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ASX RELEASE

17 January 2019

Exploration Update for Havilah Sandstone Gold Project, WA

HIGHLIGHTS

- High-grade gold mineralisation confirmed from previous explorers' drilling at Havilah
- Geology and mineralisation at Havilah similar to Vanguard deposit, 6km northwest (Sept 2018 Maiden JORC 2012 Resource of 50,000ozAu)
- Significant RC and DC* drill intercepts at Havilah include:

W119	:	7m	@	20.8 g/t Au	from	2m
incl	:	1m	@	120 g/t Au	from	5m
*MAD004	:	17m	@	8.5 g/t Au	from	32m
and	:	2m	@	61.8 g/t Au	from	65m
W075	:	3m	@	37.2 g/t Au	from	8m
MGR018	:	4m	@	10.7 g/t Au	from	37m
W158	:	3m	@	10.8 g/t Au	from	17m
- Mineral Resource estimate (JORC 2012) in Progress and RC drilling planned for Q1, 2019

Alto Metals Limited (ASX: AME) ("Alto", "the Company") is pleased to provide an update on its exploration activity and forward plans for the Havilah Prospect at its Sandstone Gold Project in Western Australia.

Compilation and review of previous explorer's data has confirmed the high-grade gold mineralisation at the historic Havilah gold mine is hosted within a differentiated dolerite unit similar to Alto's Vanguard deposit and that significant potential exists for extension of mineralisation at depth and along strike. The Havilah deposit is located within the high priority "Alpha Domain", supporting Alto's view that the domain has potential to host a substantial gold deposit.

Alto's Executive Director, Dermot Ryan said:

"The style of mineralisation and grade at Havilah is very encouraging. There is a major paleochannel ~5km between Havilah and Vanguard, which is yet to be drill tested by Alto. This represents an excellent target area. In addition, the drilling data and 3D model suggests that the deposit is open down plunge to the northwest and to the southeast."

Introduction

Compilation and review of previous explorers' data by Alto has confirmed that high-grade mineralisation at the Havilah Prospect occurs within differentiated mafic volcanic host rocks similar to Alto's Vanguard deposit 6km to the northwest and both within Alto's priority 1 "Alpha Domain."

The recorded production from the Havilah Mine area between 1904 - 1929 ~ **48,497 tonnes @ 21.6g/t Au for 33,870oz** with the majority of this during the period 1907 - 1911. The historic miners largely stoped out a high-grade "footwall" zone, and left intact a lower grade "hanging wall" zone of mineralisation which was subsequently drilled by modern explorers.

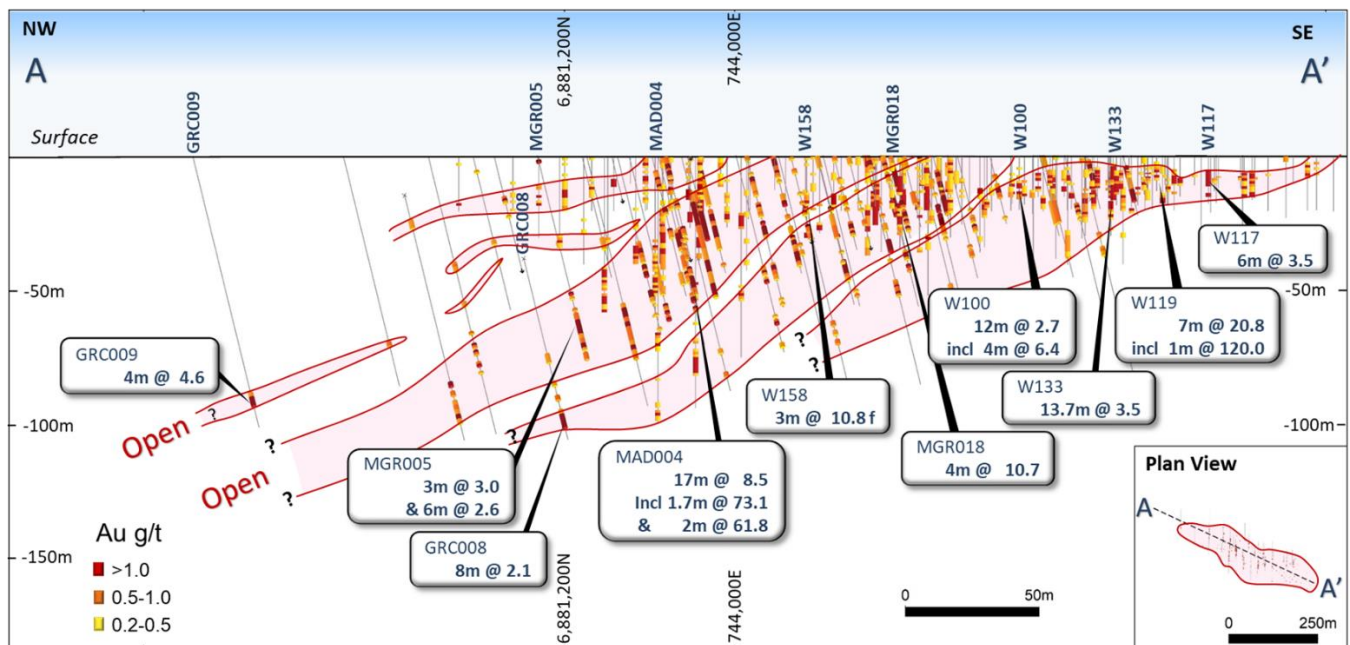
Drilling

Between 1980 and 2009 a total of 210 drill holes for 7,240m were drilled at Havilah by previous explorers. Drilling methods included rotary air blast (RAB), air-core (AC), reverse circulation (RC) and diamond drill core (DC) with the majority of drilling (~79%) being RC and DC (refer Appendix 1). Maximum drill hole depth was 123m with an average maximum depth of only 34m.

Alto has captured and digitised the existing drilling data and detailed historic underground workings and produced a 3D model of the geology, mineralisation and underground workings. (Refer Figure 1, Long Section, and Figures 2 & 3, Cross Sections) The surface location of drill collars was validated by Alto's aerial drone imagery (refer Figure 4 overleaf).

The model has assisted with interpretation of the mineralisation, the targeting of future drilling and will enable Alto to account for the 'mined out' areas in the JORC (2012) mineral resource estimate which is planned for later in January.

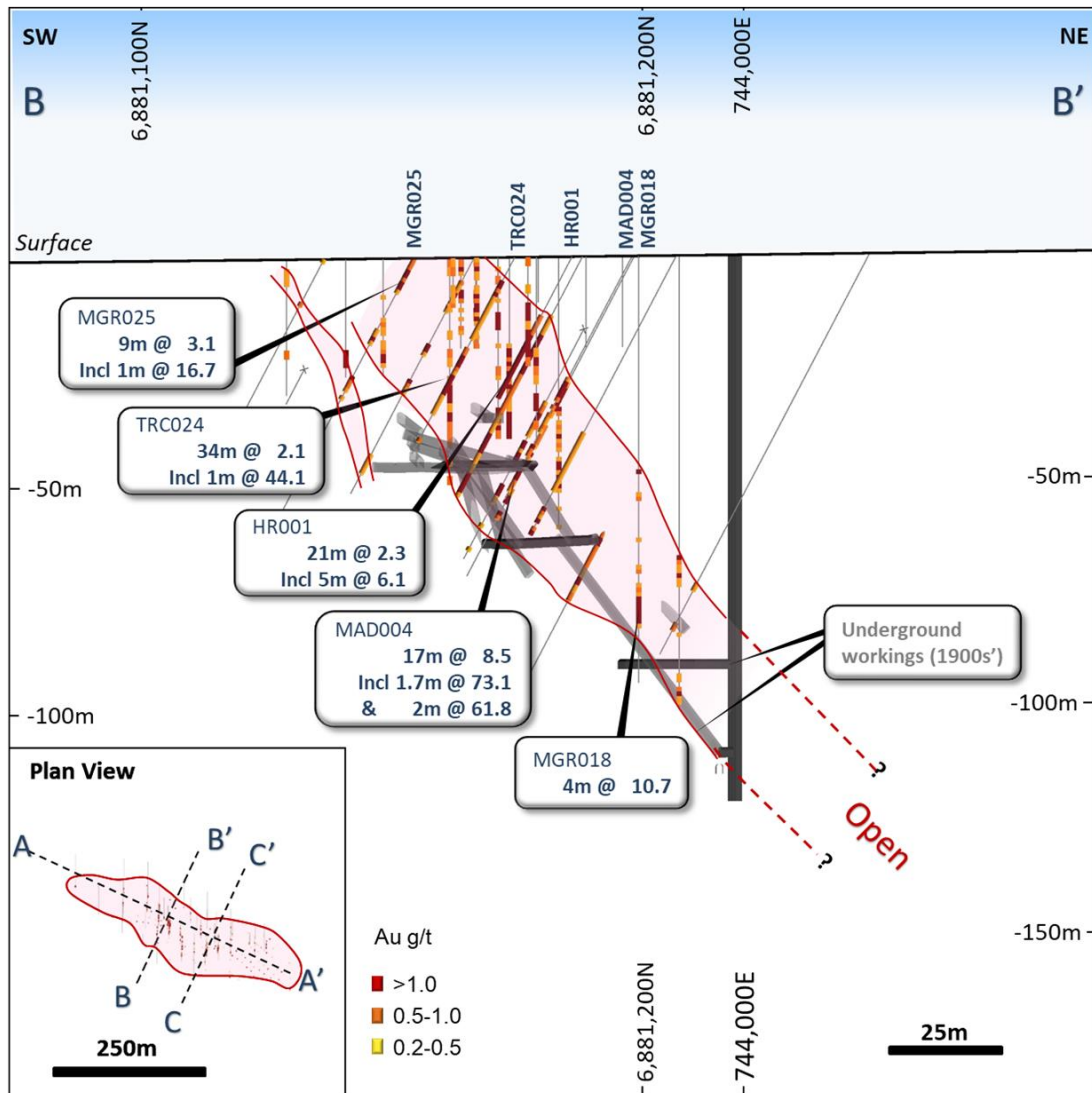
Figure 1. NW-SE 115° Long Section A - A' (+/-50m)



Geology

Detailed geological mapping by Homestake Australia Limited (Homestake) and interpretation of drilling data by Homestake and other explorers has shown the Havilah Mine area to be underlain by a WNW striking dolerite unit termed the Havilah Dolerite, bounded to the northeast by pillowed and amygdaloidal basalt, and to the southwest by ultramafic rocks. Refer Figure 5.

Figure 2. SW-NE 25° Cross Section B – B' (+/-20m)



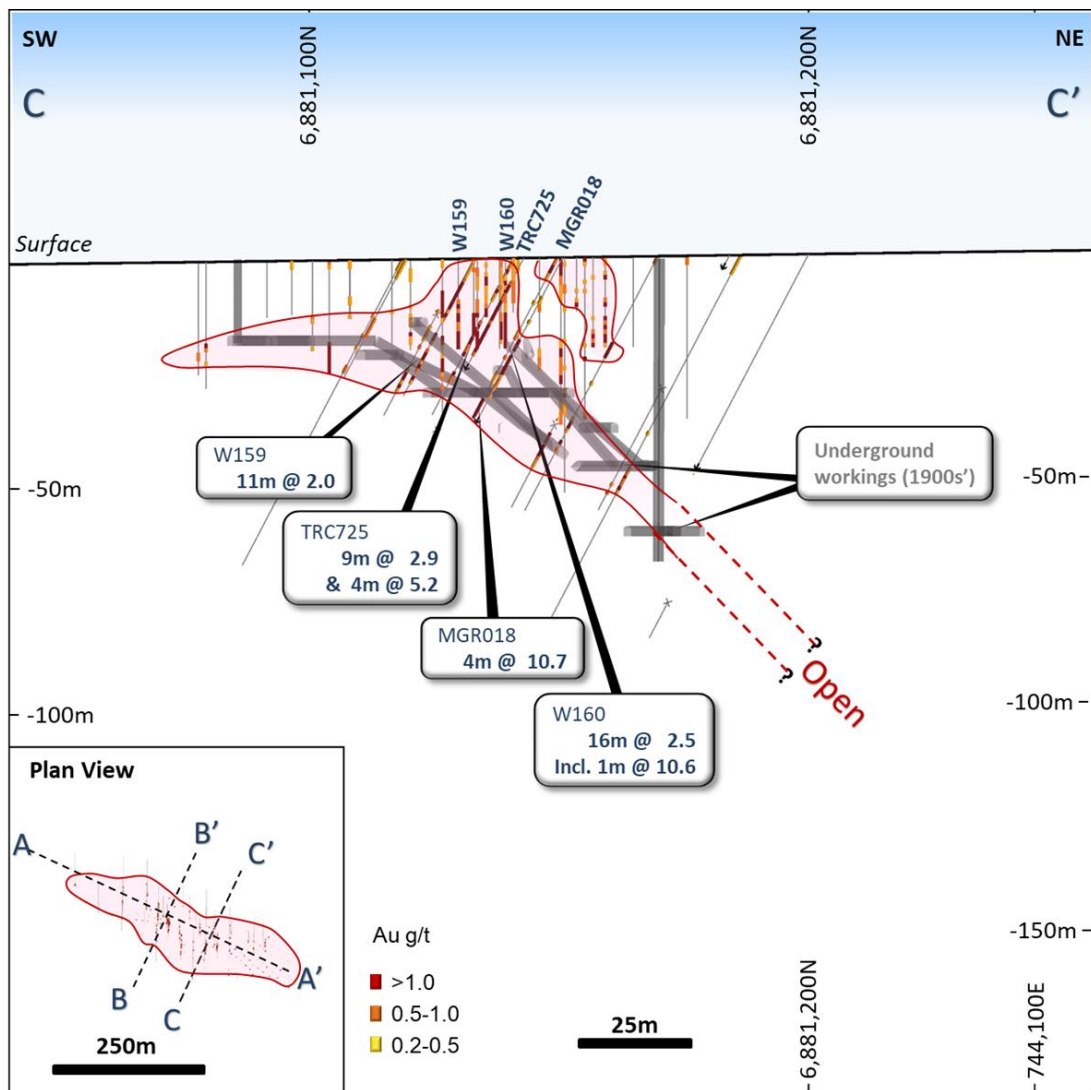
Within the mineralised portion of the Havilah Dolerite, drilling has intersected dolerites and basalts of similar mineralogy, suggesting the Havilah Dolerite is a differentiated mafic unit. Granophyric quartz dolerite has also been identified in historic mullock dumps. Based on petrology of thin sections of diamond drill core, previous explorers reported a similarity between the Havilah Dolerite and the lower units of the Golden Mile Dolerite.

Mineralisation is confined to the Havilah Dolerite close to the dolerite/basalt contact and consists of quartz veins and stockworks within a flat-dipping, northwest striking mineralised shoot with a plunge of approximately 20 degrees to the northwest.

Quartz-carbonate veins up to 0.5m wide have been intersected in drill core with recognisable selvages to the mineralisation up to 10m in width. Sulphides occur both in the veins and the adjacent wall rocks and consist of dominant pyrite and arsenopyrite with minor pyrrhotite and trace chalcopyrite.

The mineralised zones are surrounded by a chlorite alteration envelope approximately 1km wide and at least 6km long. Carbonate alteration is intimately associated with the mineralisation both in stockwork and shear-controlled zones. The geology and mineralisation at Havilah is similar to Alto's Vanguard deposit 6km along strike to the northwest (0.8Mt at 1.8g/t Au for 50,000oz).

Figure 3. SW-NE 25° Cross Section C – C' (+/-20m)



Fresh Rock Mullock Dump at Havilah Mine Showing Abundant Quartz



Mullock Dump at Havilah Mine Showing Abundant Quartz



Figure 4. Max Au reported to drill hole collars overlying Alto's aerial drone imagery

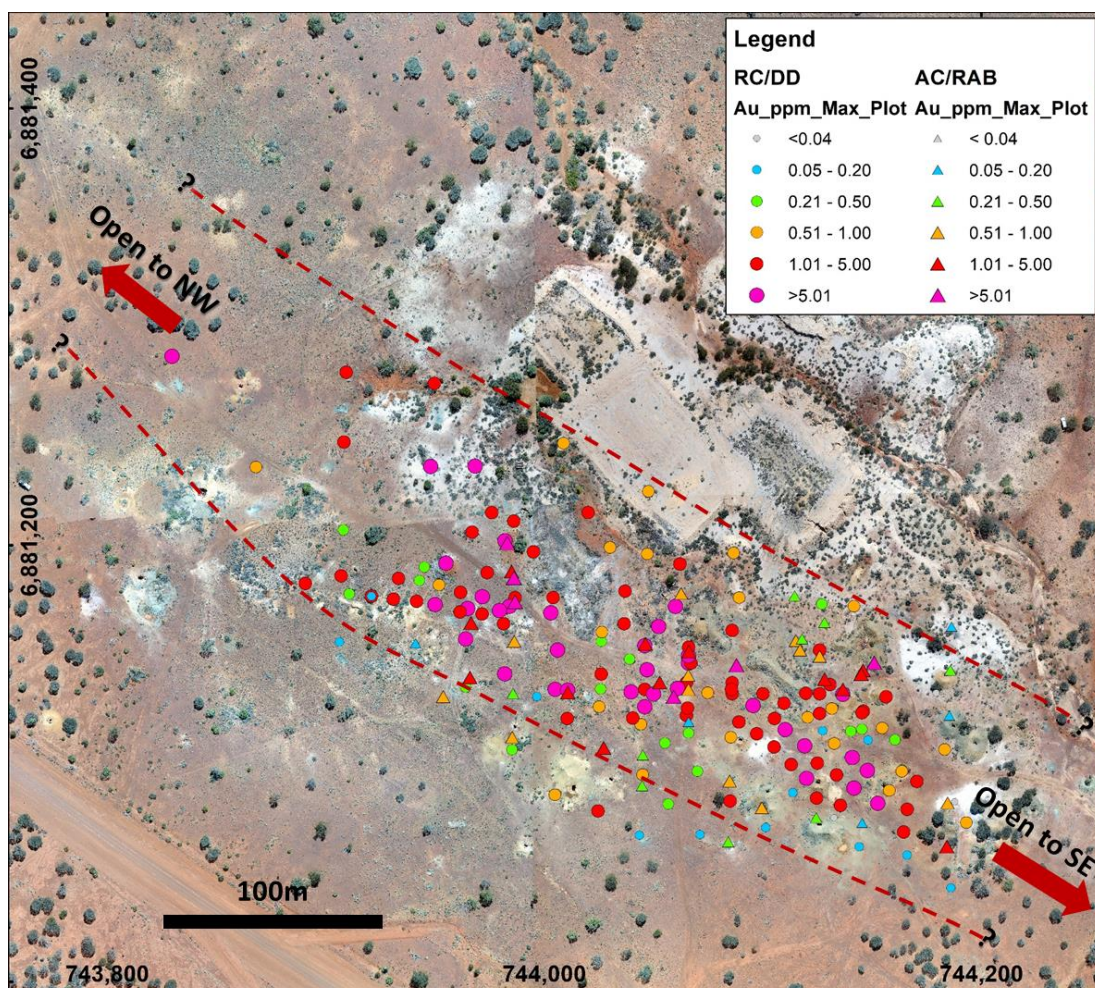
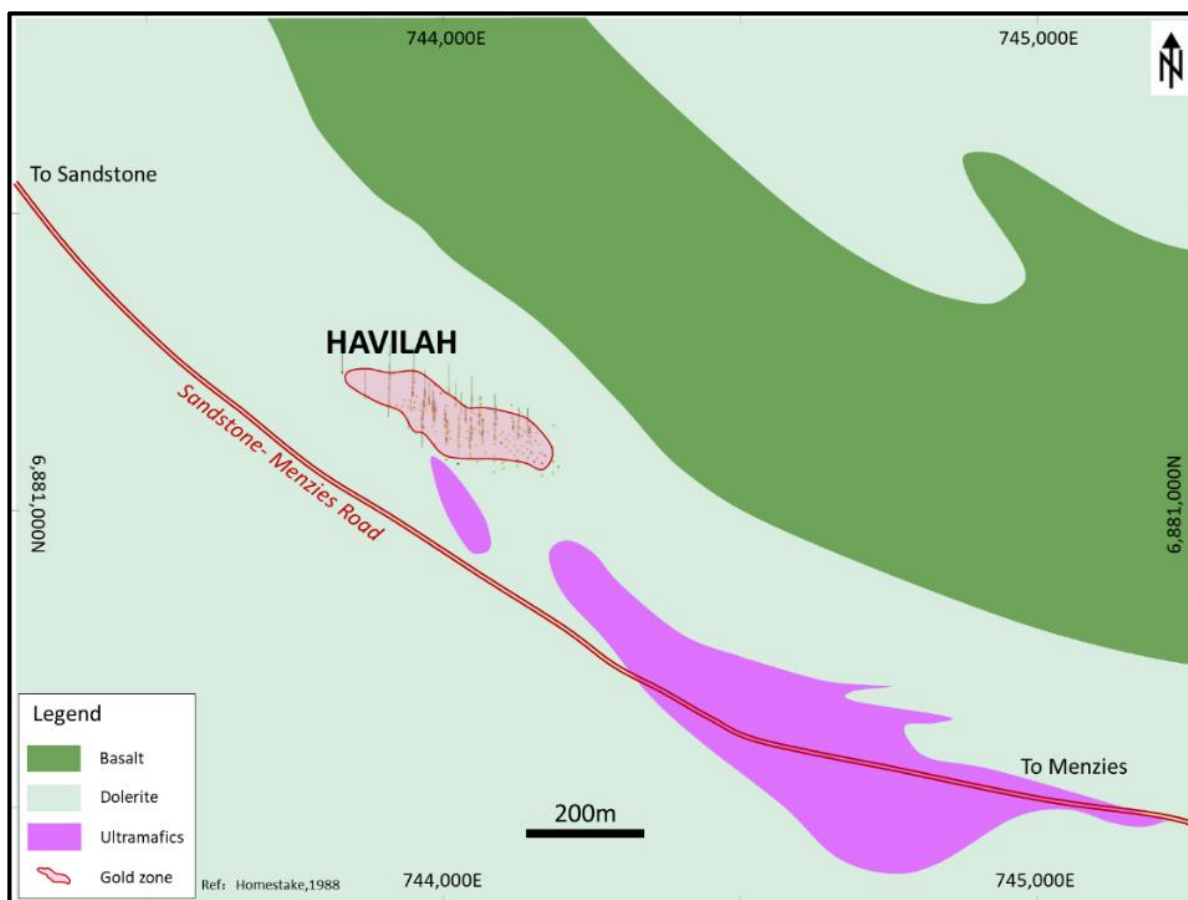


Figure 5. Havilah Prospect, Regional Geological setting



Alto Metals Ltd has commissioned Dr Spero Carras of Carras Mining Pty Ltd to prepare a JORC (2012) Mineral Resource Estimate for the Havilah deposit. This should be completed close to end of January 2019.

Further RC drilling is planned to test the down-dip/down-plunge extensions to the mineralisation and potentially expand the mineralised area.

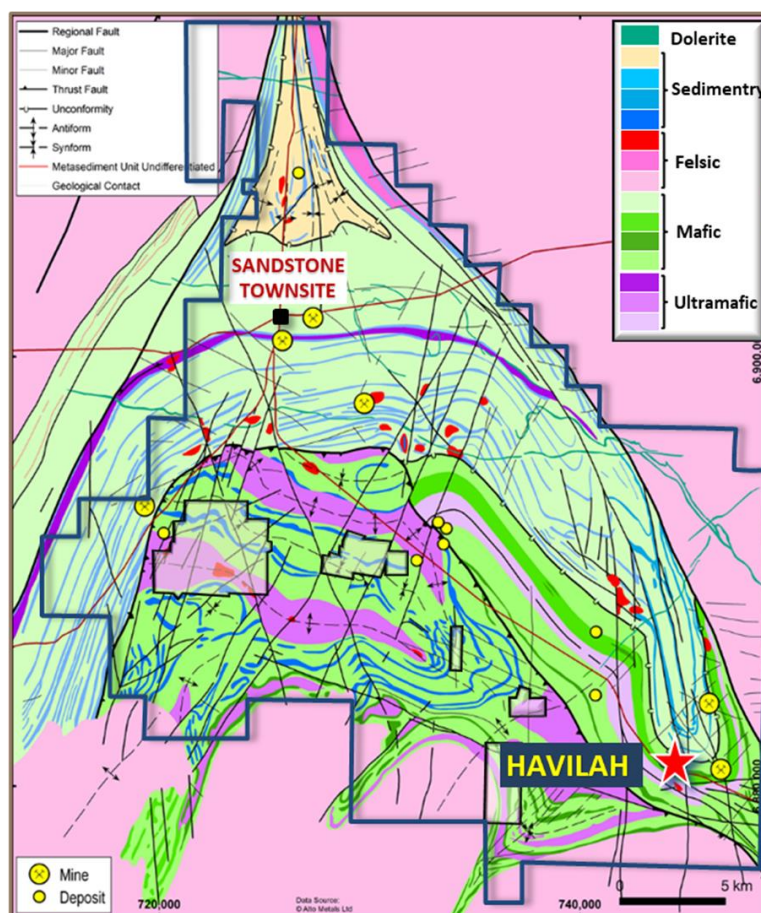
ABOUT ALTO AND THE SANDSTONE GOLD PROJECT

Alto holds ~800km² of the prospective Archaean Sandstone Goldfield, 600km north of Perth in the East Murchison Mineral Field of Western Australia.

Since acquiring the Project in June 2016, Alto has compiled and reviewed a large legacy database ahead of a series of focused exploration and drilling campaigns which commenced in late-2016.

Alto's goal is the delineation of a +1 million-ounce JORC 2012 Mineral Resource that could become the basis for a re-establishment of standalone oxide and primary gold mining and milling operations at the Project.

Figure 6. Sandstone Regional Geology Showing Location of Havilah

**Further information:**

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Competent Person Statement

The information in this Report that relates to Exploration Results is based on information compiled by Mr Dermot Ryan, who is an employee of XServ Pty Ltd and a Director and security holder of the Company. Mr Ryan is a Fellow of the Australasian Institute of Mining and Metallurgy (CP Geology) and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Historic exploration results referred to in this Report were previously reported by Troy Resources NL pursuant to JORC Code 2004. Alto Metals Limited understands that this information has not been updated since to comply with the JORC Code 2012, but believes the information has not materially changed since it was last reported.

Forward Looking Statements:

Certain statements in this document are or maybe "forward-looking statements" and represent Alto's intentions, projections, expectations or beliefs concerning among other things, future exploration activities. The projections, estimates and beliefs contained in such forward-looking statements don't necessarily involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Alto, and which may cause Alto's actual performance in future periods to differ materially from any express or implied estimates or projections. Nothing in this document is a promise or representation as to the future. Statements or assumptions in this document as to future matters may prove to be incorrect and differences may be material. Alto does not make any representation or warranty as to the accuracy of such statements or assumptions.

References

Bell, L. A.	1988	Maninga Marley Project, Drilling Report for M57/43. December 1988. WAMEX A27091.
Chapple, L.	1997	Sandstone Project P57/690 - 692 Maninga Marley Annual Report For The Year Ending 31 December 1997. Herald Resources Ltd. WAMEX A53670
Dixon, K.	2002	Maninga Marley Project, Sandstone, Western Australia. Annual Report for the Period 1 st January 2001 to 31 st December 2001. WAMEX A64401
Dixon, K.	2003	Maninga Marley Project, Sandstone, Western Australia. Annual Report for the Period 1 st January 2002 to 31 st December 2002. WAMEX A66339.
Homestake Australia Ltd	1985	Maninga Marley Joint Venture Annual Report to 30 September 1985. WAMEX A16621.
Homestake Australia Ltd	1986	Maninga Marley Joint Venture Annual Report to 30 September 1986. WAMEX A19597.
Litex Contractors Pty Ltd	1980	Report on Drilling Program for GML's 57/1274-77 to 30 th June 1980. WAMEX A10321.
Otterman, D.	2010	Maninga Marley Project, Sandstone, Western Australia. Annual Report for the Period 1 st January 2009 to 31 st December 2010. WAMEX A86313.
Troy Resources NI	2011	Sandstone Gold Project WA, Information Memorandum

APPENDIX 1. Significant Historical Drilling Intercepts at the Havilah Prospect +1.0g/t Au

Hole ID	Drill Type	East GDA94	North GDA94	mRL AHD	Depth (m)	Dip (deg)	Azimuth (deg)	From (m)	To (m)	Interval (m)	Grade (g/t Au)
G002	RAB	744137	6881134	477.49	30	-90	0	6	24	18	1.7
G003	RAB	744128	6881139	477.48	30	-90	0	14	24	10	1.1
G004	RAB	744151	6881146	477.75	22	-90	0	20	22	2	3.7
G009	RAB	744088	6881145	477.26	36	-90	0	12	16	4	3.5
G010	RAB	744066	6881151	477.17	36	-90	0	0	1	1	1.0
and								22	23	1	2.5
G011	RAB	744059	6881131	476.87	13	-90	0	3	13	10	2.3
G012	RAB	744053	6881137	476.9	19	-90	0	12	19	7	1.1
G013	RAB	744027	6881107	476.41	25	-90	0	18	25	7	1.6
G014	RAB	744011	6881133	476.6	30	-90	0	14	17	3	1.2
and								28	30	2	2.6
G020	RAB	744184	6881062	476.86	20	-90	0	2	8	6	1.4
G028	RAB	744146	6881143	477.67	41	-90	0	15	18	3	1.2
G035	RAB	744046	6881155	477.06	37	-90	0	0	10	10	1.1
and								18	28	10	1.0
G040	RAB	743987	6881174	476.92	24	-90	0	10	24	14	3.2
G041	RAB	743966	6881139	476.47	26	-90	0	20	24	4	2.3
G042	RAB	743966	6881164	476.73	50	-90	0	20	42	22	1.0
GRC003	RC	743909	6881279	477.58	123	-60	180	98	100	2	1.1
and								112	114	2	1.1
GRC005	RC	743968	6881236	477.46	108	-60	180	64	88	24	1.2
GRC008	RC	743950	6881274	477.74	123	-60	180	110	118	8	2.1
GRC009	RC	743830	6881287	477.22	117	-60	180	104	108	4	4.6
GRC010	RC	743987	6881176	476.94	40	-90	0	22	24	2	1.2
and								30	34	4	2.1
HA006	AC	743985	6881188	477.06	61	-90	0	15	61	46	1.1
HR001	RAB	743986	6881185	477.03	36	-90	0	15	36	21	2.3
HR005	RAB	744145	6881141	477.64	26	-90	0	5	20	15	1.3
MAD004	DD	743982	6881202	477.19	81.4	-60	180	32	49	17	8.5
and								59.2	62.9	3.7	1.4
and								65	67	2	61.8
MAD005	DD	743908	6881247	477.28	120	-60	180	81	82	1	1.2
and								84	86	2	1.1
MAD007	DD	744062	6881191	477.59	99	-60	180	54	61	7	1.0
MGR004	RC	744066	6881146	477.1	70	-60	180	21	34	13	2.4
MGR005	RC	743948	6881236	477.35	88	-60	180	2	3	1	2.9
and								59	62	3	3.0
and								66	84	18	1.4
incl.								71	77	6	2.6
MGR011	RC	744126	6881132	477.38	23	-60	180	2	12	10	1.0
MGR012	RC	744126	6881152	477.63	65	-60	180	24	25	1	1.2
MGR014	RC	744086	6881161	477.43	41	-60	180	30	32	2	1.2
MGR016	RC	744086	6881132	477.09	29	-60	180	13	18	5	1.1
MGR017	RC	744046	6881134	476.82	35	-60	180	0	16	16	1.6
and								19	29	10	1.3

Hole ID	Drill Type	East GDA94	North GDA94	mRL AHD	Depth (m)	Dip (deg)	Azimuth (deg)	From (m)	To (m)	Interval (m)	Grade (g/t)
MGR018	RC	744046	6881154	477.05	41	-60	180	0	6	6	1.4
and								37	41	4	10.7
MGR019	RC	744060	6881172	477.36	65	-60	180	22	26	4	1.5
and								41	48	7	1.9
MGR021	RC	744005	6881134	476.58	50	-60	180	23	24	1	1.0
and								29	35	6	2.4
MGR022	RC	744006	6881152	476.79	50	-60	180	0	9	9	1.0
and								16	21	5	1.3
and								30	47	17	1.2
MGR023	RC	744003	6881169	476.95	65	-60	180	7	17	10	2.5
and								20	25	5	1.1
and								28	35	7	1.3
and								46	53	7	1.2
MGR025	RC	743964	6881157	476.65	80	-60	180	0	9	9	3.1
and								20	21	1	1.3
and								30	34	4	1.1
MGR026	RC	743967	6881206	477.15	77	-60	180	37	52	15	1.0
and								58	63	5	1.6
MGR027	RC	743907	6881186	476.71	59	-60	180	17	19	2	1.1
TAC024		743983	6881201	477.18	62	-90	0	31	37	6	2.3
and								48	60	12	4.7
TRC005	RC	743976	6881215	477.29	71	-60	180	64	71	7	1.4
TRC024	RC	743984	6881172	476.88	50	-60	180	6	40	34	2.1
TRC026	RC	743965	6881171	476.79	60	-60	180	7	13	6	1.0
and								22	25	3	3.9
and								31	34	3	1.1
TRC030	RC	744065	6881137	476.99	30	-60	180	6	25	19	1.7
TRC698	RC	744004	6881176	477.03	75	-90	0	21	27	6	1.6
and								50	53	3	1.1
TRC723	RC	744026	6881141	476.78	40	-60	180	28	34	6	1.5
TRC724	RC	744037	6881179	477.27	64	-60	180	22	24	2	2.5
and								34	35	1	1.3
and								45	54	9	1.7
TRC725	RC	744047	6881143	476.93	40	-60	180	3	4	1	1.0
and								8	9	1	1.3
and								16	25	9	2.9
and								29	32	3	2.2
TRC741	RC	744020	6881215	477.55	85	-60	180	49	52	3	1.0
and								71	73	2	1.5
TRC742	RC	744067	6881146	477.11	52	-90	0	29	31	2	1.1
TRC743	RC	743995	6881197	477.2	94	-90	0	47	48	1	1.2
and								68	82	14	1.3
TRC744	RC	743986	6881211	477.3	100	-90	0	66	73	7	1.2
and								96	97	1	1.3
TRC811	RC	744166	6881079	476.98	15	-90	0	6	7	1	1.1
and								10	15	5	1.0
TRC813	RC	744146	6881124	477.43	20	-90	0	8	12	4	1.4

Hole ID	Drill Type	East GDA94	North GDA94	mRL AHD	Depth (m)	Dip (deg)	Azimuth (deg)	From (m)	To (m)	Interval (m)	Grade (g/t)
TRC814	RC	744126	6881123	477.27	15	-90	0	5	8	3	1.4
and								11	12	1	1.0
TRC815	RC	744086	6881137	477.15	34	-90	0	18	22	4	1.0
TRC816	RC	744065	6881122	476.82	30	-90	0	2	6	4	1.1
and								16	17	1	1.1
TRC818	RC	744046	6881126	476.73	34	-90	0	7	14	7	2.5
and								17	27	10	1.6
W011	RC	744066	6881149	477.14	12	-90	0	7	11	4	2.1
W068	RC	744050	6881132	476.82	18	-90	0	12	17	5	3.7
W075	RC	743950	6881173	476.74	20	-90	0	8	11	3	37.2
W078	RC	743980	6881170	476.84	16	-90	0	2	16	14	1.4
W084	RC	744040	6881121	476.64	20	-90	0	16	19	3	1.4
W087	RC	744085	6881083	476.5	20	-90	0	14	19	5	1.0
W089	RC	744142	6881089	476.96	20	-90	0	6	10	4	3.8
W092	RC	744125	6881100	476.99	20	-90	0	5	12	7	1.6
W093	RC	744110	6881116	477.07	20	-90	0	4	10	6	2.4
W097	RC	744066	6881125	476.86	20	-90	0	12	13	1	1.1
and								16	20	4	1.7
W100	RC	744096	6881127	477.09	20	-90	0	4	16	12	2.7
W102	RC	744066	6881153	477.19	20	-90	0	13	20	7	1.4
W103	RC	744052	6881163	477.19	20	-90	0	4	5	1	1.1
and								9	20	11	1.7
W106	RC	743931	6881175	476.69	20	-90	0	12	15	3	1.2
W108	RC	743891	6881183	476.63	20	-90	0	17	18	1	1.2
W109	RC	743933	6881185	476.8	35	-90	0	31	32	1	1.1
W110	RC	744089	6881119	476.95	17.5	-90	0	8	14	6	1.4
W111	RC	744097	6881114	476.95	15	-90	0	6	13	7	1.6
W112	RC	744105	6881108	476.94	15	-90	0	5	13	8	1.1
W113	RC	744113	6881100	476.9	15	-90	0	11	15	4	1.3
W114	RC	744120	6881093	476.86	18	-90	0	5	14	9	1.8
W115	RC	744125	6881084	476.78	18	-90	0	11	14	3	1.2
W116	RC	744136	6881081	476.81	18	-90	0	11	12	1	1.3
W117	RC	744153	6881082	476.94	17.5	-90	0	5	11	6	3.5
and								13.5	15	1.5	3.6
W118	RC	744148	6881097	477.1	15	-90	0	8	11	3	4.2
W119	RC	744141	6881103	477.13	13	-90	0	2	9	7	20.8
incl								5	6	1	120.0
W123	RC	744110	6881128	477.21	17.5	-90	0	5	14	9	1.1
W124	RC	744100	6881132	477.19	18	-90	0	14	15	1	1.0
W125	RC	744086	6881134	477.11	19.5	-90	0	16	19.5	3.5	1.0
W126	RC	744105	6881121	477.09	15	-90	0	7	11	4	1.1
W127	RC	744119	6881108	477.04	14.5	-90	0	4	11	7	2.3
W128	RC	744134	6881095	476.98	14	-90	0	6	10	4	1.2
W131	RC	744131	6881136	477.47	20	-90	0	9	20	11	1.7
W132	RC	744120	6881132	477.33	20	-90	0	13.5	16	2.5	2.6
W133	RC	744137	6881132	477.46	16.7	-90	0	3	16.7	13.7	3.5
W134	RC	744145	6881123	477.42	14.5	-90	0	10	11	1	2.0

Hole ID	Drill Type	East GDA94	North GDA94	m RL AHD	Depth (m)	Dip (deg)	Azimuth (deg)	From (m)	To (m)	Interval (m)	Grade (g/t)
W143	RC	743982	6881141	476.56	26	-90	0	13	24	11	1.5
W145	RC	744010	6881121	476.47	28	-90	0	24	27	3	1.3
W147	RC	743981	6881164	476.79	20	-90	0	0	20	20	1.0
W148	RC	743971	6881168	476.79	20	-90	0	8	10	2	1.0
W149	RC	743962	6881169	476.76	20	-90	0	0	4	4	1.6
and								7	10	3	1.1
W150	RC	743942	6881174	476.73	20	-90	0	11	12	1	1.1
W151	RC	743921	6881177	476.67	21.5	-90	0	10	15	5	1.1
W154	RC	743962	6881178	476.85	40	-90	0	33	40	7	1.5
W155	RC	743972	6881176	476.87	40	-90	0	19	40	21	1.5
W156	RC	743974	6881187	477	60	-90	0	33	35	2	1.5
and								44	52	8	1.4
W157	RC	743955	6881192	476.95	58	-90	0	41	58	17	1.3
W158	RC	744011	6881134	476.61	20	-90	0	17	20	3	10.8
W159	RC	744040	6881133	476.77	20	-90	0	9	20	11	2.0
W160	RC	744061	6881134	476.93	20	-90	0	4	20	16	2.5
W163	RC	744037	6881164	477.1	20	-90	0	14	19	5	1.9
W164	RC	744025	6881078	476.08	28	-90	0	18	19	1	1.4
W171	RC	744164	6881069	476.84	16	-90	0	5	15	10	1.1
W175	RC	744156	6881131	477.58	20	-90	0	15	18	3	1.1

JORC Code, 2012 Edition – Table 1 report
14 February 2017 – Sandstone Project, Havilah Prospect

JORC (2012) Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
Sampling techniques	<p>Drilling carried out by Westmex Limited (1979-1980)</p> <ul style="list-style-type: none"> Reverse Circulation (RC) drilling was used with either a roller bit or a hammer bit to collect samples over selected 1m intervals. Drill samples were reportedly analysed for gold only by mixed acid digestion (ie aqua regia) with Atomic Absorption Spectroscopy (AAS) finish at Genalysis Laboratory in Perth. <p>Drilling carried out by Homestake Australia Limited (1986)</p> <ul style="list-style-type: none"> Homestake engaged Corewell Pty Ltd of Perth to carry out NQ diamond drilling (DD) with pre-collars drilled using percussion methods. Down hole surveys were carried out using an Eastman camera. Detailed geological logs and core recoveries were recorded. Pre-collar drill samples and diamond drill core samples were assayed by Australian Assay Laboratories in Perth by fire assay of a 50gm charge followed by AAS finish of the resulting prill. <p>Drilling carried out by Gold and Mineral Exploration NL (1988-1990)</p> <ul style="list-style-type: none"> GME engaged Davies Drilling to carry out RC drilling. The drill holes were blown clean at the end of each 1m run with samples collected in plastic bags attached to a cyclone. 2m composite samples were prepared for the upper parts of the RC drill holes. Mineralised intersections were later resampled at 1m intervals. All samples were submitted to Minlabs in Perth and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. Drill assays from RAB drill samples are not being used in the Alto Metals Resource Estimation. <p>Drilling carried out by Herald Resources Limited (1996-1997)</p> <ul style="list-style-type: none"> Herald engaged Strange Drilling of Kalgoorlie to carry out RC drilling using a hollow face sampling hammer bit. All dry RC samples were collected at 1m intervals via a cyclone and a 3-tier riffle splitter with the excess collected in plastic bags and left on site. Wet samples were generally grabbed and of a lesser quality. The drilling was generally bulk samples at 4m intervals with 1m resplits being taken from significantly mineralised zones. All samples were sent to Analabs in Mt Magnet and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. Drill assays from RAB drill samples are not being used in the Alto Metals Resource Estimation. <p>Drilling carried out by Troy Resources NL (2001-2009)</p> <ul style="list-style-type: none"> Troy RC drilling was carried out by Boart Longyear. RC samples were passed form a cyclone through a rig-mounted multi-tier riffle splitter and collected in 1m intervals in plastic bags and 1m calico splits which were retained for later use. RAB drilling was also used to obtain samples, which were collected in 1m intervals and laid on the ground. Air-core (AC) drilling was used to obtain samples via a cyclone every for each 1m interval, which was laid on the ground.

Criteria	Commentary																																																																						
Sampling techniques	<ul style="list-style-type: none">From the bulk samples (RAB, AC or RC), a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis.RC samples were submitted to Genalysis Laboratory in Perth for analysis of gold analysis by fire assay. The 1m splits were submitted for analysis by fire assay where the composite sample returned gold assay values >0.2 ppm Au over anomalous zones.Troy RAB and AC samples were assayed at Analabs Perth by 50gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01ppm Au.Drill assays from RAB drill samples are not being used in the Alto Metals Resource Estimation.																																																																						
Drilling techniques	<ul style="list-style-type: none">Drilling techniques have included RAB, AC, RC and DD as per the table below. <table><tr><th></th><th>YEAR</th><th colspan="2">RAB</th><th colspan="2">AC</th><th colspan="2">RC</th><th colspan="2">DD</th></tr><tr><th></th><th></th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th></tr><tr><td>Westmex</td><td>1979-80</td><td></td><td></td><td></td><td></td><td>103</td><td>2064</td><td></td><td></td></tr><tr><td>Homestake</td><td>1986</td><td></td><td></td><td></td><td></td><td></td><td></td><td>4</td><td>395</td></tr><tr><td>GME</td><td>1988-90</td><td>36</td><td>1059</td><td></td><td></td><td>11</td><td>1003</td><td></td><td></td></tr><tr><td>Herald</td><td>1996-97</td><td>5</td><td>115</td><td>4</td><td>195</td><td>26</td><td>1197</td><td></td><td></td></tr><tr><td>Troy</td><td>2001-09</td><td>41</td><td>1174</td><td>4</td><td>195</td><td>161</td><td>5476</td><td>4</td><td>395</td></tr></table> <ul style="list-style-type: none">AC, RC and DD drilling are being used in the Alto Mineral Resource Estimation.Drill assays from RAB drill samples are not being used in the Alto Metals Resource Estimation.		YEAR	RAB		AC		RC		DD				Holes	(m)	Holes	(m)	Holes	(m)	Holes	(m)	Westmex	1979-80					103	2064			Homestake	1986							4	395	GME	1988-90	36	1059			11	1003			Herald	1996-97	5	115	4	195	26	1197			Troy	2001-09	41	1174	4	195	161	5476	4	395
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Troy	2001-09	41	1174	4	195	161	5476	4	395																																																														
Drill sample recovery	<ul style="list-style-type: none">Alto has no quantitative information on the Westmex, GME, Herald or Troy RAB, AC and RC sample recovery.Drill core recovery was documented for the Homestake DD holes.Alto reviewed the geological logging sheets to determine if a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. The review concluded that there were no issues.																																																																						
Logging	<ul style="list-style-type: none">Westmex drill holes were logged to provide information on rock type and depth and if historic workings were intersected. The logs also indicated whether a roller bit or hammer bit was used to drill the hole.The Homestake DD holes were logged in detail for each metre and at sub-metre intervals where it was considered appropriate or relevant.GME reported that the RAB and RC drill holes were geologically examined and logged in the field. The logging was commentary based with no specific geological codes used for events such as top of fresh rock, base of oxidation etc. However, the logging and descriptions are of sufficient quality that the lithologies drilled can be correlated with later logging carried out by Herald and Troy, who used detailed logging codes.Herald and Troy logged all drill holes however no detailed information is available on the logging methods. Detailed logging codes were used, and it is considered that the drill holes were logged with a sufficient level of detail to support a mineral resource estimateIt is considered that the drill holes were logged with a sufficient level of detail to support a mineral resource estimate.																																																																						

Criteria	Commentary
Subsampling techniques and sample preparation	<p>Drilling carried out by Westmex (1979-1980)</p> <ul style="list-style-type: none"> • 1m samples were collected over selected intervals. • No composite sampling was undertaken. • Drill samples were reportedly analysed for gold only by mixed acid digestion (ie aqua regia) with Atomic Absorption Spectroscopy (AAS) finish at Genalysis Laboratory in Perth. <p>Drilling carried out by Homestake (1986)</p> <ul style="list-style-type: none"> • Pre-collar drill samples and diamond drill core samples were assayed by Australian Assay Laboratories in Perth by fire assay of a 50gm charge followed by AAS finish of the resulting prill. <p>Drilling carried out by GME (1988)</p> <ul style="list-style-type: none"> • 2m composite samples were prepared for the upper parts of the RC drill holes. Mineralised intersections were later resampled at 1m intervals. • All samples were submitted to Minlabs in Perth and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au.
Subsampling techniques and sample preparation	<p>Drilling carried out by Herald (1996-1997)</p> <ul style="list-style-type: none"> • All dry RC samples were collected at 1m intervals via a cyclone and a 3-tier riffle splitter with the excess collected in plastic bags and left on site. Wet samples were generally grabbed and of a lesser quality. • The drilling was generally bulk samples at 4m intervals with 1m resplits being taken from significantly mineralised zones. • All samples were sent to Analabs in Mt Magnet and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples are not being used in the Alto Metals Resource Estimation. <p>Drilling carried out by Troy (2001-2009)</p> <ul style="list-style-type: none"> • RC samples were collected in 1m intervals in plastic bags and 1m calico splits which were retained for later use. • RAB drilling was also used to obtain samples, which were collected in 1m intervals and laid on the ground. Air-core (AC) drilling was used to obtain samples via a cyclone every for each 1m interval, which was laid on the ground. • From the bulk samples (RAB, AC or RC), a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis. • RC samples were submitted to Genalysis Laboratory in Perth for analysis of gold analysis by fire assay. The 1m splits were submitted for analysis by fire assay where the composite sample returned gold assay values >0.2 ppm Au over anomalous zones. • Troy RAB and AC samples were assayed at Analabs Perth by 50gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples are not being used in the Alto Metals Resource Estimation.

Criteria	Commentary																																								
Quality of assay data and laboratory tests	<p>Assaying and Laboratory Procedures</p> <ul style="list-style-type: none">The Fire Assay method is considered to be a total extraction technique.The Aqua Regia technique is considered to be a partial extraction technique where gold encapsulated in refractory sulphides or some silicate minerals may not be fully dissolved, resulting in partial reporting of gold content.There is no information available to Alto to indicate that the gold at Havilah is refractory gold. <p>Drilling carried out by Westmex, Homestake, GME and Herald (1979-1997)</p> <ul style="list-style-type: none">There is no available information on the protocols used by Westmex, Homestake, GME and Herald.Where reported, Laboratory Repeat assays were reviewed by Alto.Where Troy drill holes were identified within close proximity to earlier drill holes the drilling assay data showed an acceptable correlation (refer to twinned drill holes).There were no anomalous assays reported that could not be explained. <p>Drilling carried out by Troy (2001 - 2009)</p> <ul style="list-style-type: none">For Troy RC drilling, an average of 1 field duplicate, 1 blank and 1 standard was submitted for every 50 samples.For Troy RAB and AC drilling, field duplicates and standards were used at 1:50 however no blank samples were routinely used in RAB or AC drilling.Troy engaged Maxwell to undertake periodic audit of the exploration QAQC data.Laboratory Blank, Standards and Repeat assays were reported for Troy drill assays.																																								
Verification of sampling and assaying	<ul style="list-style-type: none">Drilling carried out by previous explorers was compiled by Alto from WA Dept Mines Open File records (WAMEX).Data was transferred from WAMEX digital files to Alto’s database. The original WAMEX files were generally in excel or text format and were readily imported into Alto’s database. For some of the earlier reports (ie Westmex drilling) the data was manually entered into Excel.All collar, survey and assay data was checked by printing all original data records and checking against a printed database being used for Alto’s resource estimate.The data was also checked using various methods in Datashed, ArcGIS and Micromine. Google Earth satellite imagery was also used to check collar positions where historical evidence was visible in satellite imagery.Adjustment to assay data has been made where values below the analytical detection limit have been replaced with half the lower detection limit value (0.01 ppm Au).Troy engaged Maxwell to undertake independent periodic audit of their exploration QAQC data on a monthly basis. <p>Twinned Holes</p> <ul style="list-style-type: none">Drill holes were identified that occur proximal to each other and were drilled by different companies. Drill hole details are included in the table below. <table><tr><th>Twin</th><th>Company</th><th>Hole ID</th><th>Easting GDA94</th><th>Northing GDA94</th><th>Dip (deg)</th><th>Azimuth (deg)</th><th>Depth (m)</th></tr><tr><td>Twin 1</td><td>Troy</td><td>TRC818</td><td>744046</td><td>6881126</td><td>-90</td><td>000</td><td>34</td></tr><tr><td>Twin 1</td><td>Westmex</td><td>W159</td><td>744040</td><td>6881133</td><td>-90</td><td>000</td><td>20</td></tr><tr><td>Twin 2</td><td>Troy</td><td>TRC725</td><td>744047</td><td>6881143</td><td>-60</td><td>180</td><td>40</td></tr><tr><td>Twin 2</td><td>Herald</td><td>MGR017</td><td>744046</td><td>6881134</td><td>-60</td><td>180</td><td>35</td></tr></table> <ul style="list-style-type: none">The mineralised intervals and in particular the high-grade intersections showed an acceptable correlation.	Twin	Company	Hole ID	Easting GDA94	Northing GDA94	Dip (deg)	Azimuth (deg)	Depth (m)	Twin 1	Troy	TRC818	744046	6881126	-90	000	34	Twin 1	Westmex	W159	744040	6881133	-90	000	20	Twin 2	Troy	TRC725	744047	6881143	-60	180	40	Twin 2	Herald	MGR017	744046	6881134	-60	180	35
Twin	Company	Hole ID	Easting GDA94	Northing GDA94	Dip (deg)	Azimuth (deg)	Depth (m)																																		
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Criteria	Commentary
Location of data points	<ul style="list-style-type: none"> • The grid used for the project area is GDA94, Map Grid of Australia 94, Zone 50. • Westmex, GME, Homestake and Herald drilling was originally located in local grid format. • Contract surveyors were engaged by previous explorers to accurately locate the surface location of drill collars and historic workings in local grid format. • Troy drilling was located with a Differential Global Positioning System unit (DGPS). • Alto carried out a desktop check of all drill hole collars using satellite and aerial drone imagery. • Alto carried out field checks on 24 randomly selected drill holes (~10%) in November 2018 to confirm the locations of the drill hole collars used in the Alto Mineral Resource Estimate. • The collar heights in Alto's database, which are being used for the Mineral Resource Estimate were determined by Alto by intersecting the collar location with Shuttle Radar Tomography Mission (SRTM) 30m data. • There are no outstanding issues with respect to collar survey locations for Havilah drill holes. • The Westmex drill holes were all vertical and no survey data was reported. • The dip and azimuth of the Homestake diamond drill holes was determined using an Eastman camera. • The dip and azimuth of all GME and Herald drill holes were reported however there are no details available on the method used to determine the dip and azimuth. • A compass and clinometer were used by Troy to set up the dip and azimuth of Troy drill holes. • Alto staff also checked the dip and azimuth of additional drill collars in the field where possible.
Data spacing and distribution	<ul style="list-style-type: none"> • The drill hole orientation is typically vertical or at -60 degrees dip to 180 degrees. • The shallow, vertical Westmex RC drill holes were drilled on a 20m x 20m and a 10m x 10m pattern. • The Herald RC drilling was carried out on a 20m x 40m pattern. • Troy RC drilling was designed to test historical drilling results and infilling anomalous intersections and did not conform to a particular pattern. • Maximum drill depth was 123m (GRC003 and GRC008) with an average drill depth of 34m.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • Geological structures have been interpreted from drilling and detailed surface geological mapping. • The Havilah mine area is underlain by a NW striking dolerite unit bounded to the NE by basalt and to the SW by ultramafic rocks. The stratigraphy strikes NW-SE and has sub-vertical dips. • Mineralisation at Havilah is confined to the dolerite and consists of quartz veins and stockworks within a north-dipping, NW striking mineralized shoot with a plunge approximately 20 degrees to the NW. • Drill orientation was typically vertical or at -60° to 180° which was designed to intersect mineralisation perpendicular to the strike. • Sample bias is not considered to be an issue due to the geological structures and appropriate orientation of drilling. • In general, the Havilah deposit is a north-dipping, NW striking deposit with a 20 degree plunge to the NW.

Criteria	Commentary
Sample security	<ul style="list-style-type: none">• No sample security details are available for Westmex, Homestake, GME or Herald drill samples.• Troy reported that their drill samples were collected in a labelled and tied calico bag. Up to six calico bags are then placed in a larger polyweave bag that is labelled with the laboratory address and sender details and tied with wire. The polyweave bags were picked up by a courier firm who counted the number of polyweave bags before taking them to the Mt Magnet depot. The samples were picked up by the courier's road train and transported to Perth. Upon receipt of the samples the laboratory checked the sample IDs and total number of samples and notified Troy of any differences from the sample submission form.
Audits and reviews	<ul style="list-style-type: none">• Alto has reviewed and compiled the technical data for Havilah internally. No independent audit had been previously carried out.• Troy engaged Maxwell to undertake periodic independent audit of Troy's exploration QAQC data.• A Mineral Resource Estimate has previously been carried out at Havilah by;<ul style="list-style-type: none">➤ Herald (2000)➤ Troy (2002)

SECTION 2 - Reporting of Exploration Results

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

Criteria	Commentary
Mineral tenement and land tenure	<ul style="list-style-type: none"> Havilah is located on Exploration Licence 57/1033, granted on 20 September 2016 to Sandstone Exploration Pty Ltd, a wholly owned subsidiary of ASX listed Alto Metals Limited (AME). E57/1033 is currently in good standing with the Department of Mines, Industry Regulation and Safety. E57/1033 is part of AME's Sandstone Gold Project. The total project area covers approximately 800 km² with five exploration licences all granted on 20 September 2016 and two prospecting licences granted on 11 June 2016. The following royalties apply: <ul style="list-style-type: none"> ➤ 2% of the Gross Revenue is payable to a third party ➤ 2.5% payable to the State Government There are no registered heritage sites proximal to the Havilah deposit. There are no current known impediments to obtaining a licence to operate in the area.
Exploration done by other parties	<ul style="list-style-type: none"> Historically gold was first discovered in the Sandstone area in the 1890's. The first recorded production from the Havilah Mine area was in 1904. A total of 47,106 ounces of gold was produced from the Havilah and nearby Maninga Marley mines up until 1929 with the bulk of the production between 1907 and 1911. Production figures from the Havilah Mine are reported as 48,497 tonnes at 37.9g/t Au for 33,871 ounces of gold. It is probable that some of the reported production may attributed to small nearby mines that treated their ore at the Havilah Mine. In the 1970s, Seeko Nickel carried out nickel exploration within the general area. Between 1979 and 2009, geological mapping, surface sampling, geophysical surveys and drilling was carried out by Westmex Limited, Homestake Australia Limited, Gold and Mineral Exploration NL, Carpentaria Exploration Company Pty Ltd, Herald Resources Limited and Troy Resources NL. Mineral resource estimates were carried out by Herald Resources Limited and Troy Resources NL.
Geology	<ul style="list-style-type: none"> Detailed surface geological mapping by Homestake and interpretation of drilling data by Homestake and other explorers has shown the Havilah Mine area is underlain by a NW striking dolerite unit termed the Havilah Dolerite, bounded to the northeast by pillowed and amygdaloidal basalt, and to the southwest by ultramafic rocks. Within the mineralised part of the Havilah Dolerite, drilling has intersected dolerites and basalts of similar mineralogy suggesting the Havilah Dolerite is a differentiated mafic unit. Granophyric quartz dolerite has also been identified in historic mullock dumps. Based on petrology of thin sections of diamond drill core, previous explorers reported a similarity between the Havilah Dolerite and the lower units of the Golden Mile Dolerite. Mineralisation is confined to the Havilah Dolerite close to the dolerite/basalt contact and consists of quartz veins and stockworks within a north-dipping, NW striking mineralised shoot with a plunge of approximately 20 degrees to the north-west Quartz-carbonate veins up to 0.5m wide have been intersected in drill core with recognisable selvages to the mineralisation up to 10m in width. Sulphides occur both in the veins and the adjacent wall rocks and consist of dominant pyrite and arsenopyrite with minor pyrrhotite and trace chalcopyrite The mineralised zones are surrounded by a chlorite alteration envelope approximately 1km wide and at least 6km long. Carbonate alteration is intimately associated with the mineralisation both in stockwork and shear-controlled zones.

Criteria	Commentary																																																																						
Drill hole information	<ul style="list-style-type: none">A summary of all drilling at the Havilah deposit is included in the table below.A summary of all significant intercepts is included in a table accompanying this JORC Table.Drill orientation was typically vertical or at-60⁰ to 180⁰ which was designed to intersect mineralisation perpendicular to the strike.Drill assays from RAB drill samples are not being used in the Alto Mineral Resource Estimation. <table><tr><th></th><th>YEAR</th><th colspan="2">RAB</th><th colspan="2">AIR-CORE</th><th colspan="2">RC</th><th colspan="2">DD</th></tr><tr><th></th><th></th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th></tr><tr><td>Westmex</td><td>1979-80</td><td></td><td></td><td></td><td></td><td>103</td><td>2064</td><td></td><td></td></tr><tr><td>Homestake</td><td>1986</td><td></td><td></td><td></td><td></td><td></td><td></td><td>4</td><td>395</td></tr><tr><td>GME</td><td>1988-90</td><td>36</td><td>1059</td><td></td><td></td><td>11</td><td>1003</td><td></td><td></td></tr><tr><td>Herald</td><td>1996-97</td><td>5</td><td>115</td><td>4</td><td>195</td><td>26</td><td>1197</td><td></td><td></td></tr><tr><td>Troy</td><td>2001-09</td><td>41</td><td>1174</td><td>4</td><td>195</td><td>161</td><td>5476</td><td>4</td><td>395</td></tr></table>		YEAR	RAB		AIR-CORE		RC		DD				Holes	(m)	Holes	(m)	Holes	(m)	Holes	(m)	Westmex	1979-80					103	2064			Homestake	1986							4	395	GME	1988-90	36	1059			11	1003			Herald	1996-97	5	115	4	195	26	1197			Troy	2001-09	41	1174	4	195	161	5476	4	395
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Data aggregation methods	<ul style="list-style-type: none">A summary of significant results is included in the table below.Where AME has reported drill assays from previous explorers, a 1.0g/t cut-off grade has been applied.No metal equivalents have been used or reported.The reported grades are uncut.																																																																						
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none">Drill orientation was typically vertical or at-60⁰ to 180⁰ which was designed to intersect mineralisation perpendicular to the strike.The mineralisation and drill intercepts are reported as down hole widths not true widths.																																																																						
Diagrams	<ul style="list-style-type: none">Diagrams including drill hole location plan and representative sections are included to accompany this JORC table.																																																																						
Balanced reporting	<ul style="list-style-type: none">All significant drill assay results (+1.0g/t Au) have been included in a table attached to this report.																																																																						
Other substantive exploration data	<ul style="list-style-type: none">There is no other material information available for the Resource area at this stage.																																																																						
Further work	<ul style="list-style-type: none">Alto Metals is currently preparing a JORC 2012 Mineral Resource Estimate for Havilah. Further drilling may be carried out in future to provide appropriate bulk density measurements and samples for metallurgical testwork. Geotechnical work for pit slope analysis may also be undertaken. Further exploration drilling may also be carried out.																																																																						