Corporate Details

Ordinary Shares
424.47m

Market Cap
9.7m

ASX Code
HLX

Board of Directors

Mr Peter Lester
Non-Executive Chairman

Mr Michael Wilson
Managing Director

Mr Timothy Kennedy
Non-Executive Director

Mr Jason Macdonald
Non-Executive Director

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First Ever Drilling at Samuel Copper Project - Chile.

Highlights

- ❑ Funding partner JOGMEC has requested fast-tracking of drilling at the Samuel Copper Project in Region IV - Chile
- ❑ Cutting-edge drone magnetics, induced polarisation surveys, mapping and surface sampling have identified 10 priority targets for drill testing.
- ❑ Drilling of the first hole is expected to begin by 31 March 2019 targeting primary copper mineralisation below an area of historic copper oxide workings.
- ❑ This will be the first ever drill hole at the Samuel Project and will conclude JOGMEC's Stage 1 (US$400,000) commitment.
- ❑ JOGMEC is expected to make a decision to progress to the main exploration drilling phase in Stage 2 (US$800,000) at the completion of this hole during April.

Helix Resources Limited (ASX:HLX) (**Helix** or the **Company**) is pleased to provide an update on the Stage 1 exploration activities at the Samuel Copper Project in Region IV, Chile. Japanese organisation and JV Partner JOGMEC is fully funding the program and has requested the JV move immediately to drill test a priority copper target.

Remaining funds from the Stage 1 (US$400,000) are to be directed immediately to drilling the first target area, with diamond drilling expected to commence this weekend (the end of March 2019). The first hole is planned to test a high-priority target for primary copper mineralisation to a depth of 400m, below historic copper oxide workings within a coincident geophysical and geochemical anomaly. The region is prospective for both manto-style and porphyry copper mineralisation.

To date, ten (10) priority target areas have been derived from the Stage 1 work programs within the 40 square kilometre project area. The majority of these targets are expected to be drill tested in the main exploration drilling phase (Stage 2 program). JOGMEC is expected to make a decision on to progress to Stage 2 (USD$800,000) in April.

Helix Managing Director, Mick Wilson, said: "*We are excited to see positive results returned from the initial field campaign at the Samuel Copper Project JV in Chile. Our JV Partner, the highly regarded Japanese organisation JOGMEC, has requested the JV to move immediately to drilling and is fully-funding the programs. The internally generated Samuel Project and JV provides our shareholders with another opportunity to retain a material interest in a potentially large copper asset in this world-class copper jurisdiction. With third-party funding covering costs in Chile over the next few years, it allows Helix to retain exposure while the projects are de-risked. Importantly it allows Helix to continue to focus our main efforts on the advancement of our flagship copper assets in NSW, where a Maiden Resource for the Collerina Project is imminent.*"

First Drilling Program

JV funding partner JOGMEC has requested for the fast-tracking of drilling following the positive outcomes from the field surveys in the initial phase of geophysics and surface sampling. Drilling will test historic copper oxide workings, in an area of coincident geophysical anomalism, copper geochemistry at surface and local structural complexity.

The first hole is expected to be drilled to a depth of 400m to pass under the copper workings, continuing into fresh rock to test for manto-style copper and/or porphyry style copper mineralisation at depth.

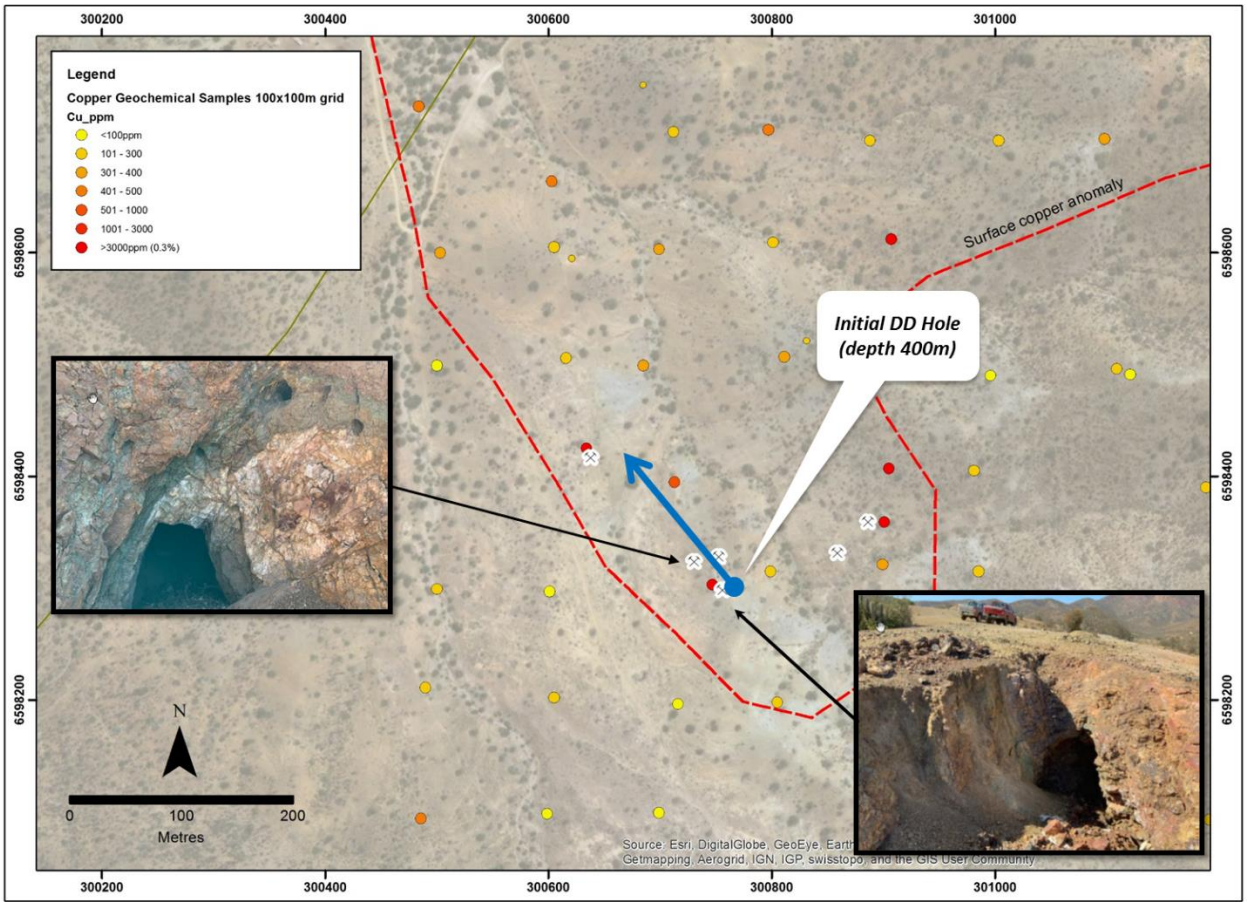

Figure 1:

Aeromagnetic Survey

Helix completed an aeromagnetic survey last quarter using a UAV based GeoMagDrone™ system from local Chilean provider GFDas. The system carried out an 890 line kilometre ultra-detailed aeromagnetic survey over the entire 40km² Samuel Project area.

The survey was flown at 50m line spacing, with a flight height of between 30-50m above the ground. This flight height is achievable by use of ultra-detailed (0.5m resolution) digital terrain model data derived from the Worldview-2 Satellite. The UAV uses this satellite data to maintain its low-level flight height during the survey (Refer Figure 2).

The aeromagnetic survey highlighted variations in the local magnetic responses, isolating areas of possible porphyry-style alteration, intrusive bodies, potential mineralising structures and contrasting lithologies throughout the project area.

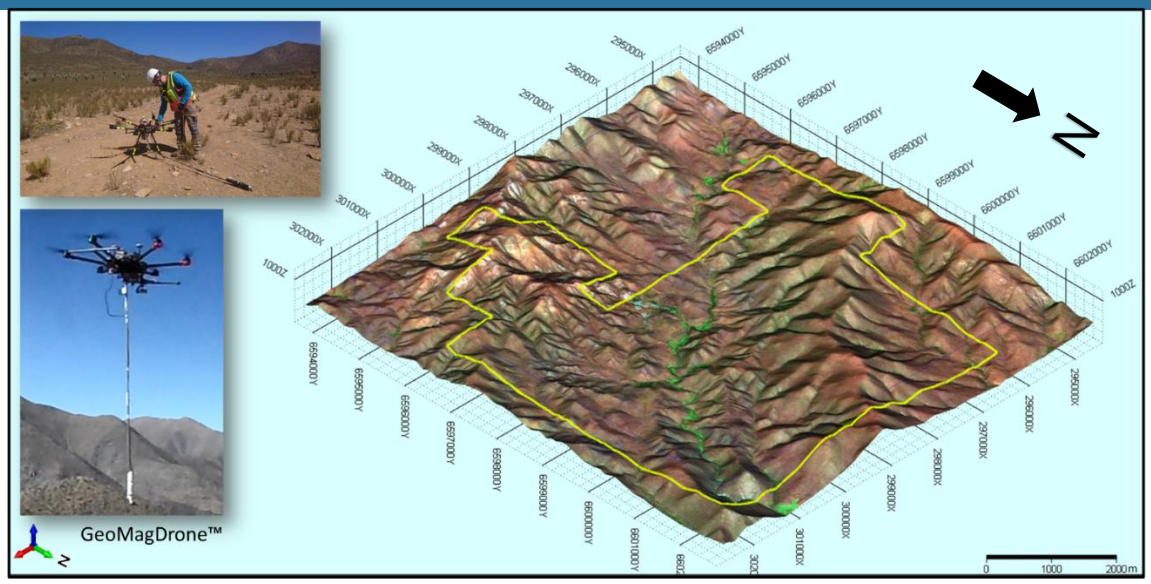

Figure 2: 3D screenshot of the Samuel Project area's digital terrain model (draped with the 2018 ASTER false colour image). Inset shows the GeoMagDrone™ with fluxgate sensor used for the aeromagnetic survey.

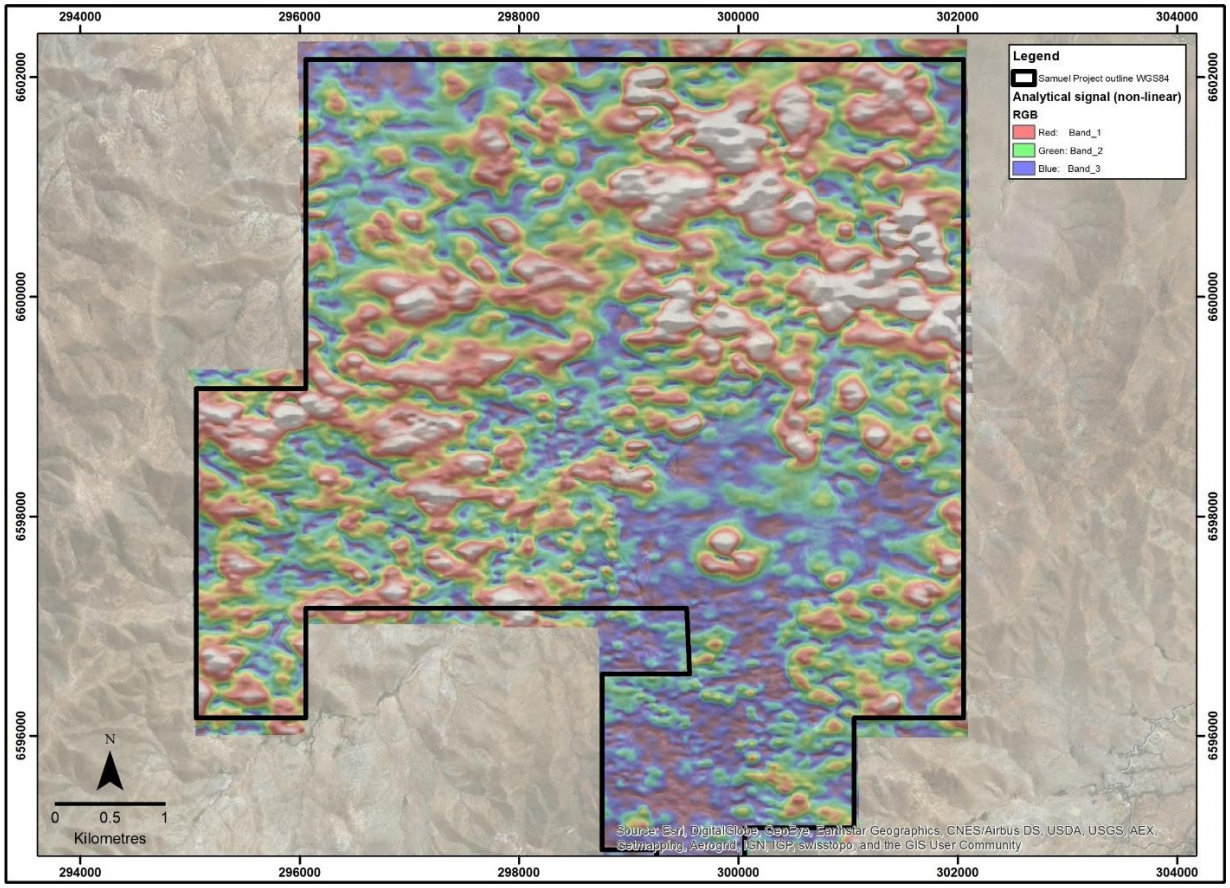

Figure 3: Ultra-detailed drone magnetics of Samuel project area – analytical signal image showing the basement rocks magnetic response.

Helix's geology and structural consultant Mr Leigh Rankin visited site last month. An interpretation of the magnetics was undertaken and ground-truthed to build a geological and structural model for the area.

From this work a series of priority targets were identified. These targets are being assessed and ranked, with the majority expected to be drill tested as part of the Stage 2 exploration drilling program, which has a budget of US$800,000 (approx. AUD$1.1M).

Induced Polarisation Survey

Induced Polarisation (IP) geophysical surveys are a proven and effective tool for refining drill targets in both porphyry and manto-style copper systems in Latin America.

IP surveys were completed earlier this month by a Chilean Contractor completing a survey over 8 lines for a total of 27 line kilometres. The IP survey has highlighted a series of chargeable features to a depth of 500m from surface, with a chargeable feature present in the northern part of the survey area.

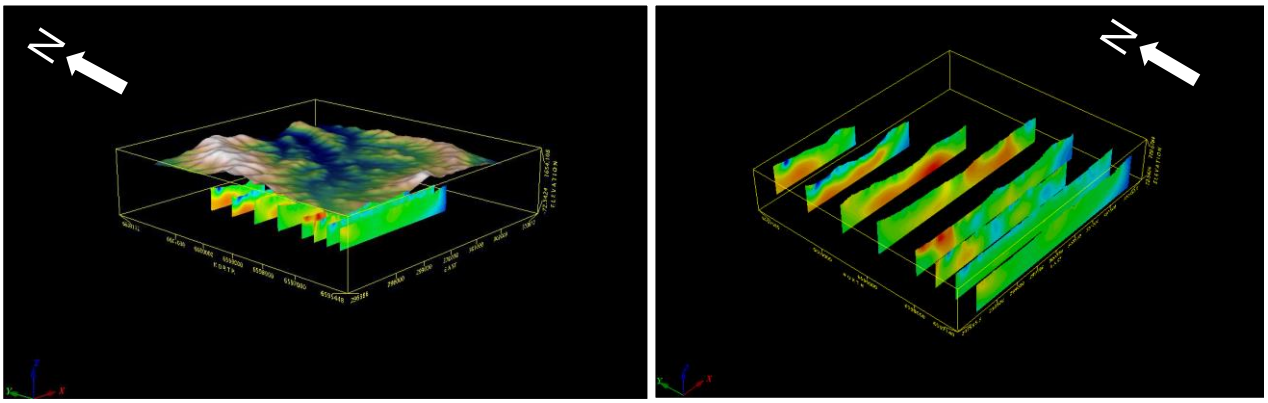

Figure 4: 3D stack of IP inversions looking NE – Below topography (Left) Stacked sections (right)

Mapping and Sampling

Helix's Chilean field team has also undertaken 1:5,000 scale geological and alteration mapping across the Samuel Project area. Surface sampling has occurred in three areas on an approximate 100m x 100m sampling grid. These coincide with areas of geophysical anomalism and will assisted in prioritising drill collar positions within these target areas. The combination of the IP anomalies, magnetic interpretation and mapping has resulted in the 10 targets identified so far.

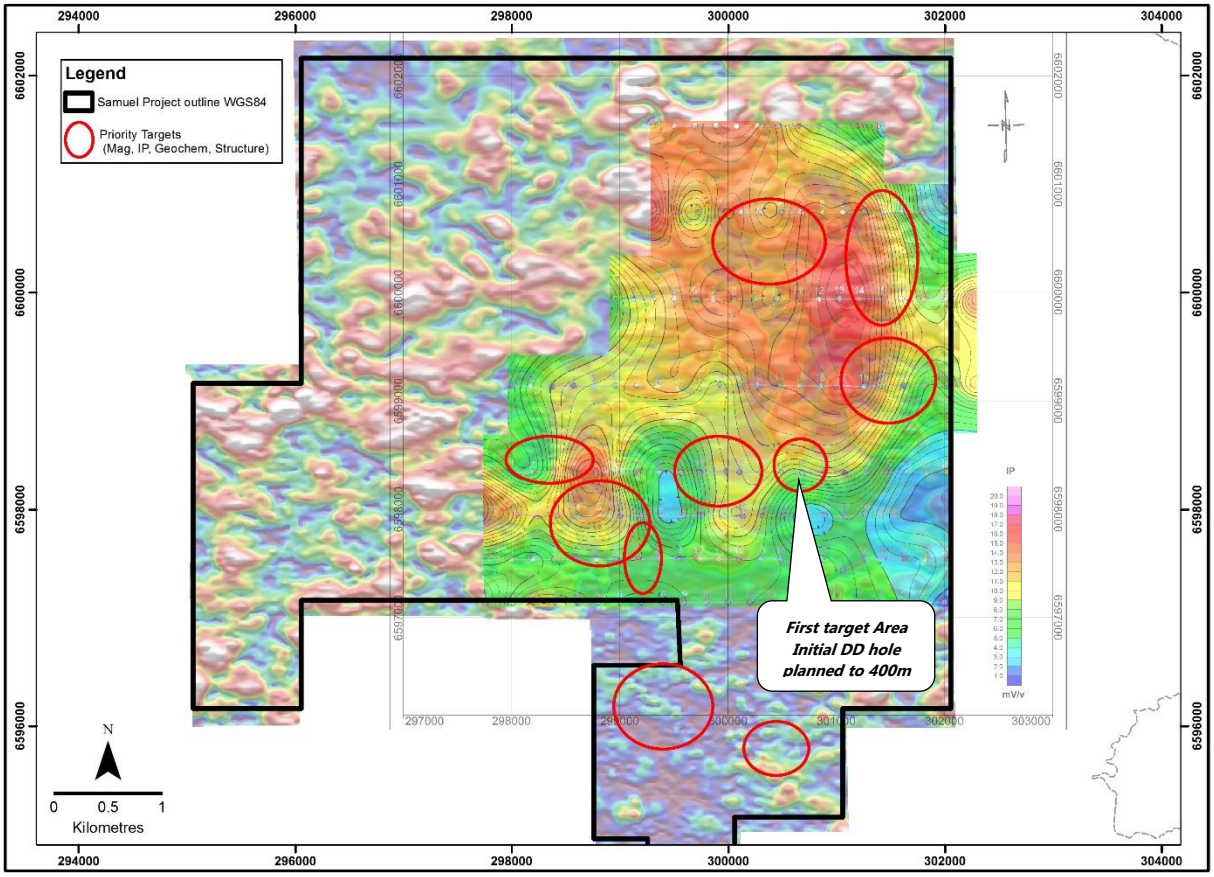

Figure 5: Priority target areas draped on ANSIG magnetics and the -200m IP chargeability image

Helix is acting as manager during the early stages of the JV and are making our recommendations to the JV participants based on our extensive exploration experience and 8 years operational knowledge working in Chile. Helix is looking to maximise value for the JV participants by delivering an optimal outcome from the programs from funding made available by JOGMEC.

About the Samuel Copper Project JV

Helix executed a binding Interim Joint Venture Agreement (**IJVA**) with JOGMEC in relation to Helix's 100%-owned Samuel Copper Project in Chile, announced 5th September 2018.

The IJVA provides for the continued exploration of the copper prospective and large-scale Samuel Project from a conceptual target without financial contribution from Helix through the earn-in period. In addition, Helix will receive a management fee while Helix's Chilean team manages the JV through Stages 1- 3.

Key terms of the IJVA

The IJVA provides an avenue for JOGMEC to earn up to a 60% interest in the Samuel Project by funding a 3 stage US$2.4M program to 31 March 2021. The JV terms are:

- **Stage 1:** Contribute **US$0.4M (Minimum Commitment)** by 31 March 2019 primarily for the purpose of undertaking of large-scale geophysical surveys and mapping of the Samuel porphyry and manto-style copper systems.
- **Stage 2**: Contribute **US$0.8M** by 31 March 2020 primarily for the purpose of undertaking initial exploration **diamond drilling** to drill test the identified priority targets for mineralised systems.
- **Stage 3**: Contribute **US$1.2M** by 31 March 2021 primarily for the purpose of undertaking a second phase **diamond drilling** to establish scale and continuity of any identified mineralised systems.
- At completion of Stage 3 JOGMEC will earn an option to acquire 60% equity in the project and have the right to sell their joint venture interest by tender to a Japanese company.
- Helix's Chilean team will manage the project until the completion of Stage 3 with Helix receiving a Management Fee for these services.

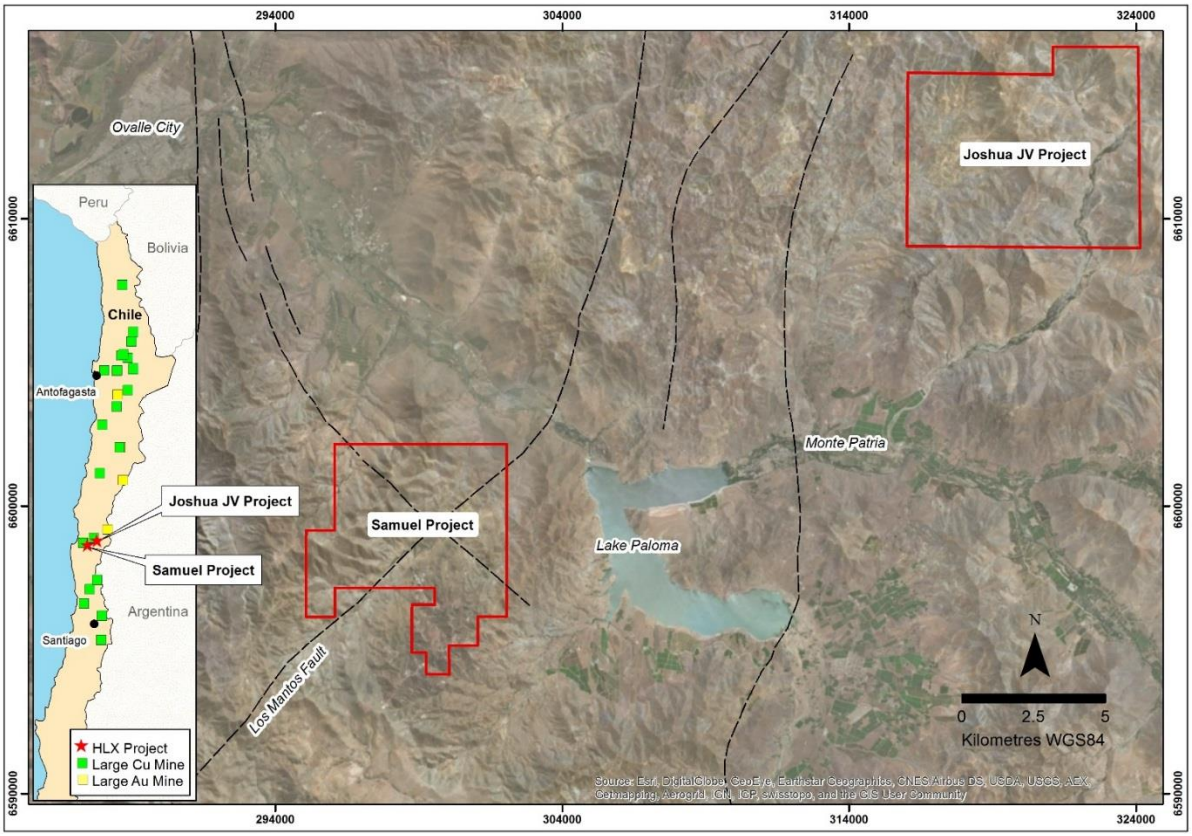

Figure 6: Location of the Samuel Project, situated on the intersection of two major regional structures, 25km southwest of Ovalle City – Region IV Chile

History of the Samuel Copper Project

The Samuel Copper Project was a greenfield project generated by Helix and is located southeast of Ovalle City in Region IV, approximately 25km southwest of the Joshua Project and 320km North of Santiago - Chile. The Samuel Project lies on the intersection of the regionally significant Los Mantos Fault and a major NW trending lineament, both structures control numerous mineral deposits and mines in the district (Refer Figure 6).

The project is prospective for both porphyry and manto-style copper mineralisation. The main target area is defined by an approximate 19km² zone of mixed intrusives, volcanics, stockworks and breccias with porphyry related alteration defining the extent of the system.

- ENDS -

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Competent Persons Statement

The information in this announcement that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information reviewed by Mr M Wilson who is a full time employee of Helix Resources Limited and a Member of The Australasian Institute of Mining and Metallurgy. Mr M Wilson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 and 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr M Wilson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Details of the assumptions underlying any Resource estimations are contained in previous ASX releases or at www.helix.net.au

[1] For full details of exploration results refer to previous ASX announcements 17 October 2014, 30 January 2015, 9 September 2018 and 20 November 2018 on Helix's website. Helix Resources is not aware of any new information or data that materially effects the information in this announcement

Forward-Looking Statements

This ASX release may include forward-looking statements. These forward-looking statements are not historical facts but rather are based on Helix Resources Ltd.'s current expectations, estimates and assumptions about the industry in which Helix Resources Ltd operates, and beliefs and assumptions regarding Helix Resources Ltd.'s future performance. Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", "potential" and similar expressions are intended to identify forward-looking statements. Forward- looking statements are only predictions and are not guaranteed, and they are subject to known and unknown risks, uncertainties and assumptions, some of which are outside the control of Helix Resources Ltd. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Actual values, results or events may be materially different to those expressed or implied in this presentation. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward- looking statements in this announcement speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Helix Resources Ltd does not undertake any obligation to update or revise any information or any of the forward-looking statements in this announcement or any changes in events, conditions or circumstances on which any such forward looking statement is based.

No new information that is considered material is included in this document. All information relating to exploration results has been previously released to the market and is appropriately referenced in this document. JORC tables are not considered necessary to accompany this document

Appendix 1

Table 1 Surface Geochemical Samples

Sample ID	Easting	Northing	RL	Au (g/t)	As (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	S (%)	Zn (ppm)
56102	301297	6599810	503	<0.01	7	4	130	7	0.36	10
56103	301401	6599802	499	0.01	8	27	148	<2	0.05	63
56104	301487	6599801	490	0.01	8	5	116	3	<0.05	12
56105	301487	6599801	490	0.01	9	31	283	3	<0.05	52
56106	301603	6599799	495	0.02	13	26	64	3	0.09	45
56107	301712	6599781	502	<0.01	12	24	55	2	0.07	38
56108	301800	6599790	496	0.02	10	10	130	3	<0.05	29
56109	301887	6599801	485	0.01	7	27	162	2	0.06	61
56110	301902	6599708	500	0.01	6	9	39	3	0.05	19
56111	301804	6599700	511	0.01	9	25	61	4	0.08	38
56112	301702	6599699	514	<0.01	9	29	131	3	0.07	44
56113	301625	6599686	505	<0.01	15	30	215	2	0.06	54
56114	301496	6599692	416	<0.01	10	19	216	5	<0.05	81
56115	301406	6599674	499	<0.01	<5	26	46	<2	<0.05	28
56116	301189	6599706	505	<0.01	<5	26	151	<2	0.05	44
56117	301281	6599600	507	<0.01	24	28	58	3	<0.05	53
56118	301402	6599609	511	<0.01	6	24	21	<2	<0.05	37
56119	301522	6599592	523	<0.01	8	18	24	<2	<0.05	56
56120	301618	6599590	501	0.01	20	30	168	2	0.06	44
56121	301708	6599601	531	0.01	10	28	199	<2	0.08	67
56122	301898	6599624	502	<0.01	17	25	37	2	0.07	44
56123	301803	6599498	542	<0.01	7	26	326	<2	0.06	84
56124	301731	6599506	534	<0.01	27	29	177	<2	0.06	93
56125	301599	6599523	512	0.01	8	29	29	<2	0.06	41
56126	301492	6599495	544	<0.01	20	29	199	<2	0.07	85
56127	301399	6599509	535	<0.01	<5	20	174	<2	0.06	49
56128	301292	6599500	519	<0.01	<5	30	139	<2	<0.05	44
56129	301201	6599503	512	<0.01	19	28	140	<2	0.07	77
56130	301202	6599410	516	0.01	29	31	65	<2	0.06	79
56131	301407	6599408	543	0.01	7	33	72	<2	0.06	111
56132	301505	6599391	538	<0.01	9	27	155	<2	0.05	62
56133	301615	6599395	515	0.01	10	23	32	<2	0.08	57
56134	301727	6599406	521	<0.01	19	31	131	<2	0.06	82
56135	301801	6599391	544	0.01	8	30	259	<2	0.07	88
56136	301903	6599397	528	0.01	16	32	34	<2	0.05	76
56137	301908	6599303	536	0.01	9	35	29	<2	0.08	69
56138	301804	6599302	548	0.02	<5	10	5741	5	0.05	33
56139	301712	6599298	525	0.02	12	25	177	<2	0.08	53
56140	301617	6599307	523	0.01	15	32	118	<2	0.09	101
56141	301406	6599300	563	0.02	16	31	102	<2	0.10	86
56142	301309	6599298	549	0.01	8	31	121	2	0.08	51
56143	301218	6599301	525	0.02	6	31	94	<2	0.05	87
56144	301327	6599199	567	0.02	7	32	101	<2	0.09	82
56145	301394	6599212	585	0.02	9	23	21	<2	0.09	65
56146	301485	6599198	583	0.02	29	23	93	3	0.11	78

Sample ID	Easting	Northing	RL	Au (g/t)	As (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	S (%)	Zn (ppm)
56147	301435	6599207	592	0.02	<5	2	92	14	0.07	16
56148	301598	6599201	537	0.02	16	28	283	4	0.12	98
56149	301707	6599201	544	0.02	12	29	113	<2	0.09	64
56150	301800	6599201	561	0.02	10	28	339	<2	0.06	82
56151	301907	6599228	532	0.02	11	24	33	2	0.11	50
56152	301786	6599104	572	0.02	<5	29	211	<2	0.07	47
56153	301705	6599096	557	0.02	<5	3	46	7	0.06	13
56154	301579	6599082	544	0.02	10	26	145	<2	0.07	104
56155	301489	6599112	567	0.02	17	26	351	5	0.14	127
56156	301324	6599112	560	<0.01	10	31	216	<2	0.09	82
56157	301410	6599016	549	0.01	7	27	91	<2	0.07	52
56158	301498	6598997	543	0.01	<5	22	76	<2	<0.05	35
56159	301611	6598991	567	<0.01	11	25	120	<2	0.08	76
56160	301703	6599001	582	<0.01	8	24	221	<2	0.06	65
56161	301800	6599001	568	0.01	<5	31	67	<2	0.06	51
56162	301890	6599005	542	0.01	9	34	26	<2	0.06	96
56163	301695	6598907	589	<0.01	8	26	164	<2	0.08	67
56164	301592	6598898	573	0.02	10	32	151	<2	0.08	89
56165	301402	6598900	546	0.01	<5	66	63	<2	0.06	40
56166	301323	6598900	555	0.03	6	26	94	<2	0.09	58
56167	300484	6598731	476	0.01	19	28	401	11	0.10	67
56168	300712	6598708	500	0.01	7	39	135	<2	0.08	72
56169	300797	6598710	499	0.03	14	138	440	22	0.07	188
56170	300888	6598700	515	<0.01	<5	16	133	4	0.17	50
56171	301003	6598700	548	<0.01	8	33	108	<2	0.06	46
56172	301098	6598702	577	<0.01	6	32	325	2	0.12	62
56173	301210	6598701	602	<0.01	80	36	157	3	0.06	48
56174	301305	6598605	586	<0.01	8	32	142	<2	0.06	96
56175	301199	6598582	577	<0.01	10	31	98	<2	0.07	73
56176	300907	6598612	520	0.13	115	99	>10000	38	0.06	208
56177	300801	6598609	500	0.01	6	84	183	<2	<0.05	85
56178	300699	6598603	490	<0.01	7	38	305	2	0.07	56
56179	300605	6598605	500	<0.01	6	25	175	<2	0.09	53
56180	300603	6598664	488	<0.01	54	48	483	8	0.06	63
56181	300503	6598600	483	<0.01	12	33	336	4	0.11	76
56182	300500	6598499	488	<0.01	8	33	63	<2	0.06	52
56183	300616	6598506	496	<0.01	6	41	199	<2	0.06	51
56184	300685	6598499	493	0.01	11	31	334	<2	0.08	65
56185	300811	6598507	513	<0.01	11	33	329	<2	0.07	50
56186	300891	6598494	529	<0.01	9	36	93	<2	0.07	62
56187	300996	6598490	533	<0.01	<5	12	90	2	0.44	27
56188	301109	6598496	568	<0.01	13	37	279	2	0.09	55
56189	301121	6598491	579	0.02	9	6	99	6	0.56	15
56190	301199	6598500	584	0.02	6	13	217	14	0.13	29
56191	301290	6598497	591	0.02	15	14	54	3	0.08	34
56192	301303	6598403	611	<0.01	8	5	147	2	0.12	20
56193	301189	6598390	562	<0.01	<5	8	141	<2	0.09	14
56194	300981	6598405	529	<0.01	7	29	104	<2	0.06	67
56195	300905	6598407	524	0.08	24	70	>10000	49	<0.05	151

Sample ID	Easting	Northing	RL	Au (g/t)	As (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	S (%)	Zn (ppm)
56196	300713	6598395	496	<0.01	9	31	695	<2	0.06	40
56197	300500	6598299	495	<0.01	12	4	186	9	0.20	28
56198	300601	6598297	495	<0.01	<5	2	80	8	4.78	8
56199	300799	6598315	494	<0.01	20	34	104	<2	0.13	49
56200	300899	6598321	503	<0.01	7	50	321	2	0.05	40
56201	300985	6598315	519	<0.01	8	35	131	<2	0.08	43
56202	301100	6598286	545	0.01	11	9	217	5	0.13	15
56203	301206	6598319	570	<0.01	7	35	165	2	0.12	91
56204	301309	6598337	591	<0.01	6	14	152	9	0.14	15
56205	301093	6598231	538	<0.01	15	3	79	3	0.37	12
56206	300805	6598198	508	<0.01	9	43	193	3	0.06	17
56207	300716	6598196	502	<0.01	10	3	38	27	0.22	9
56208	300605	6598202	500	<0.01	9	5	133	7	0.23	31
56209	300490	6598211	504	<0.01	15	15	198	7	0.07	20
56210	300486	6598094	512	<0.01	11	30	446	4	0.08	28
56211	300599	6598098	497	<0.01	33	8	54	20	0.44	12
56212	300699	6598099	507	<0.01	39	4	19	5	6.55	8
56213	300892	6598088	506	<0.01	9	29	27	3	0.08	19
56214	300983	6598120	513	<0.01	11	10	64	4	0.37	43
56215	301110	6598091	528	0.01	10	16	135	5	0.10	32
56216	301192	6598093	530	0.02	6	13	126	4	<0.05	47
56217	301307	6598117	543	<0.01	7	29	59	4	0.08	81
56218	301299	6598010	557	<0.01	7	30	131	3	0.07	65
56219	301180	6597991	554	<0.01	5	14	152	4	0.07	18
56220	301104	6597986	542	<0.01	7	14	149	3	0.08	12
56221	301005	6598000	510	<0.01	8	19	164	7	0.07	16
56222	300698	6598004	512	<0.01	95	6	83	5	0.33	22
56223	300603	6598000	508	<0.01	<5	3	84	8	0.30	14
56224	300503	6598002	521	<0.01	7	16	97	4	0.05	58
56225	300494	6597885	538	0.01	<5	26	160	5	<0.05	44
56226	300787	6597899	518	0.03	48	36	361	15	0.05	19
56227	300901	6597902	541	<0.01	6	10	335	4	0.13	12
56228	301005	6597888	522	<0.01	6	11	178	5	0.07	8
56229	301095	6597912	527	<0.01	8	14	203	6	0.15	11
56230	301185	6597903	519	0.01	<5	9	126	7	0.05	8
56231	301290	6597794	553	0.01	7	27	159	<2	0.05	51
56232	300999	6597801	546	0.01	5	11	134	7	0.07	15
56233	300891	6597805	535	0.01	5	14	226	4	0.06	14
56234	300699	6597796	524	<0.01	9	42	669	<2	<0.05	52
56244	300410	6597807	554	0.01	11	22	598	13	0.09	27
56245	300291	6597797	577	<0.01	<5	28	53	<2	0.06	26
56246	300224	6597789	564	<0.01	12	22	220	4	0.08	29
56247	300300	6597700	568	0.01	10	9	75	5	0.34	15
56248	300422	6597694	537	0.01	8	9	191	10	0.09	18
56235	300637	6597639	534	<0.01	8	34	266	3	<0.05	21
56236	300794	6597699	533	<0.01	6	24	111	<2	<0.05	38
56237	300904	6597702	538	<0.01	5	4	63	3	0.05	20
56238	301027	6597690	543	<0.01	8	21	118	3	0.06	82
56239	301105	6597700	552	<0.01	11	25	185	<2	0.06	62

Sample ID	Easting	Northing	RL	Au (g/t)	As (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	S (%)	Zn (ppm)
56240	301201	6597700	522	<0.01	10	16	147	<2	0.05	58
56241	301310	6597709	576	<0.01	5	26	210	<2	0.06	59
56249	300297	6597603	575	<0.01	7	11	218	3	0.10	24
56242	300206	6597517	581	0.01	12	12	658	4	0.11	18
56250	300289	6597495	588	<0.01	<5	29	162	<2	0.06	70
56251	300400	6597497	575	<0.01	8	9	79	<2	0.30	27
56252	300400	6597497	575	<0.01	7	26	209	<2	0.17	73
56253	300595	6597382	571	0.22	13	14	>10000	17	0.05	24
56243	300492	6597403	551	0.03	17	6	1167	62	0.43	35
56254	300401	6597378	573	<0.01	55	5	180	13	0.47	33
56255	300202	6597414	564	<0.01	7	22	127	3	0.07	81
56256	300216	6597300	587	<0.01	<5	13	153	5	0.07	52
56257	300303	6597289	575	<0.01	13	16	127	3	<0.05	35
56258	300600	6597300	582	0.09	13	6	697	38	0.12	25
56259	300582	6597201	593	<0.01	<5	6	1887	52	0.17	15
56260	300389	6597200	578	<0.01	9	29	132	4	<0.05	80
56261	300319	6597201	578	0.04	55	9	1873	94	0.11	29
56262	300185	6597200	621	<0.01	7	12	63	3	<0.05	77
56263	300195	6597107	616	<0.01	10	21	180	2	<0.05	72
56264	300293	6597101	591	<0.01	<5	34	56	<2	<0.05	79
56265	300505	6597119	583	<0.01	6	36	271	3	0.06	130
56266	300595	6597094	600	<0.01	<5	27	322	<2	0.08	89
56267	299096	6598201	501	<0.01	15	33	77	3	0.07	65
56268	299204	6598200	494	<0.01	<5	45	565	2	<0.05	65
56269	299099	6598109	510	<0.01	36	14	148	8	0.39	16
56270	299018	6598087	511	<0.01	55	18	86	9	0.15	13
56271	298903	6598099	499	<0.01	31	86	80	5	0.06	57
56272	298777	6598128	503	<0.01	21	51	128	10	0.07	43
56273	298899	6598004	505	<0.01	22	15	137	7	0.12	19
56274	299001	6597991	525	<0.01	9	13	95	3	0.10	20
56275	299095	6598004	539	<0.01	11	68	156	8	0.16	127
56276	298706	6597782	526	<0.01	10	43	187	6	0.08	120
56277	299000	6597801	562	0.02	324	92	640	7	<0.05	209
56278	299200	6597799	534	0.01	10	6	53	17	<0.05	15
56279	299200	6597699	527	0.01	15	12	117	25	0.15	21
56280	299101	6597717	535	0.04	<5	7	349	6	0.19	23
56281	298703	6597695	545	0.01	23	110	250	13	0.13	177
56282	298699	6597618	549	0.01	14	37	187	7	0.19	84
56283	299309	6597760	525	<0.01	18	48	39	<2	0.10	114
56314	301389	6599671	499	<0.01	<5	9	196	11	0.08	5
56315	301394	6599673	499	<0.01	8	43	382	28	<0.05	19
56316	301397	6599673	498	<0.01	<5	14	95	5	0.09	19
56317	301402	6599676	498	<0.01	10	33	553	14	0.10	29
56318	301406	6599677	497	<0.01	9	22	184	17	0.06	32

JORC Code – Table 1

Sampling Techniques and Data

Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sounds, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.*	**Soils** • Surface samples were collected by Helix's Chilean technical team, headed by the Companies in-country Manager. • Samples were collected at approximate 100m intervals along lines 100m apart in three areas of interest. Sample positions may vary from the grid pattern if material at the position was not considered representative of the local lithologies. • Samples were bagged by Helix staff and sent to a commercial laboratory in Santiago for assay. • The QA/QC data collected over the course of the program indicate no issues were encountered with the analytical method and assay results. • The data was collected and stored digitally in the field. • Each sample is a composite of approximately 5 pieces of rock collected within a 3m radius of the recorded sample point to give a total sample weight of approximately 2kg to 3kg. • The samples were secured in the company compound before being driven to the laboratory by Helix staff. • At the laboratory, the samples were crushed and pulverised using industry standards. • The laboratory's standard QA/QC procedures were carried out. **Magnetics** • Magnetics was collected using a using a UAV based GeoMagDrone™ system from local Chilean provider GFDas. The system carried out an 890 line kilometre ultra-detailed aeromagnetic survey over the entire 40km² Samuel Project area. • The survey was flown at 50m line spacing, with a flight height of between 30-50m above the ground. This flight height is achievable by use of ultra-detailed (0.5m resolution) digital terrain model data derived from the Worldview-2 Satellite. The UAV uses this satellite data to maintain its low-level flight height during the survey

Criteria	JORC Code explanation	Commentary
		Induced Polarisation Survey • A pole-dipole configuration was used with advances every 200m, taking into account the structural control and the lithological aspects of the area in order to adjust to the most appropriate parameters to the study area from the surface to a nominal depth of approximately 600 meters. These parameters remained constant throughout the survey. • During the acquisition of the data, the geophysical team reviewed the field data in order to correct and / or avoid any poor readings, due to artificial, climatic, geological, geophysical and instrumentation factors. • It took at least 6 cycles of readings per point, taking into account the degree of acceptance of the Newmont drop curve. There was good control of the resistivity and chargeability values. The cntractor used an average of 2 contacts per well (stainless steel electrodes) and worked with maximum voltages of 1500 to 2400 volts and currents obtained from 1,500 to 3200 milliamps. In some areas where there was not good contact, up to 5 electrodes per station were used.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• No drilling reported
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• No drilling reported
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a*	• No drilling reported

Criteria	JORC Code explanation	Commentary
	level of detail to support 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.*	• No drilling reported
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation*	• No drilling reported

Criteria	JORC Code explanation	Commentary
	technique. • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All assays were conducted at accredited assay laboratories in Santiago, Chile (by Andes Analytical Assay). • The analytical technique used for base metals was a mixed acid digest with an MS determination of metal concentrations. Gold was assayed by aqua regia methods. • Laboratory QA/QC samples involving the use of blanks, duplicates, standards (certified reference materials) and replicates as part of in-house procedures. • Helix are not aware of any new information or data that materially effects the information in these announcements.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage*	• Results have been verified by the JV Management Committee and Helix Company management. • Geological data was collected using handwritten log sheets, which detailed geology (weathering, structure, alteration, mineralisation), sample quality, . This data, together with the assay data received from the laboratory, and subsequent survey data were entered into a secure Access databases and verified.

Criteria	JORC Code explanation	Commentary
	(physical and electronic) protocols. • *Discuss any adjustment to assay data.*	
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The sample positions were determined using a GPS (±5m). • Grid system is WGS-84 Zone 19S. • Surface RL data collected using GPS and Google Earth. • Variation in topography is approximately 200m within the sampling zone. • Helix has secured a 0.5m DTM model for the project area.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Samples were collected over three areas favourable for anomalous surface features such as rock alteration (silica, tourmaline, sericite, chlorite, magnetite, clay) and/or high metal concentrations (copper, molybdenum), or IP anomalies (zones of high resistivity and/or chargeability). • No drilling had been conducted by anyone on the Samuel Project prior to Helix's involvement. •
Orientation of data in relation to geological	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• Surface sampling and sampling techniques and intervals are considered appropriate for the early-phase exploration of a large porphyry system or manto-style system with bulk-tonnage copper sulphide potential.

Criteria	JORC Code explanation	Commentary
structure	• *If the relationship between the drilling orientation and the orientation of key* the *mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	
Sample security	• *The measures taken to ensure sample security.*	•Chain of Custody is managed by Helix staff and its contractors. The samples were freighted directly to the laboratory with appropriate documentation listing sample numbers, sample batches, and required analytical methods and element determinations.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No additional QA/QC has been conducted for the drilling to date.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Samuel Project is located on concessions named Bogarin. Helix owns the project 100%, with JOGMEC having the right to earn an interest in the project of up to 60% refer to main body of announcement for details. • The mineral concessions are in good standing and payment of statutory fees is managed for Helix by a Land Management Consultant in Santiago, Chile. • This is no statutory, minimum, annual expenditure commitment for exploration and mining titles in Chile. • There are no known impediments to operating in this area. • The drill area is situated at a relatively low altitude for Chile (<700m) and can be accessed all year round.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	•No previous modern exploration has occurred at Samuel prior to Helix's involvement commencing in 2010. •A number of small artisanal mines and working are present throughout the district.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The project is considered to be prospective for copper (gold-molybdenum) manto-style and porphyry-style mineralisation.
Drill hole Information	• *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:* • *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.*	• Refer to Helix's previous announcements relating to the Samuel Project dated 17 October 2014, 30 January 2015, 9 September 2018 and 20 November 2018 • Helix is not aware of any new information or data that materially effects the information in these announcements. •
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly*	•Refer to Helix's previous announcements dated 17 October 2014, 30 January 2015, 9 September 2018 and 20 November 2018 •Helix and Manhattan are not aware of any new information or data that may materially effects the information in these announcements.

Criteria	JORC Code explanation	Commentary
	stated.	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	
Diagrams	• *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.*	• Refer to Helix announcements dated 17 October 2014, 30 January 2015, 9 September 2018 and 20 November 2018. • Helix is not aware of any new information or data that materially effects the information in these announcements.
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.*	• Refer to Helix's previous announcements dated 17 October 2014, 30 January 2015, 9 September 2018 and 20 November 2018. • Helix are not aware of any new information or data that materially effects the information in these announcements.
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*	•**ASTER**: PhotoSat Information Ltd conducted the remote-sensing mineral alteration study in March 2018. ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) is an imaging instrument flying on Terra, a satellite launched in December 1999 as part of NASA's Earth Observation System. Band widths in the Visible to Near-Infrared, Shortwave Infrared and Thermal Infrared

Criteria	JORC Code explanation	Commentary
	method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	are measured. Diagnostic combinations (ratios) of these bands are then used to characterize and map the areal extend of Iron Oxide, Hydroxyl, Kaolinite- Alunite, Sericite and Silica alteration zones. • **Induced Polarisation (IP) Survey:** A pole-dipole IP survey was conducted for Helix by Maping Limitada. The data was collected on 200m centres along E-W lines spaced 400m-800m apart using Industry best practices for data collection and processing. • **Aeromagnetics:** A drone-borne aeromagnetic survey was conducted by GFDas Geofisica UAV over an area of approximately 40sq. km. in December 2018 for Helix as part of the JV work program. The drone was fitted with a fluxgate magnetometer. Flight lines: N-S and 50m apart. Tie-lines: E-W and 1000m apart. The survey was designed to cover the entire ASTER alteration anomaly. Elevation difference across the survey area: 400m. Total flight lines: approx. 500km. Average altitude: 50m. System Name: GeoMagDrone™. The data has been imaged by Southern Geoscience Consultants in Perth, Western Australia.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	•The JV partners are drilling the first diamond hole commencing this weekend and compiling, assessing and reviewing all data from the 2018-19 program to prioritise the remaining drill targets. Funding partner JOGMEC will decide on whether to progress to the second stage of drilling (Stage 2, US$800,000) in April 2019.