

# ASX ANNOUNCEMENT



Galena Mining Limited

ASX : G1A

Shares on Issue  
278,500,000

Cash (Mar Qtr)  
\$2.3m

## Directors & Management

Non-Executive Chairman  
Adrian Byass

CEO  
Edward Turner

COO  
Troy Flannery

Non-Executive Directors  
Jonathan Downes  
Oliver Cairns  
Tim Morrison

Company Secretary  
Stephen Brockhurst

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26 April 2018

## HIGHLIGHTS

- **High-grade resource of 11.2Mt (Indicated and Inferred) @ 10.1% lead and 28g/t silver within;**
- **36.6Mt (Indicated and Inferred) @ 7.3% lead and 18 g/t silver;**
- **Resource grade and size confirms Abra as one of the largest undeveloped lead-silver projects in the world;**
- **High-grade resource now being integrated into Pre-Feasibility study led by newly appointed COO;**
- **Assays from the last four 2107 drill holes received in January 2018 include:**
  - 21.7m @ 12.0% lead, 21ppm silver from 550.3m in AB78**
  - 30.0m @ 10.9% lead, 9ppm silver from 552.2m in AB79**
- **Subsequent to the end of the quarter Galena raised \$9 million via an oversubscribed placement;**

Galena Mining Limited (ASX: G1A) ("Galena" or "the Company") is pleased to report on its activities for the period ending 31 March 2018 towards bringing its world class Abra Base Metal Project ("Abra") into development.

During the quarter Galena received the final assays from 2017 drill holes AB78-81, all of which included high grade lead intersections, and completed a new world class resource estimate at its 100% owned Abra lead-silver project<sup>1</sup>.

The combined JORC 2012 resource estimate (using inverse distance interpolation) is as follows;

*Indicated Resource of 5.3 Mt at 10.6% lead & 28 g/t silver and an Inferred Resource of 5.9 Mt at 9.7% Pb & 29 g/t silver (using a 7.5% Pb cut-off) for a combined **11.2Mt @ 10.1% lead and 28g/t silver** within an *Indicated Resource of 13.2 Mt at 7.9% lead & 19g/t silver and an Inferred Resource of 23.5 Mt at 6.9% Pb & 17 g/t silver (using a 5.0% Pb cut-off) for a combined **36.6Mt @ 7.3% lead and 18g/t silver.****

<sup>1</sup> Refer to ASX announcement dated 14/03/2018 "World Class Lead-Silver Resource Exceeds Expectations".

## Resource Estimation

The resource was calculated using 46,424m of diamond core and 14,413 samples. Galena Mining completed 8,024m of diamond drilling between September and December 2017 to test a high-grade, stratiform and structural control model (ASX announcement dated 1 February 2018). Drilling conducted by previous owners, in addition to that completed by Galena, has been included in the dataset for this Resource Estimate.

The Abra resource estimate is primarily based upon geological and assay data from diamond drilling programs completed at Abra from 1981 until 2017. Mineralised intervals were diamond drilled using NQ diameter, geologically logged, cut and then ½ core samples were submitted to the laboratory for analysis. Samples were oven dried, crushed, pulverised and analysed for base metals using either a three acid or four digest followed by an AAS or ICP-OES finish. Gold was assayed by fire assay using a 25 g or 30 g charge.

Geological and resource modelling utilised Micromine software. Wireframing was carried on 50 spaced N-S orientated cross sections which was cross checked in plan. A 3D geological model was developed which encompassed the major litho-stratigraphic units, alteration zones, brecciation zones, hydrothermal vein zones, and faults. The 3D geological model was used to guide the mineralization wire-frame interpretation on 50m spaced N-S orientated cross sections. Solid wireframes were created for the “Apron” zone (at Pb>2% and Pb>5% lower cut-offs) and for the “Core” zone (at Pb>2% and Pb>5% lower cut-offs) (Figure 2).

Lead is the primary economic element and was modelled using both ordinary kriging and inverse distance squared interpolation. Secondary metals silver, zinc, copper and gold were estimated using inverse distance squared interpolation. Search ellipse maximum axes ranging from 95 to 220 metres depending on the domain. Kriging parameters were based on lead variography. Ancillary items estimated included the number of holes and composites used to estimate a block, kriging variance and regression line slope. These were used to assist in resource classification. Outlier samples were cut and 2 metre composites used for the estimate.

A model block size of 10m (X) by 10m (Y) by 4m (Z) was used with sub-celling to 2m (X) by 2.5m (Y) by 2.5m (Z). This block size is believed to be appropriate for the data set and for evaluation as an underground mine. Block grades were estimated at the parent block size. Bulk densities were assigned to each domain based on the mean measured density from test-work for each domain. Bulk densities applied range from 2.8 to 3.6 depending on the domain.

The resource classification for Abra is based upon review of critical modifying factors including data density, data quality, geological confidence, geostatistics, variography and quality of the estimate. On this basis the Resource has been classified as Indicated in areas where there is high geological confidence (ie the Apron and Core >5% Pb modelled domains) and there is appropriate drill spacing (from generally 50m by 50m but in some areas on 70m by 70m where there is good continuity of geology and grade). Inferred Resources are reported where drill spacing is generally greater than 50 by 50 constrained by the Apron and Core >5% Pb and >2% Pb domains. The maximum distance from a drill hole is 150m for an appropriately informed block estimate.

The Resource estimate has been prepared assuming mining will be undertaken using conventional underground mining methods. A range of cut-off grades are reported which are believed to be appropriate for underground mining.

It is assumed that lead and silver sulphide mineralisation can be economically extracted using conventional flotation methods. Preliminary metallurgical test work in 2008 was encouraging indicating that a float recovery of 95% is achievable for lead in the lead domain and an expected concentrate grade of approximately 55% to 65% Pb is achievable. Galena has sent 130 half core samples from six zones representing the major mineralization styles to ALS Chemex in Burnie, Tasmania for metallurgical testwork. Results of this program are pending.

The Abra Resource Estimate using inverse distance squared interpolation is presented in Table 1 and for ordinary kriging is shown Table 2.

**Table 1: Abra March 2018 JORC Resource Estimate (Inverse Distance interpolation)**

INDICATED RESOURCE				
<i>Pb% Cut off</i>	<i>Vol m<sup>3</sup></i>	<i>Tonnes</i>	<i>Pb%</i>	<i>Ag g/t</i>
5.0*	3,800,000	13,200,000	7.9	19
6.0	2,700,000	9,300,000	8.9	22
7.0	1,800,000	6,300,000	10.1	26
7.5*	1,500,000	5,300,000	10.6	28
8.0	1,300,000	4,500,000	11.1	30
9.0	900,000	3,200,000	12.2	35
10.0	700,000	2,300,000	13.2	42
INFERRED RESOURCE				
<i>Pb% Cut off</i>	<i>Vol m<sup>3</sup></i>	<i>Tonnes</i>	<i>Pb%</i>	<i>Ag g/t</i>
5.0*	6,900,000	23,500,000	6.9	17
6.0	4,000,000	13,400,000	8.0	21
7.0	2,300,000	7,800,000	9.1	26
7.5*	1,700,000	5,900,000	9.7	29
8.0	1,300,000	4,600,000	10.2	32
9.0	900,000	3,000,000	11.2	39
10.0	600,000	2,000,000	12.0	46
TOTAL RESOURCE (INFERRED AND INDICATED COMBINED)				
<i>Pb% Cut off</i>	<i>Vol m<sup>3</sup></i>	<i>Tonnes</i>	<i>Pb%</i>	<i>Ag g/t</i>
5.0*	10,700,000	36,600,000	7.3	18
6.0	6,600,000	22,700,000	8.4	21
7.0	4,100,000	14,100,000	9.5	26
7.5*	3,300,000	11,200,000	10.1	28
8.0	2,700,000	9,100,000	10.7	31

9.0	1,800,000	6,300,000	11.7	37
10.0	1,300,000	4,300,000	12.7	44

*\* denotes preferred cut-offs for resource reporting*

*Nb Tonnages are rounded to the nearest 100,000t, lead grades to one decimal place and silver to the nearest gram. Rounding errors may occur when using the above figures.*

**Table 2: Abra March 2018 JORC Resource Estimate (Ordinary kriged interpolation).**

INDICATED RESOURCE				
Pb% Cut off	Vol m <sup>3</sup>	Tonnes	Pb%	Ag g/t
5.0*	3,900,000	13,600,000	7.6	18
6.0	2,800,000	9,600,000	8.5	21
7.0	1,900,000	6,400,000	9.5	26
7.5*	1,600,000	5,400,000	10.0	28
8.0	1,300,000	4,400,000	10.4	30
9.0	900,000	2,900,000	11.5	37
10.0	500,000	1,800,000	12.8	48
INFERRED RESOURCE				
Pb% Cut off	Vol m <sup>3</sup>	Tonnes	Pb%	Ag g/t
5.0*	6,800,000	23,200,000	6.7	17
6.0	3,800,000	12,800,000	7.6	21
7.0	1,900,000	6,600,000	8.8	27
7.5*	1,400,000	4,900,000	9.3	31
8.0	1,100,000	3,600,000	9.9	36
9.0	600,000	2,100,000	10.9	45
10.0	400,000	1,400,000	11.6	53
TOTAL RESOURCE (INFERRED AND INDICATED COMBINED)				
Pb% Cut off	Vol m <sup>3</sup>	Tonnes	Pb%	Ag g/t
5.0*	10,700,000	36,800,000	7.0	17
6.0	6,500,000	22,300,000	8.0	21
7.0	3,800,000	13,000,000	9.1	26
7.5*	3,000,000	10,300,000	9.7	29
8.0	2,300,000	8,000,000	10.2	33
9.0	1,500,000	5,000,000	11.2	40
10.0	900,000	3,200,000	12.3	51

*\* denotes preferred cut-offs for resource reporting*

*Nb Tonnages are rounded to the nearest 100,000t, lead grades to one decimal place and silver to the nearest gram. Rounding errors may occur when using the above figures.*

## **Pre-feasibility Study Update**

Pre-feasibility work at Abra is well underway under the supervision of COO, Troy Flannery. Key work programs already initiated include engineering, hydrogeological, geotechnical, environmental, transport and logistics and metallurgical studies and these will be reported on as and when appropriate.

Leading engineering & construction company **GR Engineering Services Limited** ("GRES") has been appointed to design a conventional crush, grind and flotation processing plant. GRES's scope also includes Abra's site infrastructure including; the Tailings Storage Facility (TFS), Run of Mine (ROM), PowerStation, Site Buildings, Airstrip, Roads, Village, & Bore field.

Metallurgical testwork has shown that Abra mineralisation is amenable to producing a high-grade lead-silver sulphide concentrate with very high recovery (+90%). Additional conformational testwork required for a PFS that is representative of Abra's JORC resource is well advanced. This is being conducted by **ALS Global**.

**AMC Consultants** ("AMC") is performing the underground mining study work on Abra. AMC are well advanced on developing a mine plan that includes life of mine schedules, equipment lists & cost estimates for conventional underground mining methods being contemplated for inclusion in the PFS.

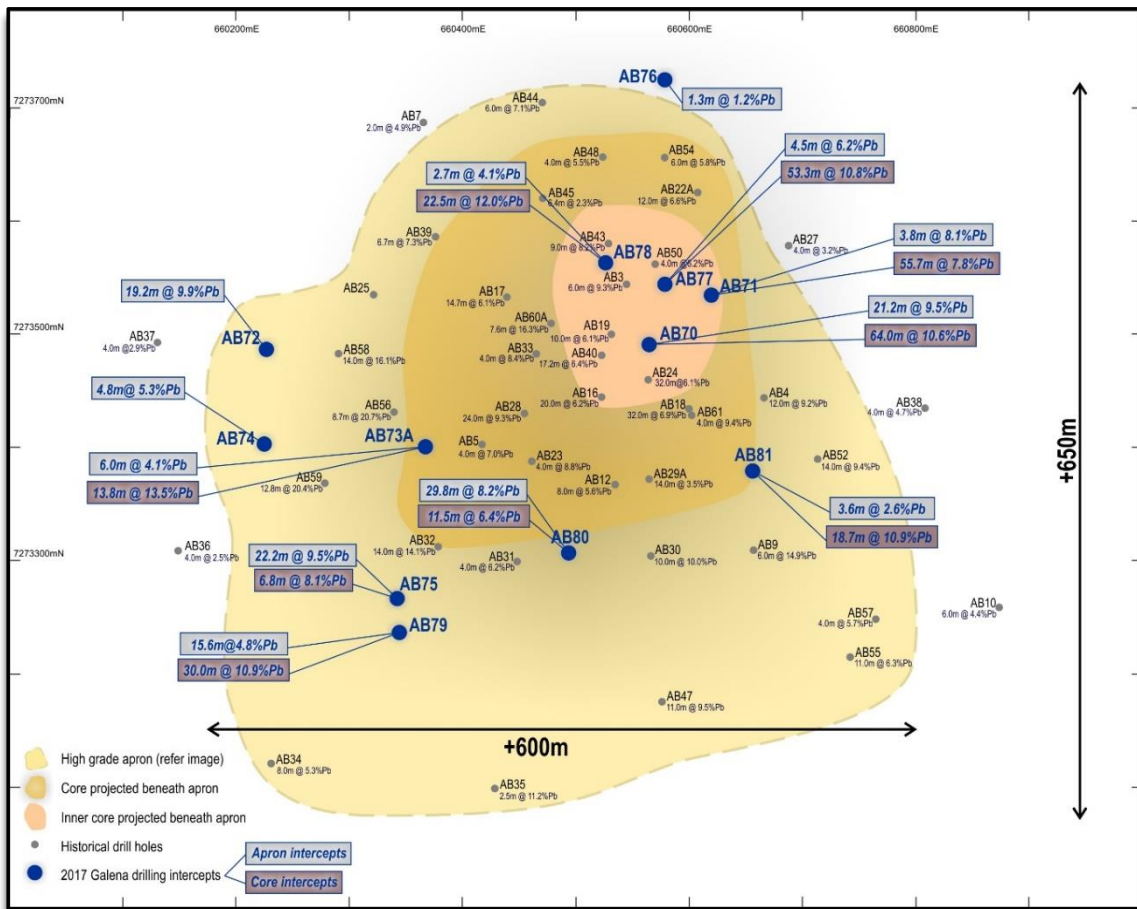
On other key matters, environmental baseline studies are underway under the guidance of **Stantec Australia** ("Stantec") to and hydrogeological studies are also progressing well.

Discussions with port authorities at Geraldton have also commenced who have confirmed preliminary ability and capacity for concentrate export. Geraldton has been safely exporting lead concentrate for more than 20 years.

The Company is funded and on track to deliver a robust Pre-Feasibility Study in H2 2018.

## **Galena's Model and Explanation of Results**

Galena has a geologically controlled, high-grade model for Abra which has been proven by the results from the 12 holes completed in 2017 (see Figure 1). Significant intersections from final assays received during January from drill holes AB78 – AB81 are included in Appendix 2. The labelled drill holes in Figure 1 represent the pierce point that each drill hole intersected the top of the strata bound zone.



**Figure 1: Plan view of the best intersections from both Galena and historic drill holes within the high grade strata bound apron, the projected position of the high grade feeder zone/core beneath the apron and the inner core.**

Abra is a very large deposit with zonation at depth transitioning from dominant lead-silver type in the upper zones (which starts at approximately 230 vertical metres below surface) to a copper-gold style deposit at depth. There is some overlap in mineralisation styles.

The deposit can be divided into two main parts. The upper “Apron” zone comprises strata-form massive and disseminated lead- sulphides (galena) and minor copper sulphides (chalcopyrite) within a highly altered sequence of clastic and dolomitic sediments. Alteration products include jasperlitic rich sediments (the “Red Zone”) and a distinctive stratiform zone of hematite-magnetite alteration (the “Black Zone”. The Apron zone extends for 1,000m along strike, 700m down dip and dips gently south.

The “Core” zone underlies the Apron and comprises an elongate funnel shaped body of hydrothermal breccias, veining and intense alteration overprinting gently south dipping sediments. The veining and breccia zones in the Core typically dip steeply to the north. High grade lead sulphide mineralisation is predominantly hosted in intensely veined zones. High grade zinc sulphide mineralisation (sphalerite) is found in the central parts of the Core. Copper (chalcopyrite) and gold mineralisation is sporadically found throughout the upper parts of the Core zone but forms coherent body at the base of Core. The core zones extends from 300 to 750m below surface and can be traced for 400m along strike.

Abra is a significant, world-class undeveloped lead-silver deposit with in excess of 4Mt contained lead defined. The deposit is sedimentary hosted replacement style with the upper sections dominated by stratabound lead-silver horizons that dip shallowly to the south. These horizons are fed by steeper dipping vein dominant mineralised zones that again contain high grade lead and silver but can also contain zinc and copper and gold at depth. These veins maintain a higher density under the centre or core of the deposit however they can also be found under the peripheral parts of the stratabound (or apron) mineralisation. The apron extends over an area of approximately 1,000 metres by 800 metres and has not been closed off by drilling.

Significant copper and gold intersections occur at depth within the vein mineralisation. These include:

- 4m @ 6.3% Cu and 0.2 g/t Au from 716m in AB22A (including 1m @ 10.5% Cu from 716m); and
- 8m @ 5.8 g/t Au and 1.0% Cu from 506m in AB3 (including 1m @ 15.0 g/t Au from 509m).

A high grade resource estimate was not completed for these commodities at this time.

Figure 2 is a 3 dimensional representation of the significant mineralised zones within both the apron and vein zones.

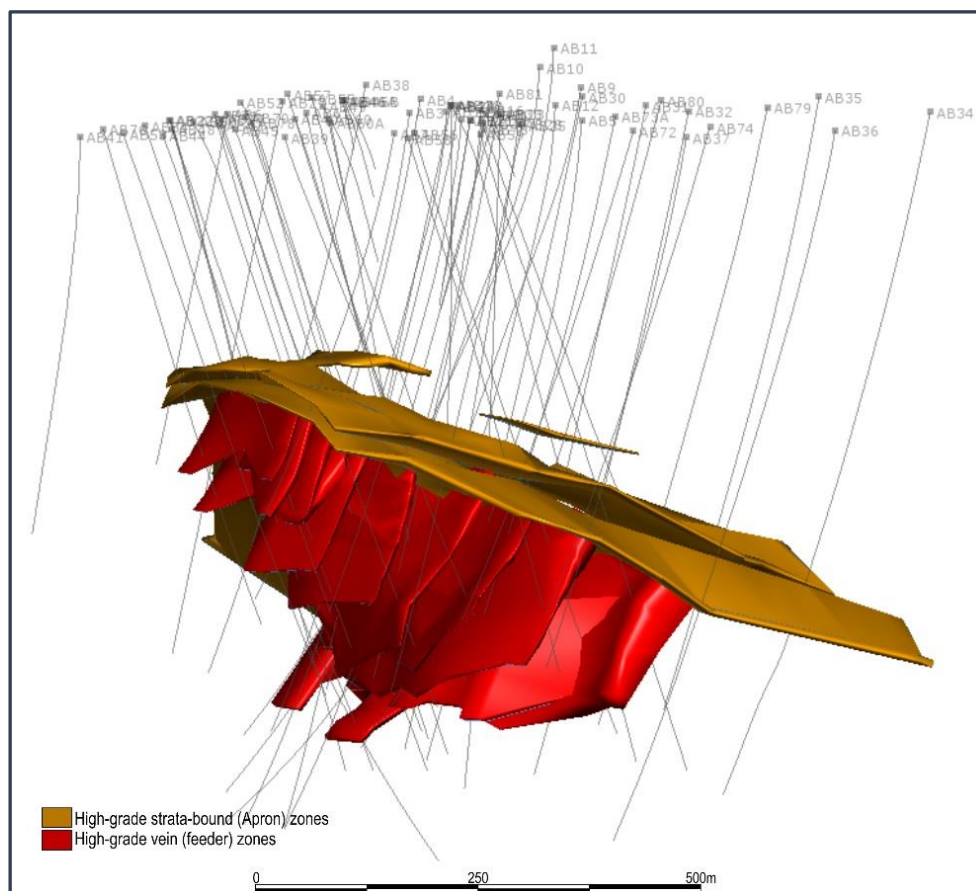


Figure 2: 3D view of Abra looking south east highlighting the high grade mineralised zones and scale.

## **Subsequent Activities**

Subsequent to the quarter end, Galena undertook an oversubscribed placement to raise \$9 million (before costs) with strong support received from domestic and international institutions and sophisticated investors, as well as a number of existing shareholders.

Funds raised pursuant to the Placement will be used for:

- Further infill and expansion drilling at the Abra Lead-Silver Project (“Abra”) – starting imminently;
- Completion of a Pre-Feasibility Study on Abra, targeted for September 2018;
- Advancing a Bankable Feasibility Study on Abra, targeted for completion mid CY2019;
- Further exploration at regional exploration targets including the Woodlands Prospect (50km west of Abra) – starting imminently; and for
- General working capital purposes.

## **Cash Position**

As at the end of March 2018 quarter, the Company approximately had \$2.3 million in cash comprised of cash at bank and term deposit balances.

## **Competent Person Statement**

The information in this report related to the Abra Mineral Resource estimate is based on work completed by Mr A Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG a Director of Galena Mining Limited and Mr Don Maclean MSc (Geol), MAIG and RP Geo (Exploration and Mining), MSEG, a consultant to Galena Mining. Mr Byass was responsible for technical oversight and reporting of the estimate. Mr Maclean was responsible for data review, QAQC, development of the geological model and resource estimation. Mr Byass and Mr Maclean have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Byass and Mr Maclean consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report to which this statement is attached that relates to Exploration results and drilling data is based upon information compiled by Mr E Turner B.App Sc, MAIG who is an employee of Galena Mining. Mr Turner has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. Mr Turner consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

## **For further information contact:**

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### Appendix 1 – Tenement Information as Required by the Listing Rule 5.3.3

Country	Location	Project	Tenement	Change in Holding (%)	Current Interest (%)
Australia	WA	Mulgul	M52/0776	-	100
Australia	WA	Jillawarra	E52/1413	-	100
Australia	WA	Mulgul	E52/1455	-	100
Australia	WA	Camp	G52/0286	-	100
Australia	WA	Camp	L52/0121	-	100
Australia	WA	Woodlands	E52/3575	-	100

### APPENDIX 2: Galena Mining Significant Assay Results AB78-81

Minimum Pb intersection: 4m@5.0% Pb. Maximum internal dilution 4m@<5.0% Pb.

Minimum Cu intersection: 2m@1.0% Cu. Minimum Au intersection: 2m@1.0ppm Au.

HOLE ID	FROM	TO	INTERVAL (downhole)	GRADE Pb (%)	GRADE Ag (ppm)	GRADE Zn (%)	GRADE Cu (%)	GRADE Au (ppm)
<b>AB78</b>	395.97	407.12	11.15	7.45	12.11			
<b>Inc</b>	<b>395.97</b>	<b>400.30</b>	<b>4.33</b>	<b>12.26</b>	<b>22.39</b>			
<b>AB78</b>	429.27	435.9	6.63	6.77	8.29			
<b>AB78</b>	537.03	543.21	6.18	6.64	11.61			
<b>AB78</b>	550.30	572.01	21.71	11.99	21.48			
<b>Inc.</b>	<b>550.30</b>	<b>554.40</b>	<b>4.10</b>	<b>30.89</b>	<b>51.03</b>			
<b>Inc.</b>	<b>562.04</b>	<b>568.29</b>	<b>6.25</b>	<b>13.96</b>	<b>22.87</b>			
<b>AB78</b>	599.47	616.06	16.59	7.11	14.26			
<b>AB78</b>	659.94	671.62	11.68				1.56	0.36
<b>AB79</b>	552.15	582.14	29.99	10.94	8.72			
<b>AB79</b>	598.00	604.00	6.00	5.44	9.08			
<b>AB79</b>	683.42	689.41	5.99					3.52
<b>AB79</b>	686.00	690.67	4.67				2.82	1.04
<b>AB80</b>	383.55	394.00	8.45	5.35	16.13			
<b>AB80</b>	389.10	392.00	3.90			3.62		
<b>AB80</b>	422.60	452.40	29.8	8.23	12.27			
<b>Inc.</b>	<b>430.00</b>	<b>433.32</b>	<b>13.32</b>	<b>10.52</b>	<b>14.57</b>			

<b>AB80</b>	561.65	573.15	11.50	6.40	9.51			
<b>AB80</b>	594.68	600.75	6.07	6.73	8.78			
<b>AB80</b>	613.91	618.05	4.14	5.61	5.85			
<b>AB80</b>	649.00	652.08	3.08				1.86	7.53
<b>AB81</b>	452.00	459.00	7.00	13.05	18.00			
<b>AB81</b>	509.00	513.04	4.04	7.92	9.20			
<b>AB81</b>	574.15	592.86	18.71	10.85	15.45			