul style="list-style-type: none"> • The conservation agreement (s88E Instrument) cannot be lodged until the s75W modification is finalised/approved as the modification includes an updated figure in Appendix 6 of the Project Approval, which once approved will be included as the plan in the s88E Instrument. • CQ sought an extension from DP & E on 11 November 2015; 	<ul style="list-style-type: none"> • CQ will prepare and submit the s88E Instrument in the form of a PPC and RUL to DP & E by the end of December 2015. • The plan attached to the PPC and RUL identifying the areas will be added to the PPC and RUL following approval of the s75W Modification by DP & E. • The aim is to finalise the PPC and RUL with the plan and lodge them with LPI as soon as possible. 	<ul style="list-style-type: none"> • CQ will prepare and submit the s88E Instrument in the form of a PPC and RUL to DP & E by the end of December 2015 – Completed. • The plan attached to the PPC and RUL identifying the areas will be added to the PPC and RUL following approval of the s75W Modification by DP & E – In progress. • The aim is to finalise the PPC and RUL with the plan and lodge them with LPI as soon as possible.

			<ul style="list-style-type: none"> • DP & E advised on 16 November 2015 that the matter should be addressed without further delay; • In the interests of progressing the preparation and finalisation of the s88E Instruments, CQ will in the interim liaise with DP & E to finalise the text of the RUL's and PPC's until it is finalised following the approval/outcome of the s75W modification. 		
CAR 7	Project Approval, Schedule 3, Condition 45	Submit a modification to address the inconsistencies with the LMP and Project Approval so the LMP can be approved.	<ul style="list-style-type: none"> • A revised Landscape Management Plan was submitted to DP & E in February 2015. DP & E requested some amendments. • The amendments require a s75W modification to be lodged. • Once the s75W modification is finalised/approved then a further amended Landscape Management Plan will be lodged with DP & E. 	<ul style="list-style-type: none"> • CQ to lodge a modification with DP & E by 19 February 2015. • CQ to lodge revised Landscape Management Plan with DP & E within 6 weeks of the approval of the modification. 	Completed
CAR 8	Project Approval, Schedule 3, Condition 46	Submit a modification to address the inconsistencies with the LMP and Project Approval so the LMP can be approved and then lodge the Conservation and Rehabilitation Bond.	<ul style="list-style-type: none"> • A revised Landscape Management Plan was submitted to DP & E in February 2015. DP & E requested some amendments. • The amendments require a s75W modification to be lodged. • Once the s75W modification is finalised/approved then a further amended Landscape Management Plan will be lodged with DP & E. • Following approval the Conversation and Rehabilitation Bond can be calculated and submitted to DP & E. 	<ul style="list-style-type: none"> • CQ to lodge a modification with DP & E by 19 February 2015. • CQ to lodge revised Landscape Management Plan with DP & E within 6 weeks of the approval of the modification. • CQ to calculate the Bond and lodge with DP & E within 4 months of the approval of the LMP. 	<ul style="list-style-type: none"> • CQ to lodge a modification with DP & E by 19 February 2015 – Completed. • CQ to lodge revised Landscape Management Plan with DP & E within 6 weeks of the approval of the modification. CQ to calculate the Bond and lodge with DP & E within 4 months of the approval of the LMP – In progress.
CAR 9	Environmental Protection Licence O4.3	Install a sediment basin marker that	<ul style="list-style-type: none"> • Confirmation sought from EPA on 16 April 2015, that the pipes 	No further action required.	Completed

		indicates the sediment storage zone or obtain confirmation from EPA that the pipes are a suitable alternative.	<p>are suitable sedimentation basin markers.</p> <ul style="list-style-type: none"> • CQ sought confirmation from EPA on 11 November 2015. • EPA confirmed on 24 November 2015 that sedimentation basin markers are not required for preliminary sedimentation basins/traps. 		
CAR 10	Environmental Protection Licence M7.1	Confirm with EPA that they are happy with the revised noise monitoring location.	<ul style="list-style-type: none"> • All of the receivers locations for noise assessment are within 30 metres from the receivers residence except for Receiver 1. CQ advised EPA of this by email dated 5 March 2015. • EPA advised on 10 April 2015 that they required written confirmation from the relevant receiver that they did not permit CQ to access their land for the purposes of carrying out noise monitoring. • On 22 June 2015 CQ wrote to Receiver 1 seeking their advice as to whether they consent to CQ personnel accessing their land for the purposes of carrying out noise monitoring. CQ requested a response on/before 31 July 2015, noting that if CQ had not heard a response by the 31 July 2015, CQ would deem Receiver 1 to have refused consent to access their land. • As of 1 October 2015, no response has been received from Receiver 1. • CQ sought confirmation from EPA on 11 November 2015. • EPA confirmed on 24 November 2015 that they are satisfied with the revised noise monitoring location for Receiver 1. 	No further action required.	Completed

RECOMMENDATIONS					
Number	Condition	Recommendation	Response	Timeframe	
R1	Project Approval, Schedule 2, Condition 7	Survey the quarry floor on a periodic basis to demonstrate compliance.	The CEA floor level will be surveyed to establish current depth (excavated prior to 4 July 2014) AHD height markers will also be installed in the CEA. CQ will also install AHD height markers adjacent to the base of the SEA to indicate when the excavation is approaching the minimum AHD. The CEA and SEA floor level will be surveyed periodically once the level of the SEA is approaching the AHD height markers.	CQ will survey the CEA floor level and install AHD height markers in the CEA and at the base of the SEA by the end of January 2016. CQ will provide follow up surveys of extraction areas periodically.	Completed.
R2	Project Approval, Schedule 2, Condition 9	Monitor and record the date, number and time of truck movements from the site to demonstrate compliance.	<ul style="list-style-type: none"> The Site Foreman monitors the hourly and daily truck movements from the site and staggers trucks throughout the day. CQ will commence recording the date and time that trucks are loaded/leave in accordance with accredited scales fitted to front end loaders. 	CQ will record the date and time that trucks are loaded/leave commencing from the beginning of December 2015 in accordance with accredited scales fitted to front end loaders.	Completed.
R3	Project Approval, Schedule 2, Condition 17	Maintain plant maintenance logs and daily start checklists.	<ul style="list-style-type: none"> CQ notes that all plant and equipment is maintained and operated in a proper and efficient manner. This is also noted by the auditor. CQ will where possible, maintain plant maintenance logs and daily start checklists. 	CQ will maintain plant maintenance logs and daily start checklists commencing December 2015.	In progress.
R4	Project Approval, Schedule 3, Condition 5	Undertake Noise Monitoring at receiver locations 1, 4 and 5 during suitable weather conditions to demonstrate compliance with noise criteria at nominated receivers.	CQ will repeat the noise monitoring at receivers 1, 4 and 5 and seek to do so during meteorological conditions when testing can be carried out and noise limits apply.	CQ will repeat the noise monitoring at receivers 1, 4 and 5 by the end of December 2015 (weather permitting).	Completed.

R5	Environmental Protection Licence L1.2	Develop and implement a procedure to record sediment basins discharges.	<p>Sediment basins are visually inspected by the Site Foreman minimally 2-3 times per week for capacity, maintenance requirements and discharges. CQ will also implement a procedure as follows:</p> <ul style="list-style-type: none"> • Minimum weekly inspections of the 40 ML Water Reuse Dam to determine capacity, assess any intentional and unintentional discharge and assess any maintenance requirements. The Water Reuse Dam is the final sedimentation basin and by itself exceeds all conceivable maximum sedimentation basin calculations. • Weekly inspections will be increased to daily monitoring when Water Reuse Dam level approaches capacity, likely to discharge or is to be intentionally discharged. • The following will be recorded in relation to the Water Reuse Dam: <ul style="list-style-type: none"> ○ Weekly inspections (date and time); ○ Maintenance requirements of the Water Reuse Dam or any required desilting (if any); and ○ All discharges (intentional and unintentional). 	<ul style="list-style-type: none"> • CQ will implement the procedure from the beginning of December 2015. • CQ to lodge revised Water Management Plan by the end of December 2015. 	Completed.
R6	Environmental Protection Licence O4.4	Develop and implement a procedure to record that sediment basins are monitored and maintained appropriately.	Refer to R5.	Refer to R5.	Refer to R5.
R7	Environmental Protection Licence O4.8	Develop and implement a procedure to record that sediment basins are monitored and	Refer to R5.	Refer to R5.	Refer to R5.

		maintained appropriately.			
R8	Transport Management Plan	Update the Drivers Code of Conduct in accordance with RMS suggestions, where relevant.	At this stage all material is transported by external contractors not employees.		N/A.
			RMS Recommendation	Response	N/A.
			Safe initiatives for haulage through residential areas and/or school zones	Already incorporated into Drivers Code of Conduct.	No further action required.
			An induction process for vehicle operators and regular toolbox meetings	On site signage directs all drivers to collect the Drivers Code of Conduct from the site office prior to leaving the site. Employees also receive an employee induction sheet and participate in regular tool box meetings. Hence, recommendation satisfied/not relevant.	No further action required.
			A complaint resolution and disciplinary procedure	Complaints – Champions Quarry has a complaints telephone line (phone number published on website). Complaints can also be lodged online via the CQ website. Complaints are managed in accordance with the respective Management Plan. Disciplinary procedure – In accordance with the Drivers Code of Conduct, all hazards/incidents are to be reported to the Production Manager, Jeff Champion. Appropriate action will then be taken. It is noted, as the drivers are generally external contractors, it is not Champions Quarry's role to discipline drivers. Hence, recommendation satisfied/not relevant.	No further action required.
			Any community consultation measures for peak haulage periods	Recommendation satisfied/not relevant. Truck movements are already limited to 5 trucks per hour. Further, the Drivers Code of Conduct sets out requirements for truck drivers during such periods as does the Transport Management Plan.	No further action required.
R9	Water Management Plan	Review the sediment basin calculations to ensure they are in accordance with Managing Urban Stormwater Soils and Construction – Volume 2e Mines and quarries (DECC, 2008) and EPL	CQ will review the sedimentation basin calculations and incorporate any required amendments in a revised Water Management Plan to be submitted to P & E.	CQ to lodge revised Water Management Plan by the end of December 2015.	Completed.
R10	Water Management Plan	Develop and implement a procedure to record that sediment basins are	Refer to R5.	Refer to R5.	Refer to R5.

		monitored and maintained appropriately.			
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ANNEXURE K – DRE QUARRY PRODUCTION DATA FORM 2015/2016 FINANCIAL YEAR



Department
of Industry
Resources & Energy

Form S 1

RETURN FOR EXTRACTIVE MATERIALS: YEAR ENDED 30 JUNE 2016

Quote RIMS ID in all correspondence

Quarry Id: Rims ID: 400494

Operators Name: CHAMPIONS QUARRY 2 PTY LTD
Address: PO BOX 5261
EAST LISMORE
NSW 2480

Email: championsquarry@yahoo.com.au,

Quarry Name: CHAMPION'S QUARRY
Quarry Location: 1586 WYRALLAH RD

Inquiries please telephone:
(02) 4931 6435

Completed or Nil Returns

Email –

mineral.royalty@industry.nsw.gov.au

Please amend name, postal
address and location of mine or
quarry if incorrect or incomplete

The return should be completed and forwarded to the **STATISTICAL OFFICER, NSW DEPARTMENT OF INDUSTRY RESOURCES AND ENERGY, PO BOX 344, HUNTER REGION MAIL CENTRE NSW 2310** on or before **30 November, 2016**. If completion of the return is unavoidably delayed, an application for extension of time should be requested **before** the due date. If no work was done during the year, a **NIL** return must be forwarded.

The return should relate to the **above quarrying establishment**, and should cover the operations of quarrying and treatment (such as crushing, screening, washing etc.) carried out at or near the quarry. A return is required even if the operations are solely of a developmental nature, and whether the area being worked is held under a mining title or otherwise.

Zane West, Royalties and Advisory Services Manager

Please complete the following information to assist in identifying the location of the Quarry

Typical Geology Sandstone

Nearest Town to Quarry Lismore

Local Council Name Lismore City Council

Deposited Plan and Lot Number/s of Quarry Lot 5 DP1191905

Email Address of Operator championsquarry@yahoo.com.au

Name of Owner or Licensee Champions Quarry 2 Pty Ltd

Postal Address of Licensee P.O. Box 5261 East Lismore NSW 2480

Licence/Lease Number/s (if any)

From Mineral Resources NSW (Industry & Investment NSW) N/A

From Department of Lands or other Department N/A

If any output was obtained from land NOT held under licence from the above Departments, state the Name/s and Address/es of the Owners of the land

- To the best of my knowledge, the particulars which have been entered in this return are correct and no blank spaces have been left where figures should have been inserted.

• SIGNATURE of PROPRIETOR or MANAGER Jeff Champion DATE _____

• PERSON to be contacted if queries arise regarding this return Jeff Champion

• NAME (Block letters) JEFF CHAMPION Telephone 0414 298000

SALES During 2015-2016

Production information may be published in aggregated form for statistical reporting. However, production data for individual operations is kept strictly confidential.

Product	Description	Quantity Tonnes
Virgin Materials		
• Crushed Coarse Aggregates		
Over 75mm	} Sandstone	
Over 30mm to 75mm		
5mm to 30mm		
Under 5mm		
Natural Sand		
Manufactured Sand		
Prepared Road Base & Sub Base		
Other Unprocessed Materials		
Recycled Materials		
• Crushed Coarse Aggregates		
Over 75mm		
Over 30mm to 75mm		
5mm to 30mm		
Under 5mm		
Natural Sand		
Manufactured Sand		
Prepared Road Base & Sub Base		
Other Unprocessed Materials		
• River Gravel		
Over 30mm		
5mm to 30mm		
Under 5mm		
• Construction Sand	Excluding Industrial	
• Industrial Sand		
Foundry, Moulding		
Glass		
Other (Specify)		
• Dimension Stone	Building, Ornamental, Monumental	
Quarried in Blocks		
Quarried in Slabs		
• Decorative Aggregate	Including Terrazzo	
• Loam	Soil for Topdressing, Garden soil, Horticultural purposes)	
• TOTAL SITE PRODUCTION		5,271.29
• Gross Value (\$) of all Sales		
• Type of Material	Sandstone	
• Number of Full-Time Equivalent (FTE) Employees	Employees: 4	Contractors: -

Please Note: A return for clay based products can be obtained by contacting the inquiry number.