

CERTIFICATE OF ANALYSIS

CERTIFICATE NO.: B653771
ISSUE DATE: 6/04/2018

REVISION NO.: 00
 This certificate supersedes any previous revisions

CLIENT DETAILS: David Reid
 Manna Energy

CLIENT REF: **ORDER No:**
DATE RECEIVED: 22/03/2018
TEST DATE: Sample tested between date received and reported.

CONDITIONS OF SAMPLE: Receipt Temperature: Room Temperature
 Storage Temperature: Ambient

RESULTS OF ANALYSIS:

Sample Description Test	Method	Unit	B653771-1 Manna Ormus	B653771-2 Australian Mineral Solution
Sodium (Na)	IND041	mg/kg	6,700	15,000
Potassium (K)	IND041	mg/kg	8,300	18,300
Calcium (Ca)	IND041	mg/kg	21,000	730
Magnesium (Mg)	IND041	mg/kg	55,800	53,000
Sulphur (S)	IND041	mg/kg	75	14,400
Sulphur as SO4#	IND041	mg/kg	225	43,100
Lithium (Li)*	IND041	mg/kg	21	9.1
Boron (B)	IND041	mg/kg	79.8	235
Silver (Ag)*	IND042	mg/kg	<0.1	<0.1
Aluminium (Al)*	IND042	mg/kg	<0.50	0.53
Arsenic (As)*	IND042	mg/kg	<0.5	<0.5
Beryllium (Be)*	IND042	mg/kg	<0.10	<0.10
Barium (Ba)*	IND042	mg/kg	5.3	0.18
Cadmium (Cd)*	IND042	mg/kg	<0.1	<0.1
Cobalt (Co)*	IND042	mg/kg	<0.1	<0.1
Chromium (Cr)*	IND042	mg/kg	<0.50	<0.50
Copper (Cu)*	IND042	mg/kg	<0.5	<0.5
Mercury (Hg)*	IND042	mg/kg	<0.10	<0.10
Molybdenum (Mo)*	IND042	mg/kg	<0.1	<0.1
Nickel (Ni)*	IND042	mg/kg	<0.10	<0.10
Lead (Pb)*	IND042	mg/kg	<0.1	<0.1
Scandium (Sc)*	IND042	mg/kg	<0.050	<0.050
Selenium (Se)*	IND042	mg/kg	<0.5	<0.5
Tin (Sn)*	IND042	mg/kg	<0.5	<0.5
Zinc (Zn)*	IND042	mg/kg	0.75	<0.50
Titanium (Ti)*	IND042	mg/kg	<0.10	<0.10
Vanadium (V)*	IND042	mg/kg	<0.10	<0.10
Gallium (Ga) ICP-MS*	IND042	mg/kg	0.65	<0.050

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Sample Description Test	Method	Unit	B653771-1 Manna Ormus	B653771-2 Australian Mineral Solution
Rubidium (Rb)*	IND042	mg/kg	8.2	6.9
Strontium (Sr)*	IND042	mg/kg	430	16
Yttrium (Y)*	IND042	mg/kg	<0.050	<0.050
Zirconium (Zr)*	IND042	mg/kg	<0.050	<0.050
Niobium (Nb)*	IND042	mg/kg	<0.050	<0.050
Rhodium (Rh)*	IND042	mg/kg	<0.050	<0.050
Palladium (Pd)*	IND042	mg/kg	0.17	<0.050
Indium (In)*	IND042	mg/kg	<0.050	<0.050
Antimony (Sb)*	IND042	mg/kg	0.2	0.2
Tellurium (Te)*	IND042	mg/kg	<0.050	<0.050
Caesium (Cs)*	IND042	mg/kg	<0.050	<0.050
Lanthanum (La)*	IND042	mg/kg	<0.050	<0.050
Cerium (Ce)*	IND042	mg/kg	<0.050	<0.050
Praseodymium (Pr)*	IND042	mg/kg	<0.050	<0.050
Neodymium (Nd)*	IND042	mg/kg	<0.050	<0.050
Samarium (Sm)*	IND042	mg/kg	<0.050	<0.050
Europium (Eu)*	IND042	mg/kg	<0.050	<0.050
Gadolinium (Gd)*	IND042	mg/kg	<0.05	<0.05
Terbium (Tb)*	IND042	mg/kg	<0.050	<0.050
Dysprosium (Dy)*	IND042	mg/kg	<0.050	<0.050
Holmium (Ho)*	IND042	mg/kg	<0.050	<0.050
Erbium (Er)*	IND042	mg/kg	<0.050	<0.050
Thulium (Tm)*	IND042	mg/kg	<0.050	<0.050
Ytterbium (Yb)*	IND042	mg/kg	<0.050	<0.050
Lutetium (Lu)*	IND042	mg/kg	<0.050	<0.050
Hafnium (Hf)*	IND042	mg/kg	<0.10	<0.10
Tantalum (Ta)*	IND042	mg/kg	<0.050	<0.050
Tungsten (W)*	IND042	mg/kg	<0.050	<0.050
Platinum (Pt)*	IND042	mg/kg	<0.050	<0.050
Thallium (Tl)*	IND042	mg/kg	<0.050	<0.050
Bismuth (Bi)*	IND042	mg/kg	<0.10	<0.10
Thorium (Th)*	IND042	mg/kg	<0.050	<0.050
Uranium (U)*	IND042	mg/kg	<0.050	0.054
pH	EFF006	pH Unit	5.92	7.51
Iron (Fe)	IND041	mg/kg	2.2	<2.0
Manganese (Mn)	IND041	mg/kg	4.8	1.4
Phosphorus (P)	IND041	mg/kg	<5.0	<5.0
Silicon (Acid Soluble)	IND041	mg/kg	6.5	<5.0
Gold (Au)	IND042	mg/kg	<1.0	<1.0
Germanium (Ge)	IND042	mg/kg	<0.05	<0.05
Iodine	IND042	mg/kg	<0.10	4.1
Rhenium (Re)	IND042	mg/kg	<0.050	<0.050
Ruthenium (Ru)	IND042	mg/kg	<0.05	<0.05
Iron (Fe)*	IND042	mg/kg	0.059	0.63

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DEFINITIONS: < = Less than, > = Greater than, - = Not Tested, DWB = Dry Weight Basis.
= The result is derived from calculation.

Results were reported on an "as received" basis unless otherwise indicated.

Sampling was conducted by the customer and results reported pertain only to the samples submitted.

Responsibility for representative sampling rests with the customer.



Hoyun Jeong, Team Leader
Chemistry (Brisbane)