

#### **ASX RELEASE**

14 December 2021

# Vanadium Resource Integration into Lake Maitland Uranium Resource Successfully Completed

#### **HIGHLIGHTS**

- Vanadium has been successfully integrated into the Lake Maitland uranium resource.
- The new U<sub>3</sub>O<sub>8</sub>-V<sub>2</sub>O<sub>5</sub> resource is now with engineers SRK Consulting to re-optimise the proposed Lake Maitland mine based on the new data and processing flow sheet.
- The re-optimisation will incorporate the costs associated with the most recently designed processing flowsheet, which includes the results of the beneficiation studies and the production of a  $V_2O_5$  by-product.
- The new Lake Maitland resource now contains 14 Mlbs of  $V_2O_5$  (Inferred JORC 2012) along with the 26.4 Mlbs of  $U_3O_8$  already estimated at a 200 ppm  $U_3O_8$  cut-off (refer to ASX announcement 1 February 2016).
- Test work conducted by Toro has shown that  $V_2O_5$  can be produced successfully as a byproduct of processing uranium at Lake Maitland for little extra cost (refer to ASX announcement of 8 February 2021).
- The re-optimisation of Lake Maitland, as a stand-alone operation, will test if an integrated U<sub>3</sub>O<sub>8</sub>-V<sub>2</sub>O<sub>5</sub> resource along with the improved processing flowsheet provides economic improvements to the proposed mining of the Lake Maitland Deposit.
- V<sub>2</sub>O<sub>5</sub> is currently trading at US\$8.40/lb (as flake European price 10 December 2021) but has traded as high as US\$28.80/lb in December 2018, and demand for vanadium redox batteries is expected to continue to grow.
- U<sub>3</sub>O<sub>8</sub> is currently trading at US\$45/lb (spot price UxC 6 December 2021), having risen by at least 50% since the start of the year.
- Lake Maitland Engineering Study ("Study") for a stand-alone operation and producing V₂O₅
  as a by-product is in its final stages of completion.
- Positive Study results have the potential to be applied across the entire Wiluna Uranium
   Project and may lower the price of uranium that is required to develop a mine.



- Less costly and less complex mining methods will also be investigated in the Study.
- Toro has reputable and well established joint venture partners at Lake Maitland with Japan Australia Uranium Development Company Ltd (through its subsidiary JAURD International Lake Maitland Project Pty Ltd) and ITOCHU Corporation (through its subsidiary ITOCHU Minerals & Energy Australia Pty Ltd) for the right to farm in to a 35% joint venture interest.

Toro Energy Limited (ASX: **TOE**) (**Toro** or the **Company**) is pleased to announce that the integration of vanadium into the Lake Maitland uranium resource has been completed successfully. The resulting  $U_3O_8$ - $V_2O_5$  resource is now with SRK Consulting mining engineers for the re-optimisation of the proposed Lake Maitland mine based on a stand-alone operation producing  $V_2O_5$  as a by-product. The Lake Maitland uranium resource is part of Toro's Wiluna Uranium Project (the **Project**) in Western Australia (refer to **Figure 1**).

As a result of the integration, the new  $U_3O_8$ - $V_2O_5$  resource at Lake Maitland is now estimated to hold 22.02 Mt grading 545 ppm  $U_3O_8$  and 288 ppm  $V_2O_5$  for a total of 26.4 Mlbs of  $U_3O_8$  and 14 Mlbs of  $V_2O_5$  contained oxide at a 200ppm  $U_3O_8$  cut-off.

The estimation for  $V_2O_5$  is Inferred status according to JORC 2012 criteria and the existing  $U_3O_8$  resource, as stated previously (refer to ASX announcement of 1 February 2016), is Measured and Indicated status (JORC 2012). The difference in status results from the fact that there is one third the available data for vanadium than there is in respect of uranium. This is due to the ability to use cost effective down-hole gamma probing to obtain uranium concentrations during drilling with limited laboratory assays needed to confirm/calibrate the gamma probe results. All the drill holes containing vanadium concentrations derived by geochemical assay and that were used in this estimation of  $V_2O_5$  inside the  $U_3O_8$  estimation panels, are presented in the table in Appendix 1. The JORC Table 1 for the  $V_2O_5$  estimation is presented in Appendix 2. All information related to the existing  $U_3O_8$  estimation for the Lake Maitland resource has been presented in the ASX announcement of 1 February 2016.

The integration of vanadium was achieved by formally estimating the grade/amount of  $V_2O_5$  inside the existing 10m x 10m x 0.5m estimation panels within the current Lake Maitland resource estimation. Ordinary Kriging was used as the geostatistical technique to estimate and all available geochemistry information for vanadium concentration in drilling within the deposit was utilised.



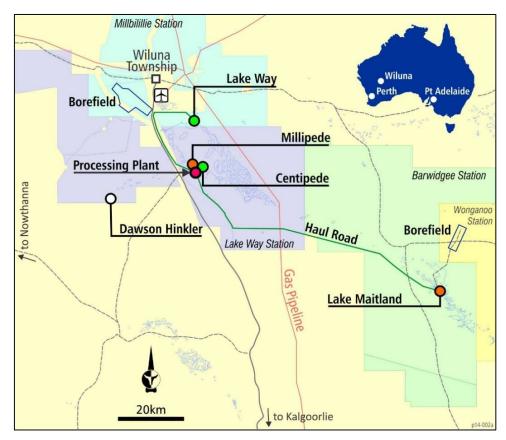


Figure 1: Location of Lake Maitland within the Wiluna Uranium Project

#### New U<sub>3</sub>O<sub>8</sub>-V<sub>2</sub>O<sub>5</sub> Resource now with Engineers for Re-optimisation of Proposed Mine

The new  $U_3O_8$ - $V_2O_5$  Lake Maitland resource estimation has been handed over to engineers at SRK Consulting, who will use it to re-optimise the Lake Maitland proposed mine assuming a stand-alone operation and producing  $V_2O_5$  as a by-product. The current proposed mine and pit at Lake Maitland is based on an overall mining operation developed prior to the successful scoping study work that has significantly beneficiated the proposed Lake Maitland ore and subsequently changed the processing flow sheet for a stand-alone Lake Maitland mine (refer to ASX announcements of 8 February 2021).

The re-optimisation will incorporate the costs associated with the most recently designed processing flowsheet, which includes the results of the beneficiation studies and the production of a  $V_2O_5$  by-product (refer to ASX announcement of 8 February 2021, 11 February 2021, 6 April 2021 and 15 June 2021). Other costs, such as power, staffing and product transport, will be updated to approximate more current pricing.

During the re-optimisation process the mining engineers will also revisit the planned mining methods to investigate if the increased knowledge gained from research on the Lake Maitland deposit over recent years can translate into a less complex and cheaper mining method at Lake Maitland. If so, this cheaper method will be used in the re-optimisation process.



#### Why Integrate V<sub>2</sub>O<sub>5</sub> into the U<sub>3</sub>O<sub>8</sub> Resource?

Toro has integrated vanadium into its uranium resource at the proposed Lake Maitland mine because recently completed test work has established that  $V_2O_5$  can be produced as a valuable by-product of processing uranium from the proposed Lake Maitland ore at only marginal added cost (refer to ASX announcement of 8 February 2021). Given the expected long-term growth in the price of  $V_2O_5$  and the potential future demand, including from vanadium redox batteries (**VRBs**), Toro believes producing vanadium as a by-product is likely to result in a significant improvement to the feasibility and value of the Project.

 $V_2O_5$  flake is currently trading at US\$8.40/lb (as at 10 December 2021 using Europe Price – as quoted from Vanadiumprice.com), having increased some 50% since the start of the year. This price has come down from a spike of US\$28.80/lb in early December 2018, however it remains over double the price it was prior to the start of the large upward trend from mid-2016 (using Europe Price – as quoted from Vanadiumprice.com).

The biggest demand for vanadium metal by far comes from the steel industry where it is used in the production of vanadium steel alloys, as well as in specialised aeronautical alloys, chemicals and batteries. The use of vanadium in steel is expected to continue over the long term, especially since the new national standards imposed on Chinese manufacturers by the Chinese government in September 2018, which requires significant increases in the amount of vanadium going into vanadium steel alloys in China (Mining.com, January 2019).

However, the possibility of market disruption also exists for the future demand for vanadium due to the take-up of VRBs. The VRB is an efficient storage and re-supply solution for renewable energy, being scalable and suitable for large scale applications. China in particular is investing heavily in large scale VRBs.

#### Why Investigate Lake Maitland as a Stand-alone Operation?

Toro considers a stand-alone Lake Maitland operation provides the Company a substantial amount of optionality with its significant uranium and vanadium resources. Lake Maitland represents a proportionally large amount of the Wiluna Uranium Project's resources of  $U_3O_8$ , some 42% of the total at a 200pmm  $U_3O_8$  cut-off. Due to a unique geology, the Lake Maitland deposit is also the most amenable of the Wiluna Uranium Project deposits to the proposed new screening and cycloning beneficiation method, where it has the potential to increase the average feed grade to the mill by up to three times the grades of the prebeneficiation resource (Mets61 Caly80 ore type - refer to ASX announcement of 30 January 2018).

The successful scoping level research and improvements achieved at Lake Maitland to date also highlight opportunities within the broader Wiluna Uranium Project given the potential improved economics at Lake Maitland.

The Lake Maitland studies also act as a testing ground for methods that could be applied to the entire Wiluna Uranium Project.



This announcement was authorised for issue by the board of Toro Energy Limited.

Katherine Garvey Legal Counsel and Company Secretary, Toro Energy Limited. 60 Havelock Street, West Perth WA 6005

#### **FURTHER INFORMATION:**

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#### **Forward Looking Statements**

This announcement may contain certain "forward-looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation of belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to Resource risk, metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the Countries and States in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publically any revisions to any "forward looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

#### **Competent Persons' Statement**

Wiluna Project Mineral Resources – 2012 JORC Code Compliant Resource Estimates –  $U_3O_8$  for Centipede-Millipede, Lake Way and Lake Maitland –  $V_2O_5$  inside the  $U_3O_8$  estimation panels for Lake Maitland only.

The information presented here that relates to  $U_3O_8$  mineral resources of the Centipede-Millipede, Lake Way and Lake Maitland deposits as well as the  $V_2O_5$  mineral resources estimated within the U3O8 mineral resource estimation panels for Lake Maitland, is based on information compiled by Dr Greg Shirtliff of Toro Energy Limited and Mr Daniel Guibal, currently of Condor Geostats Services Pty Ltd. Mr Guibal takes overall responsibility for the Resource Estimate, and Dr Shirtliff takes responsibility for the integrity of the data supplied for the estimation. Dr Shirtliff is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and Mr Guibal is a Fellow of the AusIMM and they have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012)'. The Competent Persons consent to the inclusion in this release of the matters based on the information in the form and context in which it appears.



# APPENDIX 1: Collar information for all drill holes used in the $V_2O_5$ resource estimated inside and integrated into the $U_3O_8$ estimation spatial parameters

All drill hole co-ordinates are GDA94 Zone 51

HOLE ID	EASTING	NORTHING	RL	HOLE ID	EASTING	NORTHING	RL
GA-SB45	311298	6992277.2	470.88	LMAC1237	310594	6990980.96	470.66
GA-SB46	312550	6991573.32	472.12	LMAC1238	310699	6990979.42	470.07
GA-SB49	309497	6990180.58	472.6	LMAC1239	310798	6990979.28	470.6
GA-VWP-							
02	311634	6993769.54	471.58	LMAC1240	310898	6990980.76	470.86
LMAC0009	309846	6991980.77	471.53	LMAC1241	310998	6990978.98	471.59
LMAC0012	309997	6991980.51	471.4	LMAC1269	309698	6989780.28	469.56
LMAC0016	310197	6991979.51	471.13	LMAC1270	309798	6989780.78	469.6
LMAC0028	310795	6991981.18	470.98	LMAC1271	309899	6989780.3	469.71
LMAC0050	311500	6991581.32	470.57	LMAC1274	310198	6989780.13	470.72
LMAC0051	311398	6991581.45	470.51	LMAC1275	310297	6989782.15	471.44
LMAC0053	311200	6991579.71	470.6	LMAC1276	310446	6989783.58	472.59
LMAC0054	311099	6991579.84	470.47	LMAC1277	310547	6989782.64	473.39
LMAC0055	310999	6991580.14	470.36	LMAC1278	310656	6989764.17	471.02
LMAC0056	310900	6991580.72	470.27	LMAC1296	310448	6989378.49	469.57
LMAC0057	310798	6991581.47	470.4	LMAC1308	310747	6989774.11	469.72
LMAC0058	310698	6991580.44	470.14	LMAC1322	310699	6990180.05	470.16
LMAC0059	310600	6991580.67	470.55	LMAC1323	310795	6990179.85	469.82
LMAC0060	310499	6991580.21	470.64	LMAC1335	311005	6990578.82	469.84
LMAC0061	310398	6991580.62	470.81	LMAC1336	311095	6990580.21	469.87
LMAC0062	310299	6991579.71	470.98	LMAC1339	311399	6990577.46	471.49
LMAC0063	310199	6991580.1	471.12	LMAC1345	311500	6990978.99	470.68
LMAC0064	310098	6991580.28	471.3	LMAC1346	311400	6990979.45	470.57
LMAC0065	309999	6991579.78	471.37	LMAC1370	309151	6992780.38	471.88
LMAC0068	309699	6991580.56	471.42	LMAC1371	310201	6992777.03	471.26
LMAC0069	309599	6991581.08	471.49	LMAC1372	307697	6995573.14	473.78
LMAC0070	309499	6991579.27	472.41	LMAC1373	308246	6995575.44	473.5
LMAC0071	309398	6991580.43	472.41	LMAC1374	309006	6995581.92	471.28
LMAC0072	309298	6991582.3	472.28	LMAC1375	307646	6994179.3	473.68
LMAC0073	309196	6991580.37	471.54	LMAC1376	307744	6996781.18	471.08
LMAC0077	308798	6991580.28	471.3	LMAC1377	307020	6996779.3	472.99
LMAC0078	308397	6991578.25	471.55	LMAC1378	309100	6996780.62	471.46
LMAC0079	308198	6991578.83	471.43	LMAC1379	310749	6996780.7	472.69
LMAC0089	308200	6991780.09	471.48	LMAC1380	311787	6996777.32	471.74
LMAC0092	307996	6991983.89	471.59	LMAC1381	312298	6995651.64	472.56
LMAC0093	307596	6991980.1	471.63	LMAC1382	311935	6995579.99	473.46
LMAC0106	309049	6991381.35	471.62	LMAC1383	310992	6995578.93	471.3



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LMAC0109	309447	6991380.89	471.39	LMAC1384	310247	6995581.59	470.81
LMAC0129	309998	6991878.86	471.47	LMAC1385	309840	6995576.51	470.77
LMAC0134	309999	6992180.26	471.36	LMAC1386	308494	6994179.62	473.68
LMAC0135	309998	6992230	471.27	LMAC1387	309447	6994178.71	473.11
LMAC0146	309999	6992780.5	471.25	LMAC1388	308254	6992781.76	473.67
LMAC0147	309895	6992779.98	471.35	LMAC1389	307652	6992782.49	473.94
LMAC0148	309794	6992778.55	471.41	LMAC1390	311341	6992780.82	470.84
LMAC0149	309691	6992779.66	471.4	LMAC1391	312346	6992777.79	476.01
LMAC0150	309597	6992779.9	471.3	LMAC1392	313449	6992784.02	473.98
LMAC0151	309498	6992780.14	471.32	LMAC1393	313903	6991581.3	473.43
LMAC0152	309398	6992780.9	471.41	LMAC1394	312651	6994198.83	477.42
LMAC0153	309295	6992781.17	471.27	LMAC1395	312249	6994185.81	473.31
LMAC0156	308998	6992782.04	472.71	LMAC1396	311850	6994177.27	470.7
LMAC0158	308704	6993182.75	472.58	LMAC1397	311160	6994182.54	470.82
LMAC0159	308800	6993180.27	472.79	LMAC1399	311314	6991580.53	470.56
LMAC0161	309003	6993181.41	474.51	LMAC1400	309860	6991580.31	471.6
LMAC0162	309097	6993182.02	473.17	LMAC1401	308664	6991584.88	472.08
LMAC0163	308997	6992576.4	473.35	LMAC1402	308013	6991577.12	471.38
LMAC0170	309648	6992379	471.21	LMAC1403	308900	6990575.84	470.25
LMAC0178	310450	6992379.93	471.17	LMAC1411	310198	6990577	470.12
LMAC0184	311050	6992380.87	470.86	LMAC1413	310397	6990981.17	470.23
LMAC0190	311697	6992776.88	470.91	LMAC1414	310496	6990977.48	470
LMAC0191	311595	6992777.61	470.7	LMAC1415	311097	6990987	470.58
LMAC0192	311495	6992777.69	470.72	LMAC1458	311588	6993783.55	470.46
LMAC0195	311194	6992778.3	470.8	LMAC1459	311591	6993783.86	470.41
LMAC0198	310891	6992779.02	470.91	LMAC1462	309983	6992430	471
LMAC0199	310693	6992780.02	471	LMAC1463	311584	6993718.91	470.42
LMAC0202	310095	6992779.15	471.24	LMAC1464	311604	6993717.98	470.45
LMAC0208	311201	6993179.56	470.73	LMAC1465	311594	6993718.44	470.41
LMAC0216	312050	6993180.26	472.27	LMAC1466	311599	6993717.97	470.4
LMAC0217	312147	6993181.56	472.74	LMAC1467	311587	6993762.14	470.43
LMAC0218	311897	6992978.39	471.84	LMAC1468	311594	6993762.18	470.44
LMAC0220	311900	6993581.34	471.37	LMAC1469	311616	6993761.92	470.48
LMAC0224	312100	6993582.02	472.86	LMAC1470	311623	6993769.31	470.4
LMAC0227	311999	6993582.99	472.02	LMAC1471	311609	6993769.43	470.39
LMAC0228	311800	6993581.58	470.72	LMAC1472	311595	6993769.22	470.4
LMAC0231	311503	6993582.23	470.48	LMAC1473	311587	6993776.41	470.43
LMAC0234	311200	6993584.84	470.66	LMAC1474	311601	6993776.27	470.43
LMAC0235	311103	6993584.42	470.64	LMAC1475	311616	6993776.18	470.42
LMAC0236	310998	6993584.03	470.66	LMAC1476	311623	6993783.24	470.39
LMAC0237	310902	6993583.77	470.62	LMAC1477	311609	6993783.51	470.41
LMAC0238	310800	6993583.15	470.6	LMAC1490	309978	6992496.44	470.91
LMAC0239	310701	6993582.21	470.74	LMAC1491	309972	6992493.55	470.94



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LMAC0241	310597	6993981.53	470.79	LMAC1492	309965	6992489.97	470.89
LMAC0242	310697	6993981.03	470.75	LMAC1493	309959	6992487.47	470.95
LMAC0243	310798	6993981.28	470.73	LMAC1494	309952	6992484.46	470.92
LMAC0244	310897	6993981.4	470.82	LMAC1495	309946	6992480.95	470.89
LMAC0245	310997	6993981.63	470.74	LMAC1496	309949	6992474.82	470.94
LMAC0246	311098	6993981.88	470.7	LMAC1497	309955	6992477.96	470.97
LMAC0247	311199	6993982.01	470.71	LMAC1498	309962	6992481.08	470.92
LMAC0250	311499	6993980.71	470.44	LMAC1499	309968	6992484.17	470.92
LMAC0251	311600	6993981.53	470.42	LMAC1500	309975	6992486.82	471
LMAC0252	311699	6993980.87	470.15	LMAC1501	309981	6992489.71	470.9
LMAC0253	311799	6993981.47	470.35	LMAC1502	309984	6992483.42	470.9
LMAC0254	311898	6993981.39	470.9	LMAC1503	309978	6992480.68	470.94
LMAC0255	311999	6993982.52	470.94	LMAC1504	309971	6992477.57	471
LMAC0256	312100	6993982.77	471.35	LMAC1505	309965	6992474.52	471
LMAC0257	312198	6993982.07	472.53	LMAC1506	309958	6992471.79	470.93
LMAC0263	312098	6994380.91	472.17	LMAC1507	309952	6992468.76	470.95
LMAC0264	311998	6994378.68	471.17	LMAC1508	309987	6992477.3	470.97
LMAC0265	311900	6994380.72	470.86	LMAC1509	309981	6992474.27	470.96
LMAC0266	311799	6994380.76	470.64	LMAC1510	309974	6992471.18	470.93
LMAC0267	311701	6994377.45	470.15	LMAC1511	309968	6992468.21	470.9
LMAC0268	311602	6994379.99	470.37	LMAC1512	309961	6992465.31	470.94
LMAC0269	311499	6994379.19	470.52	LMAC1513	309955	6992462.28	470.92
LMAC0272	311199	6994380.14	470.8	LMACW0036	312214	7002409	476.59
LMAC0273	311100	6994380.74	470.8	LMACW0037	311085	7002374	475.9
LMAC0274	310999	6994380.26	470.82	LMACW0038	310413	7002362	475.96
LMAC0275	310898	6994381.15	470.87	LMACW0062	309000	7001215	474.01
LMAC0276	310801	6994379.37	471	LMAG0001	311597	6995580.72	470.63
LMAC0277	310700	6994379.55	470.96	LMDD0001	309942	6992482.81	470.97
LMAC0278	310598	6994379.64	470.96	LMDD0003	309948	6992469.89	470.94
LMAC0279	310499	6994379.68	471.02	LMDD0004	309951	6992463.63	470.98
LMAC0280	310399	6994380.08	471.01	LMDD0005	309953	6992457	470.94
LMAC0298	309599	6994781.7	471.56	LMDD0006	309948	6992485.69	470.93
LMAC0299	309698	6994782.16	471.19	LMDD0007	309951	6992479.35	471
LMAC0300	309798	6994781.63	471.16	LMDD0008	309954	6992472.88	470.98
LMAC0301	309899	6994781.78	471.03	LMDD0009	309957	6992466.38	470.96
LMAC0302	309998	6994782.16	471.01	LMDD0010	309960	6992460.15	470.99
LMAC0303	310099	6994782.61	470.97	LMDD0011	309955	6992488.72	470.92
LMAC0304	310201	6994781.6	470.95	LMDD0012	309957	6992482.61	470.97
LMAC0305	310300	6994781.87	470.92	LMDD0013	309960	6992476.1	470.92
LMAC0306	310400	6994781.8	470.82	LMDD0014	309963	6992469.8	470.93
LMAC0307	310500	6994782.04	470.78	LMDD0015	309966	6992463.09	470.96
LMAC0308	310600	6994781.8	470.73	LMDD0016	309961	6992490.98	470.9
LMAC0309	310699	6994782.23	470.69	LMDD0017	309963	6992485.52	470.89



LMAC0310	310799	6994781.78	470.65	LMDD0018	309967	6992478.95	470.96
LMAC0311	310898	6994782.54	470.72	LMDD0019	309970	6992472.74	470.9
LMAC0312	310999	6994782.74	470.71	LMDD0020	309973	6992466.17	470.97
LMAC0313	311099	6994783.14	470.71	LMDD0021	309967	6992493.59	470.93
LMAC0314	311200	6994782.37	470.56	LMDD0022	309970	6992488.25	470.94
LMAC0315	311299	6994781.7	470.5	LMDD0023	309973	6992482.1	470.97
LMAC0316	311398	6994782.82	470.31	LMDD0024	309976	6992475.76	470.98
LMAC0317	311498	6994782.4	470.19	LMDD0025	309979	6992469.32	470.94
LMAC0318	311599	6994782.71	470.18	LMDD0026	309973	6992497.89	470.94
LMAC0319	311698	6994782.46	470.73	LMDD0027	309976	6992491.59	470.98
LMAC0336	311501	6995181.84	470.23	LMDD0028	309979	6992485.04	470.99
LMAC0337	311401	6995180.45	470.53	LMDD0036	311627	6993787.01	470.38
LMAC0341	311000	6995181.05	470.92	LMDD0037	311619	6993787.14	470.38
LMAC0361	308899	6995581.63	471.51	LMDD0038	311612	6993786.85	470.38
LMAC0363	309100	6995579.9	471.23	LMDD0039	311605	6993786.77	470.44
LMAC0364	309199	6995579.75	471.19	LMDD0040	311598	6993786.87	470.37
LMAC0365	309301	6995579.62	471.13	LMDD0041	311591	6993786.85	470.46
LMAC0366	309400	6995579.39	471.1	LMDD0042	311584	6993786.97	470.41
LMAC0367	309501	6995580.7	471.01	LMDD0043	311626	6993779.92	470.42
LMAC0368	309601	6995580.14	470.92	LMDD0044	311619	6993779.82	470.37
LMAC0369	309699	6995579.53	470.78	LMDD0045	311613	6993779.83	470.53
LMAC0370	309801	6995579.39	470.79	LMDD0046	311605	6993779.72	470.4
LMAC0371	309903	6995579.22	470.82	LMDD0047	311598	6993779.91	470.41
LMAC0372	310002	6995578.99	470.81	LMDD0048	311591	6993779.72	470.47
LMAC0373	310101	6995580.61	470.83	LMDD0049	311584	6993779.57	470.46
LMAC0377	310899	6995582.18	471.34	LMDD0050	311584	6993772.48	470.4
LMAC0378	311099	6995582.83	471.08	LMDD0051	311591	6993772.73	470.41
LMAC0379	311199	6995581.91	470.96	LMDD0052	311599	6993772.64	470.38
LMAC0382	311500	6995580.37	470.82	LMDD0053	311605	6993772.67	470.48
LMAC0383	311600	6995581.75	470.63	LMDD0054	311613	6993772.98	470.44
LMAC0384	311700	6995581.62	470.89	LMDD0055	311620	6993772.72	470.44
LMAC0385	311599	6995979.6	471.91	LMDD0056	311627	6993772.59	470.45
LMAC0386	311500	6995979.43	471.12	LMDD0057	311584	6993765.8	470.44
LMAC0387	311402	6995979.57	471.21	LMDD0058	311592	6993765.71	470.44
LMAC0388	311300	6995978.68	471.34	LMDD0059	311598	6993765.9	470.37
LMAC0389	311299	6996377.94	471.54	LMDD0060	311606	6993765.85	470.39
LMAC0390	311399	6996378.65	471.45	LMDD0061	311612	6993765.74	470.32
LMAC0400	311500	6996779.68	472.29	LMDD0062	311620	6993765.75	470.32
LMAC0416	309202	6995981.94	470.69	LMDD0071	311596	6995581.14	470.75
LMAC0417	309099	6995981	470.73	LMDD0072	311494	6995582.39	470.96
LMAC0418	308999	6995981.1	470.85	LMDD0073	311495	6995581.51	470.9
LMAC0419	308901	6995980.37	470.98	LMDD0074	311395	6995580.6	470.92
LMAC0420	308802	6995980	471.08	LMDD0075	311293	6995581.01	470.93



LMAC0421         308701         6995980.11         471.13         LMDD0076         311194         6995580.45         47           LMAC0422         308601         6995980.25         471.22         LMDD0077         309596         6995579.5         470.9           LMAC0423         308500         6995977.43         471.38         LMDD0078         309496         6995579.05         471.0           LMAC0424         308399         6995978.45         471.53         LMDD0079         309396         6995578.91         471.0           LMAC0425         308304         6995977.86         471.98         LMDD0080         309296         6995578.74         471.1	309596 309496	LMDD0077				
LMAC0423         308500         6995977.43         471.38         LMDD0078         309496         6995579.05         471.0           LMAC0424         308399         6995978.45         471.53         LMDD0079         309396         6995578.91         471.0	309496		471.22	6995980.25	308601	1NACOA22
LMAC0424 308399 6995978.45 471.53 LMDD0079 309396 6995578.91 471.0		111000070				LIVIACU422
	200206	LIVIDDU078	471.38	6995977.43	308500	LMAC0423
LMAC0425   308304   6995977.86   471.98   LMDD0080   309296   6995578.74   471.1	309390	LMDD0079	471.53	6995978.45	308399	LMAC0424
	309296	LMDD0080	471.98	6995977.86	308304	LMAC0425
LMAC0426 308202 6995978.59 472.49 LMDD0081 309196 6995579.01 471.1	309196	LMDD0081	472.49	6995978.59	308202	LMAC0426
LMAC0429 308499 6996180.58 471.21 LMDD0082 309094 6995579.21 471.2	309094	LMDD0082	471.21	6996180.58	308499	LMAC0429
LMAC0435 307501 6996378.99 473.1 LMDD0083 309539 6995288.97 471.1	309539	LMDD0083	473.1	6996378.99	307501	LMAC0435
LMAC0436 307594 6996376.29 472.67 LMDD0084 309993 6995182.85 470.8	309993	LMDD0084	472.67	6996376.29	307594	LMAC0436
LMAC0437 307700 6996377.55 472.08 LMDD0085 310092 6995180.69 470.7	310092	LMDD0085	472.08	6996377.55	307700	LMAC0437
LMAC0438 307800 6996379.77 471.81 LMDD0086 310195 6995180.85 470.6	310195	LMDD0086	471.81	6996379.77	307800	LMAC0438
LMAC0439 307898 6996378.76 471.34 LMDD0087 310293 6995182.57 470.6	310293	LMDD0087	471.34	6996378.76	307898	LMAC0439
LMAC0444 307500 6996779.28 471.18 LMDD0088 310396 6995184.17 470.6	310396	LMDD0088	471.18	6996779.28	307500	LMAC0444
LMAC0445 307600 6996780.27 471.04 LMDD0089 311094 6995183.82 470.8	311094	LMDD0089	471.04	6996780.27	307600	LMAC0445
LMAC0453 307402 6996779.39 471.45 LMDD0090 311196 6995178.39 470.	311196	LMDD0090	471.45	6996779.39	307402	LMAC0453
LMAC0454 311393 6993372.16 470.17 LMDD0091 311294 6995181.22 470.6	311294	LMDD0091	470.17	6993372.16	311393	LMAC0454
LMAC0455 310891 6993380.11 470.75 LMDD0092 311397 6995182.86 470.5	311397	LMDD0092	470.75	6993380.11	310891	LMAC0455
LMAC0456 311387 6992975.72 470.78 LMDD0093 311498 6995175.15 470.2	311498	LMDD0093	470.78	6992975.72	311387	LMAC0456
LMAC0457 311189 6992976.17 470.79 LMDD0094 311591 6995184.26 470.6	311591	LMDD0094	470.79	6992976.17	311189	LMAC0457
LMAC0458 311088 6992976.85 470.78 LMDD0095 311592 6994792.81 470.2	311592	LMDD0095	470.78	6992976.85	311088	LMAC0458
LMAC0459 310989 6992978.28 470.85 LMDD0096 311491 6994782.71 470.3	311491	LMDD0096	470.85	6992978.28	310989	LMAC0459
LMAC0460         310600         6992780.59         471         LMDD0097         311388         6994784.63         470.3	311388	LMDD0097	471	6992780.59	310600	LMAC0460
LMAC0461         310801         6992778.85         470.97         LMDD0098         311294         6994779.41         470.5	311294	LMDD0098	470.97	6992778.85	310801	LMAC0461
LMAC0462         310883         6992580.31         470.14         LMDD0099         311191         6994795.14         470.	311191	LMDD0099	470.14	6992580.31	310883	LMAC0462
LMAC0463 311283 6992575.46 470.69 LMDD0100 311093 6994779.8 470.7	311093	LMDD0100	470.69	6992575.46	311283	LMAC0463
LMAC0464 311079 6992175.72 471.01 LMDD0101 310997 6994779.5 470.7	310997	LMDD0101	471.01	6992175.72	311079	LMAC0464
LMAC0465 310477 6992183.7 471 LMDD0102 310892 6994780.44 470.7	310892	LMDD0102	471	6992183.7	310477	LMAC0465
LMAC0466 310475 6991783.88 470.85 LMDD0103 310792 6994778.43 470.7	310792	LMDD0103	470.85	6991783.88	310475	LMAC0466
LMAC0467 311077 6991774.84 470.75 LMDD0104 310699 6994779.54 470.7	310699	LMDD0104	470.75	6991774.84	311077	LMAC0467
LMAC0468 310872 6991378.99 470.32 LMDD0105 310607 6994773.57 470.6	310607	LMDD0105	470.32	6991378.99	310872	LMAC0468
LMAC0469         310474         6991384.23         470.23         LMDD0106         310505         6994769.68         470.	310505	LMDD0106	470.23	6991384.23	310474	LMAC0469
LMAC0470 309877 6991789.91 471.52 LMDD0107 310400 6994779.43 470.8	310400	LMDD0107	471.52	6991789.91	309877	LMAC0470
LMAC0471 308499 6991580.04 472.1 LMDD0108 310647 6994182.41 470.8	310647	LMDD0108	472.1	6991580.04	308499	LMAC0471
LMAC0476 308299 6991580.14 471.5 LMDD0109 311295 6994382.12 470.7	311295	LMDD0109	471.5	6991580.14	308299	LMAC0476
LMAC0486 307899 6991979.86 471.27 LMDD0110 311395 6994382.25 470.8	311395	LMDD0110	471.27	6991979.86	307899	LMAC0486
LMAC0487 307801 6991976.04 471.56 LMDD0111 311494 6994384.63 470.5	311494	LMDD0111	471.56	6991976.04	307801	LMAC0487
LMAC0488 308100 6991978.88 472.01 LMDD0112 311595 6994385.54 470.4	311595	LMDD0112	472.01	6991978.88	308100	LMAC0488
LMAC0489 308207 6991982.62 472.05 LMDD0113 311694 6994379.79 470.2	311694	LMDD0113	472.05	6991982.62	308207	LMAC0489
LMAC0494 307802 6992280.96 472.74 LMDD0114 311894 6993980.26 470.8	311894	LMDD0114	472.74	6992280.96	307802	LMAC0494
LMAC0497 309390 6992593.9 471.33 LMDD0115 311795 6993978.62 470.3	311795	LMDD0115	471.33	6992593.9	309390	LMAC0497
LMAC0499 308997 6993000.75 472.17 LMDD0116 311697 6993979.93 470.	311697	LMDD0116	472.17	6993000.75	308997	LMAC0499
LMAC0502 309298 6993178.22 471.51 LMDD0117 311598 6993978.57 470.	311598	LMDD0117	471.51	6993178.22	309298	LMAC0502
LMAC0503 309402 6993180.9 472.12 LMDD0118 311493 6993978.48 470.4	311493	LMDD0118	472.12	6993180.9	309402	LMAC0503



LMAC0504         309198         6993178.77         472         LMDD0119         311399         6993980.63         470.           LMAC0505         309007         6993181.4         474.27         LMDD0120         311295         6993980.43         470.           LMAC0517         308601         6993181.51         472.65         LMDD0121         311192         6993979.11         470.           LMAC0518         308500         6993578.89         473.36         LMDD0122         311092         6993979.09         470.
LMAC0517 308601 6993181.51 472.65 LMDD0121 311192 6993979.11 470
LMAC0518   308500   6993578.89   473.36   LMDD0122   311092   6993979.09   470.
LMAC0519 308599 6993578.81 472.67 LMDD0123 310991 6993979.94 470
LMAC0520 308698 6993581.58 472.7 LMDD0124 311242 6993588.86 470
LMAC0525 310398 6993580.22 471.28 LMDD0125 311343 6993586.38 470.
LMAC0526 310498 6993580.64 470.91 LMDD0126 311446 6993585.92 470.
LMAC0527 310599 6993580.29 470.9 LMDD0127 311542 6993585 470.
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LMAC0532 311402 6994172.48 470.56 LMDD0129 311738 6993584.59 470.
LMAC0533 311506 6994571.54 470.48 LMDD0130 311794 6993178.67 470.
LMAC0534 311106 6994574.95 470.71 LMDD0131 311696 6993186.55 470.
LMAC0535 311215 6995374.86 470.77 LMDD0132 311604 6993188.79 470.
LMAC0536 310213 6994984.47 470.76 LMDD0133 311494 6993180.11 470.
LMAC0537 309419 6995392.58 471.1 LMDD0134 311395 6993178.11 470.
LMAC0538 309425 6995791.2 470.95 LMDD0135 311293 6993177.05 470.
LMAC0546 307302 6996777.76 471.58 LMDD0136 311195 6993176.71 470.
LMAC0561 310500 6992079.23 471.05 LMDD0137 311092 6993178.52 470.
LMAC0567 311101 6992078.76 470.99 LMDD0138 310845 6992769.17 470.
LMAC0571         311451         6991879.07         470.8         LMDD0139         310953         6992785.87         470.
LMAC0572 311349 6991878.13 470.82 LMDD0140 311049 6992783.25 470.
LMAC0573 311250 6991877.96 470.83 LMDD0141 311141 6992784.03 470.
LMAC0574 311151 6991876.97 470.87 LMDD0142 311236 6992780.87 470.
LMAC0575 311049 6991876.84 470.8 LMDD0143 311329 6992781.68 470.
LMAC0576 310951 6991876.98 470.78 LMDD0144 311440 6992780.7 470
LMAC0577 310851 6991876.8 470.78 LMDD0145 311531 6992780.97 470.
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LMAC0580 310550 6991876.96 470.89 LMDD0148 311142 6992378.22 470.
LMAC0581 310449 6991877.25 471 LMDD0149 311038 6992377.56 470
LMAC0582 310349 6991877.39 471.08 LMDD0150 310947 6992376.02 470.
LMAC0583 310251 6991877.56 471.19 LMDD0151 310195 6992375.55 471.
LMAC0584 310150 6991878.22 471.26 LMDD0152 310092 6992374.93 471.
LMAC0588 309749 6991878.5 471.54 LMDD0153 310002 6992376.43 471.
LMAC0589 309649 6991877.53 471.59 LMDD0154 309933 6992372.49 471.
LMAC0590 309553 6991874.34 472.1 LMDD0155 309899 6992384.52 471.
LMAC0609 307153 6996880.62 471.78 LMDD0156 309795 6992374.49 471.
LMAC0648 309349 6995981 470.74 LMDD0157 309693 6992373.07 471.
LMAC0649 309452 6995980.63 470.77 LMDD0158 309593 6992375 471.
LMAC0655 309951 6995278.94 470.88 LMDD0159 309495 6992376.65 471.
LMAC0656 309853 6995279.45 470.94 LMDD0160 309394 6992377.1 471.
LMAC0657 309748 6995288.71 471.01 LMDD0161 310002 6992334.08 471.



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LMAC0658	309648	6995286.61	471.05	LMDD0162	309987	6992276.14	471.19
LMAC0659	309546	6995285.42	471.09	LMDD0163	309788	6992282.15	471.31
LMAC0660	310146	6995079.33	470.76	LMDD0164	309904	6992286.79	471.21
LMAC0661	309848	6995077.57	470.96	LMDD0165	310297	6992275.09	471.16
LMAC0662	309949	6995076.59	470.94	LMDD0166	310194	6992274.86	471.09
LMAC0663	310051	6995076.5	470.97	LMDD0167	310096	6992274.5	471.1
LMAC0664	310250	6995078.73	470.73	LMDD0168	309989	6992236.03	471.27
LMAC0665	310348	6995079.57	470.69	LMDD0169	309989	6992174.77	471.33
LMAC0666	310447	6995078.08	470.7	LMDD0170	309789	6992290.52	471.29
LMAC0667	310248	6995279.72	470.65	LMDD0171	309793	6992173.09	471.53
LMAC0668	310147	6995277.82	470.72	LMDD0172	309795	6992168.77	471.51
LMAC0669	310050	6995278.39	470.79	LMDD0173	309891	6992181.18	471.34
LMAC0729	311351	6994382.43	470.83	LMDD0174	309985	6992186.05	471.36
LMAC0749	311051	6995078.44	470.8	LMDD0175	310098	6992183.84	471.19
LMAC0750	311146	6995078.26	470.73	LMDD0176	310182	6992181.94	471.07
LMAC0751	311249	6995080.39	470.69	LMDD0177	310286	6992182.55	471.09
LMAC0754	311349	6995081.55	470.54	LMDD0178	310286	6992176.76	471.08
LMAC0755	311448	6995081.07	470.41	LMDD0179	309990	6992129.54	471.37
LMAC0756	311547	6995081.1	470.14	LMDD0180	309991	6992084.68	471.44
LMAC0757	311051	6995278.2	470.9	LMDD0181	310002	6992082.47	471.42
LMAC0758	311150	6995280.26	470.84	LMDD0182	309893	6992081.6	471.56
LMAC0759	311250	6995274.6	470.81	LMDD0183	310094	6992082.98	471.2
LMAC0763	311650	6995278.87	470.56	LMDD0184	310193	6992082.86	471.16
LMAC0764	311750	6995280.17	470.78	LMDD0185	310290	6992073.38	471.07
LMAC0765	311648	6995082.05	470.47	LMDD0186	310001	6992028.66	471.42
LMAC0776	311351	6995577.02	470.9	LMDD0187	309991	6991979.7	471.35
LMAC0796	311350	6993980.7	470.6	LMDD0188	309946	6991986.35	471.47
LMAC0812	311348	6993578.33	470.54	LMDD0189	309890	6991976.85	471.58
LMAC0815	311648	6993581.32	470.38	LMDD0190	309841	6991978.37	471.59
LMAC0835	311850	6993285.91	470.88	LMDD0191	310004	6991920.89	471.45
LMAC0836	311748	6993285.07	470.67	LMDD0192	310001	6991921.1	471.45
LMAC0837	311649	6993284.61	470.9	LMDD0193	310041	6991985.74	471.38
LMAC0838	311551	6993283.46	470.5	LMDD0194	310090	6991976.58	471.31
LMAC0839	311451	6993283.02	470.11	LMDD0195	310088	6991976.4	471.31
LMAC0840	311351	6993282.26	470.21	LMDD0196	310137	6991984.8	471.18
LMAC0841	311249	6993281.34	470.22	LMDD0197	310185	6991985.7	471.17
LMAC0842	311152	6993280.47	470.23	LMDD0198	310235	6991977.52	471.15
LMAC0843	311048	6993280.08	470.51	LMDD0199	310287	6991975.99	471.1
LMAC0844	310950	6993279.39	470.74	LMDD0200	310389	6991985.7	471.12
LMAC0845	310847	6993278.22	470.74	LMDD0201	310492	6991985.25	471.08
LMAC0846	310750	6993278.32	470.83	LMDD0202	310495	6991985.35	471.07
LMAC0847	310650	6993276.88	470.92	LMDD0203	310596	6991980.68	471.03
LMAC0861	311348	6992980.94	470.79	LMDD0204	310593	6991980.71	471.03



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LMAC0862	311450	6992979.49	470.77	LMDD0205	310691	6991986.76	471.03
LMAC0863	311550	6992984.73	470.74	LMDD0206	310693	6991986.79	471.04
LMAC0874	311055	6992781.31	470.88	LMDD0207	310791	6991978.97	470.99
LMAC0886	310948	6992581.13	470.91	LMDD0208	310888	6991979.81	471.07
LMAC0887	311050	6992579.68	470.89	LMDD0209	310993	6991987.81	471.04
LMAC0888	311149	6992579.42	470.84	LMDD0210	311091	6991981.49	470.99
LMAC0899	311396	6992276.5	470.84	LMDD0211	311192	6991980.55	470.94
LMAC0901	311194	6992276.64	470.95	LMDD0212	311294	6991986.3	470.91
LMAC0902	311101	6992277.19	471.02	LMDD0213	311392	6991582.55	470.57
LMAC0903	310986	6992277.84	471.11	LMDD0214	311301	6991583.14	470.56
LMAC0904	310898	6992277.75	471.16	LMDD0215	311193	6991575.07	470.62
LMAC0905	310796	6992277.91	471.17	LMDD0216	311091	6991576.45	470.52
LMAC0906	310697	6992278.24	471.14	LMDD0217	310995	6991583.65	470.39
LMAC0909	310404	6992279.53	471.11	LMDD0218	310893	6991578.71	470.41
LMAC0911	310199	6992280.04	471.07	LMDD0219	310793	6991577.99	470.43
LMAC0912	310101	6992281.83	471.15	LMDD0220	310494	6991576.16	470.69
LMAC0961	310003	6991579.54	471.43	LMDD0221	310390	6991576.08	470.91
LMAC0969	310098	6991278.76	471.1	LMDD0222	310287	6991581.27	471.04
LMAC0970	310198	6991280.05	470.94	LMDD0223	310192	6991575.73	471.19
LMAC0971	310296	6991281.44	470.87	LMDD0224	310093	6991576.13	471.38
LMAC0972	310399	6991281.02	470.48	LMDD0225	309991	6991569.65	471.41
LMAC0973	310499	6991280.16	469.99	LMDD0226	309893	6991576.46	471.54
LMAC0974	310599	6991280.38	469.96	LMDD0227	309790	6991576.89	471.43
LMAC0975	310698	6991280.83	469.86	LMDD0228	309989	6991272.44	471.24
LMAC0976	310849	6991279.84	469.96	LMDD0229	309892	6991276.91	471.17
LMAC0977	310952	6991280.07	470.5	LMDD0230	309890	6991276.89	471.19
LMAC0978	311050	6991279.93	470.55	LMDD0231	309788	6991286.91	471.12
LMAC0979	311150	6991278.97	470.56	LMDD0232	309692	6991276.04	471.29
LMAC0980	311253	6991279.27	470.61	LMDD0233	309583	6991285.26	471.28
LMAC0981	311351	6991279.41	470.43	LMDD0234	309486	6991284.04	471.3
LMAC0982	311451	6991278.75	470.22	LMDD0235	309942	6990975.61	471.19
LMAC0983	311550	6991279	470.59	LMDD0236	309841	6990980.2	471.13
LMAC0984	309898	6991278.8	471.23	LMDD0237	309839	6990980.09	471.14
LMAC0985	309796	6991284.64	471.21	LMDD0238	309741	6990980.96	471.17
LMAC0986	309697	6991282.7	471.4	LMDD0239	309645	6990980.58	471.18
LMAC0987	309599	6991283.16	471.23	LMDD0240	309546	6990980.67	471.24
LMAC0988	309491	6991284.35	471.28	LMDD0241	309445	6990981.92	471.27
LMAC0989	309393	6991281.22	471.35	LMDD0242	309350	6990982.09	471.33
LMAC0990	309246	6991275.5	471.4	LMDD0243	309242	6990979.03	471.55
LMAC1016	309052	6990986.44	471.09	LMDD0244	309140	6990980.73	471.39
LMAC1017	309149	6990985.81	471.36	LMDD0245	309045	6990981.34	471.09
LMAC1018	309249	6990984.64	471.83	LMDD0246	308932	6990980.54	471.64
LMAC1020	309451	6990983.02	471.3	LMDD0247	308850	6990980.08	471.16



LMAC1021         309549         6990982.03         471.28         LMDD0248         309289         6992776.56           LMAC1022         309649         6990981.6         471.23         LMDD0249         309191         6992776.48	471.3
LMAC1022   309649   6990981.6   471.23   LMDD0249   309191   6992776.48	
1144 C4022 200740 C000004 54 474 40 LAADD0250 200005 C0027C0 52	471.61
	472.14
	472.73
	473.26
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	472.75
	472.76
LMAC1065 309899 6992283.59 471.18 LMDD0261 309010 6993183.28	474.2
	473.57
LMAC1070 309653 6992379.05 471.22 LMDD0263 309199 6993175.35	471.99
LMAC1091 310049 6992581.47 471.26 LMDD0264 308594 6993777.52	473.22
LMAC1092 309949 6992577.52 471.1 LMDD0265 307797 6993772.03	473.97
LMAC1094 309451 6992575.9 471.34 LMDD0266 307005 6993778.36	473.96
LMAC1096 309252 6992577.33 471.53 LMDD0267 306594 6994776.87	474
LMAC1097 309149 6992578.04 471.61 LMDD0268 307390 6994770.67	473.82
LMAC1117 308956 6993179.09 474.12 LMDD0269 307765 6994791.25	473.88
LMAC1118 309005 6993184 474.43 LMDD0270 308596 6994778.21	473.79
LMAC1158 308650 6990984.95 470.69 LMDD0271 307494 6995786.18	473.79
LMAC1159 308749 6990985.76 470.95 LMSC0001 311502 6995979.4	471.15
LMAC1160 308851 6990985.92 471.18 LMSC0002 311494 6995979.54	471.13
LMAC1161 308943 6990986.73 471.73 LMSC0003 307502 6996779.59	471.26
LMAC1162 309098 6991181.88 471.43 LMSC0004 307495 6996779.22	471.28
LMAC1163 308997 6991181.89 471.34 LMSC0005 308496 6995977.38	471.44
LMAC1173 310294 6990979.47 470.52 LMSC0006 308503 6995977.52	471.45
LMAC1176 310099 6990578.3 470.55 LMSC0007 308502 6995971.62	471.6
LMAC1177 310000 6990578.53 470.76 LMSC0008 309421 6995392.48	471.12
LMAC1178 309902 6990578.1 470.8 LMSC0009 309415 6995392.18	471.18
LMAC1179 309800 6990577.88 470.72 LMSC0010 309993 6991579.86	471.4
LMAC1180 309700 6990580.12 470.71 LMSC0011 310001 6991579.55	471.39
LMAC1181 309597 6990579.88 470.58 LMSC0012 309992 6992229.79	471.28
LMAC1182 309497 6990578.51 471.24 LMSC0013 310000 6992230.73	471.27
LMAC1183 309400 6990579.86 472.68 LMSC0014 309642 6992379.13	471.23
LMAC1188 309300 6990579.65 470.93 LMSC0015 309650 6992378.73	471.29
LMAC1189 309199 6990578.11 470.8 LMSC0016 310446 6992379.33	471.18
	471.14
LMAC1191 309002 6990576.13 471.16 LMSC0018 310887 6992779.35	470.88
	470.92



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LMAC1193	308697	6990579.97	471.84	LMSC0020	310469	6991784.02	470.84
LMAC1198	309097	6990180.7	470.97	LMSC0021	310477	6991783.91	470.89
LMAC1199	309202	6990178.91	471.36	LMSC0022	310475	6991789.18	470.96
LMAC1200	309298	6990178.01	471.84	LMSC0023	308391	6991579.57	471.55
LMAC1201	309399	6990181.5	472.03	LMSC0024	308399	6991578.73	471.6
LMAC1203	309599	6990182.96	472.98	LMSC0025	308397	6991572.36	471.56
LMAC1204	309703	6990178.76	473.29	LMSC0026	310790	6991981.46	471.04
LMAC1205	309798	6990177.83	472.99	LMSC0027	310798	6991981.16	471
LMAC1206	309895	6990179.47	472.87	LMSC0028	310595	6994781.84	470.67
LMAC1207	309998	6990184.42	472.71	LMSC0029	310602	6994781.45	470.65
LMAC1208	310101	6990181.21	472.6	LMSC0030	310601	6994776.22	470.71
LMAC1209	310199	6990180.24	473.49	LMSC0031	311594	6994782	470.17
LMAC1210	310301	6990178.61	476.02	LMSC0032	311602	6994782.16	470.16
LMAC1211	310401	6990177.08	473.68	LMSC0033	311388	6993373.36	470.3
LMAC1212	310499	6990180.47	473.15	LMSC0034	311396	6993372.16	470.17
LMAC1213	310597	6990181.08	472.16	LMSC0035	311393	6993367	470
LMAC1223	310299	6990577.55	470.34	LMSC0036	311405	6994172.62	470.67
LMAC1224	310403	6990574.83	473.56	LMSC0037	311397	6994172.92	470.71
LMAC1225	310500	6990578.97	473.11	LMSC0038	308998	6993181.01	475.06
LMAC1226	310596	6990582.66	474.62	LMSC0039	309006	6993181.01	474.39
LMAC1227	310695	6990578.66	474.97	LMSC0040	309005	6993187.2	474.26
LMAC1228	310796	6990579.39	473.81	LMSC0041	307797	6992280.87	472.8
LMAC1229	310901	6990578.86	471.8	LMSC0042	307804	6992282.07	472.79



#### APPENDIX 2: JORC Table 1 for V<sub>2</sub>O<sub>5</sub> estimation

# JORC Code, 2012 Edition – Table 1 report – Wiluna Uranium Project – Toro Energy Limited

### Section I Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>V<sub>2</sub>O<sub>5</sub> values are calculated from the direct geochemical analysis of vanadium (V) in drill samples. The geochemical analysis results used in the estimation are from a combination of Toro Energy and historical drilling.</li> <li>Geochemistry (Lake Maitland excluded)</li> <li>Toro's geochemical samples on all of the Wiluna deposits except Lake Maitland (most of the geochemistry at Lake Maitland is from sampling by Mega Uranium, only 2014 and 2015 geochemical samples are Toro), represent 0.5m half core lengths (prior to 2013) or full core lengths (2013 and planned into the future) of 100mm sonic drill core. Full core samples provide an 8-10kg sample to the lab, half core samples are half this weight approximately. After crushing the lab splits a 2.5 kg sub-sample for milling (pulverizing) to 90% passing 75micron, before taking an aliquot for V analysis by 4 acid digest ICPMS (prior to 2013) or fusion-ICPMS (2013 and into the future).</li> <li>In the case of half core samples field duplicates of the core are taken to ensure sample representativity, these field duplicates are the other half of the core that has been sampled. In the case of full core samples, duplicates are taken at the first sample split at the lab, directly after the initial crush, these duplicates are taken with a rotary splitter after pushing the sample back through the crusher after the initial split. It should be noted that due to the size of the sample supplied to the lab, the initial crushing is a two-</li> </ul>

step process, a primary crush to 10mm and a secondary crush to 3mm. Both these duplicates are taken at a rate of 1 in 20 or 5% of all non-



standard samples. Differences in V concentrations between the duplicates and their corresponding samples are used to produce a mean standard sampling error.  • Lab duplicates are taken at every stage of the sub-sampling process prior to analysis at the rate of 1 in 20.  • Geochemical samples are taken through the uranium (U) resource ore zones as determined by hand-held scintillometers and if available at the time of sampling, down-hole gamma measurements. This is considered sufficient since the V resource is a by-product of the uranium resource. The half metre intervals are determined from marking up half metric intervals are determined from marking up half metric intervals down the full length of the core from the surface. This is completed at the rig so that any diffilling issues can be observed and the geologist can have direct communication on the spot with the driller. To gain geochemical and mineralogical information of waste material or for metallurgical purposes etc., often the entire hole is sampled for geochemistry and a larger suite of elements are analysed for, some having to employ different analytical techniques.  • Depth corrections are made to geochemistry samples where appropriate, these are based on comparing the down-hole geochemistry to the down-hole gamma U values and assuming the down-hole gamma U values and assuming the down-hole gamma U values and assuming the down-hole gamma U posses are calibrated at the Adelaida Calibration Model pits in Adelaida (silling (maximum depth of approximately 25m but mostly no deeper than 10m).  • Toro uses Auslog natural gamma probes, either in-house or from external contractors. Measurements are made every 2 mith a logging speed of 3.5m per minute. Prior to the drilling program all gamma probes are calibrated at the Adelaida Calibration Model pits in Adelaida (South Australia. During probing operations every 10th hole is logged twice as a duplication. Gamma for the instrument during each program. Gamma



Criteria	JORC Code explanation	Commentary
		values (eU <sub>3</sub> O <sub>8</sub> ) by an algorithm that takes into account the probe and crystal used, density, hole diameter, ground water where applicable and PVC pipe thickness. Down-hole gamma probe data is also de-convolved to more accurately reflect what would be expected in nature for down-hole response (gamma curves).
		Geochemistry (Lake Maitland only)
		<ul> <li>Apart from 47 sonic holes drilled in 2014 and 2015, all of the geochemistry in the Lake Maitland estimations is derived from Mega drilling. For the Toro Energy geochemistry related approach and systems see above under "Lake Maitland excluded".</li> </ul>
		<ul> <li>Mega Uranium's geochemical samples on the Lake Maitland deposits represent 0.25 m full core lengths of 83 mm diamond drill core (PQ3). Weights of the geochemical samples ranged from 2-5 kg approximately. Intervals were determined during core mark-up and identified with plastic core blocks. Samples were dried at 110 °C before weighing and then crushing. After crushing a sub-sample was split using a rotary splitter for milling (pulverizing) to 90% passing 75 micron, before taking an aliquot for V analysis by 4 acid digest ICPMS.</li> </ul>
		<ul> <li>Due to full core sampling no duplicates were needed to measure in-field sampling error. Duplicates were instead taken at the first sample split at the lab, directly after the initial crush, these duplicates were taken with a rotary splitter after pushing the sample back through the crusher after the initial split at a rate of approximately 1 in 20 or 5% of all non-standard samples.</li> </ul>
		<ul> <li>Lab duplicates were taken at every stage of the sub-sampling process prior to analysis at the rate of approximately 1 in 20.</li> </ul>
		<ul> <li>Geochemical samples were taken through the entire length of each drill hole. The 0.25 m intervals were determined from marking up 0.25 m intervals down the full length of the core from the surface.</li> </ul>
		<ul> <li>Other elements analysed include Ba, Th, Al, Ca, Fe, K, Mg, Mn, S, Sr, Ti and U.</li> <li>Depth corrections were made to geochemistry</li> </ul>



Criteria J	ORC Code explanation	Commentary
		samples where appropriate, these were based on comparing the down-hole geochemistry to the down-hole gamma U values and assuming the down-hole depth as measured by the gamma probe during probing was correct. Winch cable stretch is not considered an issue at Lake Maitland drilling due to the shallow depth of drill holes (3-9 m on average). No depth corrections were deemed necessary.  • Mega used a 33 mm Auslog natural gamma probe (S691) 'in-house', to measure down-hole gamma radiation. Measurements were made every 1 or 2 cm with a logging speed of approximately 2 m per minute. The gamma probes were used on all drill holes, diamond, sonic and aircore. Prior to the drilling program all gamma probes are calibrated at the Adelaide Calibration Model pits in Adelaide, South Australia. During probing operations selected holes are logged twice as a duplicate log. Some selected holes across the deposits are used as reference holes for re-logging to detect drift in the instrument during each program. Gamma measurements are converted to equivalent U <sub>3</sub> O <sub>8</sub> values (eU <sub>3</sub> O <sub>8</sub> ) by an algorithm that takes into account the probe and crystal used, density, hole diameter, ground water where applicable and PVC pipe thickness. Down-hole gamma probe data is also de-convolved to more accurately reflect what would be expected in nature for down-hole response (gamma curves).  Historical Aircore – Centipede-Millipede and Lake Way only  There is limited information on the historical aircore drilling. Geochemical samples were collected from historical aircore in 1m intervals from piles of drill chips on the ground that represented 1m intervals of drilling direct from the cyclone. Geochemical analysis was achieved by XRF according to previous resource estimation reports on the uranium mineralisation.
Drilling • techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details	All Wiluna deposits excluding Lake Maitland     Both sonic and aircore drilling techniques have
	(eg core diameter, triple or standard tube,	been utilized on the Wiluna Project.



Cuitouio	IODC Code avaloration	Commontoni
Criteria	JORC Code explanation	Commentary
	depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>The sonic drilling utilizes a 100mm core barrel (inside diameter) with outside casing where needed, producing a 150mm hole diameter and 100mm core. Depending on the ground conditions and thus quality of core being produced, core is retrieved from the 3m barrel in either 1 to 3m length, 1m at a time. Upon exiting the barrel, core is transferred into tubular plastic bags that fit the core before being placed in core trays.</li> <li>Aircore drilling is conventional with a 72mm bit producing an approximate 100mm diameter hole.</li> </ul>
		Laba Maittan danaha
		<ul> <li>Lake Maitland only</li> <li>Diamond, sonic, auger core and air core drilling techniques have all been utilized on the Lake Maitland deposit, however, only diamond and sonic drilling techniques have been utilised to derive the geochemistry used in the V<sub>2</sub>O<sub>5</sub> resource estimation.</li> <li>The sonic drilling utilizes a 100mm core barrel</li> </ul>
		(inside diameter) with outside casing where needed, producing a 150mm hole diameter and 100mm core. Depending on the ground conditions and thus quality of core being produced, core is retrieved from the 3m barrel in either 1 to 3m length, 1m at a time. Upon exiting the barrel, core is transferred into tubular plastic bags that fit the core before being placed in core trays. On occasions where the sonic core was being used for density measurements a hard plastic (clear) cylinder that fits the core was used
		<ul><li>instead to ensure lasting core integrity.</li><li>Diamond drilling is PQ3, which utilizes an 83.18</li></ul>
		mm core barrel (inside diameter) and produces an 83 mm diameter core with an approximate 123 mm diameter hole.
Drill sample	Method of recording and assessing core	All Wiluna deposits excluding Lake Maitland
recovery	and chip sample recoveries and results assessed.	<ul> <li>Chip sample recoveries have not been recorded.</li> <li>Sonic core recoveries are estimated based on a combination of measurement, observation of drilling, the driller's direction, observations made on quality of sample during geological logging and sample weight comparisons to average weights and rock type. It should be noted that precise core recovery estimation on sonic drill</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	core in the Wiluna deposits is inherently difficult due to expansion and contraction of soft sediments during drilling and during recovery of core from the barrel.  Core loss is minimized by 'casing as we drill' through all ore zones or any zone where the geological information is critical such as for geotechnical purposes.  There is no correlation between estimated core loss and grade  Lake Maitland only  Sonic core recoveries are estimated based on a combination of measurement, observations made on quality of sample during geological logging and sample weight comparisons to average weights and rock type. It should be noted that precise core recovery estimation on sonic drill core at Lake Maitland is inherently difficult due to expansion and contraction of soft sediments during drilling and during recovery of core from the barrel.  Diamond core recoveries have been determined by conventional techniques of identification of lost core by driller and geologist at the rig and during core mark up and measure. Core trays are also weighed without and then with core to estimate core recovery based on assumed SG for particular lithology.  During sonic core drilling core loss is minimized by 'casing as we drill' through all ore zones or any zone where the geological information is critical such as for geotechnical purposes.  There is no correlation between estimated core loss and grade in the Lake Maitland data.  Historical Aircore – Centipede-Millipede and Lake Way only
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support	It is important to understand that as V is considered a by-product of the U processing, the relationship between geology and V



Criteria	JORC Code explanation	Commentary
Criteria	appropriate Mineral Resource estimation, mining studies and metallurgical studies.  • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.  • The total length and percentage of the relevant intersections logged.	concentrations are not considered essential in the estimation process, it is the relationship between uranium and geology that is important.  Geology is not used in the resource estimation process for U, the reasons for this are explained in more detail below, however, basically the deposit has been found to be correlated more to groundwater and depth from the surface than to any geological unit. Thus the geological logging is adequate for resource estimation.  Current geological logging (all Toro) is considered to be adequate for the stage of mine planning that Toro is currently at, on the Wiluna Project. Further work is considered necessary to amalgamate or align historical geology logs and geology to current across all deposits.  Current logging is both qualitative (subjective geological opinion of rock type and colour and in the case of Lake Maitland, also by limited mineral identification by spectral analysis) and quantitative (recording specific depth intervals and percentages of grain sizes, or in the case of Lake Maitland inclusive of limited quantification of mineralogy by spectral analysis via Hy-logger). Core photographs are taken for each individual metre (prior to 2013) and half metre (2013) after core has been split down the middle for logging and so as to see sedimentological features for logging (avoiding clay smear on outer surface of core made by drill rods). In the case of Lake Maitland, core photographs have been taken for the entire 2011 drilling program, which consists of a total of 201 holes and is spread across the entirety of the deposit.
		geologically
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality</li> </ul>	<ul> <li>As described above, geochemical samples represent 0.5m half core lengths (prior to 2013) or full core lengths (2013 and planned into the future) of 100mm sonic drill core. At Lake Maitland geochemical samples represent 0.25m full core lengths of 100mm sonic drill core or 83mm diamond core. In historical aircore the samples are representations of each metre</li> </ul>



Criteria	JORC Code explanation	Commentary
	and appropriateness of the sample preparation technique.	drilled as drill chip flow from the cyclone on the drill rig.
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<ul> <li>Sample preparation has been described above under 'sampling techniques, it is considered that all sub-sampling and lab preparations are consistent with other laboratories in Australia and overseas and are satisfactory for the intended purpose.</li> </ul>
	<ul> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>In the case of half core samples field duplicates of the core are taken to ensure sample representation, these field duplicates are the other half of the core that has been sampled. In the case of full core samples, duplicates are taken at the first sample split at the lab, directly after the initial crush, these duplicates are taken with a rotary splitter after pushing the sample back through the crusher after the initial split. It should be noted that due to the size of the sample supplied to the lab, the initial crushing is a two-step process, a primary crush to 10mm and a secondary crush to 3mm.</li> <li>Total sampling errors calculated from half core field duplicates typically range from ±10-20%. Total sampling errors for the first split at the lab in</li> </ul>
		<ul> <li>case of full core sampling typically range from ±1-10%.</li> <li>The laboratory used for Toro's geochemical analysis bases all crushing grain sizes and subsequent sub-sampling weights on being inside accepted Gy safety lines for sample representation. These grains sizes and sub-sample weights have been described above</li> </ul>
Quality of	The nature, quality and appropriateness	under 'sampling techniques'.  All Wiluna deposits (pre-2014)
assay data and laboratory tests	of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Prior to 2013 a four acid digest followed by ICPMS (4-ICPMS) was employed for analysis for geochemistry— this was assumed to be an almost total rock digest technique although with recognition that highly resistant minerals are sometimes not entirely digested. In 2012 a test was done to compare 4-ICPMS with sodium



Criteria	JORC Code explanation	Commentary
Criteria	• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the	peroxide fusion followed by ICPMS (F-ICPMS) with fused glass XRF (XRF) for the analysis of U. Analysis of a number of standards suggested that the F-ICPMS was the most accurate. So since 2013, F-ICPMS has been used as the basis for all geochemistry. However, on a number of samples 4-ICPMS and fused glass XRF are still used for comparative purposes (U only). In 2014 and 2015 approximately 1 in 50 samples was analysed by fused glass XRF as an intra-lab technique check. Both F-ICPMS and fused glass XRF are considered total rock analytical techniques.  • Historical geochemistry, mostly at the Lake Way deposit, is almost entirely XRF.
	<ul> <li>analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Certified matrix matched standards for U only are used to check analyses at the lab at a rate of approximately 5% or 1 in 20 samples. Toro energy has 3 matrix matched U standards from the Centipede ore zone representing a spread through the represented ore grades at Wiluna. Standards are checked against 2 standard deviations (2SD) and 3 standard deviations (3SD) from the mean (the registered value for each particular standard). No standard is allowed to be returned outside 3SD from the mean, an allowance of 5% (95% confidence interval) is made for standards returned between 2SD and 3SD outside the mean. Results analyses of standards are checked against the historical record for inter-program drift. To date, there has been no issue with analyses of standards at the lab. This includes the analysis of V.</li> </ul>
		• Since this is primarily a U project, blanks have all been prepared on the basis of U checks. Coarse quartz sand is used as blanks and these are used at a rate of approximately 5% or 1 in 20 samples as well as being strategically placed in front of and behind samples expected to have high concentrations of U so that thresholds for potential cross-contamination within preparations can be obtained. To date there has been no contamination or cross-contamination of significance for ore grades or even the 70-



Criteria	JORC Code explanation	Commentary
		100ppm U₃O <sub>8</sub> mineralised envelopes.
		<ul> <li>Duplicates are used as already explained in detail above.</li> </ul>
		<ul> <li>Limited laboratory checks have been made – approximately 3% of all geochemistry samples were represented in 2013 and the lab has remained the same.</li> </ul>
		Lake Maitland only – pre-2014
		• In the extensive 2011 diamond drilling program a four acid digest followed by ICPMS was employed for geochemical analysis (ALS laboratories, Perth) — this was assumed to be an almost total rock digest technique although with recognition that highly resistant minerals are sometimes not entirely digested. Due to these potential issue and the fact that ICPMS has in earlier times had issues dealing with high U concentrations due to dilution factors (etc.), the Mega geologists decided to re-analyse all samples with ICPMS results for U of greater than 500 ppm utilizing the XRF technique at the same laboratory (ALS, Perth), regarded by Mega geologists as a better whole rock technique.
		<ul> <li>Historical geochemistry data is almost entirely XRF.</li> </ul>
		<ul> <li>Since this is primarily a U project, standards were prepared on the basis of U checks. This is deemed sufficient for an Inferred V resource assessment (JORC 2012) "Off the shelf" OREAS U standards were used to check analyses at the lab at a rate of 2% or 1 in 50 samples.</li> </ul>
		<ul> <li>Coarse quartz sand was used as blanks and these were used at a rate of 2% or 1 in 50 samples.</li> </ul>
		<ul> <li>Since this is primarily a U project, all lab duplicates were prepared for checks on U. This is deemed sufficient for an Inferred V resource assessment (JORC 2012) Lab duplicates were used as already explained in detail above, from</li> </ul>



Criteria	JORC Code explanation	Commentary
		the primary crush stage and every other subsampling stage. Limited laboratory checks have been made – from the most recent drilling (2011) a total of 138 samples were re-analysed for U by 4 acid digest ICPMS by a different commercial laboratory (Genalysis, Perth). The samples were chosen as representative of the following U <sub>3</sub> O <sub>8</sub> concentrations – 10% between 100 and 200 ppm U <sub>3</sub> O <sub>8</sub> , 40% from between 200 and 500 ppm U <sub>3</sub> O <sub>8</sub> , and 50% from above 500 ppm U <sub>3</sub> O <sub>8</sub> . Differences between the labs were satisfactory, the largest being approximately 5% on average higher values from the XRF derived U <sub>3</sub> O <sub>8</sub> by ALS over the ICPMS U <sub>3</sub> O <sub>8</sub> by Genalysis, this was taken into consideration during estimations.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	<ul> <li>Limited interlab geochemistry analytical checks are completed for each drilling campaign for U, the last interlab check represented 3% of all the geochemical samples.</li> <li>Since the V<sub>2</sub>O<sub>5</sub> resource is calculated inside U<sub>3</sub>O<sub>8</sub> resource grade shells the V2O5 resource is to some extent dependant on the gamma probe data. Toro has a calibrated (at the Adelaide Calibration Model pits in Adelaide, South Australia) Auslog gamma probe to check the probing results achieved by external contractors. During probing operations every 10<sup>th</sup> hole is logged twice as a duplicate log. Selected holes across the deposits are used as reference holes for re-logging to detect drift in the instrument during each program. In 2013 over 50% of all holes drilled at Dawson Hinkler were re-logged with a different probe (from the same contractor) over 3 months after they were drilled to confirm</li> </ul>
	The use of twinned holes.	results (results were confirmed). In 2015, a different contractor with a larger probe (larger crystal) was employed along with the normal contractor, again to check the accuracy of the gamma data collected against different probes and at the same moment in time. No significant
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>differences in calculated U<sub>3</sub>O<sub>8</sub> values were observed between the two different contractors, once again confirming the validity of the gamma data used in the resource estimations.</li> <li>At Lake Maitland, a limited number of holes have been twinned - these include twinned holes drilled</li> </ul>



Criteria	JORC Code explanation	Commentary
		by both sonic and diamond core methods. A large proportion (approximately 10%) of the holes at Lake Way have been twinned to compare historical data on the U resource.
	Discuss any adjustment to assay data.	<ul> <li>All primary data (gamma log las files, geochemical sample lists, final collar files, geological logs, core photographs, electronic geochemical results, drillers plods, probing plods, de-convolved gamma files, gamma gamma density logs, disequilibrium analysis results etc) are stored on the company server in the appropriate drive and folders. Any hardcopy data, such as official geochemistry results or any paper copy geological logs, are kept in hardcopy in folders and archives as well as being scanned and kept on the company server in the appropriate drives and folders.</li> </ul>
		<ul> <li>Data entry procedures are described in some detail below in section 3 under 'data integrity'.</li> </ul>
		<ul> <li>To date, there has been no significant adjustments made to geochemical assay U<sub>3</sub>O<sub>8</sub> data (or to any other elements). Slight adjustments are made to some geochemical assay data to account for depth corrections if an interval error is discovered, this is rare and always restricted to the near surface above mineralized zones.</li> </ul>
		Adjustments to gamma derived eU <sub>3</sub> O <sub>8</sub> which affects the grade shell cut-off that the V2O5 resource is estimated inside of.
		<ul> <li>During the estimation process, a factor is applied to all gamma data inside the mineralised envelope at Lake Maitland of 1.25 and at Centipede, Millipede and Dawson Hinkler of 1.2. It is important to note that these factors have not been applied to the eU<sub>3</sub>O<sub>8</sub> data within the database, it has only been applied to data during the estimation process.</li> </ul>
		Details as to why for each factor follow:



Criteria	JORC Code explanation	Commentary
Criteria	JORC Code explanation	• Centipede and Millipede - Significant differences between gamma derived eU₃O₀ and geochemical U₃O₀ have been noted since 2012 across Centipede and Millipede. After the 2015 drilling and significant research into the consistently observed difference using all available comparative data back to 2011, it was concluded that the difference was real and resulted from the gamma probe underestimating true grade by at least 20% at Centipede and Millipede, probably more. Performing linear regression on U₃O₀ v eU₃O₀ for all sonic holes since 2012 (where both U₃O₀ and eU₃O₀ is available together to compare) shows a slope of 1.5, so a 50% difference between geochemistry and gamma derived U₃O₀ towards geochemistry. Spatial analysis of the difference both laterally and vertically by both Toro geologists and SRK consultants using various averaging techniques and some kriging with investigative test block models in Surpac and Isatis showed that whilst there was some variation, it was surprisingly consistent and definitively positive towards geochemistry always being higher than gamma derived U₃O₀. Successive analysis of geochemical samples for secular disequilibrium by the Australian Nuclear Science and Technology Organisation (ANSTO), first from 2011 drilling and second from 2013 drilling (see ASX release of September 1st 2014) showed that whilst positive disequilibrium was contributing to the underestimation in parts of the deposits, it was by no means accounting for all of it. After the 2015 research and investigations by both Toro geologists and SRK consulting, it was agreed to apply a factor of 1.2 to all gamma data inside the mineralisation envelope for estimations (see further below) to better represent the 'true' uranium grade as defined by geochemistry. Given that the research shows that the real difference could be as much as 1.5 x, Toro and SRK believe the factor of 1.2 applied is conservative.
		<ul> <li>Lake Maitland – A factor of 1.25 has been applied to the Lake Maitland resource in the same</li> </ul>



Criteria	JORC Code explanation	Commentary
		way the 1.2 factor was applied to the Centipede and Millipede resources (see above for details). Similarly high 'real differences' were observed of over 1.5 and in fact Toro believe that the probe is underestimating by as much as 50%. However, to be conservative it was agreed between the Toro geologists and SRK to limit the factor to 1.25. It should be noted that some of this factor is due to a deposit wide consistent positive disequilibrium; Mega have previously found that the average positive disequilibrium, via closed can analysis for secular disequilibrium on samples across the entire deposit by On Site Technologies Pty Ltd in 2011, was 1.18.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> </ul>	<ul> <li>All drill hole collars are pegged to the planned collar location using a differential GPS (DGPS) with base station (currently an Austech ProMark500 and ProFlex500). At the end of the drilling campaigns all collars a picked up using the same DGPS equipment for the final collar locations that are entered into the database. Accuracy of the DGPS is approximately to 100mm in the vertical and 50mm on the horizontal.</li> </ul>
	Specification of the grid system used.	<ul> <li>Due to all drill holes being shallow (maximum depth of 25m) and vertical no down-hole surveying is required.</li> </ul>
	<ul> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The grid system used on the Wiluna Project is Geocentric Datum of Australia (GDA) 94, zone 51.</li> </ul>
		<ul> <li>Topographic control is largely achieved by the DGPS with base station. As stated above, all Toro drill holes are accurate to approximately 100mm on the vertical. The vertical control at Millipede and Centipede is checked with a light detection and ranging (LIDAR) survey after drilling. Dawson Hinkler and Lake Maitland all drill holes have been 'pinned' to a topographic surface created from current drill hole collars surveyed with a DGPS and base station.</li> </ul>



Criteria	JORC Code explanation	Commentary	
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> </ul>	<ul> <li>No exploration results, resource drilling only</li> <li>The data spacing and distribution has been considered appropriate for the Mineral Resource estimation procedures and classifications applied (in this case Inferred only for all resources) by the external consultant doing the resource and is based mainly on variography and continuity shown in the statistical analysis of the data. See below in resource section for further information.</li> <li>In determining the U<sub>3</sub>O<sub>8</sub> grade shells that the V<sub>2</sub>O<sub>5</sub> resource is estimated within, at the Wiluna deposits (excluding Lake Maitland) sample compositing to 0.5m composites has been applied to the 2cm interval eU<sub>3</sub>O<sub>8</sub> data to match the 0.5m geochemical core samples. At Lake Maitland, compositing to 0.25 m composites has been applied to the 1 and 2 cm interval eU<sub>3</sub>O<sub>8</sub> data to match the 0.25 m geochemical core samples.</li> </ul>	
Orientation of data in relation to geological structure	<ul> <li>Whether sample compositing has been applied.</li> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> </ul>	Sampling is non-subjective (non-biased) down-hole sampling from the surface. Historical geochemistry represents a similar non-bias down-hole process. The sampling orientation employed provides no bias to the groundwater related distribution of mineralization.	
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	<ul> <li>No bias suspected, ore lenses are horizontal and drilling is vertical, cutting mineralization at an approximate right angle (90 degrees).</li> </ul>	
Sample security	The measures taken to ensure sample security.	<ul> <li>All Wiluna deposits excluding Lake Maitland (pre-2014)</li> <li>Sampling of drill core for geochemistry is achieved in the field directly after drilling at the</li> </ul>	



Criteria	JORC Code explanation	Commentary
		drill site. All samples are bagged firstly in plastic and then again in calico (double bagged). A unique non-descript identifier number is used to number each sample that bares no relation to the deposit or the drill hole. All sample details are entered into a fixed format file ready for later import into the database. Samples are immediately transported by utility to the field camp where they are weighed before being packed into steal 44 gallon drums with lock-down lids and tested for radiation for transport classification. The drums are then fitted on timber pallets and transported to the local transport dock at Wiluna for delivery to Perth. Approximate time between sampling and transport to the laboratory is 4 weeks.
		<ul> <li>Sampling of gamma derived measurements is achieved by a single contractor using a gamma probe (see sampling techniques above). Raw gamma probe data is converted into a las file and sent to a Perth based office on a daily basis by email. This data is then packaged and sent to the Toro Energy Database Manager, who sends it to the analyst (consultant) for calculation of U concentrations and deconvolution.</li> </ul>
		Lake Maitland Deposit only
		<ul> <li>Prior to 2014 core length was measured by drillers and blocks were put in at the end of runs. The core was then picked up by the geologist at the end of hole and taken to the core shed where it was divided into 25cm whole samples and allocated a sample ID tag, this was done by the geologist and field assistant. The core was then logged and core loss recorded. Core, in the core trays, is then stacked on to pallets (approximately 3 holes per pallet). For sample security, steel lids were used on the top row of trays before the entire pallet was plastic wrapped and steel strapped. Core was then picked up at site and delivered to ALS Perth, where it underwent spectral logging, weighing and assay.</li> </ul>
		<ul> <li>Additionally, upon transfer of the database from Mega to Toro for estimation, all data was</li> </ul>



Criteria	JORC Code explanation	Commentary
		converted to raw text files and delivered directly to SRK for the data review prior to estimation so as to avoid any loss of information by converting files into different database formats (Toro and Mega use different databases and database structures).
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>An internal review of geochemical sampling techniques in 2012 lead to a change in practice from non-selective half-core sampling to full core sampling so as to reduce total sampling error. This recommendation was followed in 2013 and has satisfactorily reduced sampling error.</li> <li>A review by Toro geologists of the Mega drill core sampling techniques (both for geochemistry and gamma measurements [gamma gamma for density and gamma for eU<sub>3</sub>O<sub>8</sub> calculations) for the 2011 drilling program found no errors that would affect the resource estimate in any significant way. The spectral analysis based geological model, which has been used to assign density in the block model was found to be highly predictive across the deposit with a limited amount of drill holes, however given the nature of the deposit as shown in a review of multi-element geochemistry (by Toro geologists) and Toro's experience with all of the similar style Wiluna deposits, the model is considered by Toro to be a reasonable interpretation of Lake Maitland geology and in fact in most circumstances a more accurate representation of the geology and geological relationships.</li> <li>SRK reviewed the database that was to be used for the resource estimation and excluded any errors from the estimation. The number of exclusions was considered too small to have affected the estimation.</li> </ul>

## **Section 2 Reporting of Exploration Results**

NOT APPLICABLE TO THIS RESOURCE UPDATE

Criteria	JORC Code explanation	Commentary
Mineral tenement	<ul> <li>Type, reference name/number, location and ownership including agreements or</li> </ul>	<ul> <li>The Yandal Gold Project is located approximately 770km km NE of Perth and less than 35km NE of</li> </ul>
	material issues with third parties such as	the Bronzewing Gold Mine operations. The



#### Criteria **JORC Code explanation** Commentary and land joint ventures, partnerships, overriding project includes the tenements M53/1089, tenure status E53/1211, E53/1060, E53/1210 and E37/1146 royalties, native title interests, historical sites, wilderness or national park and which are 100% owned by Redport Exploration Pty Ltd (subject to the agreements referred to environmental settings. • The security of the tenure held at the time below), as well as E53/1858, E53/1929 and E53/1909, which are 100% owned by Toro of reporting along with any known Exploration Pty Ltd. Redport Exploration Pty Ltd impediments to obtaining a licence to and Toro Exploration Pty Ltd are both wholly operate in the area. owned subsidiaries of Toro Energy Ltd. All tenements are granted. A heritage agreement has been entered into with the traditional owners of the land the subject of the Yandal Gold Project. M53/1089 is subject to agreements with JAURD International Lake Maitland Project Pty Ltd (JAURD) and ITOCHU Minerals and Energy of Australia Pty Ltd (IMEA) under which JAURD and IMEA can acquire a 35% interest inM53/1089 and certain associated assets. The agreements with JAURD and ITOCHU may also be extended, at JAURD and IMEA's election, to uranium rights only on E53/1211, E53/1060, E53/1210 and E37/1146. Toro Exploration Pty Ltd has rights to all minerals on E53/1858, E53/1909 and E53/1929. Toro has agreed to pay JAURD and IMEA net smelter return royalty on non-uranium minerals produced from E53/1211, E53/1060, E53/1210 and E37/1146. The exact percentage of that royalty will depend on Toro's interest in the nonuranium rights at the time and will range from 2% to 6.67%. E53/1060 is subject to a 1% gross royalty on all minerals produced and sold from that tenement. M53/1089 is subject to a 1% net smelter return royalty on gold and on all other metals derived from that tenement, in addition to a 1% gross royalty on all minerals produced and sold from a discrete area within that tenement. **Exploration** Centipede and Millipede deposits Acknowledgment and appraisal done by exploration by other parties. discovered by Esso Exploration and Production Australia and its various joint venture partners in other parties 1977, through a regional RAB drilling over a radiometric anomaly. Exploration occurred between



Criteria	JORC Code explanation	Commentary
		this time and 1982 with evaluation of the Centipede deposit with approximately 500 drill holes. This drilling was mainly by RC drilling but some auger and diamond drilling was also completed. The mineralised areas were drilled out on 100m centres and the surrounding areas on 200m centres.
		The grade and thickness of the uranium mineralisation was determined from radiometric logging of all holes. Some chemical assays were also completed and disequilibrium studies carried out.
		Since that initial exploration and definition of a uranium resource various companies have had ownership of the Centipede resource but little further work was completed until 1999 when Acclaim Uranium NL undertook further work by gamma logging over 300 of the previous holes as well as drilling a further 120 aircore drill holes.
		Nova Energy gained ownership of the Centipede project and undertook various work programmes in 2006 and 2007 including:
		<ul> <li>Compilation of historical data into a database</li> <li>Drilling of over 400 aircore drill holes with associated downhole gamma logging and sample assaying</li> <li>Gamma logging of approximately 100 historical holes where data had been lost</li> <li>Two large exploration costeans completed with a Wirtgen 2200 continuous miner</li> <li>Various baseline studies including groundwater, environmental and radiological studies</li> <li>Acquisition of satellite imagery</li> <li>Metallurgical studies</li> <li>Project scoping study</li> </ul>
		Significant work completed by Toro Energy alone on the deposits has included:



Criteria	JORC Code explanation	Commentary	
Criteria	JORC Code explanation	Commentary	Detailed airborne magnetic, radiometric and digital terrain model surveys over the project area in 2010  A resource estimation update of all of the Wiluna uranium deposits by SRK consulting in 2011  Resource estimation update of the Centipede and Millipede resources by SRK Consulting in 2012 taking into account new density information  First phase 3-D geological modelling of all of the Wiluna Project's deposits in 2012  First phase 3-D ore shell modelling of all of the Wiluna Project's deposits in 2012  Aircore and sonic core resource drilling in 2013  A resource estimation update on all Wiluna deposits in 2013, inclusive of Lake Maitland.  Testing of grade and resource continuity over the short scale on all deposits — reconciling mine blocks to resource estimations in 2014.  Sonic core drilling in 2015  A resource estimation update  Centipede-Millipede and Lake Maitland in 2015-2016  A resource update based on a change in density on the Nowthanna deposit in 2016.  A resource estimation for V205 for
		•	Nowthanna deposit in 2016. A resource estimation for $V_2O_5$ for Lake Maitland, Lake Way and Centipede-Millipede inside the $U_3O_8$ mineralisation envelope for all deposits but using $V_2O_5$ cut-offs.



### Criteria **JORC Code explanation** Commentary Geology Deposit type, geological setting and style The deposits are shallow groundwater carbonate of mineralisation. associated uranium deposits. The Wiluna Uranium Project is situated in the northeast of the Archean Yilgarn Block close to the Capricorn Orogen, the structural zone formed when the Yilgarn Block and the Pilbara Block joined some 1830-1780 million years ago. The basement rocks at Wiluna are part of the Eastern Goldfields Terrane (2.74 - 2.63 Ga), a succession of greenstone belts geographically enclosed by younger granitoid (gneiss-migmatite-granite, banded gneiss, sinuous gneiss and granitic plutons) that makes up the entire eastern Yilgarn Block and representative of an extensional tectonic regime with brief periods of compression. The Wiluna deposits themselves are hosted within recent to Holocene sedimentation that sit in the upper reaches of a large southeast to south flowing drainage system that began forming in the Mesozoic within Permian glacial formed tunnel valleys. Satellite radiometric images clearly show this drainage system, now a dry largely ephemeral system of salt lakes. Mineralisation The principal ore mineral is the uranium vanadate, Carnotite (K<sub>2</sub>[UO<sub>2</sub>]<sub>2</sub>[VO<sub>4</sub>]2.3H<sub>2</sub>O). This is one of the main ore minerals for V as well as U. Carnotite has been found as micro to crypto-crystalline coatings on bedding planes in sediments, in the interstices between sand and silt grains, in voids and fissures within calcrete, dolomitic calcrete, and calcareous silcrete, as well as small concentrations (or 'blotches') in silty clay and clay horizons. Vanadium is also found in the clays within the sediments, separate from the Carnotite mineral. The sediments hosting the Carnotite and clays are part of a small deltaic paleochannel system that once, and to an extent still, flowed into a relatively large but very shallow inland lake. The delta splays from the end of the palaeochannel, which itself is host to Carnotite mineralisation further 'up-stream' with the two deposits known as the Dawson Well and Hinkler Well Uranium Deposits. Drainage in the



#### Criteria **JORC Code explanation** Commentary channel system is towards the delta and Lake Way from the south and southwest. The current stream system flanks the delta on both sides and still flows into the lake (Lake Way) but it is now definitively ephemeral with a normally weak and limited flow restricted to the wetter summer months or a stronger flow after storm events. The lake is also thus ephemeral with evaporite precipitates dominating the surface, a product of low influx, long residence times and high evaporation rates. A drying climate has led to most of the delta being covered in fine silty sand-dunes which have subsequently been vegetated. Apart from a large clay pan, most of the Millipede tenements, including the ground referred to in this report (Figure 2), are covered by vegetated dune sands. The main economic concentration of Carnotite, that targeted for mining, is restricted to a zone some 1-6 metres below the surface that seems to be related to the current water table. The zone is thus not lithologically specific, rather forming a wide flat and continuous lens stretching approximately from the central delta to the current lake shoreline and inhabiting calcrete, silcrete, sandy silts and clays. This zone does however coincide with a much thicker calcareous horizon that is more prominent away from the lake shoreline and often consists of competent to hard calcrete and calcareous silcrete (possibly silicified calcrete). The calcrete zone is also definitively related to the water table, although its specific relationship with the deposition of the Carnotite remains complex and somewhat unexplained. However, it could be argued that the calcrete may help form a pH related chemical trap that pushes the oxidised uranium and vanadium complex over its solution to solid phase boundary. Locally, the Abercromby Creek straddles a boundary between hiahly weathered granites greenstones, flowing from a largely granitic terrain into largely ultramafic greenstone terrain of the Norseman-Wiluna greenstone belt, although geological maps also place it at a precise boundary closer to the lake shoreline whereby ultramafics dominate its northern flank and granites dominate its

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southern flanks. It has been argued that the



Criteria	JORC Code explanation	Commentary
		weathered granites are a possible source for the uranium and the weathered greenstones a possible source for the vanadium in the Carnotite mineralisation. Regionally, the deposits associated with Lake Way can be included in a province of similar style calcrete associated uranium deposits all in the NE Yilgarn of Western Australia and inclusive of much larger deposits such as Yeelirrie.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>Since the V<sub>2</sub>O<sub>5</sub> resource is being estimated for a by-product of the principal uranium resource and is being integrated into the U<sub>3</sub>O<sub>8</sub> resource and therefore dependant on U3O8 cutoffs, the drill holes supplying data used in the U<sub>3</sub>O<sub>8</sub> resource estimation are technically all relevant here. All drill hole data used in U<sub>3</sub>O<sub>8</sub> estimations has been previously supplied in various resource updates, notably that of 27<sup>th</sup> February 2012, 9<sup>th</sup> September, 8<sup>th</sup> October and 20<sup>th</sup> November 2013, 7<sup>th</sup> July and 2<sup>nd</sup> September 2014, 2<sup>nd</sup> September and 14<sup>th</sup> October 2015 and 1<sup>st</sup> February 2016.</li> <li>All drill holes within the U<sub>3</sub>O<sub>8</sub> envelope that have specific V<sub>2</sub>O<sub>5</sub> geochemical information have been listed in the appendix 1 of this ASX release.</li> <li>All drill holes were vertical and drilled between 3-25 m depth. The 200ppm U3O8 grade shell from which the V2O5 resource has been occurs between 0.5 (upper intersect) and 12.5m (lower intersect) depth from the surface, although more typically the lower intercept is now greater than 6m depth from the surface.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be</li> </ul>	<ul> <li>No exploration results reported here. Cut-off grades are as according to estimation techniques detailed below.</li> <li>No aggregation of intervals was made.</li> <li>Metal equivalents have only been used to model U<sub>3</sub>O<sub>8</sub> grade shells and not for estimating V<sub>2</sub>O<sub>5</sub>.</li> </ul>



Criteria	JORC Code explanation	Commentary
	clearly stated.	
Relationship between mineralisatio n widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>The mineralization lenses of all of the Wiluna Uranium deposits are horizontal in nature. Thus, given that all drill holes are vertical from the surface, and hence perpendicular to mineralization, all stated mineralization intercept thicknesses represent the TRUE thickness of the mineralization lens at the specified U<sub>3</sub>O<sub>8</sub> cut-off grade (in this case 500 ppm eU<sub>3</sub>O<sub>8</sub>).</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to, a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	All relevant maps have been included with this ASX release.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	No exploration results reported in this document     resource drilling only
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No exploration results reported in this document     resource drilling only
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	No further work on the V2O5 resource is planned at this stage.



## **Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example,</li> </ul>	All Wiluna deposits excluding Lake Maitland
integrity	transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	<ul> <li>Logging and sampling data is entered into a template with fixed formatting and fixed lithological choices (selected from fixed dropdown lists) by the geologist responsible for logging each hole. The template is formatted so that it can be imported directly into a DataShed database. All importing and exporting into and from the database is achieved by a single point of entry/exit responsible for the database (database manager), access for such tasks is restricted to the database manager. All files are transferred from the field to the database manager using a secure commercial based DropBox folder system with automatic back-up and error correction functions. Data files for resource estimation are transferred in a single zip file to the resource</li> </ul>
	Data validation procedures used.	<ul> <li>All geological interval and gamma data is validated via a systematic check of down-hole gamma to down-hole scintillometer readings (made for each lithological unit) for every hole (both sonic and aircore). A secondary check on actual lithology logging is made by examining core and chip photographs cross-referenced to the geological logs. All historical data is validated in ISATIS against the same data used in previous estimations.</li> </ul>
		Lake Maitland Only
		<ul> <li>All post-2013 data validation has been achieved as already described above, prior to 2013 it was as follows:</li> <li>All geological logging and sampling is entered into a Toughbook style laptop with an offline aQuire data entry program, which contains fixed lithological codes, carry over sample ID's, fixed core lengths and recorded core loss intervals. The program does not allow errors such as overlaps, or sample miss match. At the end of</li> </ul>



Criteria	JORC Code explanation	Commentary
		each day (whether for gamma data from probing or geological logging) all data is extracted and sent to the Perth office where it is automatically entered to the sequel server database. This can only be accessed by the database manager.
		<ul> <li>All data has undergone a thorough 2 week long validation and integrity check by SRK in consultation with Toro Energy prior to data preparation for resource estimation of uranium, including all U<sub>3</sub>O<sub>8</sub> and eU<sub>3</sub>O<sub>8</sub> values, density values, lithology and lithology models (Vector files etc.) and geospatial information (drill hole collars etc.). All V<sub>2</sub>O<sub>5</sub> data have been extracted from the geochemical database and were checked for inconsistencies.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	The competent person responsible for the resource estimate, Daniel Guibal, has not had a visit to site. It is considered that a site visit is not necessary given Mr Guibal's experience with Toro's Wiluna uranium deposits, some 10 years, including numerous estimations, as well as experience elsewhere.
Geological interpretatio n	<ul> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>Confidence in (or conversely, the uncertainty of) the geological</li> </ul>	• The geological model is not used in the resource estimate since it has been found that mineralization is not necessarily correlated to any particular rock type, despite being often associated with carbonate or carbonated sediments. The mineralization has been found to be associated with the water table and so is more correlated to depth from the surface than any given lithology, maintaining grade across different lithology. Thus the geological model for estimation is a simple mineralization envelope based on a concentration of U that represents that concentration where the background population of U ends and the U mineralization exists (in a classic bimodal distribution). In the Wiluna deposits this is 70 ppm U <sub>3</sub> O <sub>8</sub> for the Centipede-Millipede deposit, 80 ppm U <sub>3</sub> O <sub>8</sub> for the Lake Way deposit and 100 ppm U <sub>3</sub> O <sub>8</sub> for the Lake
	<ul> <li>interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> </ul>	Maitland deposit.      Examination of 3D LeapFrog models of different grade shells of the resource give a high level of



Criteria	JORC Code explanation	Commentary
		confidence to the above interpretation of a ground water controlled deposit.
		<ul> <li>For the U<sub>3</sub>O<sub>8</sub> estimation and mineralisation envelopes, all data used is based on U values from geochemistry and de-convolved gamma derived equivalents. U geochemistry is mostly F-ICPMS, 4-ICPMS and fused disc XRF. A large number of cored drill holes (diamond and sonic) have been used to test the validity of the gamma measurements (via geochemistry) – for example all of the 2011 drilling at Lake Maitland, some 201 diamond holes. Where there is geochemistry data available it is given priority over gamma derived equivalents. All de-convolved gamma derived data has been multiplied by 1.25 at Lake Maitland and 1.2 at Centipede-Millipede.</li> </ul>
		<ul> <li>For the V<sub>2</sub>O<sub>5</sub> estimation all data is geochemistry data collected from diamond core, sonic core and aircore drill chips as described previously above. The geochemistry is as described above for U. The number of V<sub>2</sub>O<sub>5</sub> data available is in general lower than the number of U data, in fact for the Lake Maitland deposit, there is approximately one third the data available for the V<sub>2</sub>O<sub>5</sub> estimation compare to the U<sub>3</sub>O<sub>8</sub> estimation due to the availability of gamma data in the more common aircore drill holes.</li> </ul>
	<ul> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	• The advantage of using a mineralization envelope based on U <sub>3</sub> O <sub>8</sub> concentrations only (both chemistry and de-convolved gamma derived equivalents) is that there are few assumptions made. Domains are based on data variability and so in effect, real changes in the behaviour of the data and data distribution. There is no forcing statistical predictions into domains based on lithology that is not necessarily correlated spatially at all times.
	grade and goology.	A minimum of 5% of all drill holes are required to test the validity of gamma and to introduce into the estimation except in the case of the mine block evaluation areas where 2.5% has been accepted (due to the mine block evaluation study not contributing to any update of the total



Criteria	JORC Code explanation	Commentary
		resource).
		Density values used in the resource estimates at Lake Way and Centipede-Millipede are single values representing average densities for the entire mineralization envelope. At Lake Maitland density values used in the resource estimate are derived from gamma gamma probe measurements calibrated to real wet and dry density measurements of reference sonic hole cores. The densities are averaged to the different main lithology in the geological model and applied to the block model according to the boundaries of each lithological unit (acting as density domains). Further information below under 'bulk density'.
		<ul> <li>A different geological interpretation, if used in the resource estimate, may affect the results of the resource estimate slightly, however, since geology is not used in estimations a change in geological interpretations would make no difference.</li> </ul>
		• Grade Continuity can be affected by numerous factors, including drilling density which varies from 5m x 5m to 100m x 200m, nugget effect, itself linked to the type of measurement in terms of the U <sub>3</sub> O <sub>8</sub> grade shells for the V <sub>2</sub> O <sub>5</sub> resource estimation boundaries (geochemical data are more variable than radiometric de-convolved radiometric data), uncertainties on the data themselves due to calibration problems or/and disequilibrium for the radiometric values, sampling/assaying issues for the geochemical measurements (controlled by QA/QC), and geological continuity, which is reasonably established for the Wiluna Uranium Project. Geology has been controlled by recent to Quaternary sediment deposition with overprinting calcretisation being controlled by the ground water flow.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Wiluna deposits are surficial with a vertical thickness of a few meters at most. Occasionally deeper (15 to 25m below surface) mineralization exists, but its continuity is not proved, because of the lack of deep drilling



### Criteria JORC Code explanation

# Estimation and modeling techniques

The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.

For the estimation of U<sub>3</sub>O<sub>8</sub> and the U<sub>3</sub>O<sub>8</sub> grade shells, except in the case of the mining block evaluations in 2014, the estimation technique is followed Uniform Ordinary Kriging by specialised Conditioning (UC) using the geostatistical software, Isatis. In some circumstances Localised Uniform Conditioning (LUC) will be used after UC to visualise potential variation in the orebody to better evaluate

Commentary

Lake Maitland).

estimation are the following:

(1) Use of combined radiometric and geochemical data, with priority given to geochemistry.

proposed mining methods (such as is the case at

The various steps of the

- (2) Creation of a mineralisation envelope using Leapfrog 3D at the cut-offs detailed above were created prior to factoring of the 2013 data.
- (3) Gamma data corrections are made - As discussed above the 2013 gamma data in the westernmost zone of Dawson Hinkler was corrected by a 1.2 factor to account for systematic discrepancy between geochemical and gamma derived data and at Lake Maitland, a correction factor of 1.25 has been applied to gamma data within the mineralised envelope to take into account the average secular disequilibrium as found from research (see above), and due to consistent differences observed between geochemistry and gamma and specifically investigated in the 2015 drilling, all gamma data at Centipede and Millipede inside the mineralised envelope has been multiplied by a factor of 1.2.
- (4) Compositing to 0.5m.
- (5) Domaining by zones of reasonably consistent grade, or in the case of Lake Maitland, essentially by the strike orientation: NS, NE and NW
- (6) Top-cuts used at the various deposits include 5000 ppm, 4500 ppm, 2000 ppm, 700 ppm and 500 ppm as well as no top-cut at all depending on the various domains. It has been found that the top-cut has very little



Criteria	JORC Code explanation	Commentary
		impact on mean grade (less than 1%) and variance. No top-cuts at all applied to Lake Maitland and Lake Way.  (7) Panel sizes used for the estimation were 30m x 30m x 0.5m for Centipede, Millipede and Lake Way, 50m x 100m x 0.5m for Nowthanna, 200m x 100m x 0.5m for Dawson-Hinkler and 50m x 50m x 0.5m for Lake Maitland. The panel sizes are chosen
		from the average drilling density.  (8) Ordinary Kriging estimation of panels, after neighbourhood analysis to optimise quality of kriging.
		(9) Validation of Kriging results through statistics and swath plots
		<ul><li>(10) Uniform conditioning (UC) for 10m x 10m x</li><li>0.5m Selective Mining Units (SMU), which is a realistic assumption for a future operation where grade control using radiometric</li></ul>
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	information will be possible.  (11) Localised Uniform Conditioning: creation of 10m x 10m x 0.5m panels based on the results of UC at Lake Way, Dawson Hinkler and Lake Maitland. UC model maintained as official model for Centipede-Millipede due to grade differences between the UC and LUC models at higher grade cut-offs and the assumption that the UC model is the most reliable if grade differences occur.  (12) The tonnage is estimated using a constant dry density as detailed elsewhere in this table.
	The assumptions made regarding recovery of by-products.	The estimation of $V_2O_5$ for Lake Maitland has been made using the same $U_3O_8$ mineralisation envelope as described above for Lake Maitland and then estimating directly into the same 10m x 10m x
	<ul> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> </ul>	0.5m blocks as those used for the LUC $U_3O_8$ estimation for Lake Maitland and using Ordinary Kriging. No UC or LUC was undertaken for the $V_2O_5$ estimation like it was for the $U_3O_8$ estimation due to the lower amount of data in comparison. Reporting from the $V_2O_5$ estimation and the $U_3O_8$ estimation can be made concurrently using $U_3O_8$ cut-offs.
	In the case of block model interpolation, the block size in relation to the average	



Criteria	JORC Code explanation	Commentary
	<ul> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Previous resource estimates (prepared for a number of years by SRK and Mr Daniel Guibal) are available and are considered in all current estimations.</li> <li>This resource estimation is for a potential byproduct, V<sub>2</sub>O<sub>5</sub> of the previously announced U<sub>3</sub>O<sub>8</sub> resources. The potential viability of V<sub>2</sub>O<sub>5</sub> as a byproduct in the processing of the Wiluna Uranium Project's uranium ore has been outlined with the results of testing in ASX announcements of 18<sup>th</sup> March, 19<sup>th</sup> July, 5<sup>th</sup> September and 10<sup>th</sup> October 2019.</li> <li>There are no assumptions made to date of the exact recovery percentage, just that it is leached with the U and recoverable into a clean and separate processing stream from the IX circuit in amounts that make it a potentially viable byproduct. Recoveries will be utilised in mining models.</li> <li>Currently there are no geostatistical estimations made on deleterious elements, however, such elements have been included in the analysis of drill core samples in 2013 and so such estimations will be able to be accomplished in the future as more coverage across the deposits is achieved. Current analysis of drill core geochemistry and Metallurgical samples strongly suggests there are no significant economic issues related to deleterious elements.</li> <li>See detailed description of estimation process above</li> </ul>
		<ul> <li>See detailed description of estimation process above</li> <li>No assumptions</li> <li>See above – no geological control in any of the</li> </ul>
		2012 JORC compliant resources.  • See detailed description of estimation process



Criteria	JORC Code explanation	Commentary
		<ul> <li>See detailed description of estimation process above</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are dry tonnages
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>Grade-tonnage curve are provided for a range of cut-offs. Optimal cut-off will be determined from the mining studies.</li> </ul>
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	<ul> <li>The proposed mining methods, will be the same as those publicly outlined by Toro for the Wiluna Project, however as a result of recent beneficiation and processing design studies the processing techniques and circuit design may be changing in the future. It is this change that has allowed for the potential duel processing of vanadium as a by-product at what should be no significant cost increase to processing. The new processing design and beneficiation studies have been outlined in the ASX announcements of 18th May, 29th August, 28th September and 5th December 1016, 30th January, 20th April, 20th June, 27th June, 12th September and 19th September 2018, 7th March, 18th March, 19th July, 5th September and 10th October 2019. It is also important to note that all of the engineering and mining parameters listed below will be different for a stand-alone Lake Maitland mining operation as is being suggested in this ASX release; such parameters are yet to be determined but is the next stage of this scoping level series of engineering studies.</li> <li>Current for entire Wiluna Project is as follows:</li> <li>Mining technique has been tested successfully on site, the main points follow.</li> <li>Shallow strip mining to 15m maximum depth (approximately 8 m at Maitland) using a combination of a Vermeer surface miner, loader and articulated trucks.</li> <li>25-50cm benches</li> <li>De-watering of pits for process water</li> <li>In-pit tailings disposal below natural ground surface in lined pits, progressive compartmental mining, tailings and rehabilitation</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>Current - strip 3.8:1, using 250ppm cut-off</li> <li>Up to a 14 year life of mine, regional resources increase to 20+ years dependent on future approvals</li> <li>7 years at Centipede and Millipede followed by Lake Maitland and then Lake Way.</li> </ul>
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>A laboratory scale pilot plant has been successfully trialled that includes all of the currently proposed process from crushing/grinding to product – actual product produced. Every part of the processing circuit has been tested and/or had research associated with it. Main factors follow.</li> <li>Alkaline tank leach with direct precipitation.</li> <li>Target production is 780 tpa U<sub>3</sub>O<sub>8</sub></li> <li>Processing 1.3 Mtpa at a head grade of 716ppm U<sub>3</sub>O<sub>8</sub></li> <li>Processing plant is planned to be located on the Centipede deposit related tenements. The new processing that includes IX that is currently being assessed has been described in the ASX announcements as outlined above.</li> </ul>
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>All of the deposits of the Wiluna Uranium Project have been approved for mining by the West Australian EPA and the federal government. Thus the project has gone through the Environmental Review and Management Programme process (The ERMP and all of the associated documents can be found on the Toro Energy website at:         <ul> <li>http://www.toroenergy.com.au/sustainability/heal th-safety/environmental-review-and-management-programme-ermp/</li></ul></li></ul>

• No standing landforms remain post closure



# Criteria **JORC Code explanation** Commentary **Bulk density** All Wiluna deposits excluding Lake Maitland Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. considered appropriate. in 1978, analysed by AMDEL. Lake Maitland only

### Classificatio n

- The basis for the classification of the Mineral Resources into varying confidence categories.
- Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).

- Density has been averaged so that a single density is applied across the entire block model.
- The average density applied to Centipede and Millipede is 1.8 t/m³, which has been determined from averaging the density through the ore zone as measured by a calibrated dual density probe. The data used was from the 2011 drilling campaign. A duel density probe was used in the 2015 drilling program to check the earlier results in different parts of the orebody and results were proven similar, a little higher in some areas and a little lower in others, however 1.8 t/m3 is still
- The average density applied to Lake Way is 1.72 t/m3, based on bulk samples collected from multiple resource evaluation and mining test pits
- Density was determined by calibrated gamma gamma probe measurements down drill holes from across the entirety of the deposit (predominantly the 2011 drilling campaigns). Gamma gamma probe calibrated directly with reference sonic core holes whereby both dry and wet density measurements were obtained. Gamma gamma measurements were found to be matching wet density and so all measurements were re-calibrated to a dry density using both the wet and dry density determinations on the sonic core. Density was then averaged over geological units (determined as explained above) so that each geological domain within the block model had a single average dry density.
- The classification of the Uranium Resources at Wiluna was established in previous estimations, in particular see ASX announcement of 1 February 2016.
- The classification of the integrated Vanadium resource for the Lake Maitland deposit as detailed in this ASX announcement is Inferred only because the number of data is generally lower (one third approximately) than for U, there has been less QA/QC performed than for U and



Criteria	JORC Code explanation	Commentary
	Whether the result appropriately reflects the Competent Person's view of the deposit.	no specific geological modelling was undertaken, the estimation being limited to the domains defined for U.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	There has been no audit of the resources reporting material change within this ASX release, other than internal SRK and Toro assessment and geological interpretation.
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> </ul>	<ul> <li>Because Vanadium is considered a by-product of the Uranium mineralisation, no detailed evaluation of the uncertainty on the estimation was made at this stage.</li> <li>Factors that could affect the relative accuracy of the estimations include:         <ol> <li>The correlation between U<sub>3</sub>O<sub>8</sub> and V<sub>2</sub>O<sub>5</sub> geochemical grades;</li> <li>The assaying methods used,</li> <li>The current V2O5 estimates are smooth, due to the low number of data relative to the U data, and therefore probably underestimate the true grade variability.</li> </ol> </li> </ul>
	<ul> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	



## **Section 4 Estimation and Reporting of Ore Reserves**

NOT APPLICABLE - NO RESERVES REPORTED

**Section 5 Estimation and Reporting of Diamonds and Other Gemstones** 

NOT APPLICABLE - URANIUM AND VANADIUM ONLY