# drake resources

**ASX Announcement** 10 September 2015

## **Exploration Update – Nordic Copper / Zinc**

- Sulitjelma field program reports up to 0.76% Cu and 0.32% Zn from outcrop and individual mine dump grab sample results of up to 4.4% Cu; 1.7% Zn; >10% Pb and, 645g/t Ag
- Joma Copper/Zinc surface float grab sample result- 2.73% Copper, 0.04% Zinc and 41 g/t Ag
- Bergslagen (nickel) and Seimana (gold) program results pending

Drake Resources has recently concluded field programs over Sulitjelma, Joma, Bergslagen and Seimana programs. Salient results of the Sulitjelma and Joma work follows.

#### Sulitjelma Field Program – Drake / Panoramic JV<sup>1</sup>

A field checking program was conducted to appraise VTEM anomalism not tested by ground EM and to further appraise specific targets generated from the recently completed VTEM and ground Fixed Loop EM surveys. The objective of the program was to also assess the limits and grades of sulphide outcrop as preparatory work for drilling.

Selected grab samples (table 1) were also collected from mine dumps of the now closed Bursi, Ny Sulitjelma and Jakobsbakken Mines (fig 3) to support other field observations and characterise the elemental signature associated with regional mineralisation.

All samples contained Cu/Zn mineralisation and most results support general assumptions regarding copper/zinc distribution and previous production at the Sulitjlema ore field with the exception being sample SJV0016 which recorded >10%Lead and 645g/t Silver (Ag).

Mr Stirbinskis added "The anomalous lead/silver result is very unusual for the geology of the immediate area, however silver ore was historically mined from an area ~ 7kms to the south. We will consider this result in the context of our regional land holding and strategy.

Sample Number	Weight Kg	East	North	Sample Type	Cu (%)	Zn (%)	Pb (%)	Ag ppm
SJV0010	0.84	540871	7448410	Outcrop grab	0.84	0.03	0.00	2
SJV0011	0.67	556221	7443696	Outcrop grab	0.77	0.32	0.00	1
SJV0012	1.18	556201	7443694	Outcrop grab	0.32	0.10	0.00	1
SJV0013	0.76	543121	7448850	Mine dump grab	0.89	1.68	0.01	7
SJV0014	1.05	543440	7442355	Mine dump grab	0.34	0.02	0.67	45
SJV0015	1.72	543440	7442355	Mine dump grab	0.17	0.06	3.77	224
SJV0016	2.11	543440	7442355	Mine dump grab	0.20	0.02	>10.00	645
SJV0017	1.29	543440	7442355	Mine dump grab	1.61	0.82	2.46	104
SJV0018	1.3	549493	7447319	Mine dump grab	4.40	1.19	0.05	24
SJV0019	1.52	549493	7447319	Mine dump grab	1.95	1.66	0.08	21

Table 1: Details of samples collected at Sulitjelma sites

#### Joma Field Program

Drake also returned to Joma in July and used the opportunity to scope out potential drill rig access issues related to various geophysics targets previously announced<sup>2</sup>. A single grab float sample collected in a swampy area above the eastern edge of anomaly 10, returned 2.75% copper (table 2).

Sample	Weight	East	North Sample Type		Cu (%)	Zn (%)	Pb	Ag
Number	Kg						(%)	ppm
JOMA EM3	0.73	445211	7192590	Grab sample of surface float	2.73	0.04	0.01	42

Table 2: A single surface sample was collected while scoping site access options at Anomaly 10, Joma.

Anomaly 10 and nearby anomaly 11 (fig 2) were identified from geophysics programs conducted in 2013. Anomaly 10 is a conductor that suggests the possibility of shallow sulphide mineralisation of size.

The most prospective target is Target 1, an EM conductor associated with a particularly large magnetic anomaly less than 1km from the Joma Mine entrance. Whilst target 1 was also scoped, it lies within a swamp area and no surface samples were collected.



Figure 1: Sulitjelma Project. Numbered yellow dots are locations of recent surface sampling.



Figure 2: Joma Geophysical targets on aeromagnetic image and location of surface float grab sample (white star)

**Note 1:** Under the Sulitjelma JV terms, Panoramic has the right to sole-fund exploration to earn a 70% interest in the project. Drake can participate in the projects at 30% or 10% or revert to a 2% Net Smelter Return royalty **Note 2**: See Drake announcement 05/09/13

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#### Competent Persons Statement

The information in this report that relates to 2015 exploration results is based on, and fairly represents, information and supporting documentation compiled by Dr Bob Beeson. Dr Beeson is a member of the Australasian Institute of Geoscientists, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Dr Beeson consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

**Caution Regarding Forward Looking Information.** This document contains forward looking statements concerning Drake. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes. Forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future development.

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### APPENDIX 1 - JORC Code, 2012 Edition – Table 1 report template – July 2015 Sulitjelma andJoma Rock Chip Results

#### **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation Co	ommentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).</li> </ul>	Not applicable
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	Not applicable

Criteria	JORC Code explanation Con	nmentary
	<ul> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	Not applicable
	• Whether logging is qualitative or quantitative in nature. Core (or costean,	Qualitative
	<ul><li>channel, etc) photography.</li><li>The total length and percentage of the relevant intersections logged.</li></ul>	Not applicable
Sub-sampling	• If core, whether cut or sawn and whether quarter, half or all core taken.	Not applicable
techniques and sample	<ul> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	Sampled dry and not split in the field
preparation	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to</li> </ul>	Samples prepared by ALS method 31B. Sample crushed to 70% less than 2mm, riffle split off 1kg (where >1kg), pulverize 1kg split to better than 85% passing 75 microns.
	maximise representivity of samples.	None
	<ul> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field</li> </ul>	None. In all but 7 samples weights were less than 1kg.
	<ul> <li>Whether sample sizes are appropriate to the grain size of the materia being sampled.</li> </ul>	Sample sizes would appear to be appropriate to the grain sizes
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	ALS Global: analysis for 33 elements by four acid digest and using method MEICP 61a -on a minimum 1 g sample. Quality Assurance/Quality Control (QA\QC) according to the ALS Minerals Quality Management System included standards and blanks routinely inserted into the sample stream with at least one standard sample inserted per sample batch submitted to the laboratory. Where samples reported > 10% Pb or >200ppmAg they were re-assayed using Method OG62 where a Four Acid Digestion with ICP-AES or AAS Finish was conducted on a minimum sample weight of 0.5g
		Not applicable
		Reliance placed on ALS internal quality control procedures.

Criteria	JORC Code explanation C	ommentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>The presence of massive sulphides at the Sulitjelma locations has been previously mapped and sampling recently located in old reports in the area has previously verified anomalous Cu Zn but field verification of the site and samples has not been conducted as yet by an independent or Drake geologist. Drake is not aware of any previous sampling above anomaly 10 -Joma</li> <li>Primary data was collected using a standard excel template with lookup codes</li> <li>Assay results for samples and quality assurance/quality control (QA/QC) materials are entered into the IO Global database when received. All assay and QA/QC results are received electronically and uploaded.</li> <li>No adjustment of assay data, nor twinned holes were undertaken.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>locations are surveyed in Universal Transverse Mercator (UTM) coordinates, WGS84 UTM Zone 33N using a Garmin hand held field GPS with accuracy of 4-5m.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The sampling conducted was of surface grab samples as the first attempt at seeking an explanation for the interpreted geophysical anomalies.</li> <li>Sampling of mine dumps was of selected grab samples to characterise the geochemical signature of the ore grade mineralisation from past producing mines at Bursi, Ny Sulitjelma and Jakobsbakken.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	
Sample	• The measures taken to ensure sample security.	• No measures were specifically taken to ensure sample security.

Criteria	JORC Code explanation	Commentary
security		
Audits or reviews	The results of any audits or reviews of sampling techniques and data	<ul> <li>No audits or reviews have been conducted at this stage.</li> </ul>

### 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	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Sulitjelma samples collected all fall within claims held by Drake Resources Sweden AB on behalf of the Sulitjelma Joint Venture with Panoramic Resources Ltd in which Panoramic are earning a 70% equity by spending Au\$800,000 on exploration after which Drake has the right to contribute or dilute to 20% or 10% or thereafter a 2% NSR royalty. The claim is granted until March 2018 and is in good standing with the Mining Directorate.</li> <li>Joma occurs on the 12km<sup>2</sup> Orvatnet permits held by Joma Naeringspark AS. The claims were issued in 2010 and are valid for 7 years. Drake holds an Exploration and Exploitation Agreement with Joma Naeringspark. Under the agreement Drake has the ability to obtain a 100% interest upon meeting option payment and milestone obligations. The permits remain in good standing. Verbal advice from the Norwegian Mining Directorate is that there are no prior claims or mining titles and that there are no environmental liabilities other than for work programs conducted by Drake during the tenure of the claim</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The Sulitjelma VTEM+ survey was flown by Geotech Ltd in August 2014 and anomalies 3 and 4 were followed up with Fixed Loop ground EM conducted by Suomen Malmi Oy from Finland. Data from both surveys were provided to Newexco Ltd Perth for processing and modelling and recommendations as to drill targeting. Geological inspection and sampling was conducted by Rune Wilberg.</li> <li>Joma was a producing open pit and underground mine between 1978 and 1998 owned and managed by Grong Gruber AS. An extensive database of information related to near mine exploration and mine</li> </ul>

Criteria	JORC Code explanation	Commentary
		development is available from this period. IGE Nordic conducted a review of the deposit and historical database in 2007 and produced an estimate of residual tonnages and grades of residual mineralisation.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Sulitjelma orebodies are recognized as stratiform, strata-bound pyritic Cu(Zn) sulfide ores, the products of volcanic-associated hydrothermal sedimentary exhalative formation, The ores are interpreted as having been formed at a single stratigraphic interval on the basaltic Ordovician sea floor.</li> <li>The Joma deposit consists of an en echelon array of massive sulphide lenses between two major pillowed volcanics in an overturned limb of a major isoclinal fold. The individual lenses vary greatly in thickness and length with the massive zone attaining a maximum thickness of about 50m. The orebody forms a folded, platelike body that dips steeply to the west-southwest from surface and flattens out at depth. The northern and eastern parts of the orebody outcrop and the orebody at depth has been defined by surface and underground drilling. The ore has been mined from a small open pit and from underground workings, both of which are now flooded</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	• Not applicable
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	<ul> <li>No top cuts have been applied to Table A, and no composite grades have been calculated.</li> <li>No metal equivalent values are used</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	• The results apply to single samples of between 0.67 and 2.11 Kg as described in the Table 1.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	• Not applicable.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Refer to figures in body of text
Balanced reporting	<ul> <li>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.</li> </ul>	• Assay results are for all samples collected, and are reported for Cu,Zn, Ag the anomalous economically significant component of a 33 element assay program.
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul> <li>A VTEM survey over the broader area identified numerous anomalies within the Sulitjelma claim area. The particular targets 3 and 4 chosen for this preliminary sampling program was selected VTEM anomalies on which ground fixed loop EM had been conducted.</li> <li>No metallurgical work has been conducted</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Drillhole locations have been identified for Sulitjelma and Joma. Drill programs have not been scheduled at this stage.</li> </ul>