My first months with the Jadar team in Serbia have been extremely rewarding. I have got to know all our fantastic team members better and have worked jointly with them on improving different strands of our project. Moreover, I was pleased to meet many of our important Project stakeholders, from the local municipality and broader Community, to Government officials and our local suppliers, as well as many others.

All these interactions have reaffirmed my belief that the Jadar Project can only be delivered in the spirit of continuous partnership. I look forward to working with all of them during my term as the Project General Manager in bringing the shared value to both Serbia and our company.

A word from the Jadar Project’s new General Manager

Marnie Finlayson
General Manager
Rio Sava Exploration

In this issue:
- Safety first
- Update from the field
- Working with the community
- Technology and innovation
- Our people
- News in brief
On Jadar Project we are determined to create an environment which is fatality-free and where everyone goes home safe. Nothing less is acceptable to us, and our stakeholders. We are implementing Group fatality prevention programme called critical risk management, or CRM. CRM works by making sure that before starting a task, every person fully understands the risks and takes the right actions to make sure they are protected. In practice, this means checking fatality critical controls are implemented and working before the job starts.

As part of our continuous efforts to ensure a zero-harm working environment for our people, we have identified two new critical risks and added them to the Jadar Project’s CRM (Critical Risk Management) profile. The introduction of the “Exposure to Thermal Extremes” risk will help strengthen controls for both our hot and cold environments, while the inclusion of the risk “Rail”, due to the proximity of a public railway line, will allow everyone to verify rail-related risks and appropriate controls.

CRM is a layered model that ensures controls are in place and working effectively to prevent any possibility of person exposing to risk or injury. While each layer of the business has a slightly different role - Operators/Maintainers, Supervisors and Superintendent/Managers - ultimately every person plays a part in making sure controls are in place and working as designed. If a gap is identified or a control is not in place, then the job is stopped until it’s fixed and safe to continue.

CRM also provides a large amount of data, and we are now using this data identifying the top failing risks and controls, verification volume, hot/cold spots etc.

In the last few months of 2018, we had a number of key reviews take place here at Jadar, including:

• Safety Leadership Alignment and Safety Strategy meetings
• CRM Maturity Review
• Internal Standards Review

In 2019, we will maintain a balanced approach to safety while continuing to embed CRM. We will further simplify and standardise our safety tools and processes to increase efficiency, improve the quality of our verification data to ensure we are focusing on the right areas, and learn from our safety incidents. We will also make continuous improvements and lasting changes aimed at keeping us safe and achieving our goal to be injury and fatality free.
How does airborne electromagnetic surveying work and what equipment is required?

Airborne geophysical surveying, which helps mining companies better understand the subsurface and choose drilling locations, was carried out in October and November 2018 in the „Jadar“ and „Korenita“ areas, with flight reconnaissance and recording covering 60.8 km². Data processing and interpretation has been complete. The locations for helicopter landing and take-off were at the Divci airport and in the village of Draginac. All activities are performed in line with all Serbian regulatory requirements.

Airborne electromagnetic surveying measures how conductive rocks are, giving mining companies a better idea of the earth’s structure and the arrangement of deposits at depth and enabling them to better determine drilling locations and angles at which to intersect potential targets. Airborne electromagnetic surveying measures variations in the physical parameters of the ground – conductivity (or resistivity), magnetic susceptibility and radioactive element concentrations. The instruments used in electromagnetic surveying are magnetometer and the gamma ray spectrometer. They are mounted directly on a frame so that measurements are made as close to the ground as possible from an airborne platform, increasing the probability of detecting variations important for the understanding of the subsurface.

Work completed at „Korenita“ exploration license:

The drilling programme for 2018 has been completed. Coring, downhole logging and packer testing are finished at all 51 locations, with 6,129.8 m of core drilled and 4,520.8 m of HG constructions installed. A total of 632 packer tests have been conducted. All core has been logged and data transferred to tailings consultant, AECOM, with laboratory geotechnical testing currently under way.

Work completed at „Jadar“ exploration license:

Bulk Sample Drilling program: 43 holes for 27,634.8 m of core completed and 15 t of PQ core sent to Australia. Early Mining Area (EMA) drilling program: 6 holes for 3,258.6 m of core completed. Geotechnical drilling (GT) program: 4 holes for 2,796.9 m, of which one deep hole intercepted the basement rocks. Large diameter drilling (LDD) has been completed at 623.2 m.
Serbian experts join Jadar team to develop models for SEA

The Environment team was busy during the autumn season, conducting numerous studies around the project site and developing models for the completion of the Strategic Environmental Assessment (SEA).

In the final months of 2018, groundwater and surface water sampling was performed to measure the quantity and quality of each source, the fourth such campaign to be completed in 2018. Sampling will continue with the same frequency in 2019.

A noise survey was conducted at the project site in December, while a number of Serbian consultants have joined the Jadar Project team since September 2018, to develop models required for completing the Strategic Environmental Assessment (SEA), a requirement in the Spatial Planning process. Models are currently being developed and refined for air quality and dispersion, water intake and discharge, noise, SEVESO (chemical safety), and hydro technical, and they will also be used in developing the Environmental Impact Assessment.

Cultural heritage

Continuing cooperation with local experts to explore and conserve Jadar area heritage

Following field works conducted in autumn 2017, cooperation between the Jadar team and the Museum of Jadar continued in October and November 2018, keeping the focus on the Gornje Nedeljice and Paulje locations.

Further field research and salvage excavations are planned in 2019, and all plans will continue to be developed and executed in close consultations with Serbian experts and in line with the relevant permitting requirements.
Continuously improving our processing results

In the second half of 2018 the processing team was focused on pilot testing the Jadar process on a reconfigured pilot plant from 2017, named “BICCPP,” short for Bundoora Integrated Continuous Chemical Pilot Plant.

The project included training 30 operators and a thorough re-commissioning of the plant, essential for its 24/7 operation in a safe manner with no injuries. In total, the plant operated for 12 weeks over two campaigns. The first campaign was successful, demonstrating that the standard Jadar flowsheet would turn out high quality products at the anticipated recovery. The second campaign incorporated several process improvements which had not been previously tested, and the results exceeded expectations, improving recovery and lowering reagent consumptions by more than anticipated.

The project will use the information obtained to update equipment selection and engineering designs for the industrial plant as part of the Feasibility Study.
Our people

Graduates gain valuable knowledge at Jadar summer internship

The Jadar Project Internship Programme (July–August 2018) was launched in support of Rio Tinto’s global internship scheme, offering a range of exciting opportunities for Serbian graduates in the fields of geology, environment, engineering and health and safety.

The programme was successfully completed after eight weeks, and the whole Jadar team took great pleasure in working and collaborating with the next generation of experts. As we bring you some of their impressions and experiences, we wish to thank the students and all our colleagues who helped make this programme a success.

“I have very positive impressions of the Jadar Project and the Internship Programme 2018. I would say that the major quality of such a programme is that it allows participants to get to know the way of working within a big company. This student internship broadened my horizons about working in the field and enabled me to learn other skills that are not strictly field-related. The most important thing I learned from this experience is the importance and universality of health and safety at work. I would also like to add that I was reminded yet again of the importance of teamwork in every aspect of both work and private life. I had the pleasure and honor of working with people who were patient and highly motivated to help and teach me and other participants of the programme. I think that this practice should continue and enable even more of my peers to become better professionals and more desirable colleagues.”

Dusan, Faculty of Mining and Geology, University of Belgrade

“I have had the opportunity to spend two good months working on the Jadar Project summer internship. In the course of this programme, I learned a lot about administrative as well as field work. Thanks to my mentors I also had a privilege to get acquainted with the company’s project and work methods, and I learned that for this company, safety comes first.”

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”The most crucial thing for any student on the path of professional development is an opportunity to work with people who are willing to share their knowledge and experience with joy. The internship at Rio Tinto has helped me realize that with teamwork and mutual respect, any business goal is achievable.”

Ivana, Faculty of Mining and Geology, University of Belgrade

NEWS IN BRIEF

Bechtel joins Jadar team

Bechtel has been engaged as the Project Management Contractor (PMC) to support the preparation of the pre-feasibility study. Bechtel, as our PMC, will continue the dialogue initiated by Rio Tinto with local businesses and contractors regarding the project and help us get a better understanding of the local market capabilities and potential partners who will share our project’s core values.