EXCEPTIONAL ISR FIELD TRIAL RESULTS DELIVER HIGH-GRADE RARE EARTH LEACHING GRADES OVER 7,500PPM

Field trials return leaching grades up to 14 times higher than mineralised in-situ values positioning the Ema project on a path towards production

Highlights

- **ISR field trials continue to deliver exceptional results,** with pregnant leach solution (PLS) grades reaching up to **7,800 ppm TREO**, more than **14x higher** than in-situ mineralised grades
- **Magnet rare earth oxides (MREO)** consistently represent an outstanding **42–45%** of TREO across a 24-day leach period
- **Super high-grade MREO grades peak above 3,500 ppm,** averaging **1,151 ppm** sustained across 24 days
- **Critical heavy rare earths (Dy + Tb)** exceed **100 ppm** in places
- **Samarium concentrations up to 397 ppm,** averaging over 5% of TREO — significant given samarium–cobalt magnets are the most widely used in defense and aerospace
- **Project development advancing:** Feasibility study underway, environmental permitting progressing, extensional resource drilling 25% complete, and hydrogeological modelling initiated

Brazilian Critical Minerals Limited (**ASX: BCM**) ("**BCM**" or the "**Company**") is pleased to announce the latest laboratory results from rare earths leached via in-situ recovery (ISR) from the first of two pilot field trial areas at the Ema project.

To view the video of MD, Andrew Reid, discussing this announcement, click on the link below

https://braziliancriticalminerals.com/link/P4xMzP

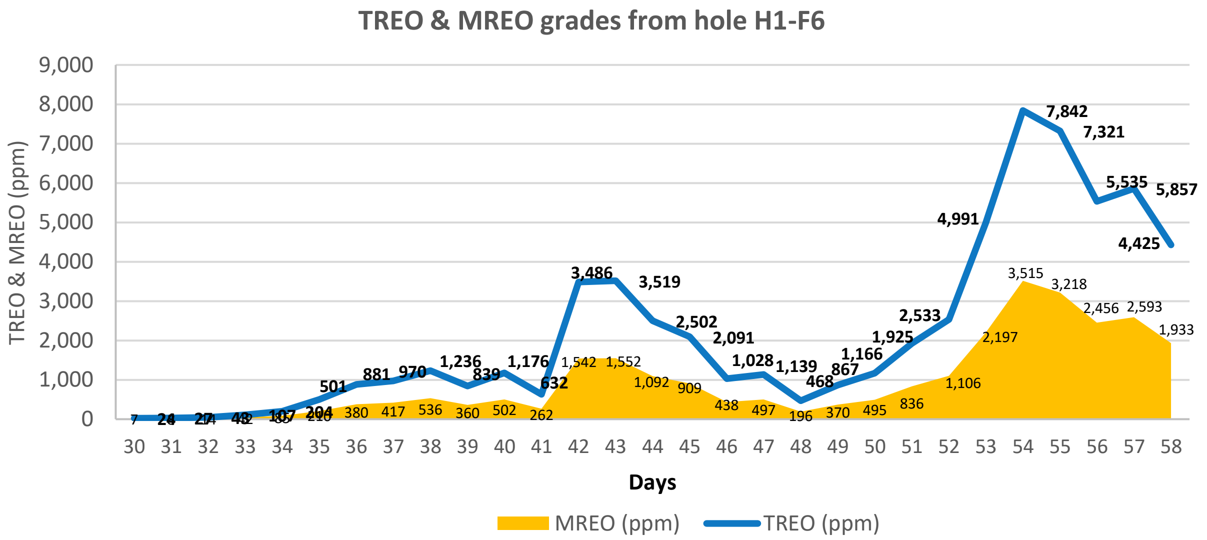

Figure 1. Pregnant liquor solution (PLS) grades extracted from monitoring hole H1-F6 over the period in which 0.5M Magnesium Sulphate was injected into the mineralised horizon. Yellow range represents composition of MREO inside the TREO values ranging from 42-45%.

Andrew Reid, Managing Director, commented:

"Hole H1-F6 has delivered phenomenal ISR leaching results, beyond anything we were expecting, which can only be described as world-class, providing a clear runway to rapidly advance the Ema Project towards production. Over recent months, we have been astounded by the leaching efficiency and the continuation of exceptional TREO grades reported from the pregnant leach solution (PLS) extracted from the field trials.

Today's results are highly significant as they further validate previous outcomes, demonstrating the Company's ability to effectively upgrade and concentrate TREO grades through the ISR process which will now thrust the project to the forefront of the rare earths sector.

The ability to upgrade 14x the in-situ mineralised grade is beyond comparison.

More importantly, the strength of the magnet rare earth oxides (MREO) has the potential to propel the Ema Project to the next level, with leached grades exceeding 3,500 ppm. As MREO represents around 90% of the Project's future revenue, the 42-45% composition achieved now underscores the strategic and economic significance of these results.

During the field trial, the Company has done nothing more than trickle feed a low-concentration (0.5M) magnesium sulphate ($MgSO_4$) solution, through the clay horizon and let mother nature do all the hard work. We look forward to providing further updates as leaching progresses in the second test area over the coming weeks."

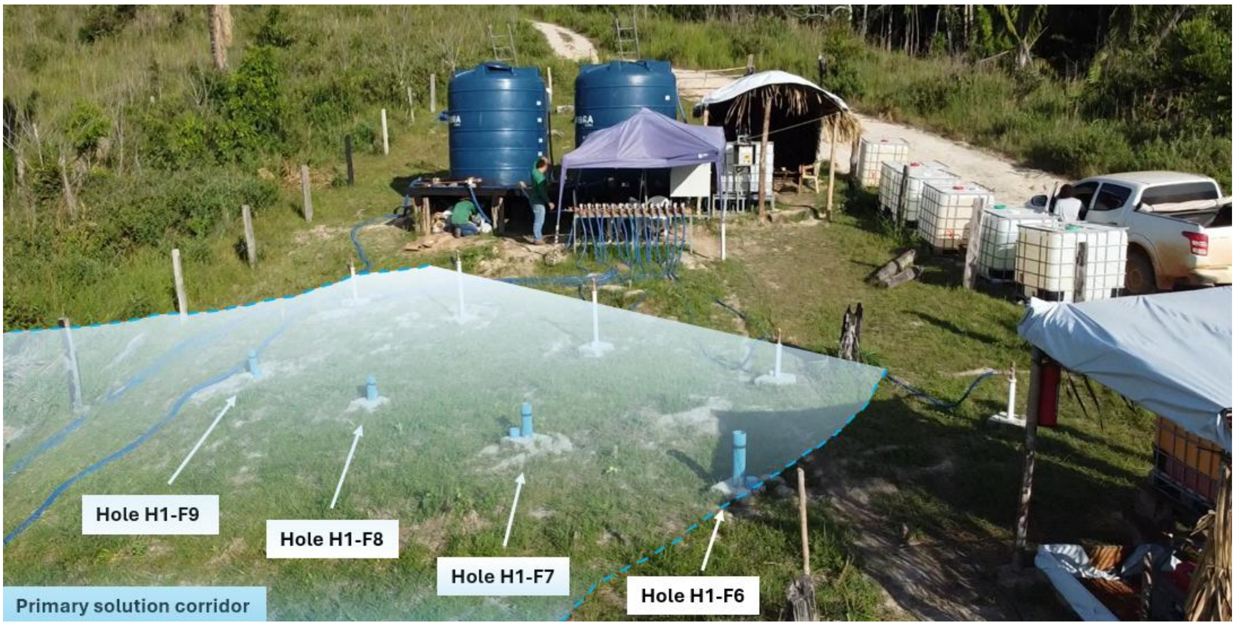

Figure 2. Field pilot trial and set out showing distribution of monitoring holes H1-F9, H1-F8, H1-F7 and **H1-F6**.

Table 1. PLS solution grades averaged over the leaching cycle from hole H1F6.

Hole ID	Day (from)	Day (to)	No. Days	Avg MREO (ppm)	Avg TREO (ppm)	MREO:TREO %
H1-F6	35	58	24	1,151	2,622	42-45%
including	**42**	**58**	**17**	**1,467**	**3,335**	**44%**

Comments on Results

Hole H1-F6 is located on the edge of the defined field trial area, as can be seen in Figure 2. Leaching of rare earths from H1-F6 commenced on day 33 or 34 (Figure 2), in comparison to hole H1-F9, which the Company previously stated was in a better position to capture early lixiviant primarily as a result of topographical and slope control which affects hydrological control, started leaching rare earths much earlier on day 9 **(ASX: 18 Aug).**

As a result of the slightly slower migration of solution towards H1-F6, the lixiviant has had additional contact time with the rare earth elements connected to the clay particles resulting in a higher level of ionic exchange and significantly higher concentration of rare earths in solution.

To date, PLS has only been extracted through pumping from wide spaced vertical extraction holes **(ASX: 2 Jul 2025).** More than 2,600 litres of high grade PLS has been extracted from the field trials. This system is designed only to be able to collect a small representative sample of the PLS for TREO analysis.

Upon commercial scale up, a more comprehensive system designed to collect the vast majority of the PLS which is readily released during leaching will be implemented in line with ISR projects in other countries. Some lixiviant called bound water (which is chemically or structurally attached to the clay minerals) will remain in the clay profile initially, but recovered during the final water flushing phase of the leaching process.

Approximately 1,000 litres of PLS has been dispatched to the ANSTO facilities in Sydney for processing. Further process optimisation efforts are to be conducted as part of the bankable feasibility study, particularly through the key steps of impurity removal and rare earth precipitation leading to the production of a final mixed rare earth carbonate (MREC) product. Most of the MREC to be produced has already been earmarked to potential serious offtakers for their analysis and assessment.

Background In-situ mineralised grades

As part of the pilot field trial, BCM drilled a single resource hole at the position of H1-F7 within the field trial area prior to the injection of any solution. Table 3. displays the results of the grades returned from the SGS laboratory in Brazil.

Once the field trial water washing is complete a final hole will be drilled as a check of the grades leached to the data listed below.

Table 2. Assays returned from resource hole drilled within first pilot field location.

Hole ID	Depth (from)	Depth (to)	TREO (ppm)
H1-F7	0	1	**348**
	1	2	**559**
	2	3	**598**
	3	4	**495**
	4	5	**438**
	5	6	**646**
	6	7	**537**
	7	8	**595**
	8	9	**594**
	Average		**534**

Field Trials Hugely Successful

BCM has successfully achieved all of its objectives initially established with its ISR pilot field trials over the last several months;

- Injected a low strength (0.5M) $MgSO_4$ solution;
- Rapidly decreased the pH of the clay zone to the target zone required to leach rare earths over short distances of leaching;
- Achieved fast reactivity of the $MgSO_4$ solution, resulting in rapid leaching of the rare earths into solution;
- Maintained a constant high flow rate of solution through the clays, indicating strong permeability;
- Maintained a steady and elevated increase in $MgSO_4$ solution levels throughout the clay zone indicative that a solid impermeable basement exists;
- Extracted very high PLS grades from the test area; and
- Precipitated the rare earths from solution.

Monitoring hole H1-F9 was positioned within the optimal position downslope of the injection wells to intercept the solution flow through the clays. PLS extracted from this hole resulted in grades over 6 times higher than the in-situ grades recovered from a drill hole, drilled prior to the commencement of leaching (Table 1.)

The ability to concentrate much higher grades in the PLS compared to the mineralisation grade in-situ(averaging only 534ppm TREO) is due to a number of reasons, including the leach chemistry, choice of lixiviant (reagent), pH, and temperature, which all affect dissolution rates.

Importantly, lower natural concentrations of rare earths in the deposit can give rise to much richer PLS grades (Figure 1.), as there is no direct relationship between in-situ grades and solution grades due to variations in leaching efficiencies.

Flow rates and contact time also play an important role, with more controlled leaching often yielding higher grades in PLS, due to good hydraulic control and good confinement of the leaching solution which prevents loss or dilution of the solution, maintaining higher PLS grades.

This announcement has been authorised for release by the Board of Directors.

Enquiries

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Brazilian Critical Minerals Limited (BCM) is a mineral exploration company listed on the Australian Securities Exchange.

Its major exploration focus is Brazil, in the Apuí region, where BCM has discovered a world class Ionic Adsorbed Clay (IAC) Rare Earth Elements deposit. The Ema IAC project is contained within the 781 km² of exploration tenements within the Colider Group and adjacent sediments.

BCM has defined an indicated and inferred MRE of 943Mt of REE's with metallurgical recoveries averaging 68% MREO, representing some of the highest for these types of deposits anywhere in the world.

The Company has converted the MRE central portion from Inferred into the Indicated category with an extensive drill program during 2024 which has underpinned the scoping study and economic analysis released in February 2025.

Ema REE Global Mineral Resource Estimate @COG 500ppm TREO

JORC Category	cut-off ppm TREO	Tonnes Mt	TREO ppm	NdPr ppm	DyTb ppm	MREO ppm	MREO: TREO %
Indicated	500	248	759	176	16	192	25
Inferred	500	695	701	165	16	181	26
Total	**500**	**943**	**716**	**168**	**16**	**184**	**26**

The information in this announcement relates to previously reported exploration results and mineral resource estimates for the Ema Project released by the Company to ASX on 22 May 2023, 17 July 2023, 19 July 2023, 31 July 2023, 13 Sep 2023, 19 Oct 2023, 06 Dec 2023, 06 Feb 2024, 22 Feb 2024, 13 Mar 2024, 02 Apr 2024, 08 Oct 2024 19 Nov 2024, 21 Jan 2025, 17th Feb 2025, 26th Feb 2025, 10th March 2025, 13th March 2025, 28th April 2025, 27th May 2025, 28th May, 13 June 2025, 01 July 2025 and 18 August 2025. The Company confirms that is not aware of any new information or data that materially affects the information included in the above-mentioned releases and continues to apply and have not materially changed in accordance with listing Rule 5.23.2.

Competent Person Statement

The information in this announcement that relates to exploration results is based on information compiled by Mr. Antonio de Castro, BSc (Hons), MEMBER of AusIMM, CREA, who acts as BCM´s Senior Consulting Geologist through the consultancy firm, ADC Geologia Ltda. Mr. de Castro has sufficient experience which is relevant to the type of deposit under consideration and to the reporting of exploration results and analytical and metallurgical test work 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". Mr. Castro consents to the report being issued in the form and context in which it appears.

Appendix 1: Table 1 Ema project – JORC Code (2012 Edition) metallurgical sampling techniques and data.

Item	JORC code explanation	Comments
Sampling Techniques	• Nature and quality of sampling. • Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report.	• Exploration results are based on solution samples extracted during ISR field trials conducted by WSP with support of BCM´s exploration team. • The data presented is based on solution collected from the monitoring holes after percolation through soils and saprolite, mined by in-situ techniques. • Sampling and measurements were supervised by the Chief Metallurgist and WSP´s hydrogeologist. • Sample was extracted from deep wells drilled down to bedrock basement whereby solution was pumped to the surface for collection and further analysis • Solution samples were tested for pH with a probe called Incoterm brand pen-type digital pH meter, after calibration. • Rare Earths + impurities were precipitated by the addition of sodium carbonate. • These results are specific for the tracer test area.
Drilling Techniques	• 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).	• All auger holes in the test area were drilled with 6" bit. • The deep injection holes in H1 area were the only ones cased with 2" sliced PVC pipes, all others were cased with sliced 4" PVC pipes. • Coarse gravel sand was inserted between the pipes and the edges of the holes to create the filter zone. • Cement around the collars were built to prevent running waters from rain to contaminate the underground water. • Holes drilled are not included in any Mineral Resource Estimation.

Item	JORC code explanation	Comments
Drill Sample Recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• n/a
Logging	• 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. • Whether logging is qualitative or quantitative in nature. Core (or costean. channel. etc) photography. • The total length and percentage of the relevant intersections logged.	• n/a
Sub-Sampling Techniques and Sampling Procedures	• If core. whether cut or sawn and whether quarter. half or all core taken. • If non-core. whether riffled. tube sampled. rotary split. etc and whether sampled wet or dry. • For all sample types. the nature. quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples. • Measures taken to ensure that the sampling is representative of the in-situ material collected. including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• n/a
Quality of Assay Data and Laboratory Tests	• The nature. quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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. • Nature of quality control procedures adopted (eg standards. blanks. duplicates. external laboratory checks) and whether acceptable	• The filtered solution samples were assayed using a Varian ICP-OES instrument (model Vista MPX710), calibrated using Specsol certified standards for each of the rare earth elements. Quality control is conducted using a standard reference sample previously prepared from Ema mineralisation and assayed by SGS in Vaspasiano, Brazil. The reference sample is read for each element before and after running each assay batch. Any batches in which the standard sample result plots outside two standard deviations from the established value are re-run.

Item	JORC code explanation	Comments
	levels of accuracy (ie lack of bias) and precision have been established	• The assaying methodology is in line with industry standard and is considered appropriate for rare earth solutions. The technique is considered to be total.
Verification of Sampling and Assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data. data entry procedures. data verification. data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• n/a
Location of Data Points	• 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. • Specification of the grid system used. • Quality and adequacy of topographic control.	• The UTM WGS84 zone 21S grid datum is used for current reporting. The drill holes collar locations were picked up by a licensed surveyor using a Trimble total station (+/-5cm), referenced to a government survey point.
Data Spacing and Distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	• n/a
Orientation of Data in relation to Geological Structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known. considering the deposit type. • 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.	• n/a
Sample security	• The measures taken to ensure sample security.	• The solution samples sealed in plastic bags were sent directly to Catalão by airfreight and courier to the laboratory. The Company has no reason to believe that sample security poses a material risk to the integrity of the assay data.
Audit or Reviews	• The results of any audits or reviews of sampling techniques and data.	• The sampling techniques and data have been reviewed by the Competent Person and are found to be of industry standard.

JORC (2012) Table 1 - Section 2: Reporting of Exploration Results

Criteria	JORC code explanation	Commentary
Mineral Tenement and Land Tenure Status	• 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. • 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.	• The EMA and EMA EAST leases are 100% owned by BCM with no issues in respect to native title interests. historical sites. wilderness or national park and environmental settings. • The company is not aware of any impediment to obtain a licence to operate in the area.
Exploration done by Other Parties	• Acknowledgment and appraisal of exploration by other parties.	• No exploration by other parties has been conducted in the region.
Geology	• Deposit type. geological setting and style of mineralisation.	• The REE mineralisation at EMA is contained within the tropical lateritic weathering profile developed on top of felsic rocks. rhyolites as per the Chinese deposits. • The REE mineralisation is concentrated in the weathered profile where it has dissolved from the primary mineral. such as monazite and xenotime. then adsorbed on to the neo-forming fine particles of aluminosilicate clays (e.g. kaolinite. illite. smectite). • This adsorbed iREE is the target for extraction and production of REO.

Drill Hole Information	• 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:
	    • easting and northing of the drill hole collar
	    • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
	    • dip and azimuth of the hole
	    • down hole length and interception depth
	    • hole length.
	• 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.
		• Auger locations and diagrams are presented in this announcement.
		• Details are tabulated in the announcement.

Criteria	JORC code explanation	Commentary
Data aggregation methods	• 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• REE grades reported refer to solution collected to monitor the ISR process. • No metal equivalent values are reported.
Relationship between mineralization widths and intercepted lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known. its nature should be reported. • 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').	• REE grades reported refer to solution collected to monitor the ISR process. • Mineralisation orientation is assumed to be flat.
Diagrams	• 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.	• Maps and tables of the auger hole's location and target location are inserted.
Balanced reporting	• 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.	• REE grades reported refer to solution collected to monitor the ISR process.
Other substantive exploration data	• 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.	• No other significant exploration data has been acquired by the Company.

Criteria	JORC code explanation	Commentary
Further Work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions. including the main geological interpretations and future drilling areas. provided this information is not commercially sensitive.	• Additional metallurgical test work with magnesium sulphate leach. • Extraction of PLS for stream line precipitation and impurity removals at ANSTO. • Detail topography survey with LIDAR for mine planning • Geophysics survey, Electro resistivity to define the saprolite/fresh rock boundary and faults in the rock.

Appendix 2 – List of Drill Hole Collars

Hole ID	East	North	RL (m)	Depth (m)	Azimuth	Dip
TANKS	185682,99	9183028,31	146,27	na		
HI01-F1	185670,65	9183034,56	144,36	10.0	0	-90
HI01-F2	185673,64	9183034,40	144,25	9.7	0	-90
HI01-F3	185676,63	9183034,13	144,40	9.3	0	-90
HI01-F4	185679,64	9183033,91	144,36	11.2	0	-90
HI01-F5	185682,60	9183033,81	144,55	11.5	0	-90
HI01-F6	185672,24	9183037,43	143,99	11.6	0	-90
HI01-F7	185675,16	9183037,22	143,81	11.4	0	-90
HI01-F8	185678,26	9183036,92	143,90	10.7	0	-90
HI01-F9	185681,29	9183036,74	143,67	10.0	0	-90
HI02-F1	185658,77	9183055,00	141,37	5.7	0	-90
HI02-F2	185660,73	9183054,87	141,58	5.7	0	-90
HI02-F3	185662,73	9183054,95	141,38	5.7	0	-90
HI02-F4	185658,75	9183057,06	141,16	5.7	0	-90
HI02-F5	185660,59	9183056,71	141,08	5.7	0	-90
HI02-F6	185662,62	9183056,84	141,21	5.7	0	-90
HI02-F7	185658,54	9183059,01	140,83	5.7	0	-90
HI02-F8	185660,56	9183058,92	140,69	5.7	0	-90
HI02-F9	185662,53	9183058,74	140,80	5.7	0	-90
HI02-F10	185659,77	9183057,94	140,82	12.0	0	-90
HI02-F11	185659,62	9183060,83	140,37	12.0	0	-90
HI02-F12	185659,51	9183062,82	140,09	12.0	0	-90