

Sierra de las Minas Gold Project

La Rioja, Argentina

阿根廷拉里奥贾省Sierra de las Minas金矿项目



Project Summary 项目概述

- Three main mesothermal quartz vein-hosted gold prospects have been identified in the Sierra de las Minas (“SLM”) gold project: El Abra, JV and Maestro Agüero.
- Diamond drilling at El Abra in 2012 returned intercepts (apparent widths) including:
 - 2.4m @ 21.49 g/t Au (POZ02 from 98.95m, inc. 1m at 50 g/t)
 - 3.65m @ 11.56 g/t Au (POZ09 from 39m, inc. 0.2m at 19.1 g/t)
 - 2.42m @ 10.29 g/t Au (POZ13 from 26.62m, inc. 1m at 20.5 g/t)
- El Abra has significant historical small scale mine workings.
- Reinterpretation of historical drill data for JV prospect generated intercepts (apparent widths) including:
 - 1.80m @ 15.55g/t Au (JVDH24 from 20.3m)
 - 6.45m @ 6.92 g/t Au (JVDH30 from 131.85m)
 - 7.90m @ 3.70 g/t Au (JVDH36 from 203.7m)
- Extensive database of rock chip, channel and trench samples from all three prospects.
- Initial metallurgical testwork completed on El Abra mineralisation in 2012 with positive results.
- Locally owned processing plant (gravity and flotation) established nearby in 2015, a memorandum of understanding for discussions regarding cooperation was signed with the plant owners.
- Sparsely populated setting, but all prospects readily accessible from major roads; please see maps on following page.

Project Summary 项目概述

- Sierra de las Minas (“SLM”) 金矿项目区内已发现了三个中温热液石英脉型金矿勘探远景区，分别为： El Abra, JV和Maestro Agüero
- 2012年在El Abra远景区内施工的金刚石钻孔揭露了一些好的见矿段，包括：
 - 2.4m @ 21.49 g/t Au (钻孔POZ02自98.95m起，含 1m @ 50 g/t)
 - 3.65m @ 11.56 g/t Au (钻孔POZ09自39m起，含0.2m @ 19.1 g/t)
 - 2.42m @ 10.29 g/t Au (钻孔POZ13自26.62m起，含1m @ 20.5 g/t)
- El Abra远景区内历史上曾有小规模的采矿作业
- 经过对JV勘探远景区历史钻孔的整理分析得到以下好的见矿段，包括：
 - 4.43m @ 3.0 g/t Au (钻孔JVDH24 自20.3m起，含1.8m @ 15.55 g/t Au)
 - 6.45m @ 6.9 g/t Au (钻孔JVDH30 自131.85m起)
 - 7.9m @ 3.70 g/t Au (钻孔JVDH36 自203.7m起)
- 在三个金矿勘探远景区采集了大量岩块样、刻槽样，并建立了样品数据库
- 2012年对El Abra区块金矿石所做的初步选冶试验显示了矿石具有较好的选冶性能
- 2015年，在SLM项目区附近建设了一座金矿选矿厂（重选和浮选）， ECR与选厂业主就选矿合作事宜签署了一份谅解备忘录
- 项目区内人烟稀少，但是交通便利，在主要公路与各个勘探远景区之间均有可通行的道路相连接

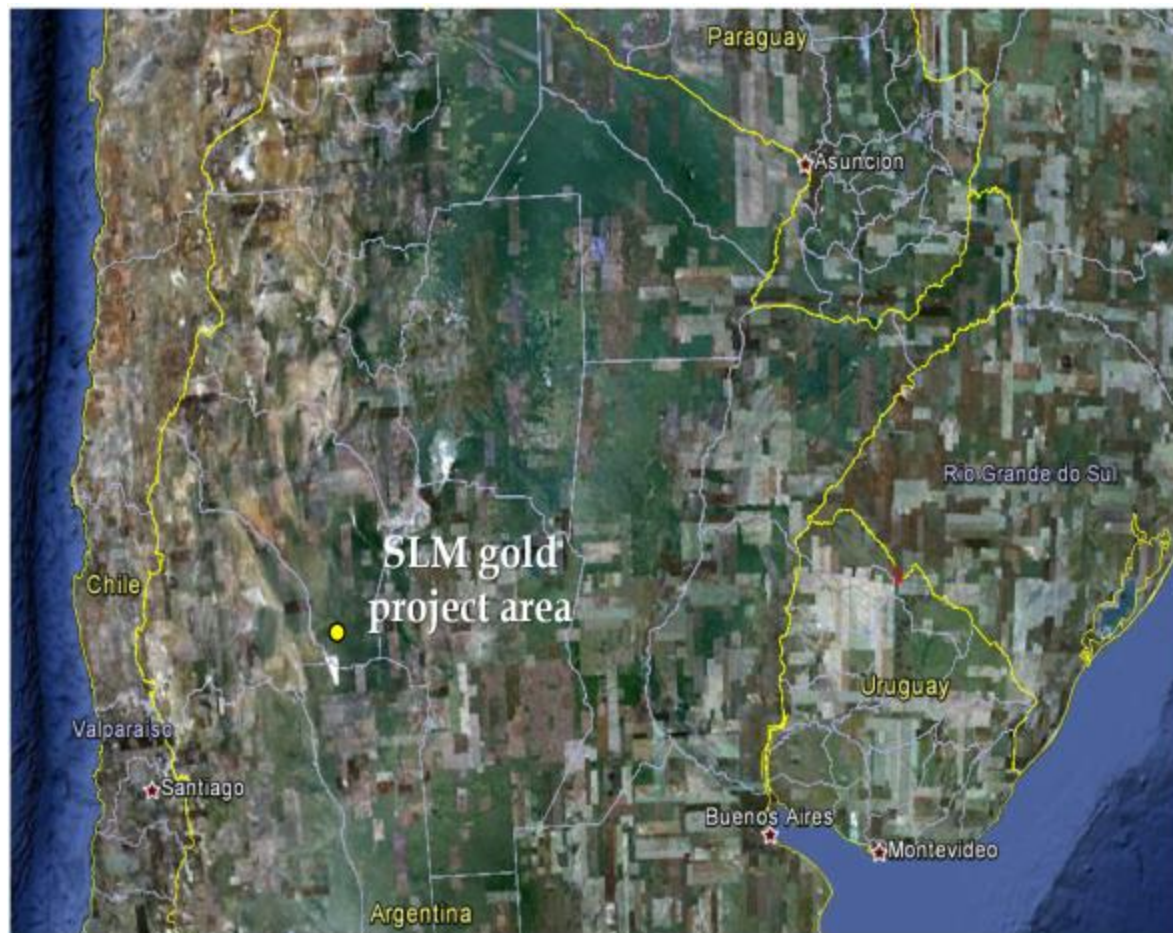
SLM Project Overview SLM项目概况

◆ Location and Access

- The property is 800km northwest of Buenos Aires city and 450km northeast of the city of Santiago, Chile. It occurs in the Province of La Rioja. The city of Cordoba is 193km east of the project and has an international airport. The El Abra prospect area and others are navigable by dirt tracks.

◆ 项目位置及交通

- SLM矿权区位于阿根廷首都布宜诺斯艾利斯北西约800km，智利首都圣地亚哥北东约450km，隶属于阿根廷拉里奥贾省管辖。该项目区以东约193km处的科尔多瓦市建有国际机场。有可通行的砂土路通往区内的El Abra等勘探远景区。



SLM Project Overview SLM项目概况

◆Ownership

- ECR Minerals plc through its wholly owned Argentine subsidiary Ochre Mining, has 100% ownership of the Sierra de las Minas (“SLM”) gold project in La Rioja Province, Argentina.
 - The project area contains numerous mesothermal quartz vein hosted gold prospects, some of which have historically been mined on a small scale.
 - Key prospects in the SLM project area include El Abra, JV and Maestro Agüero.
 - ECR Minerals plc (LON:ECR) is an AIM quoted precious metals exploration and development company.
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◆项目权属

- ECR矿产公司通过其阿根廷全资子公司Ochre矿业公司100%持有阿根廷拉里奥贾省Sierra de las Minas (“SLM”)金矿项目
- 项目区内有多个中温热液石英脉型金矿勘探远景区块，其中部分区块历史上曾有小规模的开采
- SLM项目包含El Abra, JV和Maestro Agüero三个主要的勘探远景区
- ECR矿产公司是一家在伦敦证交所AIM板上市的贵金属勘探和开发公司

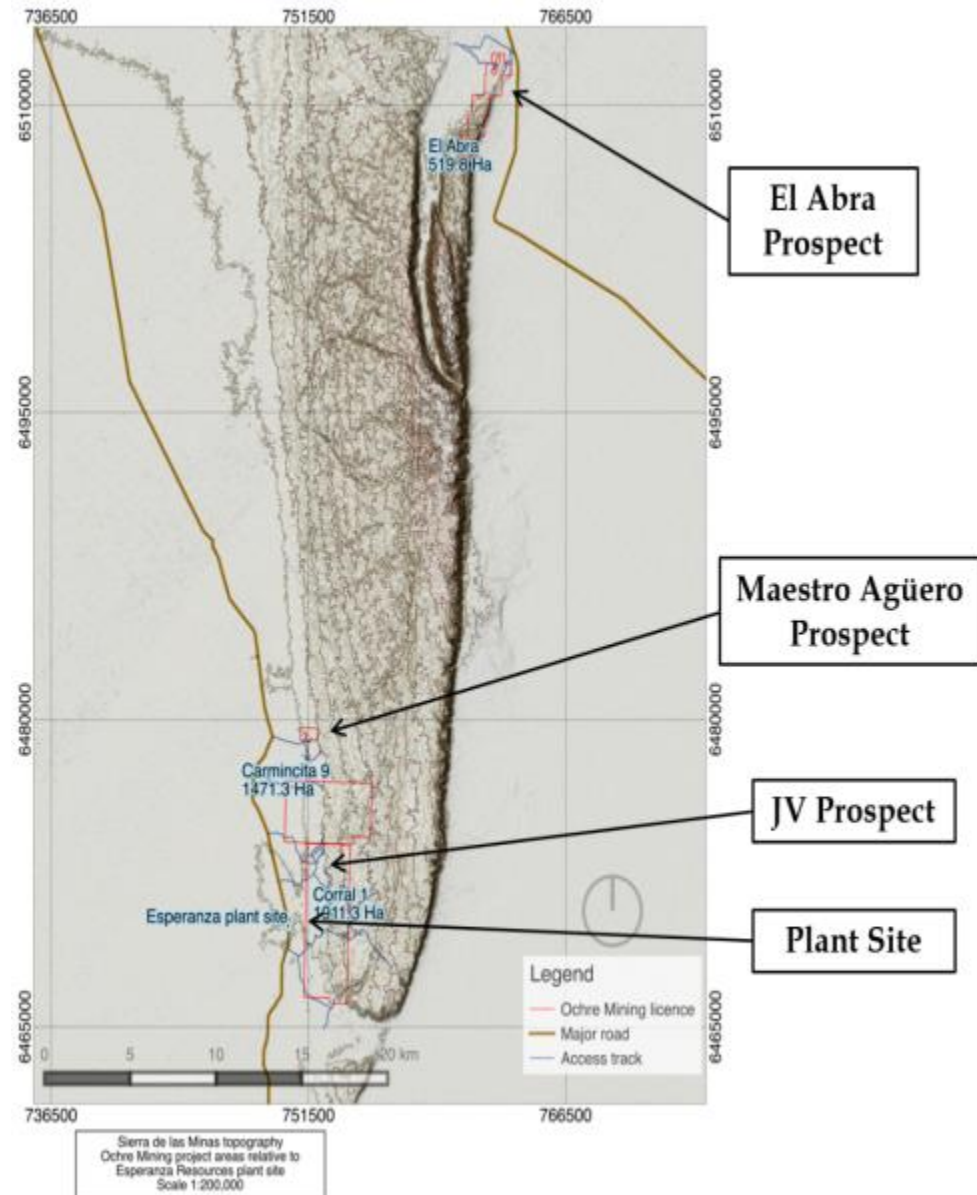
SLM Project Overview SLM项目概况

◆ Tenement Status

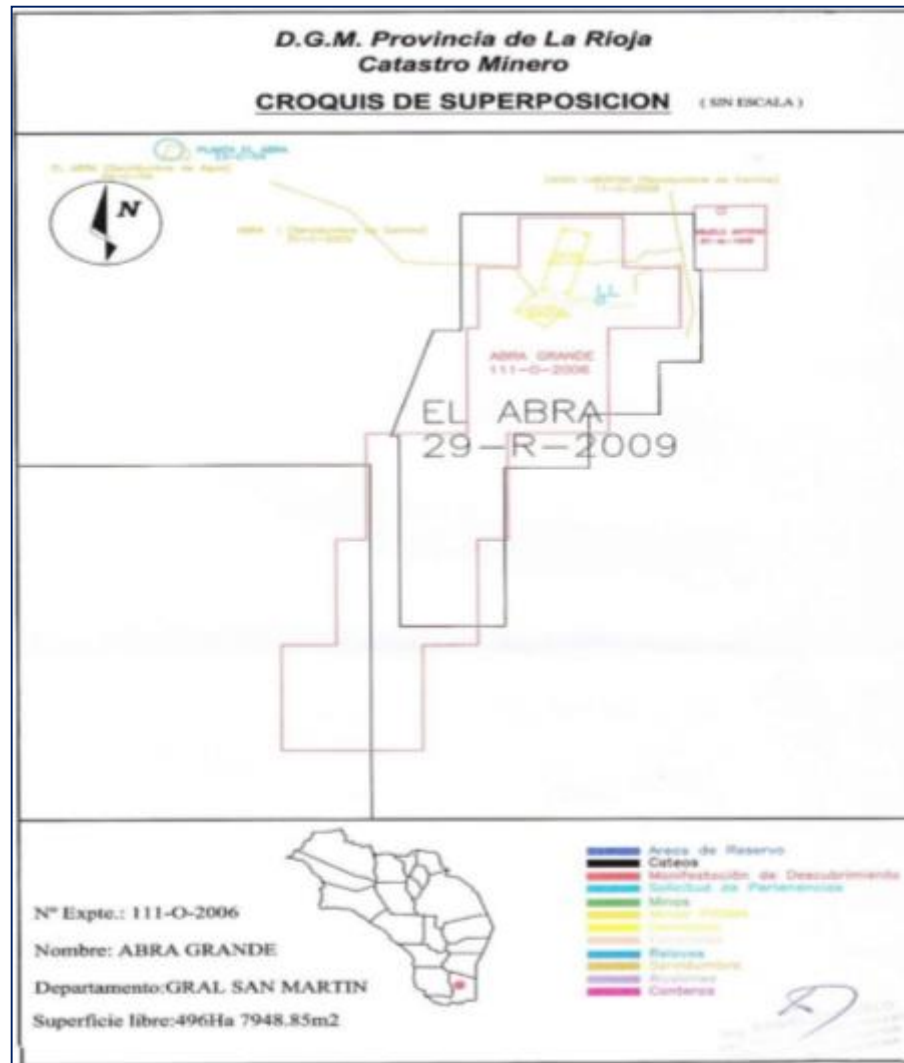
- The Sierra de las Minas project comprises exploitation permit “El Abra” 111-O-2006 as well as numerous other tenements, including those covering the JV and Maestro Aguero prospects to the SSW.
- A large quantity of exploration data is available for the three main prospects.

◆ 矿业权现状

- SLM项目由采矿许可证“El Abra” 111-O-2006以及其它采矿权构成，包括南部和西部的大面积区块
- 三大矿权区内的各个勘探区都有大量的勘探数据



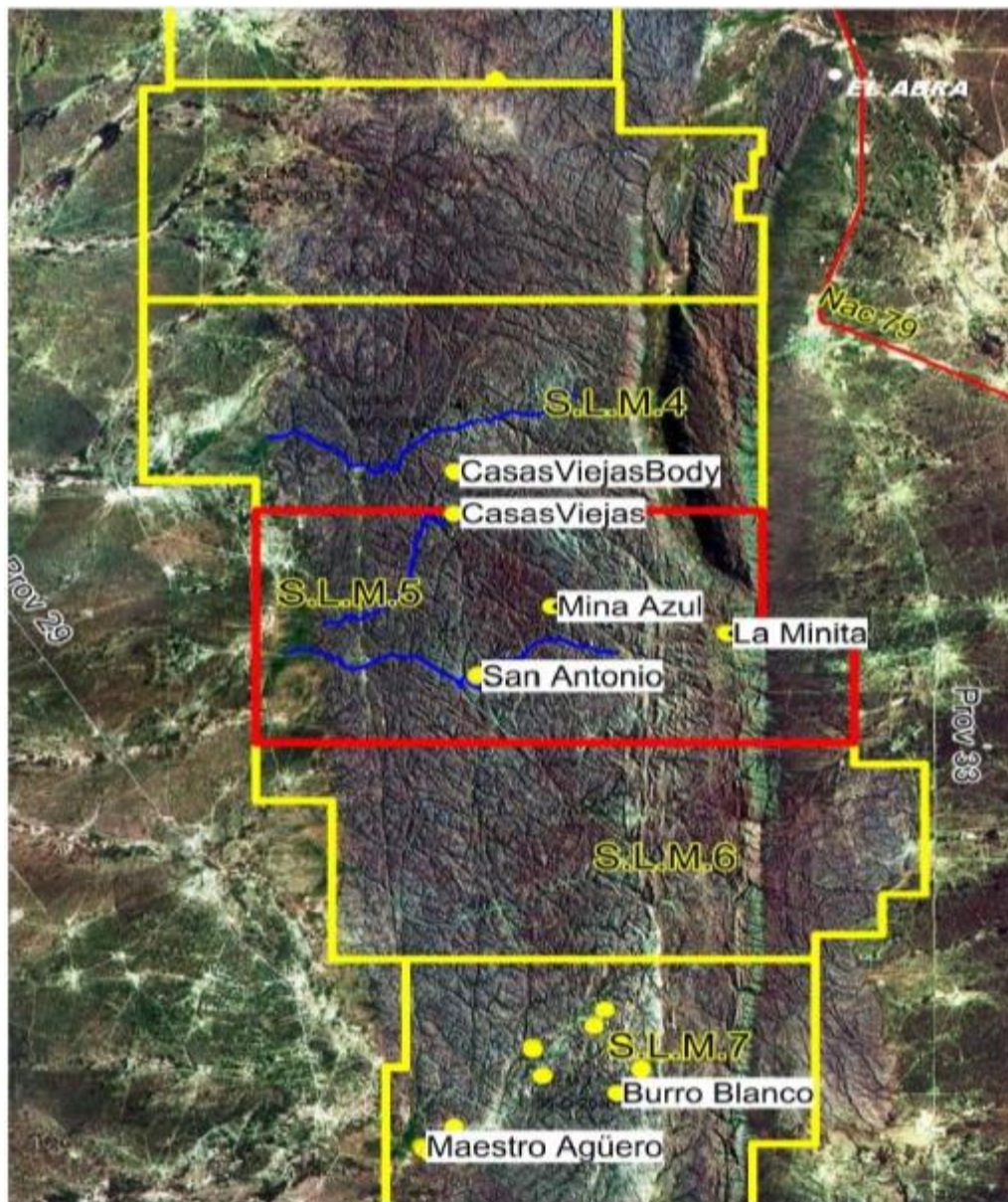
SLM Project Overview SLM项目概况



Tenement Map of the El Abra area

El Abra 区块探矿权范围

SLM Project Overview SLM项目概况



Tenement areas southwest of El Abra prospect

位于El Abra西南部的其他探矿权区块

◆ Regional Geology

- The project is located within a north south belt of foliated granites around 70km in length and up to around 13km wide.
- Various gold deposits (yellow dots) occur in the district in the form of auriferous mesothermal quartz veins.
- Some of these gold deposits also contain copper and or silver.

◆ 区域地质概况

- 项目区位于一个呈南北向展布的长约70km，最大宽度约13km的花岗岩体内（右图）
- 该地区发现有多处金矿点（图中黄色的点），均为中温热液含金石英脉型金矿
- 部分金矿点伴生有铜、银等金属



◆ Exploration History

- Artisanal mining in the early 1900s: small scale gold mining
 - Japanese – Argentine Mission (JICA) 1993-1995 : regional mapping and geochemistry
 - Australia Geological Survey Mission (AGSO) 1997 : regional mapping and metallogeny
 - La Plata Gold Corporation, 1996-1997 : surface geochemistry sampling
 - Golden Peaks Inc., 1997 to 2003 : geochemistry and geophysics south of El Abra prospect area
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◆ 以往勘查工作

- 二十世纪初曾有小规模的人工采金作业
- 1993-1995年期间，日本-阿根廷使团(JICA) 开展了区域地质填图和地球化学测量工作
- 1997年，澳大利亚地质调查团(AGSO)在该区做了区域地质填图和成矿研究工作
- 1996-1997年，La Plata 金矿公司在该区做了地表地球化学采样
- 1997-2003年，Golden Peaks 公司在El Abra勘查远景区南部开展了地球化学测量和地球物理探测工作

◆Geology and Mineralisation 地质与矿化

- El Abra prospect is a mesothermal quartz vein and shear zone in granite. It occurs for a length of 500m, and widths to 3m, but generally in the order of 0.5 to 1.5m wide. The El Abra vein strikes at 035 degrees and is essentially vertical. The quartz outcrop is intermittent and the vein pinches and swells for most of its length.
- El Abra勘探远景区内金矿石类型为中温热液石英脉型，产于花岗岩内的剪切带中，矿带长度约500m，宽最大3m，大多宽0.5-1.5m。矿脉走向北东35°，倾角近乎垂直
- Vein alteration haloes are variable in extent and these relate to the degree of shearing and fracturing which occurred at the time of the vein deposition.
- 矿脉蚀变程度不一，这与矿脉形成时的剪切作用和断裂作用强度有关
- Within the main vein structure there appears to be potential for three higher grade shoots based on the rock chip data
- 根据采集的岩块样数据，主矿脉所在的断裂构造中可能有三个较高品位的富矿体，如下：
 1. Chiflon in the south 南部的Chiflon
 2. Riel (central) 中部的Riel
 3. Herradura in the north 北部的Herradura
- Each of these potential shoots would be about 80m in length. Other prospects occur to the east such as Mojon, Vivora, Chicho-Howart and Vein 2.5.
- 这些潜在的富矿体长度大概在80m，其东部有其他勘探远景区，如Mojon, Vivora, Chicho-Howart 和Vein 2.5.

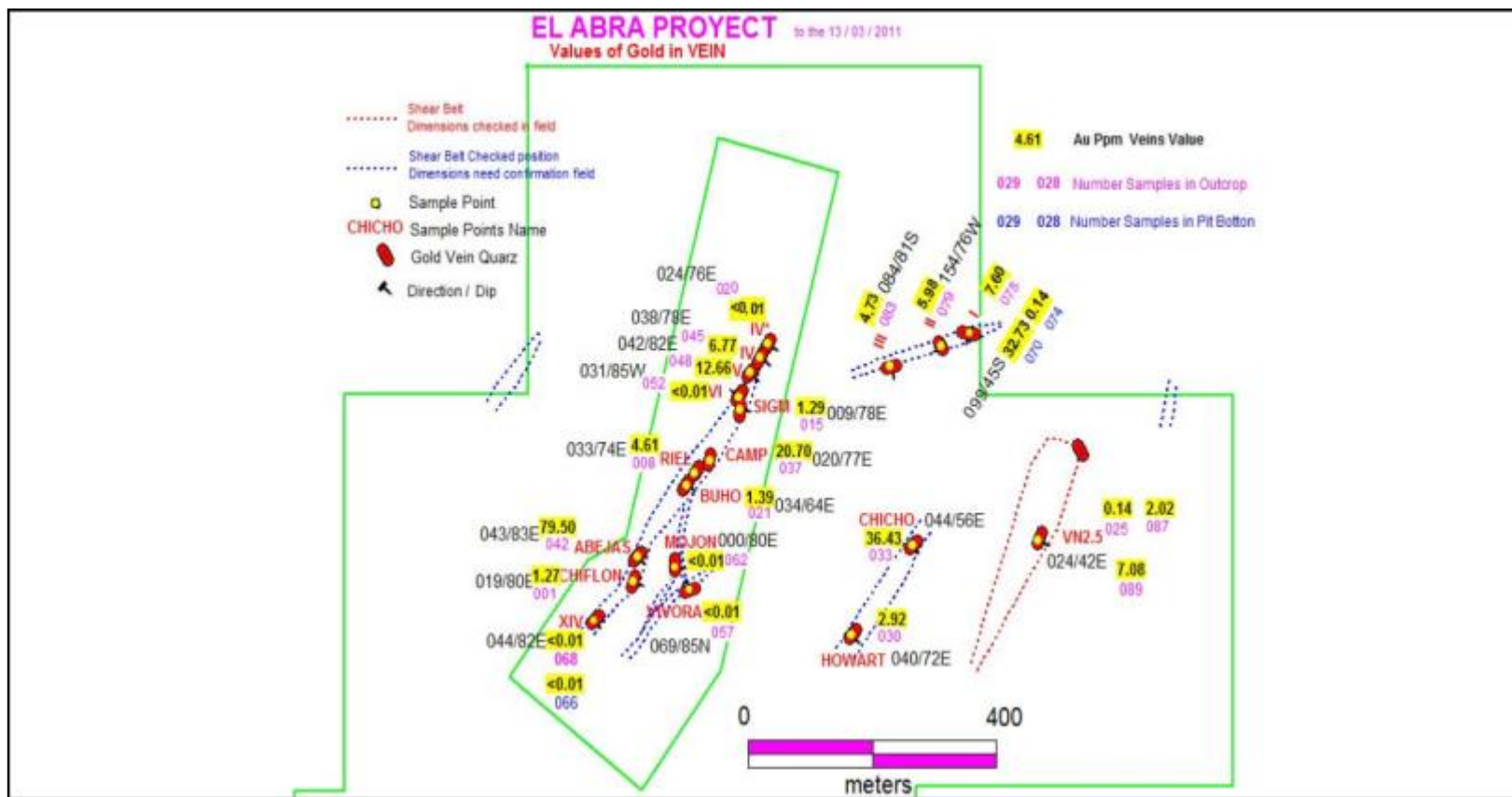
◆Exploration Activities 以往探矿工作

- In 2011, a surface geochemical sampling programme conducted by ECR confirmed the presence of high grade gold mineralisation hosted within and in association with approximately 500m of outcropping gold-bearing quartz veins.
- 2011年，ECR在该区做了地表地球化学采样工作，证实地表出露的长约500m的含金石英脉中赋存有高品位金矿
- During March and April 2012 ECR completed a 1,112m diamond drilling programme at El Abra. Of 13 holes drilled, three holes intersected very high grade gold mineralisation.
- 2012年3-4月，ECR在El Abra区块施工了13个金刚石钻孔，总进尺1112m，其中有3个孔见到了高品位的金矿化
- In September 2013, ECR conducted a programme of underground sampling from within historic mine workings. A total of 55 samples were collected and these samples averaged 1.22 Au g/t Au, 694 Cu g/t Au & 1.79 Ag g/t Au. The best group of assays received for the El Abra vein are from the El-Buho workings adjoining the Riel workings where 10 samples ranged up to 4.07 g/t Au and averaged 1.43g/t Au.
- 2013年9月，ECR对该区的采矿老隆进行了坑内取样，共采集样品55个，化验数据显示，采集样品平均品位含金1.22g/t，银1.79g/t，铜694g/t Au。化验结果最好的批次其样品取自与Riel临近的El-Buho老隆，10件样品最高品位4.07g/t Au，平均1.43g/t

Drilling Intersections 钻孔见矿段

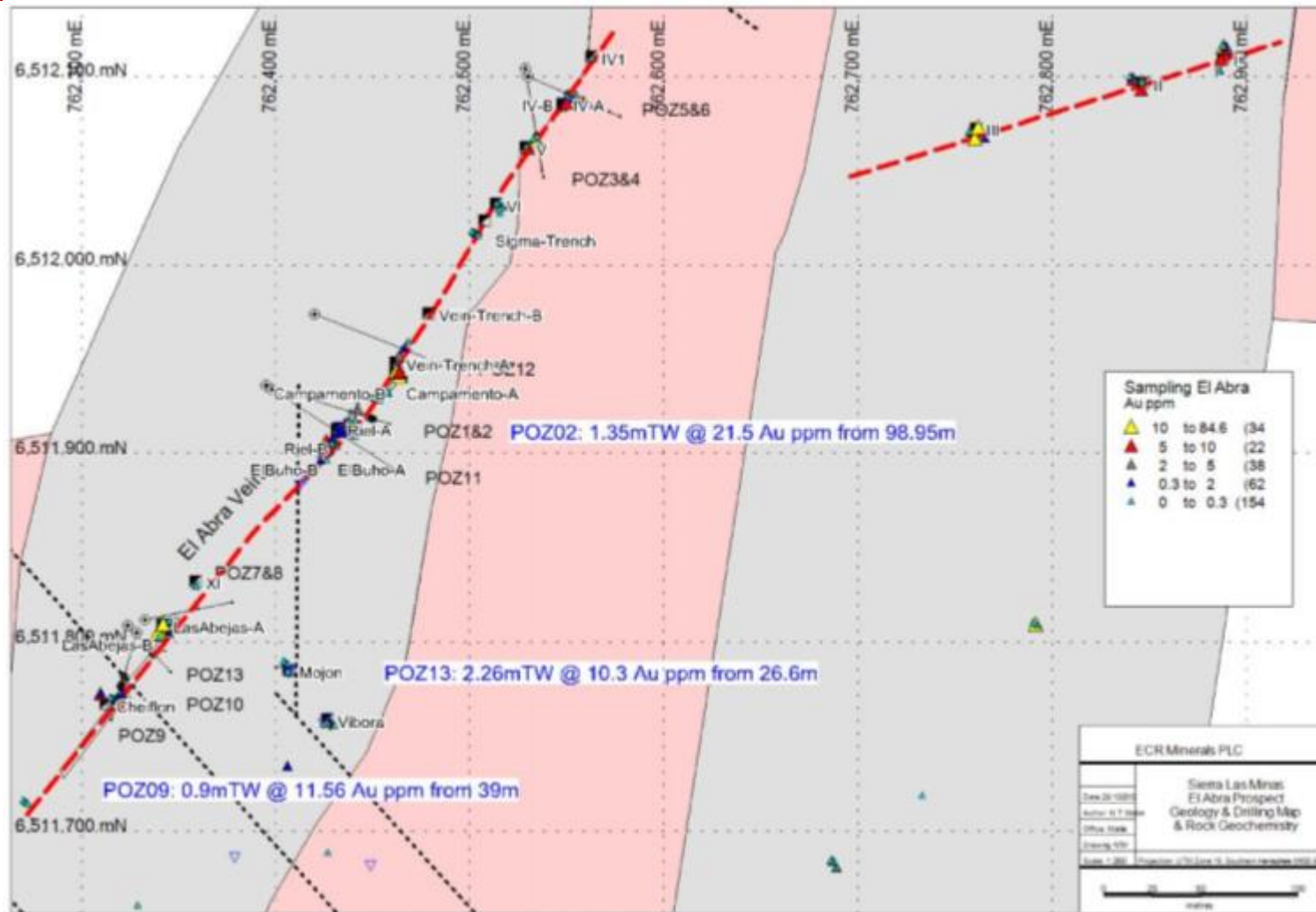
Hole ID	From (m)	To (m)	Length (m)	True Width (m)	Au ppm	Ag ppm	Au x W	Section
POZ01	81.05	81.90	0.85	0.59	0.26	0.30	0.15	Riel
POZ02	95.95	96.45	0.50	0.28	4.85	0.70	1.36	Riel
POZ02	98.95	101.35	2.40	1.35	21.49	4.67	29.01	Riel
POZ03	50.00	52.20	2.20	1.11	0.78	0.30	0.87	Herradura
POZ05	44.00	44.64	0.64	0.45	1.73	0.70	0.78	Herradura
POZ06	45.16	45.72	0.56	0.28	3.72	0.70	1.04	Herradura
POZ09	39.00	42.65	3.65	0.89	11.56	0.92	10.29	Chiflon
POZ10	47.50	49.10	1.60	0.28	0.35	0.41	0.10	Chiflon
POZ10	57.70	59.70	2.00	0.36	1.43	0.70	0.51	Chiflon
POZ13	26.62	29.85	2.42	2.26	10.29	0.51	23.26	Chiflon

El Abra Prospect | El Abra勘探远景区



- Surface sampling map of prospects in the El Abra area. A database of 325 rock chip samples has been created.
- El Abra区块地表取样分布图，共采集岩块样325件，经化验后建立了数据库，有关数据见上图

El Abra Prospect | El Abra勘探远景区

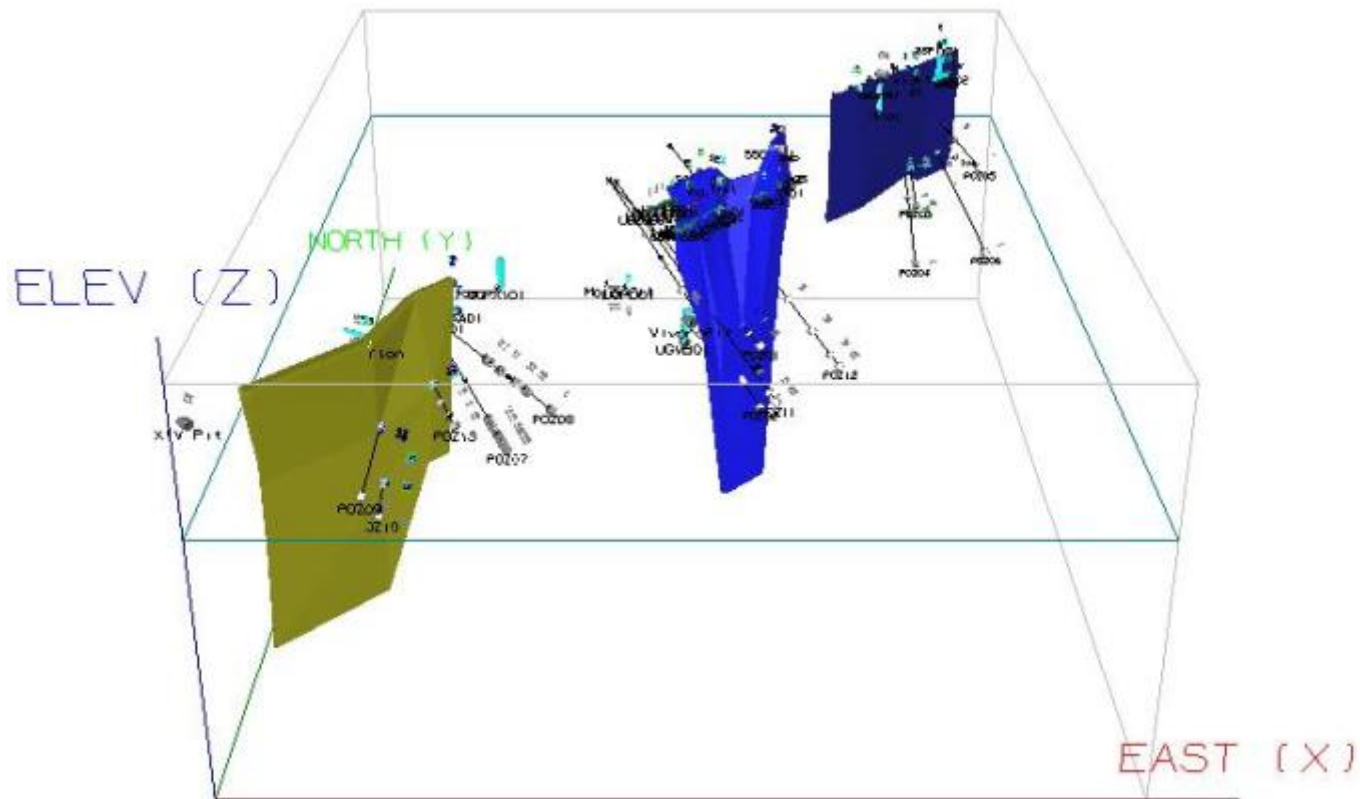


El Abra prospect drilling and rock chip sampling map

El Abra远景区钻孔及岩块样位置图

◆Wireframe Modelling 三维矿体模型

- Three wireframes (presented below) were generated by using surface sampling data, underground sampling data, drilling data etc.
- 用地表取样、坑道取样及钻孔数据等勘探信息建立了3个矿体的线框模型，如下图所示



◆Potential Resource Estimate 资源量估算

- Based on the 3D wireframes established, a potential resource estimate has been made, and amounts to 13,870 ounces at a grade of 4.04 g/t Au (see the table below).
- 根据建立的三维矿体模型，初步估算了El Abra远景区内的资源量，合计含金金属量13,870盎司，平均品位4.04g/t，如下表所示

Potential Resource Estimate Summary Table
资源量估算统计表

El Abra	La Rioja					
Solid	Version	Ore Volume (m3)	Ore Tonnage	Au ppm	Au Oz	SG
Riel	V4	18,390	49,652	3.91	6,235	2.70
Herradura	V4	8,507	22,969	2.66	1,966	2.70
Chiflon	V4	12,642	34,134	5.17	5,669	2.70
TOTAL			106,755	4.04	13,870	

- None of these resources can be considered JORC Code compliant.
因已完探矿工作有限，以上估算的资源量并非JORC标准
- Upper assay grades have been cut to 50 g/t Au. 金特高品位按50g/t进行处理

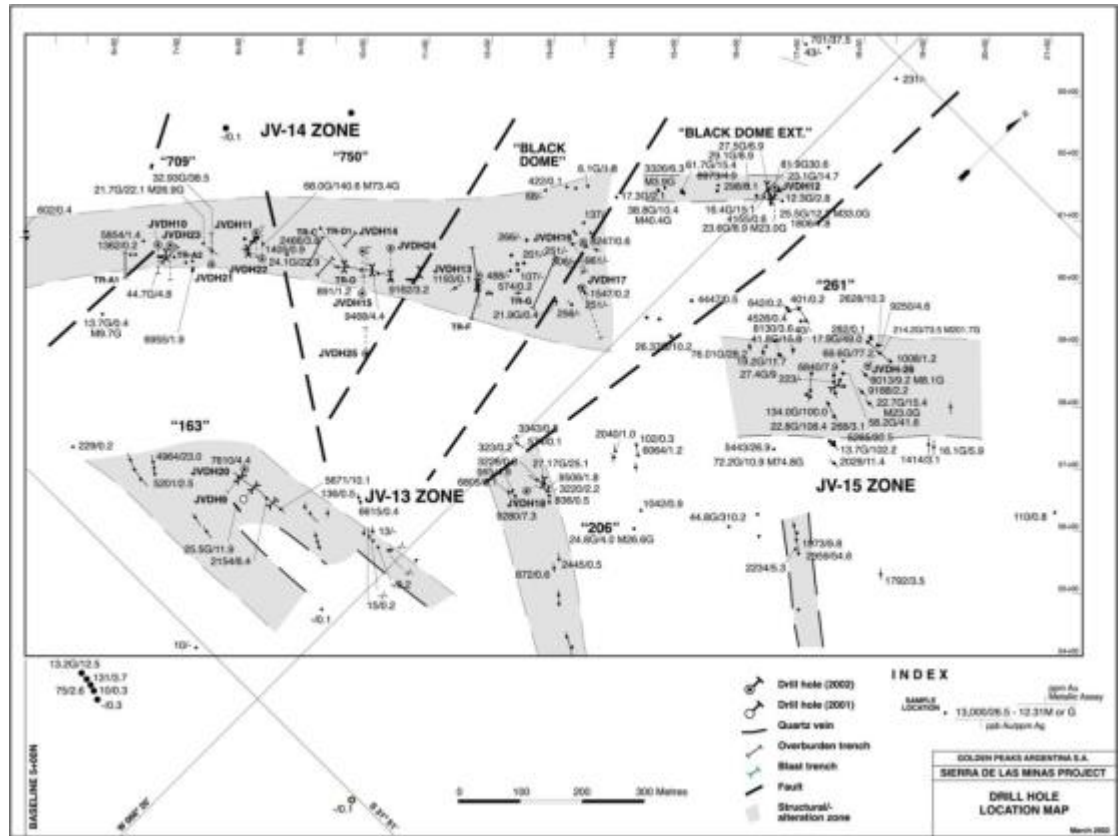
◆ Further Exploration Potential 进一步找矿潜力

- The El Abra quartz vein is structurally continuous for at least 500 metres and may be even longer. Certain zones appear to form shoots that if each were systematically drilled they would likely yield a resource.
- **El Abra** 区块石英矿脉延伸长度大于**500m**，进一步工作将可能发现更大的规模。局部地段有形成富矿体的潜力，进一步系统的钻探有可能揭露和获得可观的资源量。
- The 3D wireframes established show all mineralised bodies are still open along strike and down dip; further drilling would be needed to better outline these bodies and potentially discover others.
- 建立的**3D**线框模型显示所有的矿体在沿走向和倾向方向均没有被控制住，需要开展进一步的钻探工作来圈定矿体规模，这个过程中还很可能发现新的矿体。
- Other prospects appear to have similar potential. These prospects include Vein 2.5, Pits I to III structure, Casa Viejas and perhaps more.
- **El Abra** 区内尚未估算资源量的其他潜力区段也有类似或者更好的潜力，但目前还没有充足的探矿数据，这些区段包括**Vein 2.5, Pits I ~ III, Casa Viejas**等等。

JV14 Prospect | JV14勘探远景区

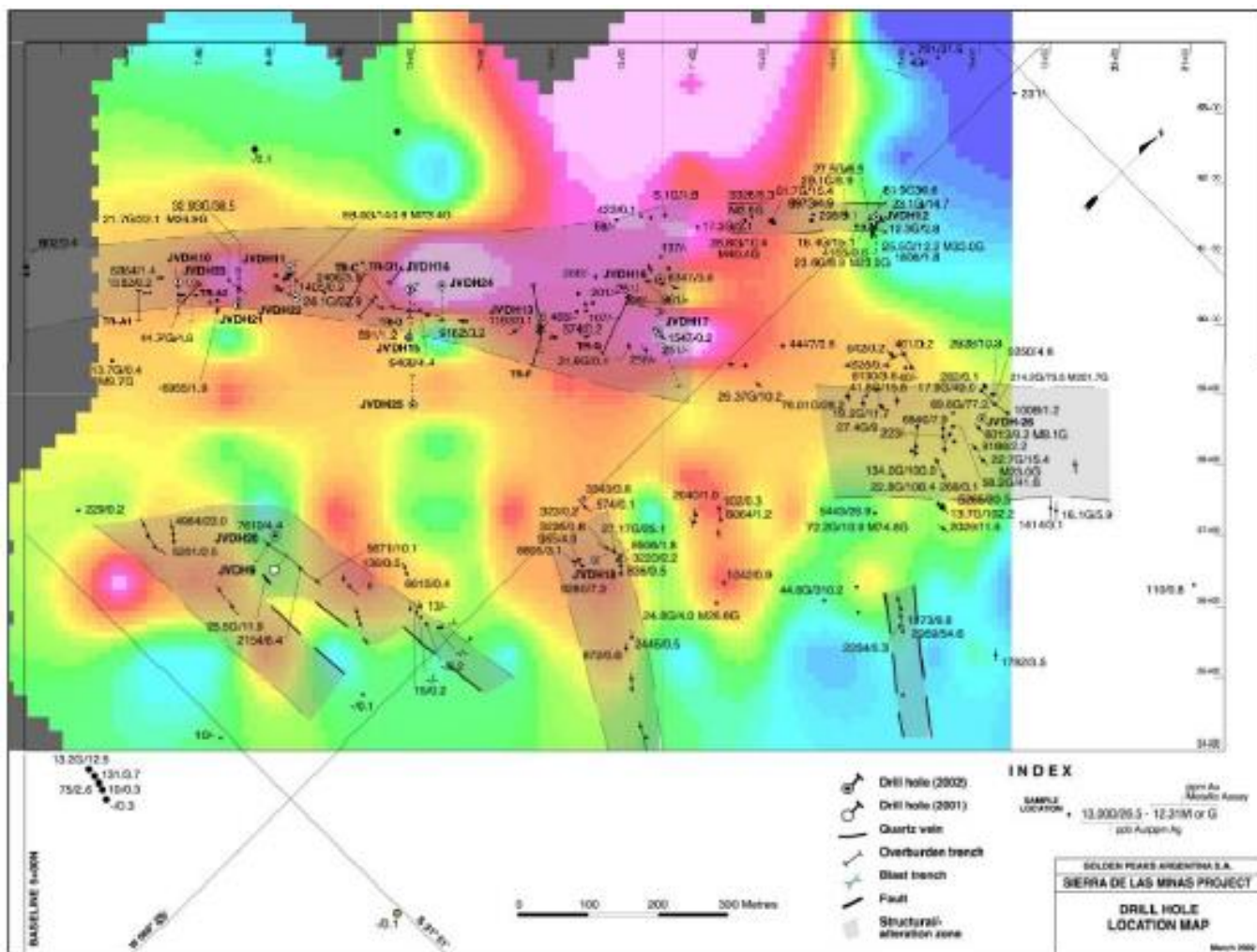
◆ Previous Work 以往探矿工作

- Golden Peaks Ltd conducted IP geophysics, trenching, mapping and rock chip sampling at the JV area in 2002, and also drilled 38 holes (JVDH series) on various targets within the area. The best results came from the 750 section of the JV14 Zone.
- 2002年，Golden Peaks公司在JV区开展了激发极化法、槽探、地质填图、岩块取样工作，还在区内不同远景区施工了钻孔38个（编号JVDH系列），最好的结果来自JV14区的750线



Golden Peaks plan of surface sampling, trenching and partial drilling
Golden Peaks地表取样、槽探及部分钻孔分布平面图

JV14 Prospect | JV14勘探远景区

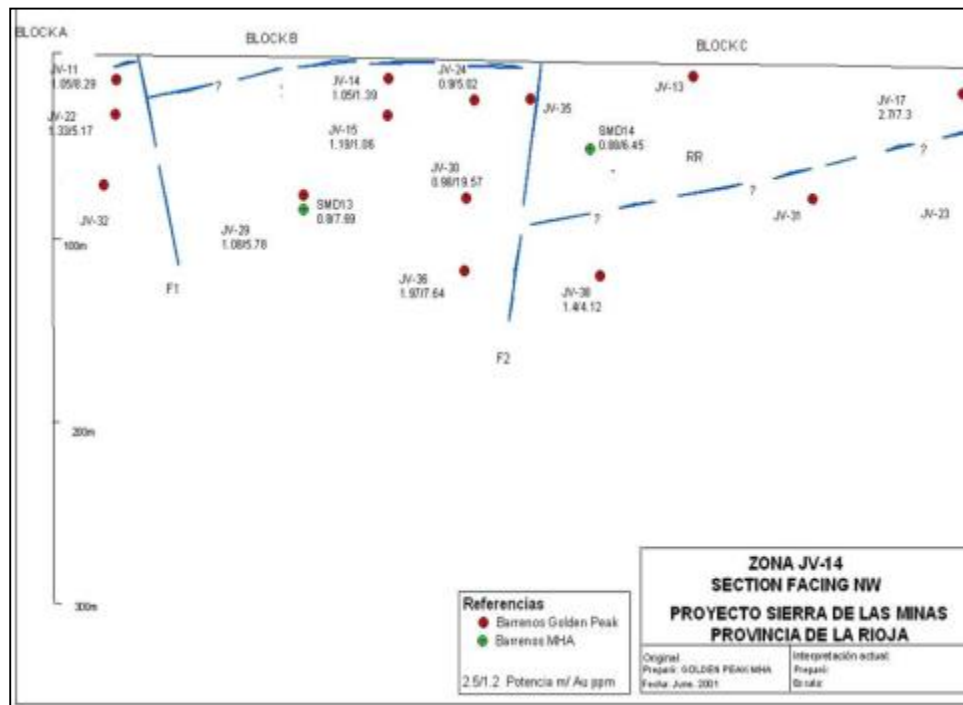


IP chargeability map (best anomaly coincides with JVDH24)
 激发极化法成果图 (最强异常区与钻孔JVDH24结果相符)

JV14 Prospect | JV14勘探远景区

◆Previous Work 以往探矿工作

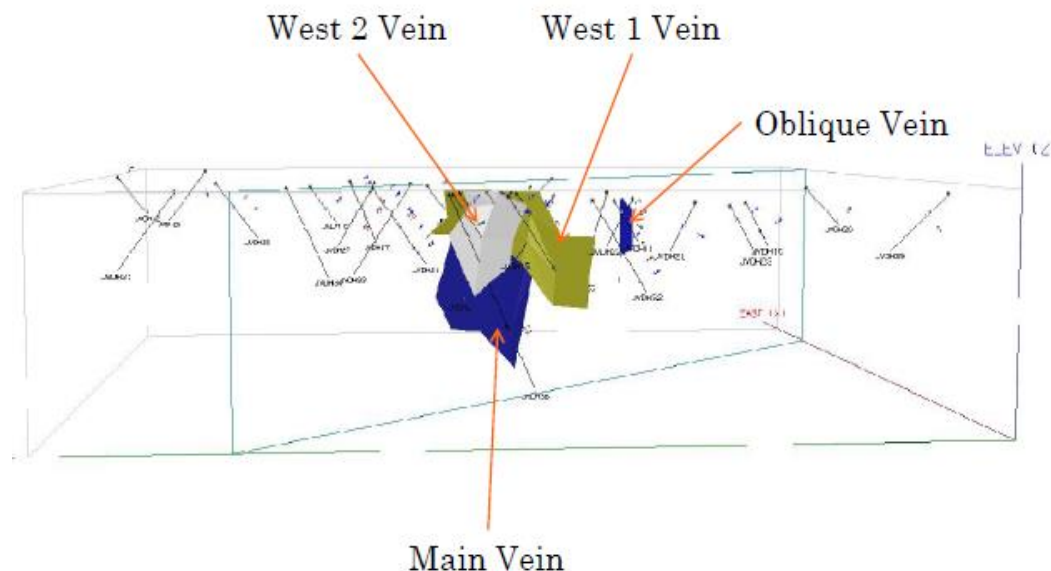
- Buenaventura assessed the JV prospect with geochemical surveys, confirmatory drilling (SMD series) and a longitudinal section interpretation.
- Buenaventura在JV区块实施了地球化学测量和验证钻探工作（钻孔编号为SMD系列），并编制了纵剖面分析图
- Buenaventura considered that the JV14 zone had potential resources of about 30,000 ounces.
- Buenaventura研究认为在JV14区段有资源量约30000盎司



Buenaventura Long Section with widths and gold grades
Buenaventura编绘的纵剖面图，标示了钻孔见矿厚度及品位

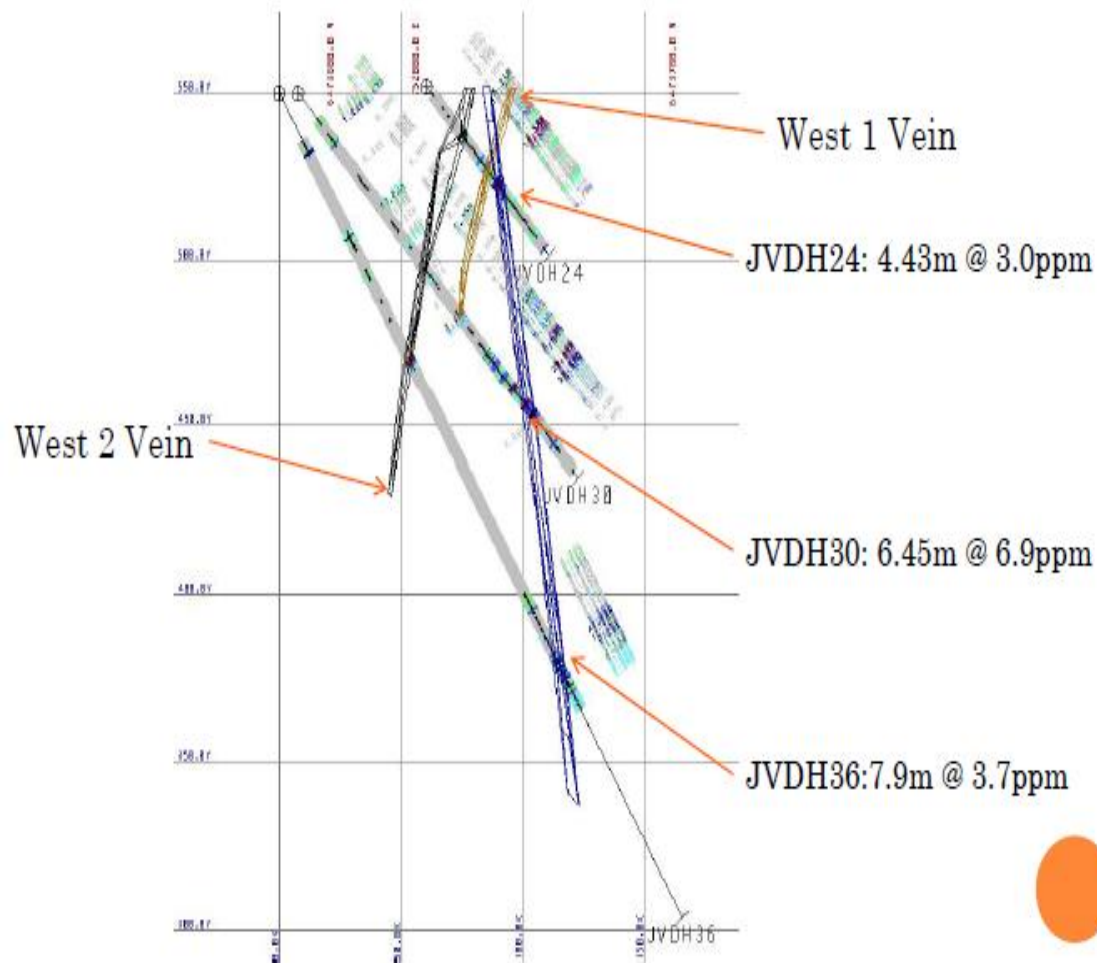
◆ Wireframes Developed 矿体建模

- Golden Peaks' drilling data for the JV zone was imported into Gemcom software for 3D interpretation and potential resource modelling.
- 将Golden Peaks 在JV区内的钻孔数据输入Gemcom 建模软件，进行了矿体三维建模
- Four wireframes have been developed, namely Main, West 1, West 2 and Oblique vein.
- 建立了4个矿体线框模型，分别为：Main, West 1, West 2和Oblique 矿体
- Wireframes were projected 50m along strike and 40m down dip when no other information was available.
- 当边部无探矿工程控制时，沿走向外推50m，倾向延深外推40m



Isometric view of all total wireframes looking east
矿体三维模型图（东方向）

JV14 Prospect | JV14勘探远景区



Cross section of the best intercepts on the Main vein
主矿脉最好的见矿剖面图

JV14 Prospect | JV14勘探远景区

◆Potential Resources 资源量初步估算

- Total potential resources for the various wireframes created amount to 237kt at 3.91 g/t Au for a total of 29,747 ounces, with the Main vein containing 65% of the gold.
- 根据建立的矿体线框模型，初步估算的总资源量为：237kt 矿石@ 3.91 g/t Au，含金 29,747 盎司，其中，主矿脉资源量占总量的65%
- This is not a JORC compliant resource estimate and is meant as a scope to future exploration work.
- 目前还不是JORC标准的资源量，此次估算仅用于指导下一步的找矿工作
- Top cut gold of 45g/t Au applied.
- 特高品位按45g/t进行处理

Total Wireframe Potential Resources

估算的线框模型资源量

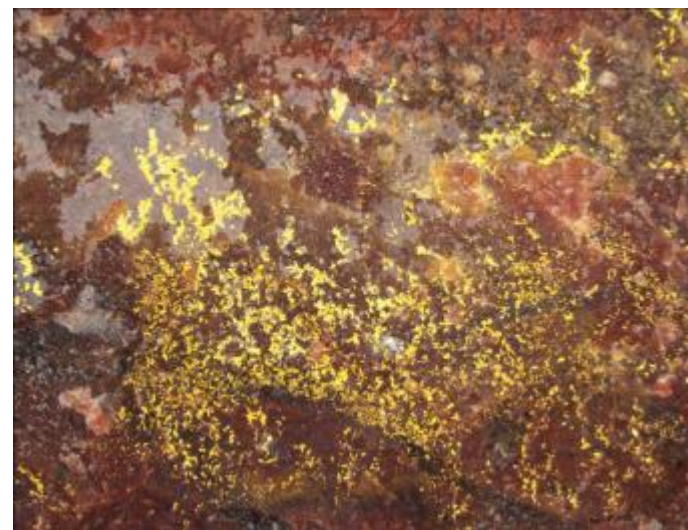
Solid	Vein	Intersect	Volume	Tonnage	Au ppm	Au Oz	SG
JV750	Main Vein	6	55,738	150,492	3.99	19,284	2.7
JV750	West 1	5	20,107	54,289	2.53	4,416	2.7
JV750	West 2	3	9,017	24,347	6.25	4,891	2.7
JV707	Oblique Vein	3	2,864	7,733	4.65	1,156	2.7
				236,861	3.91	29,747	

◆Exploration Potential 探矿潜力

- The JV prospect has a large number of gold bearing veins.
- **JV金矿区已发现了多条含金矿脉**
- The Main vein has been modelled over a strike length of 170m and to a depth of 200m, it is open in all directions due to lack of drilling. A grid based drill pattern is suggested to either close off mineralisation or extend it.
- **建立的主矿脉模型走向长170m，延深200m，因为当前控制钻孔的数量有限，其在各个方向均未封闭，需要进一步系统的钻探工作来控制矿体规模**
- The West veins occur over a strike length of 150 metres, there is however insufficient drilling on practically all the modelled zones and more drilling is required to infill, confirm or extend the interpreted zones.
- **西矿脉线框模型走向长约150m，然而各条见矿勘探线上施工的钻孔仍不足，需要进一步加密钻探，以确定矿体规模**

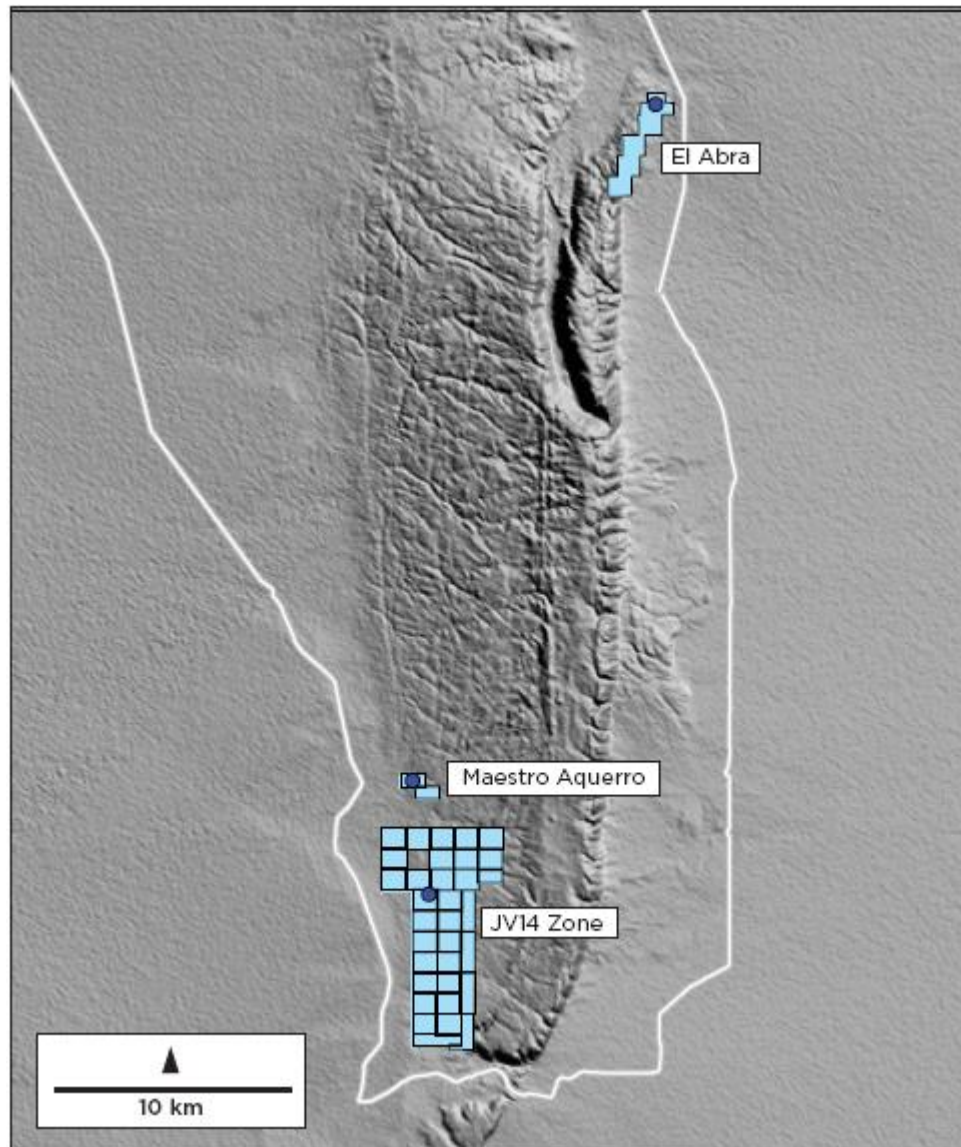
◆Geology and Mineralisation 地质与矿化

- Maestro Agüero is a vein-hosted gold prospect, of mesothermal origin. mineralisation is associated with quartz-lesser specular hematite-minor pyrite veins. The quartz veins outcrop intermittently over a strike length of approximately 500 metres.
- **Maestro Agüero**是一个脉状中温热液型金矿区，矿化与含有少量赤铁矿、黄铁矿的石英脉有关，出露的石英脉走向长度大约500m
- Mineralisation presents as localised veins and quartz fracture fill in faults and fractures, which formed along the length of the margin of a large granite batholith. Exposure is very good throughout the property and outcrop exceeds 80-90%.
- 矿化以裂隙充填脉状或石英脉状产出于断层带和断裂带中，基本沿着大型花岗岩岩基的边缘发育，整个矿权区岩石裸露很好，裸露区约占80-90%
- Supergene gold enrichment is common and secondary copper minerals may be locally present. Flecks of secondary gold and lesser malachite, chrysocolla and copper oxides are common on fracture surfaces.
- 该区普遍存在表生金矿化，并可见次生铜矿化。断裂带表面常见次生金矿、孔雀石、硅孔雀石及其他氧化铜矿物



Stereomicroscope image showing secondary gold, brown iron oxides and green copper oxides
显微照片:见次生金,褐色为铁氧化物,绿色为氧化铜矿物

Maestro Agüero Prospect | Maestro Agüero勘探远景区



- Location of Maestro Agüero, El Abra and JV14 gold prospects.
- Maestro Agüero, El Abra和JV14三个勘探远景区位置
- The outline of the unroofed granite batholith that forms the Sierra de Las Minas is clearly visible on the base DEM image.
- 从DEM基础图像上可以清晰地看到花岗岩岩基的轮廓
- The topographic flat areas represent intracratonic basin fill. Note that all prospects are located at the margins of the batholith.
- 地形平坦的区域代表盆地内区域。值得指出的是：SLM项目所有的远景区均位于岩基的边部

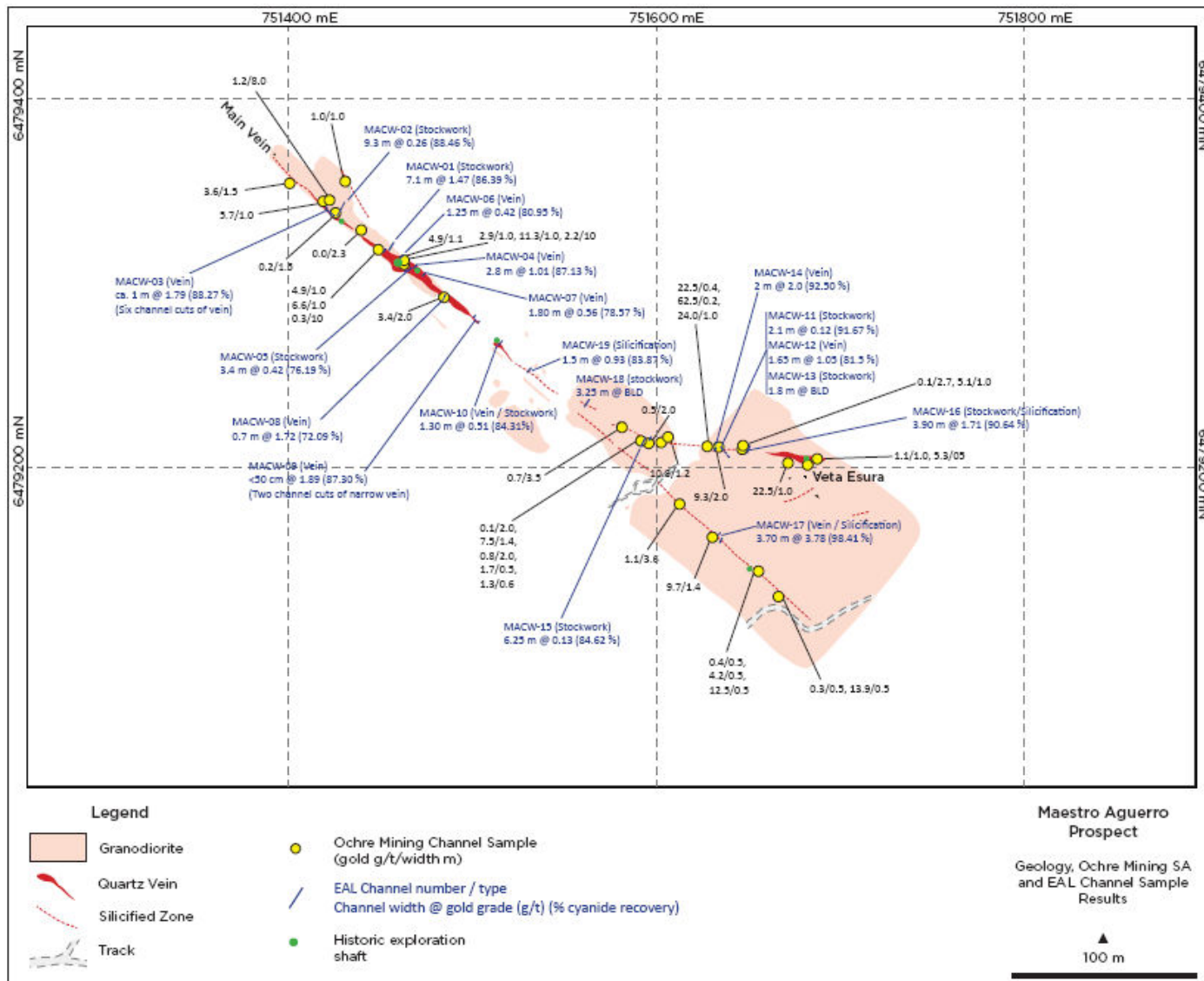
◆ Previous Work 以往地质工作

- Previous sampling by Ochre Mining (a wholly owned subsidiary of ECR) reported erratic, but occasionally high grade (up to 62.5 g/t Au) channel sample assays over intervals of 0.2 to 2.0 metres.
- Ochre矿业公司在该区块进行了取样工作，化验结果显示品位变化较大，偶尔出现高品位的金矿，最高达62.5 g/t Au，刻槽样品长度0.2-2m
- Exploration Alliance (EAL) were asked by ECR to design and conduct a bulk sampling program in order to determine a representative grade of the veins at Maestro Agüero. 19 channels were sampled for a total of 595 kg. 9 channels returned grades of above 1.0g/t, the best result came from the channel MACW17 with an assay of 3.78g/t Au.
- ECR委托勘探联盟EAL在 Maestro Agüero区块进行了取大样的工作，目的是获得该区矿脉有代表性的样品和品位。EAL共施工了19条探槽，并采集了样品共计595kg，其中有9条探槽揭露了品位大于1.0g/t的金矿体，最好的刻槽样结果为探槽MACW17，化验品位含金3.78g/t



Channel Sampling the Main Vein: Maestro Aquerro
主矿脉上的刻槽取样

Maestro Agüero Prospect | Maestro Agüero勘探远景区



Ochre Mining and EAL channel samples location plan and results
刻槽取样位置及结果平面图

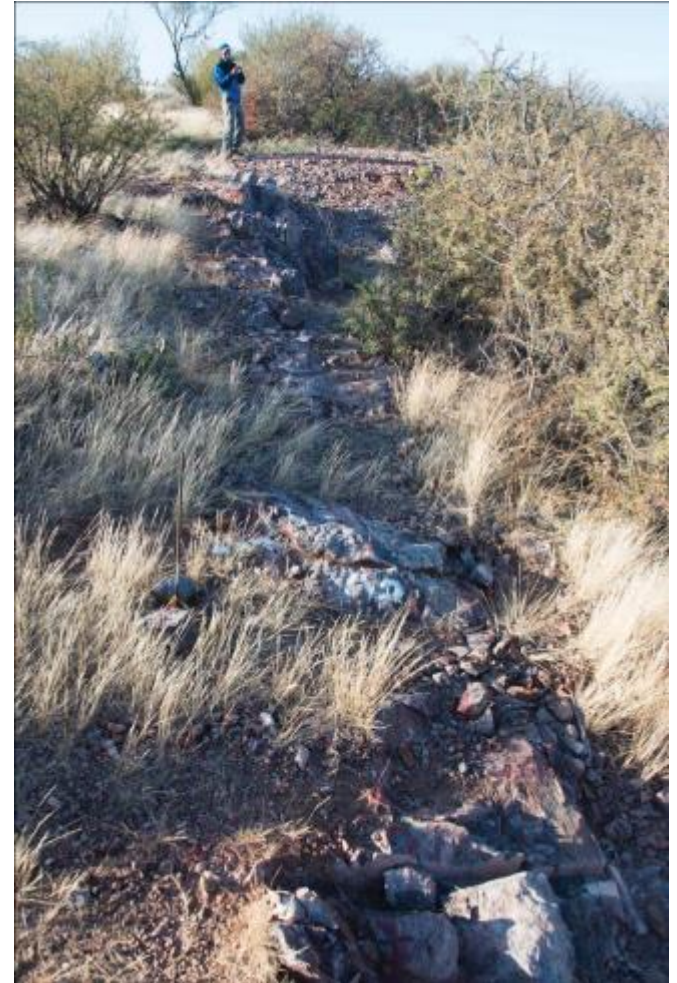
Maestro Agüero Prospect | Maestro Agüero勘探远景区



Main Vein looking eastwards
主矿脉（东向）



High grade area of Veta Esura
Veta Esura的高品位区



Western extent of the main vein. Six channels were cut across the vein
主矿脉的西部延展部分，见六条探槽

◆ Exploration Potential 勘探潜力

- Previous surface geological work revealed that the Main vein continues along strike for approximately 250 metres. Quartz veinlet stockworks are developed within granitic wallrocks either side of the Main vein where they are up to 8 metres wide.
- 以往地表地质勘查工作揭露了主矿脉为沿走向长度约**250m**的矿脉，石英网状矿脉在主矿脉两侧的花岗岩围岩中较发育，宽度可达**8m**。
- Veta Esura is a high grade vein approximately 100 metres long, and generally manifests as a silicified zone of about 2 metres wide.
- **Veta Esura**为一个高品位矿脉，沿走向长度控制约**100m**，硅化带宽度约**2m**。
- Diamond drilling would be required to determine the continuity of these veins both along strike and down dip, and also for grade continuity.
- 下一步需要对这些矿脉进行金刚石钻探工作，以查明矿脉沿走向和倾斜延深情况，以及品位的连续情况

◆ Proposed Drilling Programme 钻探计划

- ECR is planning to carry out a drilling programme in the near future. A drill programme of approximately 2000m has been planned for the JV-14 prospect, and an additional 300m has been planned for the El Abra prospect.
- **ECR公司计划在近期实施钻探计划，在JV-14区块设计了约2000m的钻探工作量，另外，在El Abra区块也安排了约300m钻探工作量**
- The objective of the drilling will be to enable the estimation of JORC compliant Mineral Resources for both El Abra and JV-14.
- **实施这一轮钻探工作的目的是为了估算El Abra和JV-14两个区块符合JORC标准的资源量**

◆JORC Code Compliant Exploration Targets 勘探目标

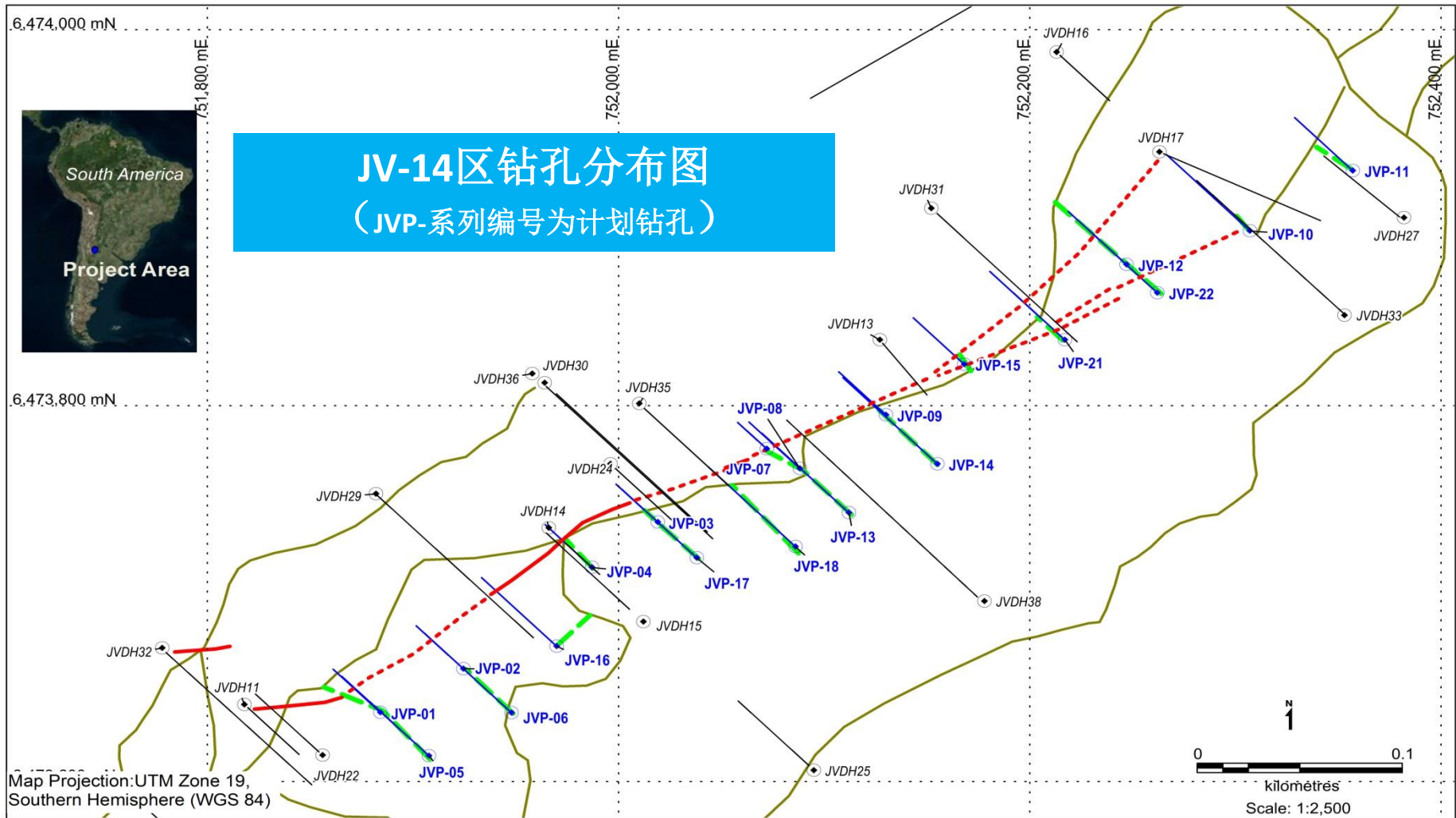
JV-14 Exploration Target JV-14区勘探目标

Category 类型	Cut-off 边界品位 (g/t)	Tonnes (thousand) 千吨	Gold 金矿品位 (g/t)
Lower value 较低值	0.5	2,000	1.8
Upper value 较高值	0.75	1,600	2.1

El Abra Exploration Target El Abra区勘探目标

Category 类型	Cut-off 边界品位 (g/t)	Tonnes (thousand) 千吨	Gold 金矿品位 (g/t)
Lower value 较低值	2.0	50	11.7
Upper value 较高值	5.0	40	14.0

SLM Further Work Plan SLM下一步工作计划



JV-14 Zone, SLM Project
La Rioja Province, Argentina
Drill Hole Location Plan

For further information, please contact:

更多信息，欢迎详询：

ECR Minerals plc. Tel: +44 (0)20 7929 1010

David Tang, Non-Executive Chairman 非执行主席

Craig Brown, Director & CEO 董事兼首席执行官

E-mail: info@ecrminerals.com

Website: www.ecrminerals.com

