Itafos Inc.

NI 43-101 Technical Report
Preliminary Economic Assessment

Arraias Phosphate Operations, Tocantins, Brazil

January 30, 2026

CA0031307.2455-TR-Rev0

Authors:

1. Jennifer Simper, P.Geo., WSP Canada Inc.
2. Terry Kremmel, PE, WSP USA Inc.
3. Rainer Stephenson, Millcreek Engineering Company

Notice to Readers

This National Instrument 43-101 Technical Report for Arraias Phosphate Operations Project (the Project) was prepared and executed by the Qualified Persons named herein as Authors. This report contains the expressions of professional opinions of the Authors based on (i) information available at the time of preparation, (ii) data supplied by Itafos Inc. (Itafos), and (iii) the assumptions, conditions, and qualifications set forth in this report. The quality of information, conclusions, and estimates contained herein are consistent with the stated levels of accuracy as well as the circumstances and constraints under which the mandate was performed. This Report was prepared in accordance with a contract between WSP Canada Inc. and Itafos which permits Itafos to file this report as a Technical Report with Canadian securities regulators pursuant to *National Instrument 43-101 - Standards of Disclosure for Mineral Projects*. Except for the purposes legislated under Canadian securities law, any use of this Report by any third party is at that party's sole risk.

Date and Signature Page

This Technical Report on the Arraias Phosphate Operations Project is submitted to Itafos Inc. and is effective as of January 30, 2026.

Qualified Person	Responsible for Parts
Signed by Jennifer Simper WSP Canada Inc. Date Signed: January 30, 2026	Responsible for Items: 1.1-1.5, 1.7, 1.8.1, 1.8.5, 2.1-2.2, 2.3.1, 3-11, 12.1, 14, 23-24, 25.1, 26.1, 26.5, and 27.0
Signed by Terry Kremmel WSP USA Inc. Date Signed: January 30, 2026	Responsible for Items: 1.6, 1.8.3, 1.8.4, 1.8.5, 2.3.2, 12.2, 16, 18-22, 25.2, 25.4, 26.2, 26.4, 26.5, and 27.0
Signed by Rainer Stephenson Millcreek Engineering Company Date Signed: January 30, 2026	Responsible for Items: 1.8.2, 1.8.5, 2.3.3, 12.3, 13, 17, 25.3, 26.3, 26.5, and 27.0

Certificates

CERTIFICATE OF QUALIFIED PERSON JENNIFER SIMPER

I, Jennifer Simper, state that:

(a) I am a Principal Resource Geologist at:
WSP Canada Inc.
3300, 237 – 4th Avenue SW
Calgary, Alberta, T2P 4K3

(b) This certificate applies to the technical report titled NI 43-101 Technical Report Preliminary Economic Assessment Arraias Phosphate Operations, Tocantins, Brazil with an effective date of: January 30, 2026 (the "Technical Report").

(c) I am a "qualified person" for the purposes of National Instrument 43-101 ("NI 43-101"). My qualifications as a qualified person are as follows. I am a graduate of University of Calgary with a B.Sc. in Geology from 2006, and I am a member in good standing of the Association of Professional Engineers and Geoscientists of Alberta (APEGA). My relevant experience after graduation and over 19 years for the purpose of the Technical Report includes over 19 years of experience in geology and mineral resource evaluation of mineral projects nationally and internationally in a variety of commodities, including over 10 years of direct preparing geological models and mineral resource estimates for sedimentary phosphate deposits.

(d) My most recent personal inspection of each property described in the Technical Report occurred on July 29, 2024 and was for a duration of 5 days.

(e) I am responsible for Item(s) 1.1-1.5, 1.7, 1.8.1, 1.8.5, 2.1-2.2, 2.3.1, 3-11, 12.1, 14, 23-24, 25.1, 26.1, 26.5, and 27.0 of the Technical Report.

(f) I am independent of the issuer as described in section 1.5 of NI 43-101.

(g) My prior involvement with the property that is the subject of the Technical Report is as follows. I prepared the geological models for the 2021 Pre-Feasibility Study on the Domingos Deposit. I have provided ongoing geological support since 2023.

(h) I have read NI 43-101 and the parts of the Technical Report for which I am responsible has been prepared in compliance with NI 43-101; and

(i) At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report for which I am responsible, contain(s) all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Calgary, Alberta this 30 of January, 2026.

Jennifer Nicole Simper -- P. Geo. - APEGA

Digitally signed by Jennifer Nicole Simper -- P. Geo. - APEGA
Date: 30-Jan-26

Jennifer Simper, P.Geo.
APEGA Member 79249

CERTIFICATE OF QUALIFIED PERSON TERRY L. KREMMEL

I, Terry L. Kremmel, state that:

(a) I am a Vice President, Mining Engineering at:
WSP USA Inc.
701 Emerson Road, Suite 250
Creve Coeur, MO 63141

(b) This certificate applies to the technical report titled NI 43-101 Technical Report Preliminary Economic Assessment Arraias Phosphate Operations, Tocantins, Brazil with an effective date of: January 30, 2026 (the “Technical Report”).

(c) I am a “qualified person” for the purposes of National Instrument 43-101 (“NI 43-101”). My qualifications as a qualified person are as follows. I am a graduate of the University of Missouri - Rolla with a B.S. in Mine Engineering 1979, and I am a Registered Member in good standing of the Society for Mining, Metallurgy, and Exploration (SME), and hold Professional Engineer Licences in Missouri and North Carolina. My relevant experience after graduation and over 46 years of relevant experience for the purpose of the Technical Report includes developing detailed geological resource and reserve models, mine designs, optimized mine plans and schedules, engineering cost studies, and financial analysis models for multiple commodities including phosphate reserve projects in USA, Brazil, Peru and Guinea Bissau.

(d) My most recent personal inspection of each property described in the Technical Report occurred on July 29, 2024 and was for a duration of 5 days.

(e) I am responsible for Item(s) 1.6, 1.8.3, 1.8.4, 1.8.5, 2.3.2, 12.2, 16, 18-22, 25.2, 25.4, 26.2, 26.4, 26.5, and 27.0 of the Technical Report.

(f) I am independent of the issuer as described in section 1.5 of NI 43-101.

(g) My prior involvement with the property that is the subject of the Technical Report is as follows. I have provided mine engineering support for the 2021 Pre-Feasablity Study on the Domingos Deposit. I have provided ongoing mine engineering support since 2022.

(h) I have read NI 43-101 and the parts of the Technical Report for which I am responsible has been prepared in compliance with NI 43-101; and

(i) At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report for which I am responsible, contain(s) all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Creve Coeur, MO this 30 of January, 2026.

SME
Society for Mining, Metallurgy & Exploration
Terry L. Kremmel
SME Registered Member No. 1791760
Signature:
Date Signed: January 30, 2026
Expiration Date: December 31, 2026

Terry L Kremmel, P.E.

CERTIFICATE OF QUALIFIED PERSON RAINER STEPHENSON

I, Rainer Stephenson, state that:

(a) I am a Process – Mechanical Department Manager at:
Millcreek Engineering Company

(b) This certificate applies to the technical report titled "**NI 43-101 Technical Report Preliminary Economic Assessment Arraias Phosphate Operations, Tocantins, Brazil**" with an effective date of January 30, 2026 (the "Technical Report").

(c) I am a "qualified person" for the purposes of National Instrument 43-101 ("NI 43-101"). My qualifications as a qualified person are as follows. I am a Chemical Engineering graduate from the University of Utah (1997). I am a Mining & Minerals Society of America QP. My relevant experience after graduation includes 28 years of Mining Industry consulting engineering with various engineering firms.

(d) My most recent personal inspection of the property described in the Technical Report occurred in May of 2022 and was for a duration of 3 days.

(e) I am responsible for Item(s) 1.8.2, 1.8.5, 2.3.3, 12.3, 13, 17, 25.3, 26.3, 26.5, and 27.0 of the Technical Report.

(f) I am independent of the issuer as described in Section 1.5 of NI 43-101.

(g) My prior involvement with the property was in 2022 and included a process feasibility study to investigate the feasibility to restart their existing facility with the inclusion of a new fine's flotations circuit. My involvement has continued to the present day.

(h) I have read NI 43-101 and the parts of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101; and

(i) At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Salt Lake City, Utah, this 30th of January 2026.

Rainer Stephenson,

Rainer J Stephenson
01508QP
Mining & Metallurgical
Society of America

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1. Executive Summary

This Technical Report was prepared for Itafos Inc. (Itafos), a vertically integrated phosphate fertilizers and specialty products company headquartered in Houston, Texas (TX) and publicly traded on the TSX Venture Exchange (TSX-V: IFOS). Itafos, through its Brazilian subsidiary, owns 98.4% of Itafos Arraias Mining and Fertilizers SA which includes the Domingos Mine, beneficiation plant, sulfuric acid plant, acidulation plant, and granulation plant. The Arraias Phosphate Operation (APO) currently produces Direct Application Phosphate Rock (DAPR) and Partially Acidulated Phosphate Rock (PAPR), with plans to resume production of Single Superphosphate (SSP) in the near future.

Itafos engaged WSP Canada Inc. (WSP) to compile a National Instrument (NI) 43-101 Technical Report (TR) on its deposits that are in operation or under development. The mines and projects are owned by its majority-owned subsidiary, Itafos Arraias Mining and Fertilizers SA (Arraias). This TR presents an updated Mineral Resource estimate and the results of a Preliminary Economic Assessment (PEA) for the APO.

In 2013, a Technical Report was prepared for Arraias with Mineral Resource and Mineral Reserve estimates for the siltstone units underlying the Project area. When mining and processing operations commenced, the siltstones proved difficult to process with the existing beneficiation plant equipment. In November 2019, Itafos opted to idle the APO and reassess the geometallurgical model and underlying Mineral Resource and Mineral Reserve assumptions. After updating the geometallurgical model, Itafos elected to attempt mining and beneficiation of the breccia and conglomerate units rather than the siltstone units previously targeted. A Pre-Feasibility Study (PFS) was developed to determine operating and capital cost estimates for a new short-term mine plan targeting the breccia and conglomerate units. Itafos commenced mining and the production and sale of DAPR and PAPR. The success of this short-term mine plan led to Itafos deciding to update the Mineral Resource estimates for the APO based on the breccia and conglomerate units instead of the siltstone units. The Mineral Reserves stated in the 2013 Technical Report have been classified as “Under Review” in Itafos’ annual reports since 2021 as they were based on the siltstone units.

1.1 Property Description and Ownership

The Property consists of the four (4) main deposits with a total area of 3,400 hectares. The projects are located on the border of the state limit between Tocantins and Goiás in central Brazil, at approximately 310,000 East 8,569,000 South American Datum (SAD) 1969, Zone 23S. Itafos’ title to the projects includes six mining permits. Each permit has been granted to Itafos according to the Brazilian Mining Code and, if applicable, by authorizations issued by the Ministry of Mines and Energy of the Federal Republic of Brazil. All sub-soil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM. All permits are valid for a renewable period of three years and have been legally surveyed.

Surface rights have been negotiated with the local landholders for sampling and drilling of the main areas of immediate interest.

The royalties for the Brazilian government are 2% of the revenue from selling the mineral products.

Environmental liabilities are typical for open pit mining operations and include topographic reconstruction, revegetation, structural demolition and removal, environmental monitoring and maintenance.

1.2 Accessibility, Climate, Local Resources, Infrastructure, and Physiography

The Arraias Project is located approximately 400 kilometers (km) northeast of Brazil's federal capital, Brasilia, approximately a 5-hour to 6-hour drive. The exploration field office, sample preparation laboratory, and the mine facilities are located approximately 7 km to the northeast of the town of Campos Belos. The Project site is accessed via paved highways BR-010 and GO-118 to the town of Campos Belos. From Campos Belos, the site is accessed via an unpaved road, which is accessible year-round. There is a small (1,400 meters (m) long), paved air strip to the northeast of Campos Belos, which can accommodate private planes.

The climate in the area is classified as tropical savannah (Aw, Koppen) with a well-defined winter dry season from May to August and a wet summer season from September to April. Yearly average temperatures are 20 to 22 degrees Celsius (ºC) with rainfall typically 1,000 to 1,500 millimeters (mm) during the summer period, with August being the wettest month. Mining and drilling are typically conducted during the dry season; however, most activities can be conducted year-round.

Itafos controls sufficient surface rights through its leases and agreements with adjacent property owners to conduct all mining operations at Domingos.

1.3 History

The phosphate occurrences in the Campos Belos region have been explored since the 1960s. Recent mining history began in 2004, when Itafós Mineração Ltda acquired the mineral properties and began small scale quarrying. Systematic drilling began in 2008 with MBAC Fertilizer Corp.'s (MBAC) purchase of the Itafós Mineração Ltda operations.

MBAC initially focused geological mapping and drilling on the area to the north of the Domingos zone in 2008 with auger and core drilling. In 2009, this work expanded to other regional deposits, including Domingos, with extensive drilling being completed by multiple rigs by early 2010. In December 2016, MBAC changed its name to Itafos, Inc., and drilled an additional 84 reverse circulation (RC) holes in support of the mining operations.

The Arraias Project has experienced two unsuccessful mine startups, with mining occurring in the Coité Pit and Domingos Pit. A primary cause of the failed mine startups was due to the processing facilities not being amenable to the metallurgical characteristics of the different mineralized phosphate-bearing rock types. Additionally, the beneficiation plant was designed based on other Brazilian phosphate operations and was designed to handle iron-rich phosphate ores. However, the characteristics of the Arraias deposit are substantially different from the iron-rich phosphate deposits, which resulted in a processing plant that was not designed to efficiently process the Arraias rock. Furthermore, the metallurgical characteristics of each of the mineralized rock types are substantially different, which further complicates the operability of the beneficiation circuit.

Production at Arraias ceased in 2019 but resumed again in 2022. Previous mining efforts focused on extracting the arenoso and argiloso siltstone units, while recent production efforts targeted the breccia and conglomerate units. Production statistics for 2023 and 2024 are provided in Table 1.1 below.

Table 1.1: Production Summary for 2023 and 2024

Year	Production (tonnes)		
	Conglomerate	Breccia	Waste
2023	47,536	0	91,945
2024	94,756	74,384	1,248,000
Total	**142,292**	**74,384**	**1,339,945**

1.4 Geology and Mineralization

Phosphate mineralization on the Project property occurs in lower siltstone sections of the Sete Lagoas Formation belonging to the Bambui Group, a Neoproterzoic carbonate sequence that developed in an intra-cratonic basin on the margins of granitic craton basement (Sao Francisco craton). The siltstone sequence has been identified for several tens of kilometers to the north and south of the original Itafos showings and hosts several other phosphate occurrences in addition to those around Itafos Arraias. On section, this basal contact appears as an undulating or locally rolling surface (possibly related to local embayments, paleo-channels developed over basement structures, or collapse structures); however, the overall pattern of mineralization can be described as stratiform.

The Project is on the western edge of the São Francisco Basin (BSF), between Campos Belos (Goiás) and Arraias (Tocantins). The Aurmina Suite (granite-gneiss complex) as basement, overlain by Jequitaí Formation diamictites, pelites, carbonates, and phosphate siltstones/phosphorites of the Sete Lagoas Formation (basal Bambuí Group). The Sete Lagoas Formation is composed of basal carbonates grading into marls and siltstones (subdivided into sandy “arenoso” and clayey “argiloso”). The sediments of the Sete Lagoas Formation are unconformably overlain by Santa Fé Group glaciogenic rocks (diamictites/conglomerates).

The high-grade phosphate mineralization is found within the sedimentary breccias of the Sete Lagoas Formation and the basal conglomerates of the overlying Santa Fé Group. Low-grade phosphate mineralization is found within the siltstone units.

1.5 Exploration Status

The Arraias Project has undergone extensive exploration and drilling campaigns since the early 2000s. Initial grassroots exploration began in 2004, led by MCB Serviços e Mineração Ltda, targeting high-grade phosphate sources identified decades earlier. Early work included surface sampling and reconnaissance mapping, followed by trial mining in 2006–2007 at Coité and São Bento. In 2008, MBAC initiated a large-scale regional exploration program, employing geological mapping, surface and trench sampling, airborne geophysical surveys, and mechanical auger drilling. These efforts led to the discovery of new mineralized zones and the collection of bulk density data for resource modeling.

Drilling at Arraias has utilized both reverse circulation (RC) and diamond core (core) methods. By the effective date of the Technical Report, a total of 2,349 drill holes (80,826 m) had been completed, with the majority (87%) drilled before 2020 by MBAC and the remainder by Itafos in 2020-2021 and 2025. Drilling depths ranged from shallow (2.3 m) to deep (174.85 m), with an average of 34.42 m. The drilling campaigns were designed to delineate both widespread lower-grade siltstone mineralization and higher-grade breccia and conglomerate zones. Exploration data collection was performed under the supervision of MBAC or Itafos personnel who are appropriately qualified to oversee on the basis of their education and relevant experience

Sample collection and analysis have evolved over time. Pre-2020, both RC and core samples were collected and processed by MBAC, with recent campaigns (2020-2021, 2025) managed by Itafos. Sampling protocols included thorough Quality Assurance and Quality Control (QA/QC) measures, such as the insertion of certified reference materials, blanks, and duplicates. Analytical work was performed by accredited external laboratories (primarily ALS), with internal Itafos laboratory checks for P_2O_5. The technical procedures for sample preparation, security, and analysis are considered to be in accordance with industry best practice and are suitable for resource estimation.

The project database now includes over 65,000 analyzed samples, supporting ongoing resource modeling and technical studies.

A summary of drilling data by deposit is presented in Table 1.2 for core drilling and Table 1.3 for RC drilling.

Table 1.2: Summary of Available Core Drilling Data by Arraias Deposit

Drill Program		Cana Brava	Coité	Domingos	Gaucho	Juscelino	Mateus	São Bento	Total
2008	Number of Holes		64	6		85	31	12	**198**
	Meters Drilled		1,325	201		3,730	1,553	206	**7,016**
	Number of Samples		549	102		1,540	694	107	**2,992**
2009	Number of Holes		45		137	35	117	39	**373**
	Meters Drilled		954		6,148	1,229	5,558	616	**14,505**
	Number of Samples		436		3,108	674	2,779	316	**7,313**
2010	Number of Holes	94	36	34		12	7	4	**187**
	Meters Drilled	2,675	1,041	1,058		336	341	104	**5,556**
	Number of Samples	1,281	564	861		160	177	51	**3,094**
2020	Number of Holes			275				4	**279**
	Meters Drilled			7,372				148	**7,520**
	Number of Samples			5,078				50	**5,128**
2025	Number of Holes			31					**31**
	Meters Drilled			1,304					**1,304**
	Number of Samples			650					**650**
Total Number of Holes		**94**	**145**	**346**	**137**	**132**	**155**	**59**	**1,068**
Total Meters Drilled		**2,675**	**3,320**	**9,936**	**6,148**	**5,295**	**7,452**	**1,075**	**35,901**
Total Number of Samples		**1,281**	**1,549**	**6,691**	**3,108**	**2,374**	**3,650**	**524**	**19,177**

Table 1.3: Summary of Available RC Drilling Data by Arraias Deposit

Drill Program		Cana Brava	Coité	Domingos	Gaucho	Juscelino	Mateus	São Bento	Total
2009	Number of Holes							3	**3**
	Meters Drilled							63	**63**
	Number of Samples							63	**63**
2010	Number of Holes	155	192	197	140	127	151	60	**1,022**
	Meters Drilled	5,863	5,539	7,087	5,453	5,526	6,357	1,509	**37,334**
	Number of Samples	5,541	4,772	6,511	5,052	5,353	6,148	1,484	**34,861**
2012	Number of Holes			135					**135**
	Meters Drilled			4,496					**4,496**
	Number of Samples			4,101					**4,101**
2017	Number of Holes		34	84					**118**
	Meters Drilled		823	2,177					**3,000**
	Number of Samples		661	1,546					**2,207**
Total Number of Holes		**155**	**226**	**416**	**140**	**127**	**151**	**63**	**1,278**
Total Meters Drilled		**5,863**	**6,362**	**13,760**	**5,453**	**5,526**	**6,357**	**1,572**	**44,893**
Total Number of Samples		**5,541**	**5,433**	**12,158**	**5,052**	**5,353**	**6,148**	**1,547**	**41,232**

It is the WSP QP's opinion that the sample preparation, security, and analytical procedures applied by Itafos and its predecessors at Arraias are reasonable for establishing an analytical database for use in grade modeling and estimation of Mineral Resource estimates as summarized in this TR.

The WSP QP has verified the data provided including collar survey, downhole geological data and observations, sampling, analytical, and other test data underlying the information or opinions presented in this TR. The QP, by the way of the data verification process described in Item 12, has used only that data that was deemed by the QP to have been: 1) generated with reasonable industry standard procedures; 2) accurately transcribed from the original sources; and 3) suitable to be used for preparing geological models and Mineral Resource estimates. Data that could not be verified by the QP were not used in the development of the geological models or Mineral Resource estimates presented in this TR.

1.6 Development and Operations Status

Itafos currently mines phosphate at Domingos using open pit mining methods, including mine development, phase development, and production. The mine development phase includes drainage, water control, and primary access. Mining is performed using truck and excavator methods with strict grade controls. Low-grade material is stockpiled for future processing, while the high-grade material is transported directly to the crusher for crushing and beneficiation.

Future contemplated mining activities include extending the Domingos pit further to the south as well as mining the Cana Brava, Coité, and Near Mine deposits. All tonnage produced from these projects is planned for exclusive supply to the Arraias processing plant.

Itafos provided WSP with annual targets for Direct Application Phosphate Rock (DAPR), Partially Acidulated Phosphate Rock (PAPR), and Single Superphosphate (SSP) production. DAPR, which is assumed to be produced from conglomerate, has an assumed annual production of 45,000 tonnes. The PAPR is produced from breccia with an assumed annual production of 60,000 tonnes. Finally, SSP is also produced from breccia with an assumed annual production of 170,000 tonnes.

For DAPR, the conglomerate is crushed and sized with an assumed 100% mass recovery and a target product grade of 12% P_2O_5. For PAPR, crushed breccia is combined with sulfuric acid at a ratio of 80%:20% with a breccia mass recovery of 95%. The SSP is produced through a flotation and concentration process with an estimated 45% mass recovery. The phosphate is concentrated to about 28% P_2O_5 and is then mixed with sulfuric acid at a ratio of 65% breccia to 35% sulfuric acid for the final SSP product.

Based on the processing and recovery described above, an estimated 45,000 tonnes of conglomerate will be required per year for the DAPR product, and an estimated 295,000 tonnes of breccia will be required each year for PAPR and SSP production. The current life of mine plan extends over 14 years, with the first year and the final year being partial production years.

Arraias sells its DAPR and PAPR phosphate fertilizer products to domestic customers primarily consisting of national and regional blenders, trading companies, and large farmers. The market will be expanded when SSP production resumes. Arraias has secured short-term sulfuric acid offtake agreements for its base load capacity with pricing linked to sulfur benchmarks. Based on market demand and sulfuric acid plant availability, Itafos is opportunistically producing additional volumes of sulfuric acid which are sold on the spot market.

Underlying market fundamentals and global trade trends support the current prices for this project and longer-term forecasts. The global phosphate supply and demand balance is fundamentally tight, supporting product prices and financial results in the short and long-term. Supply is constrained by declining traditional resources and new capacity is often difficult and costly to bring online, while demand is steadily increasing with population growth. Increasing the acreage planted and improving yields to support the growing population requires more fertilizers to replace nutrients in the soil. Phosphate supply from the U.S. is decreasing and Chinese exports have decreased as China focuses on domestic markets and a shift to non-fertilizer applications. These trends indicate a strong market potential for phosphate exports from Brazil, including those from APO.

1.7 Mineral Resource Estimate

This Item contains forward-looking information related to Mineral Resource estimates for the Arraias Project. The factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts or projections in the forward-looking information include any significant differences from one or more of the following material factors or assumptions that were applied in drawing the conclusions or making the estimates, designs, forecasts or projections set forth in this Item: geological and grade interpretation and controls.

Note to readers: The Mineral Resources presented in this Item are not Mineral Reserves and do not reflect demonstrated economic viability. The reported Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that all or any part of this Mineral Resource will be converted into Mineral Reserve. All figures are rounded to reflect the relative accuracy of the estimates and totals may not add correctly.

The categorized estimated Mineral Resources for Cana Brava, Coité, Domingos, and Near Mine are presented in Table 1.4. Mineral Resource categorization into Measured, Indicated, and Inferred Mineral Resources presented in Table 1.4 is in accordance with the CIM definition standards (CIMDS, 2014) and follows the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019). The Effective Date of the Mineral Resource Estimate is November 14, 2025.

From the effective Mineral Resource date of November 14, 2025, until the date of this TR January 30, 2026, the QP is not aware of any material changes that would affect the resource models or the Mineral Resource estimates.

Table 1.4: Mineral Resource Estimate – Effective Date November 14, 2025

Domain	Deposit	Classification	Mass (Mt)	P_2O_5 (wt. %)	Al_2O_3 (wt. %)	CaO (wt.%)	MgO (wt. %)	Fe_2O_3 (wt. %)
Breccia	Domingos	Measured	1.11	17.74	4.81	22.58	0.68	2.35
		Indicated	0.13	15.82	3.36	16.43	0.68	1.64
	Coité	Indicated	0.27	16.70	4.94	22.41	1.02	2.24
		Measured + Indicated	**1.51**	**17.39**	**4.70**	**22.01**	**0.74**	**2.27**
	Domingos	Inferred	0.68	14.46	3.21	14.19	0.92	1.50
	Cana Brava	Inferred	0.88	15.84	6.68	23.63	0.87	2.46
	Coité	Inferred	0.32	15.27	6.51	22.22	0.99	2.77
	Near Mine	Inferred	0.50	16.00	6.46	23.35	2.43	3.08
		Inferred	**2.37**	**15.40**	**5.62**	**20.69**	**1.23**	**2.36**
Domain	**Deposit**	**Classification**	**Mass (Mt)**	**P_2O_5 (wt. %)**	**Al_2O_3 (wt. %)**	**CaO (wt.%)**	**MgO (wt. %)**	**Fe_2O_3 (wt. %)**
Conglomerate	Domingos	Measured	0.46	12.10	5.23	18.68	1.94	3.48
		Indicated	0.06	11.19	6.95	16.53	1.36	3.48
	Coité	Indicated	0.03	12.27	4.59	15.59	0.67	2.48
		Measured + Indicated	**0.55**	**12.02**	**5.36**	**18.27**	**1.80**	**3.42**
	Domingos	Inferred	0.01	10.71	5.32	10.23	0.63	2.30
	Cana Brava	Inferred	0.47	12.00	8.99	16.98	0.89	3.29
	Near Mine	Inferred	0.08	12.09	7.76	17.57	0.88	3.50
		Inferred	**0.56**	**11.99**	**8.76**	**16.98**	**0.88**	**3.31**

Notes:

1. The Mineral Resource estimates were constrained by conceptual pit shells for the purpose of establishing reasonable prospects of eventual economic extraction based on potential mining, metallurgical, and processing grade parameters identified by studies performed to date on the Project.
2. Key constraint inputs included reasonable assumptions for operating costs, geotechnical slope parameters, processing costs and recovery, and specific product pricing (Table 14.22).
3. Variable Cut-Off Grades for P_2O_5 (wt. %) were assigned by deposit and domain based on sensitivity analyses and target feed grades for breccia of 16.0% and conglomerate of 12.0%. Domingos (breccia 10%, conglomerate 10.0%), Cana Brava (breccia 12.5%, conglomerate 9.5%), Coité (breccia 11.0%, conglomerate 11.0%), Near Mine (breccia 12.5%, conglomerate 8.5%)
4. Bulk Density applied to breccia (2.65 g/cm^3) and conglomerate (1.45 g/cm^3) based on results from the Itafos Arraias internal laboratory.
5. Tonnage estimates are rounded to the nearest 10,000.
6. Mt = Million tonnes; wt. % = weight percent.
7. Mineral Resources are reported in accordance with NI 43-101 and CIM Definition Standards for Mineral Resource and Mineral Reserves (2014) and CIM Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (2019).
8. No mining recovery or dilution factors have been applied.
9. Mineral Resource estimates are not precise calculations and may be materially affected by data quality, geological variability, metallurgical recovery, and the economic assumptions used to assess reasonable prospects for extraction. They are also influenced by the estimation methodology and parameters applied, including outlier treatment and search or estimation strategies. All figures are rounded to reflect the relative accuracy of the estimates.

Based on the geological results presented in this TR, supported by the active mining operations at Domingos, mine design, and processing studies performed for the project, it is the WSP QP's opinion that the Mineral Resources have reasonable prospects for eventual economic extraction based on the criteria presented in Item 14 of this TR.

The Mineral Resource estimates presented in this TR are based on the factors related to the geological and grade models, and the criteria for reasonable prospects of eventual economic extraction presented in Item 14.1 and Item 14.2, respectively, of this TR. The Mineral Resource estimates may be affected positively or negatively by additional exploration that expands the geological database and models of mineralized zones for the individual deposit areas. The Mineral Resource estimates could also be materially affected by any significant changes in the assumptions regarding forecast prices, costs, or other economic factors that were used in the resource pit shell development process. If the price assumptions are decreased or the assumed costs increased significantly, then the minimum P_2O_5 grade must be increased and, if so, the potential impacts on the Mineral Resource estimates would likely be material and need to be re-evaluated.

The Mineral Resource estimates are also based on assumptions that a mining project can be developed, permitted, constructed, and operated at each of these individual deposits. Any material changes in these assumptions would materially and adversely affect the Mineral Resource estimates for these deposits; potentially reducing to zero. Examples of such material changes include extraordinary time required to complete or perform any required activities, or unexpected and excessive taxation or regulation of mining activities that become applicable to any proposed mining projects. Except as described in this report, the WSP QP does not know of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimates.

1.8 Qualified Person's Conclusions and Recommendations

This section contains forward-looking information related to Mineral Resources, Mineral Processing, and the life of mine plan for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information include any significant differences from one or more of the material factors or assumptions including: geological and grade interpretation and controls, assumptions and forecasts associated with establishing prospects for economic extraction, grade continuity analysis, and assumptions, mineral resource model tonnes and grade, mine design parameters, actual plant feed characteristics, plant operational performance, mine strategy and production rates, mining unit dimensions, prevailing economic conditions, commodity demand and prices as forecasted over the life of mine period, regulatory framework, and unforeseen environmental, social, or community events.

A summary of estimated budget associated with the recommendations included in this sub-Item is presented in Table 1.5.

1.8.1 Mineral Resource Conclusions and Recommendations

The following is a summary of the key conclusions relating to geology and Mineral Resource estimation:

- The geological and deposit related knowledge has been appropriately used to develop and guide the exploration, modeling, and estimation process used by the Itafos geology team.
- Exploration data collection methods and results were well documented for previous and recent exploration campaigns. The exploration data collection methods followed industry standard practices that were in place at the time of the various exploration campaigns.
- Itafos has conducted appropriate internal and external third-party data verification and data validation work on exploration data to ensure the geological database is reliable, representative, and free of material errors or omissions.

- Data that did not meet the standards for reliability were removed entirely from the modeling database or used in a limited capacity (i.e., lithology modeling but not grade interpolation).
- The resultant validated geological database is considered reliable, representative, and it is the QP's view that it is fit for purpose in developing a geological model and for the preparation of Mineral Resource estimates.
- The geological interpretation and modeling methodology is appropriate for the style of mineralization and data available for APO. The modeling methodology followed current industry standard practices.
- The classification of Mineral Resources into confidence categories Measured, Indicated, and Inferred considered spatial variability of the geological domains and grade parameters as well as geological confidence and uncertainty in the various methods and results used to develop the estimate, spanning exploration through estimation.

Regarding geology and Mineral Resource estimation, the QP's recommendations include the following:

- Exploration focused on upgrading known resources, expansion of existing resource areas, or infilling gaps between past mining areas. Consideration towards additional quality control/verification purposes for areas reliant on older vintage drilling such as Coité, Cana Brava, and the Near Mine deposits. Exploration and infill drilling and assaying is estimated at $6,000,000, split annually between the deposits.
- Evaluation of new potential exploration areas is estimated at approximately $1,500,000 annually.
- Additional external assay umpire testing, estimated at $35,000 per deposit.
- Density values should be collected for each deposit area, by domain, and spaced regularly across the deposit extent, estimated at $5,000.

1.8.2 Mineral Processing Conclusions and Recommendations

The following is a summary of the key conclusions relating to metallurgical testing and mineral processing.

- Process recovery relies on standardized metallurgical and analytical testing. The metallurgical and analytical testing and historical data is adequate for the PEA-level estimation of mass and metallurgical recovery factors for Mineral Resources.
- The beneficiation process is similar to other processes treating Brazilian phosphate rock. The capacity of the beneficiation plant is sufficient to support the life of mine production plan.

With respect to metallurgy and processing, recommendations include the following:

- Itafos is actively carrying out follow-up metallurgical test work to better define processing pathways based on updated mine planning and the initial P_2O_5 grades observed in breccia. Recent geological assessments have also identified a secondary rock type (conglomerate) with potential to upgrade to a 28% P_2O_5 concentrate. Should this material prove unfeasible to process to that grade, preliminary results suggest it may still be suitable for use in an alternative fertilizer product. (Estimated at $194,000)

- As mine development expands into other deposits, the average breccia grade has been found to decrease. Floatation testing for this lower-grade breccia is recommended. If the flotation testing does not yield a 28% P_2O_5 concentrate, additional beneficiation steps should be explored. (Estimated at $54,000)
- Additional flotation trials are recommended for the conglomerate, which has an average P_2O_5 grade of 12% to be able to produce a concentrate with 28% P_2O_5 for use in single superphosphate (SSP) production or a 20–22% P_2O_5 concentrate for partially acidulated fertilizer production. If successful, these trials could increase the Project's Mineral Resource estimates. (Estimated at $194,000)
- Recent mining activity has revealed that the breccia from the Domingos Mine is displaying increased hardness and a higher degree of apatite crystallization, particularly in the southern extent of the deposit. Comparative flotation testing is recommended to assess whether this harder material will perform similarly to the materials tested in 2024. (Estimated at $67,000)

1.8.3 Mining and Economic Analysis Conclusions and Recommendations

The following is a summary of the key conclusions and recommendations relating to the mine plan components and economic analysis. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. The estimate of Mineral Resources may be materially affected by geology, environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The operational and technical knowledge gained through experience with mining at APO has been appropriately used in the development of the LOM plan.

- Mining at APO relies on typical open-pit type unit operations to remove, transport, and store overburden and transport the phosphate rock to the beneficiation plant. The APO operation has equipment for open-pit mining of the appropriate fleet size and capacity, and adequate labor staffing to support the LOM production plan.
- Sufficient infrastructure is in place to support the APO mining operation, including:
  - Project road access
  - Water supply and pipelines
  - Power supply and local electric distribution lines
  - Mine and beneficiation maintenance and support facilities.

With respect to mining and economic analysis, recommendations include the following:

- Mine planning should be advanced to a Pre-feasibility (PFS) level to ensure sufficient technical detail and economic analysis for converting Mineral Resources into Mineral Reserves. This includes refining designs and schedules, as well as reconciling mining production against geological models to develop appropriate modifying factors to meet the standards required under NI 43-101. (Estimated at $250,000 for APO)
- Blending plans should be developed to maximize resource utilization while maintaining the desired plant feed grade. (Estimated at $50,000)
- More detailed economic analysis should be conducted (Estimated at $60,000) to reduce uncertainty and support future reserve estimates, including:
  - Developing more granular estimates for mining, processing, and capital estimates to capture all economic drivers accurately.
  - Apply probabilistic analysis to quantify risk and variability in key inputs such as grade, recovery, operating cost, and commodity price.
  - Compare key parameters against historical performance to ensure economic assumptions remain realistic.

1.8.4 Environmental Conclusions and Recommendations

The information available for review indicates that Itafos applies good practices related to environmental management, including operating with all required environmental permits, applying environmental controls, and executing monitoring programs for surface and groundwater, air emissions, and fauna.

The monitoring results available for review, in general, indicate compliance with the applicable standards, with the most notable exception being phosphorus in surface water, which is likely to be influenced by the local geochemical background.

Itafos has received a public civil action (in 2014) and a criminal action (in 2016) from the Federal Public Prosecutor Office. The public civil action was closed with Term of Adjustment, that included additional monitoring requirements. A ruling issued on December 18, 2025, by the Federal Civil and Criminal Court of Gurupi-TO extinguished Itafos' criminal action. According to Itafos, no other formal claims were issued related to the site operation.

No site investigation works have been conducted to date to assess potential soil and groundwater contamination at the Site.

Two Asset Retirement Obligation (ARO) reports from 2023 with closure costs were available for review. The closure costs presented in these documents are likely to be outdated and Itafos is currently preparing a closure plan.

Regarding environmental and permitting, the QP's recommendations include the following:

- Conclude the preparation of the mine closure plan following the International Council on Mining and Metals (ICMM) guidelines and with estimation of life of mine closure costs, estimated at $150,000.
- Prepare an ARO estimate following the International Financial Reporting Standards (IFRS): International Accounting Standard (IAS) 37 - Provisions, Contingent Liabilities and Contingent Assets estimated at $40,000.
- Prepare a study to define background concentrations of phosphorus in surface water at the mine area and assess the potential influence of the Site operations on these surface water qualities estimated at $80,000.
- Undertake a Phase 1 preliminary site assessment, focusing on the industrial area and, in case potential contamination is identified, undertake an intrusive site investigation work, with soil and groundwater sampling estimated at $30,000.
- Prepare a hydrogeological study, including the preparation of potentiometric maps at the mine area and assessment of influence of the site operations, including pit dewatering, on the groundwater levels and dynamic estimated at $100,000.

1.8.5 Budget for Recommended Work

Table 1.5 provides the estimated budget for recommended work.

Table 1.5: Budget for Recommended Work

Category	Estimated Cost (US$)
Geology and Mineral Resources	$7,540,000
Mining	$360,000
Mineral Processing	$509,000
Environmental	$400,000
Total	**$8,809,000**

2. Introduction

This Technical Report (TR) was prepared for Itafos Inc. (Itafos), a vertically integrated phosphate fertilizers and specialty products company headquartered in Houston, Texas (TX) and publicly traded on the TSX Venture Exchange (TSX-V: IFOS). Itafos, through its Brazilian subsidiary, owns 98.4% of Itafos Arraias Mining and Fertilizers SA which includes the Domingos Mine, beneficiation plant, sulfuric acid plant, acidulation plant, and granulation plant. The Arraias Phosphate Operation (APO) currently produces Direct Application Phosphate Rock (DAPR) and Partially Acidulated Phosphate Rock (PAPR), with plans to resume production of Single Superphosphate (SSP) in the near future.

Itafos engaged WSP Canada Inc. (WSP) to compile a National Instrument (NI) 43-101 Technical Report (TR) on its APO that are in operation or under development. The mines and projects are owned by its majority-owned subsidiary, Itafos Arraias Mining and Fertilizers SA (Arraias). This TR presents an updated Mineral Resource estimate and the results of a Preliminary Economic Assessment (PEA) for the APO.

In 2013, a Technical Report was prepared for Arraias with Mineral Resource and Mineral Reserve estimates for the siltstone units underlying the Project area. When mining and processing operations commenced, the siltstones proved difficult to process with the existing beneficiation plant equipment. In November 2019, Itafos opted to idle the APO and reassess the geometallurgical model and underlying Mineral Resource and Mineral Reserve assumptions. After updating the geometallurgical model, Itafos elected to attempt mining and beneficiation of the breccia and conglomerate units rather than the siltstone units previously targeted. A Pre-Feasibility Study (PFS) was developed to determine operating and capital cost estimates for a new short-term mine plan targeting the breccia and conglomerate units. Itafos commenced mining and the production and sale of DAPR and PAPR. The success of this short-term mine plan led to Itafos deciding to update the Mineral Resource estimates for the APO based on the breccia and conglomerate units instead of the siltstone units. The Mineral Reserves stated in the 2013 Technical Report have been classified as “Under Review” in Itafos’ annual reports since 2021 as they were based on the siltstone units.

2.1 Terms of Reference and Purpose of Technical Report

The terms of reference for this Preliminary Economic Assessment (PEA) include:

- The effective date of the TR and Mineral Resource was November 14, 2025.
- This TR uses US English spelling and metric units of measure. Grades are presented in weight percent (wt.%), tonnages in metric tonnes. Costs are presented in Q1 2025 US Dollars.
- Except where noted, coordinates in this TR are presented in metric units using the South American Datum (SAD) 1969, Zone 23 South.

- The purpose of this TR is to disclose the results of a PEA for updated phosphate Mineral Resources for APO for the four identified deposit areas: Domingos, Coité, Cana Brava, and Near Mine.

Key acronyms and definitions for this Report are included in Table 2.1.

Table 2.1: Key Acronyms and Definitions

Abbreviation	Definition
°C	degrees Celsius
23S	UTM Zone 23 South
AG1	Argiloso
AHD	average haul distance
AMC	Andes Mining Consultants
ANM	Agência Nacional de Mineração, Brazilian National Mining Agency
APO	Arraias Phosphate Operations
AR1	Arenoso
ARO	Asset Retirement Obligation
BNDES	National Development Bank
BOD	Biochemical oxygen demand
BSF	São Francisco Basin
BR	Breccia
Ca	calcium
CaO	calcium oxide
CFEM	Financial Compensation for the Exploitation of Mineral Resources
CG1	Conglomerate
CO_2	carbon dioxide
COG	cut-off grade
CONAMA	National Council of the Environment
CV	Coefficient of Variation
DI	Diamictite
DFS	Definitive Feasibility Study
DNPM	National Department of Mineral Production
EDA	exploratory data analyses
EL	Elevation
Fe	Iron
Fe_2O_3	iron oxide
FOB	free-on-board
Ga	giga annum or billions of years
GO	Goiás State
Golder	Golder Associates USA Inc.
GPS	global positioning system
ICMM	International Council on Mining and Metals
ITAK	Instituto de Tecnologia August Kekulé
Itafos	Itafos Inc.
ha	hectare
K	Potassium
kg/t	kilograms per tonne
kilovolt	kV
km	kilometer
L	Liter
LOM	Life-of-Mine
m	meter
masl	Meters above sea level
m/d	meters per day
m/s	meters per second

Abbreviation	Definition
m^3/h	cubic meters per hour
Mg	Magnesium
ML	Marl
mm	millimeters
Mm^3	million cubic meters
Mt	million Tonnes (Metric)
Mtpy	million tonnes per year
MW	megawatt
NPV	Net Present Value
ºC	Celsius
OSF	Overburden Storage Facility
OXI	Oxidized
P_2O_5	phosphorus pentoxide
PFS	Preliminary Feasibility Study
PSD	Particle Size Distribution
QA/QC	Quality Assurance/Quality Control
QQ	Quantile-Quantile Plot
R$	Brazilian Reais

Abbreviation	Definition
RF	Revenue Factor
ROM	Run-of-Mine
RTK	real-time kinematic
SAD	South American Datum, 1969
SAG	Semi-autogenous
Si	Silicon
SiO_2	silicon dioxide
SSP	Single Superphosphate
t/m^3	tonnes per cubic meter
Ti	Titanium
TO	Tocantins State
tph	tonnes per hour
tpy	tonnes per year
TSF	Tailings storage facility
USD	United States Dollars
UTM	Universal Transverse Mercator
wt. %	weight percent

2.2 Sources of Information

All information and data used in the development of this TR was provided by APO and Itafos, as well public and private data sources. The supply of the private data sources from Itafos included a drill hole database, internal documentation, laboratory certificates, blending specifications, production information, historical mine plans and other supporting files.

The previously filed technical report for Arrias, titled “Updated Technical Report Itafos Arraias SSP Project, Tocantins State, Brazil” with an effective date of March 27, 2013, prepared by Andes Mining Services Ltd, NCL Brasil Ltda., and HDA Serviços S/S Ltda was utilized as a reference source for the preparation of this PEA.

A detailed list of cited reports is presented in Item 27 of this Report.

2.3 Personal Inspection Summary

A site visit and inspection of the APO mining operations was completed from July 29 to August 2, 2024, by WSP's QPs responsible for the preparation of this TR.

The QPs present at the site visit included Ms. Jennifer Simper, P.Geo., Mr. Terry Kremmel, P.E. The WSP QPs were also accompanied by Ms. Jill Davis, P.E. and Mr. Jerry DeWolfe, P.Geo.

The WSP team that conducted the site visit was provided with a site safety orientation, introduced to key mine personnel who conducted the guided tours of specific site areas. WSP QPs visited key areas of the open pit, including active mining areas, crusher locations, waste storage facilities, run-of-mine (ROM) storage, process facilities, core shack, dispatch, security gate, administration, and other infrastructure. The site visit also included a tour of the Tailings Storage Facility (TSF).

The Millcreek QP visited the APO mining operations in May 2022, visiting the key aspects of the APO, including the beneficiation plant, power distribution center, sample laboratory, and warehouse.

Additional information on data verification undertaken by each QP is included in Item 12.

2.3.1 Jennifer Simper

The independent QP, as defined in NI 43-101, responsible for the preparation of the Mineral Resources provided in this TR, is Ms. Jennifer Simper (P.Geo.), (Principal Resource Geologist). Ms. Simper visited APO from July 29 to August 2, 2024. During the site visit, Ms. Simper observed active mining in the Domingos pit, walked through the processing plant, visited portions of the Cana Brava, Coité, and Near Mine deposits, and toured the TSF.

Activities performed during the site visit included the following:

- Verify a selection of drill hole collar coordinates, both from the pre-2020 and 2020-2021 programs.
- Observe and review the drilling, logging, and sampling procedures.
- Verify a selection of core with respect to the drill hole logs.
- Observe the core storage facilities.
- Observed the internal Itafos laboratory and sample processing facility.

2.3.2 Terry Kremmel

The independent QP, as defined in NI 43-101, responsible for the Mining Methods and Economic Analysis provided in this TR is Mr. Terry Kremmel (P.E.). Mr. Kremmel visited APO from July 29 to August 2, 2024. During the site visit, Mr. Kremmel observed active mining in the Domingos pit, walked through the processing plant, visited portions of the Cana Brava, Coité, and Near Mine deposits, and toured the TSF.

2.3.3 Rainer Stephenson

The independent QP, as defined in NI 43-101, responsible for the Mineral Processing analysis provided in this TR is Mr. Rainer Stephenson. Mr. Stephenson visited APO in May 2022 for a period of 3 days. During the site visit, Mr. Stephenson observed the existing Domingos pit, tailings storage facility, beneficiation plant, power distribution center, sample laboratory, and warehouse.

3. Reliance on Other Experts

In this TR and as described in this Item, the QPs relied on: a) a report, opinion, statement, of another expert who is not a QP, or on information provided by the issuer concerning legal, political, environmental, or tax matters relevant to the TR; or b) a report, opinion, or statement of another expert who is not a QP concerning the pricing of commodities for which pricing is not publicly available.

This TR has been prepared by WSP and Millcreek Engineering Company (Millcreek) for Itafos. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to WSP and Millcreek at the time of report preparation;
- The previously filed technical report for Arraias, titled “Updated Technical Report Itafos Arraias SSP Project, Tocantins State, Brazil” with an effective date of March 27, 2013, prepared by Andes Mining Services Ltd, NCL Brasil Ltda., and HDA Serviços S/S Ltda
- Assumptions, conditions, and qualifications as set forth in this report; and
- Data, reports, and other information supplied by Itafos.

In Items 4.2 Mineral Tenure, Surface, and Other Rights, 4.3 Royalties, Encumbrances, Other Obligations, 4.4 Environmental Liabilities, and 4.5 Significant Factors or Risks Affecting Access, the QPs have relied upon, and believe there is a reasonable basis for this reliance on, information provided by Itafos regarding mineral tenure, surface rights, ownership details, and agreements relating to the Arraias Phosphate Project, royalties, environmental obligations, permitting requirements and applicable legislation relevant to the Arraias Phosphate Project. The QPs have not independently verified the information in these items and have fully relied upon, and disclaim responsibility for, information provided by Itafos in these Items.

For information relating to tax matters and royalties, the QPs relied on Itafos’ finance team. The QPs have not researched tax regulations applicable to the operation and believe it is reasonable to rely on the Itafos finance team for this information as they have first-hand knowledge of the requirements from actual experience with APO for the last several years.

For information related to Mineral Tenure, the QPs have relied on Itafos’ environmental and permitting team. All sub-soil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM. The QPs have not independently verified the permit details as they consider it to be reasonable to rely on Itafos’ environmental and permitting team who is responsible for maintaining this information.

The QPs have relied on Itafos’ finance team for details regarding DAPR and PAPR current commodity pricing. The QPs believe this reliance is reasonable given that Itafos has been operating APO for the last several years, selling DAPR and PAPR to consumers and Itafos provided the QP with the actual average commodity price for those products. The QPs also relied on Itafos’ finance team for details regarding future SSP commodity pricing. The QPs believe this reliance is reasonable given that Itafos has significant insight into the global fertilizer market as a result of their global operations.

4. Property Description and Location

4.1 Location and Area

The Project is in central Brazil and straddles the boundary between the states of Tocantins to the north and Goiás to the south. Figure 4.1 illustrates the location of the Project. The exploration field office, sample preparation laboratory, and the mine facilities are located approximately 12 kilometers (km) to the northeast of the town of Campos Belos. The mine is located at approximately Universal Trans Mercator (UTM) coordinates 310,000 East 8,569,000 South American Datum (SAD) 1969, Zone 23S. The Project spans an area of approximately 3,400 Ha.

4.2 Mineral Tenure, Surface, and Other Rights

Surface rights have been negotiated with the local landholders for sampling and drilling of the core areas of immediate interest. Some outlying fringe areas are expected to be negotiated in the future.

In Brazil, the granting of mining concessions and exploration permits is governed by the Brazilian Mining Code (Decree-Law No. 227/1967) and regulated by the National Mining Agency (Agência Nacional de Mineração – ANM). All sub-soil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM. All permits are valid for a renewable period of three years and have been legally surveyed.

Exploration Permit (Autorização de Pesquisa)

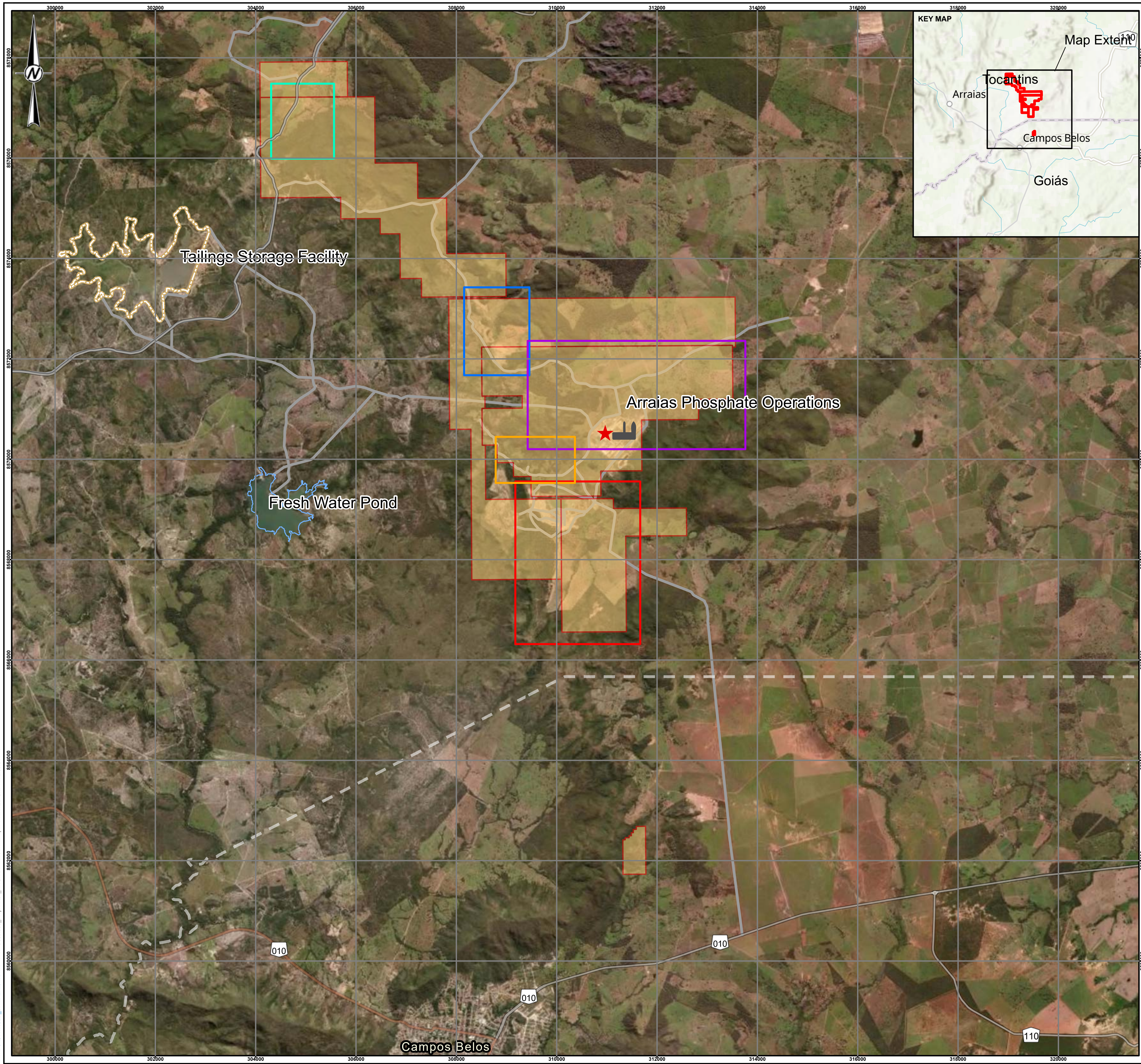
To obtain an exploration permit from ANM, applicants must submit a Mineral Exploration Plan that includes technical, legal, and financial information for an area that is open and available in ANM's mining registry system (SIGMINE).

When granted, exploration permits are valid for 1 to 3 years, depending on the target mineral and the scope of the proposed exploration program.

At the end of the permit's validity, it is possible to request a renewal for an equivalent period, provided that the exploration work program has been carried out as planned and that the applicant submits a technical justification for additional work.

Key obligations for maintaining the exploration permit include:

- Submission of the Declaration of Investment in Mineral Exploration (DIPEM), which details exploration activities, results, and expenditures.
- Payment of the Annual Fee per Hectare (Taxa Anual por Hectare – TAH), which varies according to the phase and size of the area: R$4.09 per hectare (ha) during the initial term and R$6.13 per ha during any renewal period.



LEGEND

- ARRAIAS PHOSPHATE OPERATIONS
- PROCESSING PLANT
- ARRAIAS PERMITS
- ROADS
- CANA BRAVA
- COITE
- DOMINGOS
- NEAR MINE
- SAO BENTO

0 1,000 2,000 3,000

1:75,000 METERS

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
LOCATION MAP

CONSULTANT

WSP

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JS
REVIEWED	JD
APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455		0	4.1

The permit expires at the end of its term if a renewal is not requested, or earlier if the exploration objectives are achieved before the deadline. Failure to comply with annual obligations (DIPEM and TAH) may result in permit cancellation.

Mining Permit (Concessão de Lavra)

A mining concession may be requested after completing the exploration phase. It is granted upon the successful completion and approval of a Final Exploration Report (Relatório Final de Pesquisa – RFP) by ANM.

Once the RFP is approved, the applicant must submit a Mining Plan (Plano de Aproveitamento Econômico – PAE) for ANM's review. This plan must address technical, legal, financial, and market considerations.

In parallel, the company must prepare and submit a full environmental impact study (EIA-RIMA, equivalent to an ESIA) to obtain the necessary installation and operating licenses for the Project.

Once granted, the mining concession is valid for an indefinite period, as long as the concession holder continues to operate in compliance with the legal, environmental, and technical requirements established in the approved Mining Plan (PAE).

Ongoing obligations include:

- Submission of the Annual Mining Report (Relatório Anual de Lavra – RAL) detailing production, reserves, investments, and environmental compliance.
- Payment of CFEM (Financial Compensation for the Exploitation of Mineral Resources), which are mining royalties calculated based on the Project's gross sales revenue.

Mining concessions do not have an expiration date under normal circumstances but can be revoked if the concession holder:

- Suspends operations without justification.
- Fails to meet legal obligations.
- Violates environmental or safety regulations.

The Arraias Project includes six mining concession permits issued by the ANM, as presented in Table 4.1, which summarizes the applicable Project permits, and Figure 4.2 which illustrates the locations of the Arraias permits. Each permit has been granted to Itafos according to the Brazilian Mining Code and by authorizations issued by the Ministry of Mines and Energy of the Federal Republic of Brazil.

Table 4.1: Arraias Mining Permits

Locality	Type	Permit Number	Issued	Description	Area (ha)
Arraias	Mining Permit	864.113/2003	13-Feb-13	Northern Domingos Mine, "Near-Mine" mines.	1,062.47
Arraias	Mining Permit	861.173/2004	28-Jul-17	Northern Cana Brava Deposit	122.95
Arraias	Mining Permit	864.174/2004	28-Jul-17	Cana Brava Deposit	847.56
Arraias	Mining Permit	864.175/2004	28-Jul-17	Western Domingos Mine; northern part of the Coité Deposit	982.82
Arraias	Mining Permit	864.176/2004	6-Apr-15	Eastern Domingos Mine.	404.18
Campos Belos[1]	Mining Permit	861.009/2004	26-Dec-13	Avião Deposit	38.81
Total					**3,458.79**

Notes: 1. This area is not included in the current Mineral Resource estimate and is a target for future exploration only.

4.3 Royalties, Encumbrances, Other Obligations

Itafos holds surface rights over several mining targets (Figure 4.2) within the Itafos Arraias Project (including Coité, São Bento, the northern part of Domingos, and some areas within the Near-Mine deposit). For the southern part of the Domingos Mine, Itafos has an agreement with the surface owner that grants unrestricted access to the area for mining activities. This agreement amounts to R$1,440,000.00, valid from July 1, 2024, to July 1, 2027, with four annual payments of R$360,000.00. At the Cana Brava deposit area, negotiations with the surface owner have not yet taken place.

The royalties for the Brazilian government are 2% of the revenue from selling the mineral products.

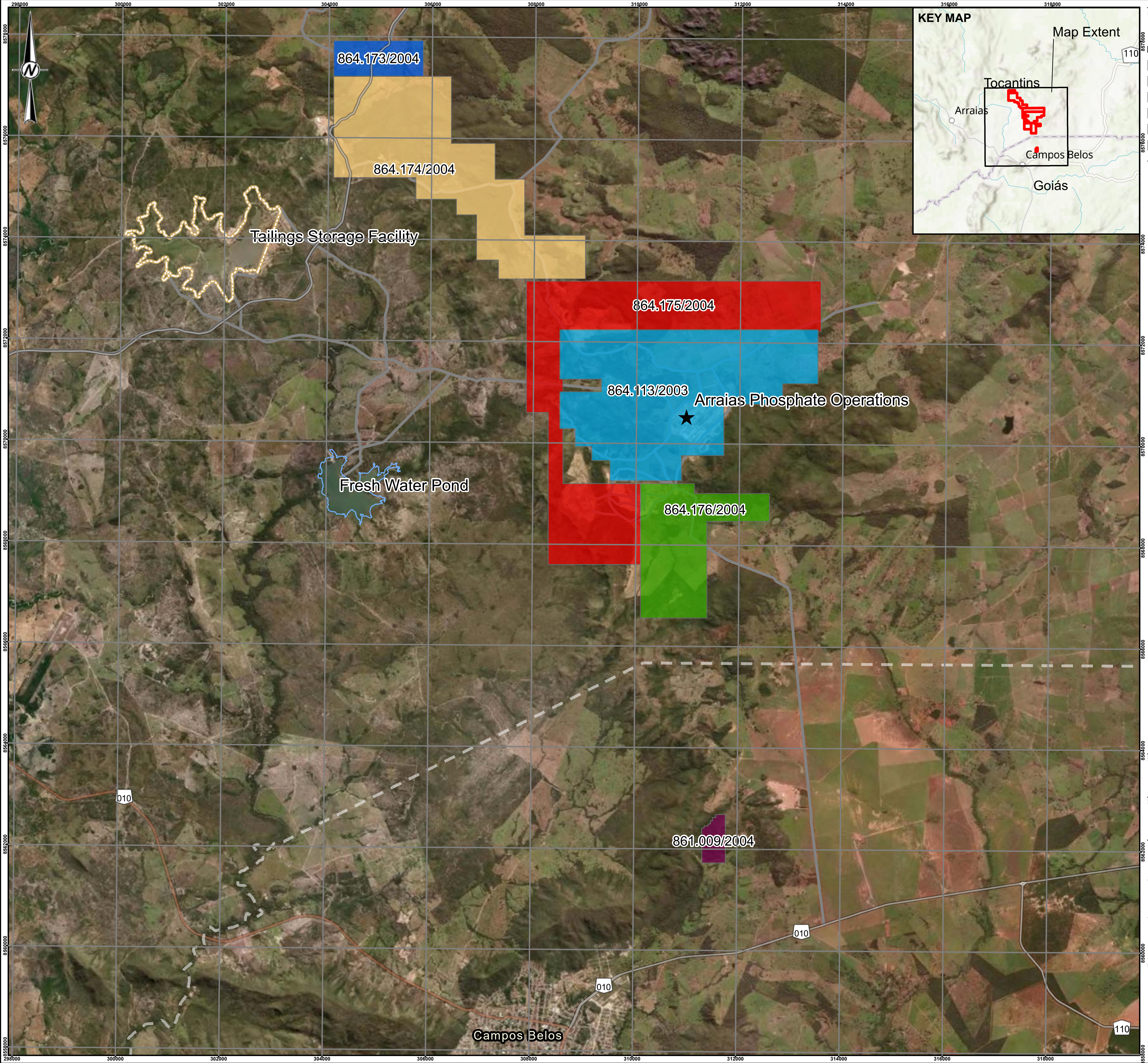
4.4 Environmental Liabilities

According to the Brazilian legislation, companies are strictly liable for environmental damage, regardless of intent or fault. This responsibility extends to current and former operators, contractors, and legal successors, including in cases of mergers or asset transfers. Remediation obligations apply both during operations and after mine closure.

Environmental liabilities and costs related to closure of existing mining assets are usually evaluated in an Asset Retirement Obligation (ARO) assessment, that should follow specific guidelines, such as International Financial Reporting Standards (IFRS): International Accounting Standard (IAS) 37 - Provisions, Contingent Liabilities and Contingent Assets, while liabilities related to site contamination that are resulting from abnormal operations (e.g., remediation resulting from soil and groundwater contamination due to spills) may be evaluated under different assessments. As presented in Section 20, Itafos has prepared two ARO reports considering different scenarios.

Site investigation works aiming to identify soil and groundwater contamination were not performed at the Site to date. The existing groundwater monitoring program focuses on artesian wells surrounding the mine area; therefore, the results cannot be used to investigate potential contamination at the Site.

Considering the lack of site investigation works, it is recommended that a Phase 1 preliminary site assessment is undertaken, focusing on the industrial area and, in case potential contamination is identified, an intrusive site investigation work, with soil and groundwater sampling, is undertaking. Further details can be found in Item 20.



LEGEND

★ ARRAIAS PHOSPHATE OPERATIONS

PERMIT NUMBER

- 861.009/2004
- 864.113/2003
- 864.173/2004
- 864.174/2004
- 864.175/2004
- 864.176/2004
- ROADS

0 1,000 2,000 3,000

1:75,000 METRES

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
ARRAIAS MINING PERMIT MAP

CONSULTANT		
WSP	YYYY-MM-DD	2026-01-30
	DESIGNED	JS
	PREPARED	JS
	REVIEWED	JD
	APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455		0	4.2

4.5 Significant Factors or Risks Affecting Access

To the extent known, the following significant factors and risks may affect Itafos' right or ability to perform work on the Arraias Projects.

- While the mining permits are in order, agreements with surface owners in future mining areas are still being negotiated.

5. Accessibility, Climate, Local Resources, Infrastructure, And Physiography

5.1 Topography, Elevation, and Vegetation

The Project area is located in the Central Brazilian Highlands at a mean elevation of 700 m above sea level (masl). The local topography is generally flat, with low rolling hills and occasional remnant carbonate karsts. The vegetation of the area is classified as savannah-like Cerrado. Goodland (1971) divided the Cerrado into four categories ranging from least to most canopy cover. These include campo sujo (herbaceous layer with occasional small trees about 3 m tall), campo cerrado (slightly higher density of trees about 4 m tall on average), cerrado sensu stricto (orchard-like vegetation with trees about 6 m high) and cerrado (canopy cover near 50% with general height around 9 m). Much of the Cerrado has now been substituted by cattle or crop pasture; the local economy depends largely on cattle grazing

5.2 Accessibility

The Project site is located approximately 600 km northeast of the state capital of Goiâna and 400 km north of the Brazilian capital city of Brasilia. Access is via paved highways BR-020 and GO-118 to the town of Campos Belos. From Campos Belos, the site is accessed via an unpaved road, which is accessible year-round. There is a small (1,400 m long) paved air strip to the northeast of Campos Belos which can accommodate private planes.

5.3 Climate

The climate in the area is classified as tropical savannah (Aw, Koppen) with well-defined winter dry season from May to August and a wet summer season from September to April. Yearly average temperatures are 20 to 22 degrees Celsius (ºC) with rainfall typically 1,000 to 1,500 millimeters (mm) during the summer period, with August being the wettest month. Mining and drilling are typically conducted during the dry season; however, most activities can be conducted year-round.

5.4 Sufficiency of Surface Rights, Sites, and Local Resources

Campos Belos is the commercial center for the area with a population of approximately 20,000 people. All services are available in the town including accommodation, dining, and retail services. A skilled labor force is available in Campos Belos for the mining activities. Itafos has a processing and beneficiation facility to the northwest of the existing open pit, accessed by an unpaved haul road.

Surface rights have been granted for all but the Cana Brava deposit, and Itafos holds valid mining permits over each of the deposit areas. Negotiation and consultation with the landowner at the Cana Brava deposit will be conducted prior to the next phase of study.

6. History

6.1 Prior Ownership and Ownership Changes

The phosphate occurrences around the Campos Belos region were first explored in the 1960s by METAGO, the Goiás State Mining Company. In 2004, Itafós Mineração Ltda acquired the mineral properties and started trial mining operations, producing two low-cost pulverized rock products (24% P_2O_5 and 12% P_2O_5) both for direct application to the soil.

In 2008, MBAC Fertilizer Corp. (MBAC, a private company at the time) acquired Itafos (the original local owner of the high-grade quarry) and immediately started a mapping and drilling campaign aimed at defining large volumes of lower grade P_2O_5 resources. MBAC developed the Itafos Arraias SSP project, which included mines at Coité and Domingos, mill, sulfuric acid plant, SSP plant, and granulation plant.

MBAC completed exploration and development work at the Arraias Project area from 2008 through 2016, when they filed for bankruptcy protection under Brazilian law in late 2016. Following successful restructuring in late 2016, MBAC officially changed the name of the company to Itafos Inc. and commenced further exploration at Arraias in the Coité and Domingos areas.

6.2 Exploration and Development History

Drilling in Arraias began in the mid-2000s with Itafós Mineração Ltda conducting a shallow rotary air blast (RAB) drilling campaign between 2006 and 2007. Drilling was not systematic, and the depths were typically less than 20 m. Records of this drilling were not available for review. Further trial mining pits were developed at the Coité and São Bento targets focusing on the high-grade phosphate outcrops. Following the acquisition by MBAC, an extensive exploration program targeting several prospective phosphate occurrences commenced. Details of the MBAC exploration, drilling and sampling are included in Items 9, 0 and 11 of this TR.

6.3 Historical Mineral Resource and Mineral Reserve Estimate

There are no historical Mineral Resource and Mineral Reserve estimates for the Arraias Project.

6.4 Production from the Property

The Arraias Project has experienced two unsuccessful mine startups, with mining occurring in the Coité Pit and Domingos Pit. A primary cause of the failed mine startups was due to the processing facilities not being amenable to the metallurgical characteristics of the different mineralized phosphate-bearing rock types.

Additionally, the beneficiation plant was designed based on other Brazilian phosphate operations and was designed to handle iron-rich phosphate ores. However, the characteristics of the Arraias deposit are substantially different from the iron-rich phosphate deposits, which resulted in a processing plant that was not designed to efficiently process the Arraias rock. Furthermore, the metallurgical characteristics of each of the mineralized rock types are substantially different, which further complicated the operability of the beneficiation circuit.

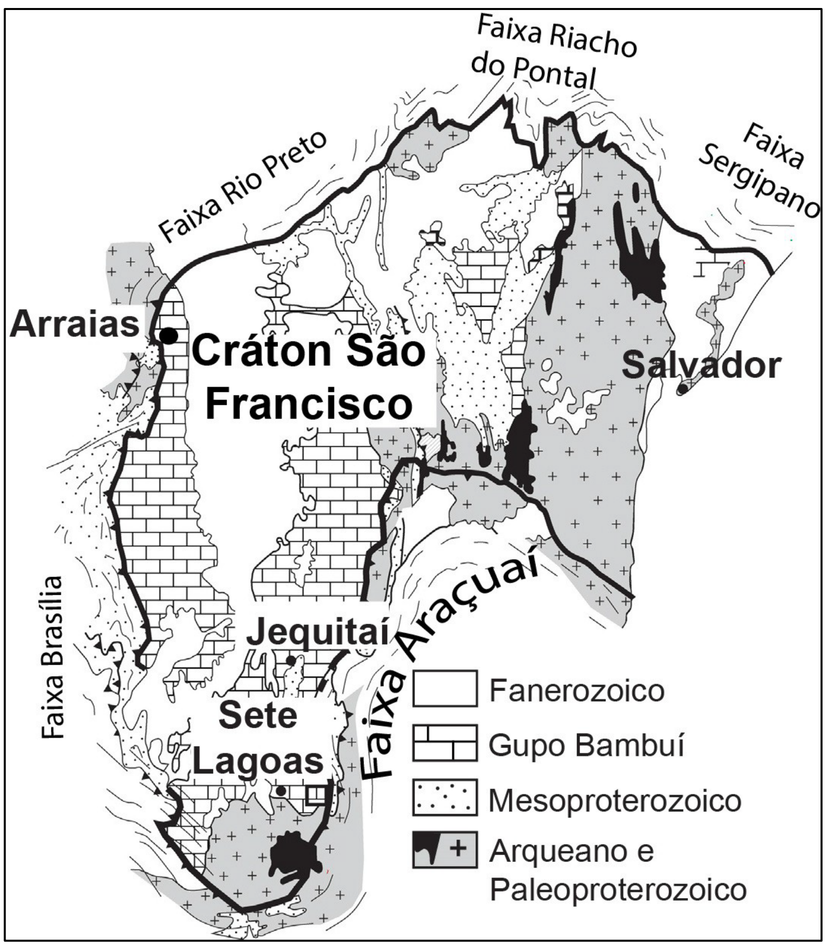
As of December 31, 2024, Arraias had mined approximately 4.9 Mt of material since the TR for Arraias was prepared by MBAC on March 27, 2013.

7. Geological Setting and Mineralization

7.1 Regional Geology

Regional geology was summarized by Silva in the 2018 structural geology report prepared for the Project. The following presents a summary of this report. The geology of the São Francisco Basin (BSF) (Alkmim et al, 1993; Alkmim; Martins-Neto, 2001; Martins-Neto, 2007; Alkmim; Martins-Neto, 2012) covers a portion of the São Francisco Craton and exhibits features typical of the intracratonic basin, Figure 7.1. Its sedimentary succession encompasses filling cycles of multiple basins below 1.8 billion years (Ga), which reflect tectonic and climatic events (Martins-Neto, 2009).

Figure 7.1: Simplified Geological Map of the Sao Francisco Craton



Source: Silva, 2018

The BSF extends for approximately 800 km north-south, covering an area of approximately 500,000 km^2, encompassing large areas of the states of Minas Gerais and Bahia and small parts of Goiás, Tocantins, and Distrito Federal. The basin is limited to the west, east, and north by the marginal mobile strips of Brasília, Araçuaí, Rio Preto, Riacho do Ponta, and Sergipano (Figure 7.1). The cratonic basement emerges to the south, comprised of Archean complexes constituted by gneisses and migmatites associated with the greenstone belt (Figure 7.1), which are bordered by a mobile Paleoproterozoic band (~2.1 Ga) called the Mineiro Belt (Teixeira; Figueiredo, 1991; Teixeira Et Al., 2000). To the northeast, the basement comprises the Archean Serrinha and Jequié blocks (possible microcontinents), together with the Itabuna-Salvador-Curaçá Belt (magmatic arch), amalgamated with the larger Archean block of Gavião in the transition between the Riaciano and Orosiriano periods.

The BSF stratigraphy comprises Mesoproterozoic units of the Espinhaço Supergroup, including the Ediacaran-Neoproterozoic units of the Bambuí Group, and by the Phanerozoic units of the Santa Fé (Permian-Carboniferous), Areado, Mata da Corda, and Urucuia (Cretaceous) groups.

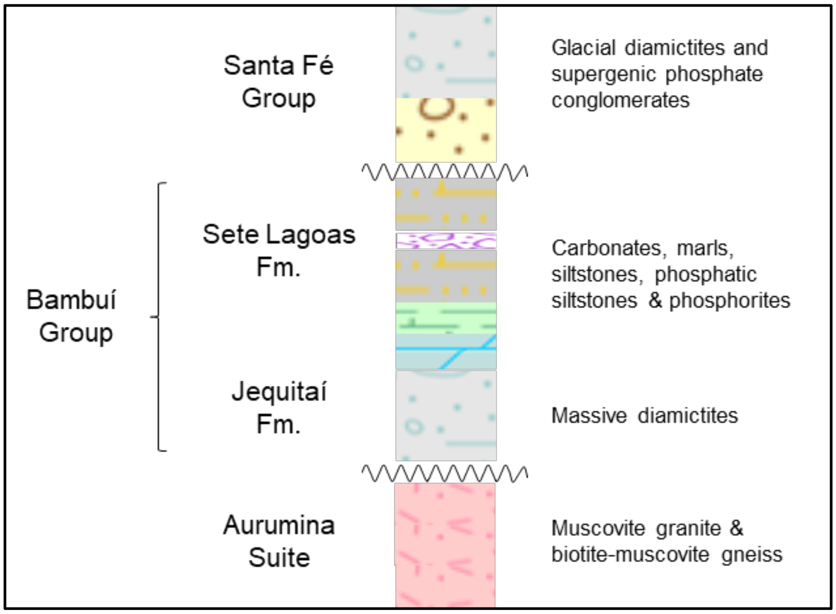
The Bambuí Group records a submergence of the craton by seawater, transforming it into a foreland-type basin in the Brasília Belt with deposition of pelite-carbonated sediments and ending with arkose and siltstone (Martins-Neto; Pedrosa-Soares; Lima, 2001; Alkmim; Martins-Neto, 2001). The stratigraphic succession is composed, from the bottom to the top, by glacial deposits (Jequitái Formation), pelitic-carbonate deposits defined by Dardenne (1978) in the Sete Lagoas formations (constituted by dolomites, siltstones, and limestone with interspersed shales), Serra Santa Helena (composed of silty shales, limestone lenses, and subordinate sandstones), Lagoa do Jacaré (comprises siltstones, marl and black limestones), Serra da Saudade (consisting of green shales, pelites, siltstone, and limestone lenses) and Três Marias (consisting of siltstones and arkoses).

The Santa Fé Group (Permian-Carboniferous) (Campos; Dardenne, 1994; Campos; Dardenne, 1997) comprises a set of sediments of glaciogenic origin, subdivided into the Floresta and Taboleiro formations, constituted, respectively, by shales with dripping pebbles that become diamictites (tilites and tiloids) and sandstones with intercalations of pelites.

7.2 Local and Property Geology

The Project is located on the western edge of the BSF, between the towns of Campos Belos (Goiás) and Arraias (Tocantins). The BSF sediments are flanked on the west by the Aurumina Suite, which is comprised of a granite-gneiss complex of Archean-Paleoproterozoic age. Locally, the Aurumina Suite is represented by muscovite granite and biotite-muscovite gneiss. The Aurumina Suite is unconformably overlain by massive diamictites of the Jequitaí Formation, pelites, carbonated rocks and phosphate siltstones and phosphorites attributed to the Sete Lagoas Formation. The formations comprise the basal portion of the Bambuí Group. The rocks of the group are overlapping in erosive unconformity with glaciogenic rocks (diamictites), possibly correlated to the Santa Fé Group. At the base of this group, there is a possible supergenic phosphorite arising from a weathering process in the mineralized siltstones of the Sete Lagoas Formation. Figure 7.2 illustrates the Arraias stratigraphic column, and Figure 7.3 illustrates the Project wide geology map prepared by MBAC.

Figure 7.2: Arraias Project Stratigraphic Column

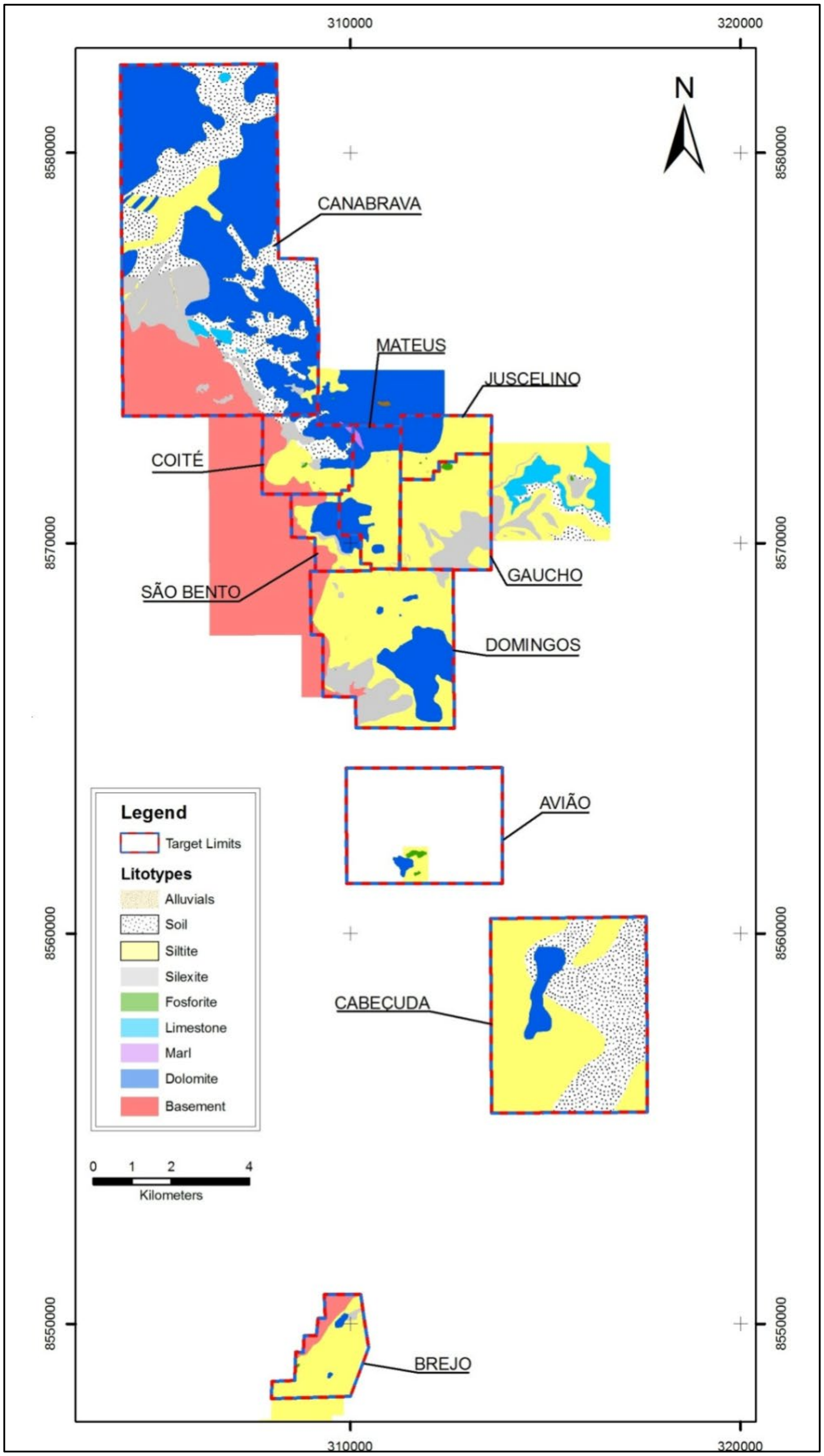


Source: WSP 2022

At Arraias, the Sete Lagoas Formation is the dominant unit found in the western portion of the deposit and consists of a basal carbonate (dolomite, dolomitic limestone), grading into marls and siltstones. The siltstones have been further subdivided into sandy (arenoso) and clayey (argiloso), which are locally interbedded; however, in general, the coarser arenoso grades upward into the finer argilioso.

The glaciogenic rocks of the Santa Fé Group dominate the eastern half of the deposit in Domingos, and cover large portions of the Cana Brava, Coité and Near Mine deposits. It is thought that they unconformably overlap the Sete Lagoas siltstones. The unit consists of poorly sorted polymictic conglomerates (locally termed diamictite), showing limited stratification and variable sized clasts from 10 to 40 centimeter (cm) in diameter. Silva mapped clasts of varying shapes consisting of angular to rounded, granite, quartz, quartzite, siltstone, limestone, and dolomite. The bulk of the unit is poorly mineralized; however, there is a variably mineralized zone at the bottom of the unit at the contact with the underlying Sete Lagoas formation. Silva suggested that this mineralization was due to pedogenetic process initiated on the stratified phosphorites. Subsequently, the overlapping of the diamictite has reworked the mineralized layer, enriching its base into a pedogenetic pale phosphorite.

Figure 7.3: Arraias Project Geology Map

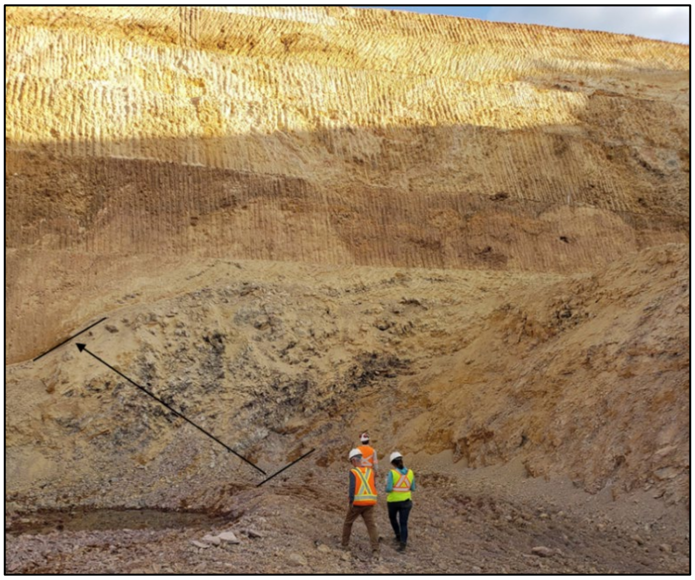


Source: MBAC 2011, page 83

During the QP site visit in July 2024, the QP observed the high-grade breccia at the highwall of the Domingos pit, as shown in Figure 7.4, as well as the low grade siltstones in the blasted area as shown in Figure 7.5.

Silva 2018 included several photographs highlighting the various lithotypes found within the Sete Lagoas formation and the Santa Fé Group collected during the field mapping program. Figure 7.6 and Figure 7.7 illustrate examples of outcrops encountered during the 2018 geological mapping program.

Figure 7.4: Breccia Zone in Highwall at Domingos Pit



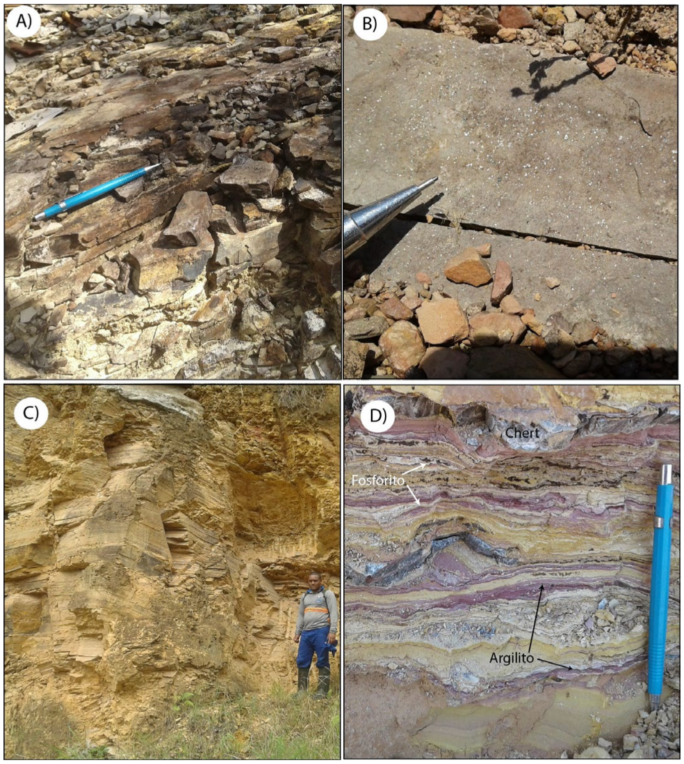
Source: WSP 2024. Notes: Breccia zone is shown between the black lines.

Figure 7.5: Interbedded Argiloso and Arenoso Siltstones in Blasted Area of Domingos Pit

Source: WSP 2024.

Figure 7.6 illustrates these as follows; A) and B), gray siltstone laminated with bands rich in muscovite crystals; C), outcrop of brown siltstone; and D), brown siltstone with thin layers of clay and chert, interspersed with phosphorites.

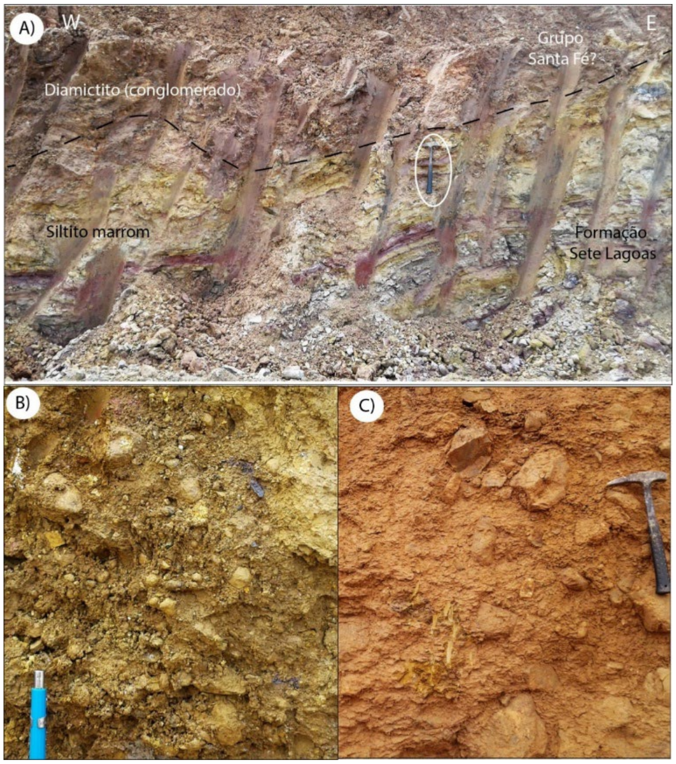
Figure 7.6: Outcrops of the Recognized Lithotypes within the Sete Lagoas Formation



Source: Silva, 2018

Figure 7.7 illustrates these as follows, A) Outcrop showing contact of the brown siltstone with diamictite (polymictic conglomerate); B) Non-stratified diamictite at Domingos Mine; and C) Diamictite with clasts of decimetric size.

Figure 7.7: Outcrop and Mesoscopic Aspect of the Santa Fe Group Diamictite



Source: Silva 2018

7.3 Mineralized Zones

The sedimentary-hosted phosphorites and phosphate siltstones in the Arraias project are primarily hosted in the Sete Lagoas Formation with localized supergenic phosphorites found at the base of the Santa Fé Group. The Bambuí Group's lithostratigraphy exhibits deposition in a foreland-type basin in an epicontinental marine environment, generated by overtaking and tectonic overload during the Brazilian orogenesis in the Brasília Belt, along the west bank of the São Francisco Craton, due to a continent-continent collision (Martins- Neto; Castro; Hercos, 1997; Martins-Neto, 2007; Alkmim; Martins-Neto, 2001) (Figure 7.8; Stage I).

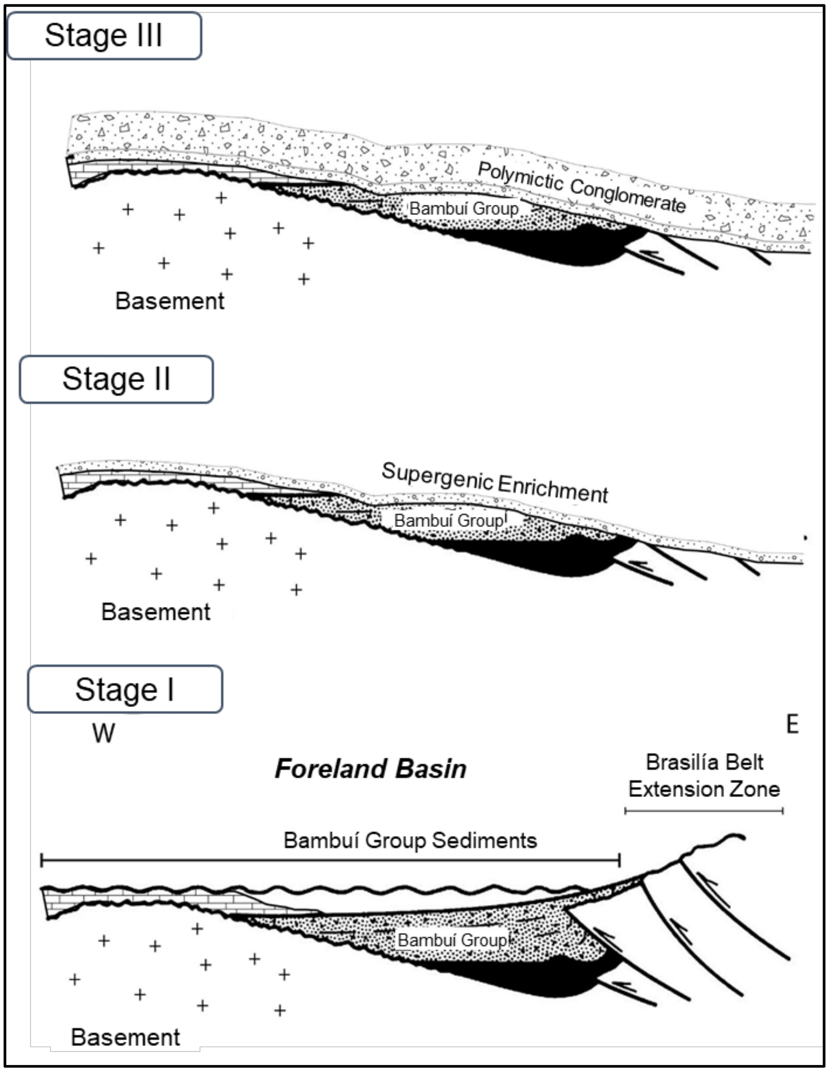
According to Monteiro (2009), the phosphate in the region was deposited in paleo-valleys embedded in the granite basement and is interspersed with siltstones from the Sete Lagoas Formation. The primary mineralization is syngenetic within the siltstones, with some secondary processes attributing to the local high-grade mineralization.

The Bambuí Group's pelitic-carbonate deposits were deformed during the east bend of the Brasília Belt extension (Figure 7.8, Stage I). The intensity of the deformation is minimized towards the São Francisco Craton, characterizing a ductile-brittle transition regime.

After the Ediacaran-Neoproterozoic orogenic event, an enrichment in phosphate may have occurred due to the weathering of the Sete Lagoas Formation, favoring supergenic phosphate concentrations (Figure

7.8; Stage II). Subsequently, diamictites (polymictic conglomerate) of the Santa Fé Group fill paleo-valleys excavated in the top units of the Bambuí Group (Figure 7.8, Stage III).

Figure 7.8: Schematic Drawings of the Evolution Stages of the foreland Basin Showing Deposits of Sedimentary and Supergenic Phosphate

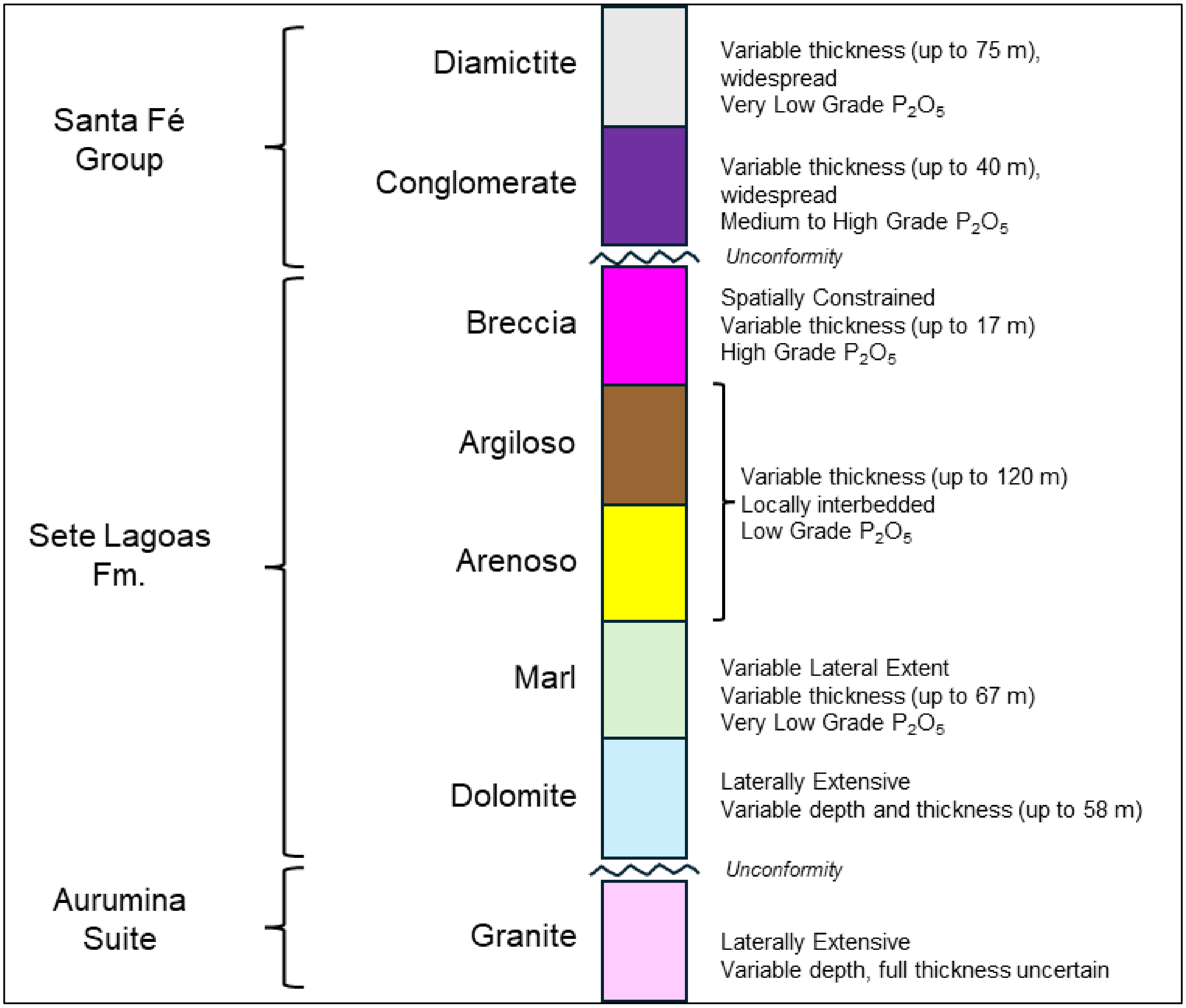


Source: Silva 2018

At Arraias, the phosphate mineralization has been grouped in eight different geometallurgical domains (Figure 7.9). Stratigraphically, the arenoso (sandy siltstone) sits lowest in the deposit, above the carbonates, and has low to moderate phosphate grade. Above this unit, the argiloso (clayey siltstone) typically has low-grade phosphate mineralization. The arenoso and argiloso are locally interbedded (Figure 7.5). The highest-grade phosphate is found within the breccia unit, a spatially constrained, brecciated unit (Figure 7.4). At the base of the Santa Fé Group is the conglomerate unit, which has variable mineralization, locally quite high, and is thought to be due to supergene enrichment during erosion of the Sete Lagoas Formation.

Two additional units were defined during the geological correlation process, a marl and a widespread diamictite. Both are unmineralized or contain very low mineralization.

Figure 7.9: Arraias Project Correlated Geometallurgical Domains



Source: WSP 2025

8. Deposit Types

The following is a description of the mineral deposit type being investigated and the geological model or concepts being applied in this TR.

The Arraias deposit is a phosphate rich sedimentary-hosted siltstone package, deposited in a restricted marine environment during regressive/transgressive cycles of sea levels. Paleo-channels or embayments within the granitic basement may have had some influence on the distribution of the mineralization. The depositional environment of the phosphorites was such that block collapse and disruption in a compressive environment caused landslides on flank channels, which in turn promoted escape features and reworking of sediments that generated sedimentary breccias. The evolution of weathering processes led to lateritization of the phosphorites with phosphate leaching and re-deposition.

Based on thin section descriptions, observation of the local geology, and research investigations, current opinion favors a syngenetic origin for the mineralization within the siltstone horizons with some secondary processes producing local zones of higher-grade mineralization. This secondary enrichment has been attributed to:

1. Syn-sedimentary reworking of a portion of the chemical sediments;
2. Early diagenetic circulation of high temperature (> 200°C) hydrothermal fluids;
3. Recent lateritization caused by weathering; and/or,
4. Possible remobilization caused by hydrothermal fluids circulating along collapse, fracture, and/or fault structures.

The largest zone of high-grade brecciation has been found at Domingos and Coité, with additional smaller zones identified at Cana Brava, Juscelino, Gaucho and Mateus. Variably mineralized basal conglomerates of the Santa Fé Group have been found in all of the deposit areas.

9. Exploration

This Item discusses the nature of all relevant past and current exploration work, other than drilling conducted by or on behalf of Itafos for the Arraias Projects that are the focus of this TR. The pre-2020 information was summarized from the previous TRs prepared for the Project.

In 2004, MCB Serviços e Mineração Ltda began grassroots exploration for high-grade sources of phosphate rock, following up on reports by METAGO who, in the 1960s, had identified showings at São Bento, Coité, and Juscelino. Additional phosphate mineralization of interest was also identified during the early 2000s in the areas of Mateus, Domingos and Avião. This early exploration was based entirely on surface grab sampling and reconnaissance mapping.

In 2006 and early 2007, Itafós Mineração Ltda completed trial mining, with shallow pits at Coité and São Bento.

In 2008, MBAC commenced regional exploration along the favorable siltstone-basement for approximately 50 km to the north and 150 km to the south of the current APO. Two new zones were discovered at Covanca and Lucia. Exploration activities included:

- Geological mapping at 1:20,000 scale and surface sampling along roads and tracks to identify new exploration targets.
- Acquisition of government-sponsored airborne geophysical survey data (with radiometrics) to assist geological mapping.
- Regular surface sampling over the targets, trenches and isolated shallow pits.
- Mechanical Auger drilling at 25 m x 25 m or 50 m x 50 m spacing, typically down to 10 m depth, over sub-cropping phosphorites.
- Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) satellite imagery acquired for regional exploration work.
- Detailed topography surveying using total station units with accuracy to 1 m.
- Several ground geophysical methods tried to assist with target screening ahead of drill programs, basement mapping, etc., with inconclusive results. Methods tested were ground penetrating radar (GPR), resistivity, and seismic; however, none of these produced conclusive results that could be used with confidence to assist bedrock mapping or interpreting potential zones of mineralization, such as the breccias zones, prior to drilling.

MBAC also took a total of 1,238 bulk density determinations from weathered and fresh core samples from the Mateus and Gaucho deposits, using the following procedure:

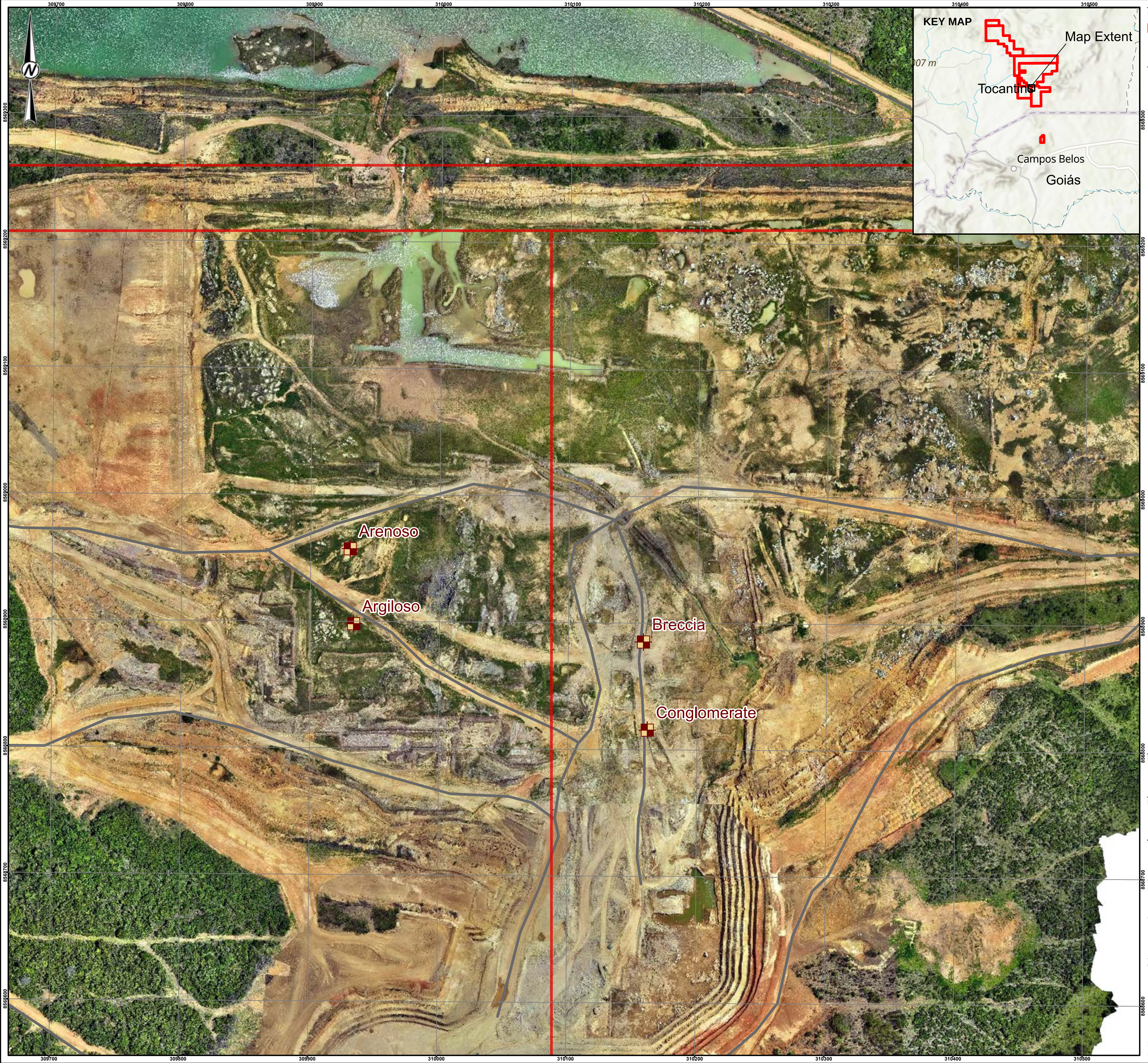
- 20 cm full core was wrapped in plastic film on the drill rig.

- Samples were weighed wet and then dried in a small oven.
- Dry core samples were weighed on electronic scale to determine mass of dry core and then weighed immersed in water to determine the volume (Archimedes Principle).
- Both wet and dry bulk densities were then determined.

MBAC determined dry bulk density for the siltstone of 1.53 g/cm^3 and breccia of 2.28 g/cm^3. The breccia density has been revised for the current Mineral Resource as discussed in Item 14.1.6.4.

As part of the 2020-2021 exploration program, Itafos completed a bulk sampling program which targeted the four different phosphate-bearing rock types, argiloso, arenoso, breccia, and conglomerate, sourced from four different locations in the pit. These locations are shown on Figure 9.1. The bulk samples were used for metallurgical testing, with the goal of determining blending specifications for the processing plant. The results of these tests (summarized in Item 13) helped to further define the metallurgical domains applied to the deposit for geological modeling, as discussed in Item 14.1.3.

Itafos has conducted several topographic drone surveys over the Domingos, São Bento, and processing plant facilities in 2020-2021, with further surveys completed in 2024 and 2025 at Domingos, Coité, and Cana Brava. WSP was provided with the georeferenced orthophotos from which a topographic X-Y-Z grid was prepared. WSP reviewed this information for consistency and found that there was a need to filter the dataset to remove erroneous points that appeared to be vegetation or reflections off in-pit lakes. This was completed using Maptek PointStudio's internal filtering module.



LEGEND
- ARRAIAS PERMITS
- BULK SAMPLE LOCATION
- ROADS

0 50 100 150
1:3,000 METERS

NOTE(S)
ORTHOPHOTO OCTOBER 2025, PROVIDED BY ITAFOS

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
2020 DOMINGOS BULK SAMPLE LOCATIONS

CONSULTANT		
wsp	YYYY-MM-DD	2026-01-30
	DESIGNED	JS
	PREPARED	JS
	REVIEWED	JD
	APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455		0	9.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ISO A3
25mm

10. Drilling

10.1 Drilling Methods

10.1.1 Summary

The Arraias project has been drilled using RC drilling methods as well as diamond core drilling. As of the effective date of this TR, a total of 2,349 drill holes amounting to 80,826 m have been drilled across the Arraias Project, including 1,068core holes totaling 35,901 m and 1,278 RC holes totaling 44,893 m. Much of the drilling was completed prior to 2020 (2,036 drill holes; 87%) with the remaining 311 drill holes (13%) drilled by Itafos in 2020 and 2025. Drill hole depths varied between 2.30 m to a maximum of 174.85 m, with the mean depth of 34.42 m. Table 10.1 summarizes the core drilling and Table 10.2 summarizes the RC drilling completed to date on the Arraias Project by deposit area.

Drill hole collar location maps for the Arraias Project in Figure 10.1 through Figure 10.4 illustrate the drilling completed at Domingos and São Bento, Cana Brava, Coité, and the Near Mine area, including the Gaucho, Juscelino, and Mateus deposits. Representative cross-sections for each deposit are presented in Figure 10.5 through Figure 10.8.

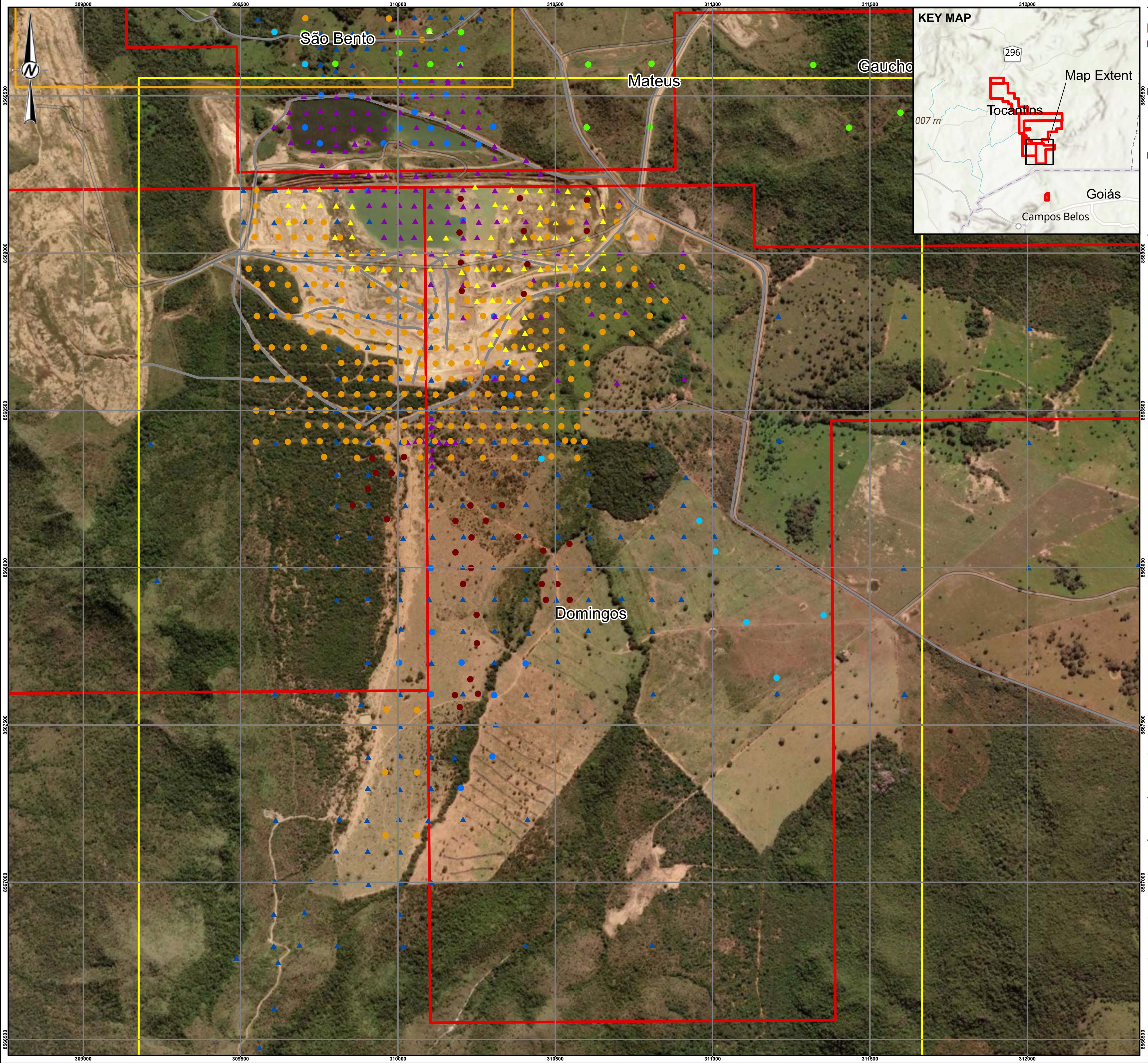
Table 10.1: Summary of Core Drilling by Deposit

Deposit	2008		2009		2010		2020		2025		Total Number of Holes	Total Meters Drilled
	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled		
Cana Brava					94	2,675					**94**	**2,675**
Coité	64	1,325	45	954	36	1,041					**145**	**3,320**
Domingos	6	201			34	1,058	275	7,372	31	1,304	**346**	**9,936**
Gaucho			137	6,148							**137**	**6,148**
Juscelino	85	3,730	35	1,229	12	336					**132**	**5,295**
Mateus	31	1,553	117	5,558	7	341					**155**	**7,452**
São Bento	12	206	39	616	4	104	4	148			**59**	**1,075**
Total	**198**	**7,016**	**373**	**14,505**	**187**	**5,556**	**279**	**7,520**	**31**	**1,304**	**1,068**	**35,901**

Table 10.2: Summary of RC Drilling by Deposit

Deposit	2009		2010		2012		2017		Total Number of Holes	Total Meters Drilled
	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled		
Cana Brava			155	5,863					**155**	**5,863**
Coité			192	5,539			34	823	**226**	**6,362**
Domingos			197	7,087	135	4,496	84	2,177	**416**	**13,760**
Gaucho			140	5,453					**140**	**5,453**
Juscelino			127	5,526					**127**	**5,526**
Mateus			151	6,357					**151**	**6,357**
São Bento	3	63	60	1,509					**63**	**1,572**
Total	**3**	**63**	**1,022**	**37,334**	**135**	**4,496**	**118**	**3,000**	**1,278**	**44,893**

In 2010, MBAC drilled a further 192 RC drill holes totaling 5,491 m at four other regional phosphate deposits, namely Avião, Brejo, Cabecudo, and Covanca; however, these drill holes, while included in the Project database, were not included the review and validation for this TR.



LEGEND

ARRAIAS PERMITS

RECENT ITAFOS DRILLING
- 2020-2021
- 2025

PRE-2020 CORE DRILLING
- 2008
- 2009
- 2010

PRE-2020 RC DRILLING
- 2009
- 2010
- 2012
- 2017

ROADS

0 200 400 600

1:12,000 METERS

NOTE(S)

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
DOMINGOS AND SÃO BENTO DRILL HOLE LOCATION MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JS
REVIEWED	JD
APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
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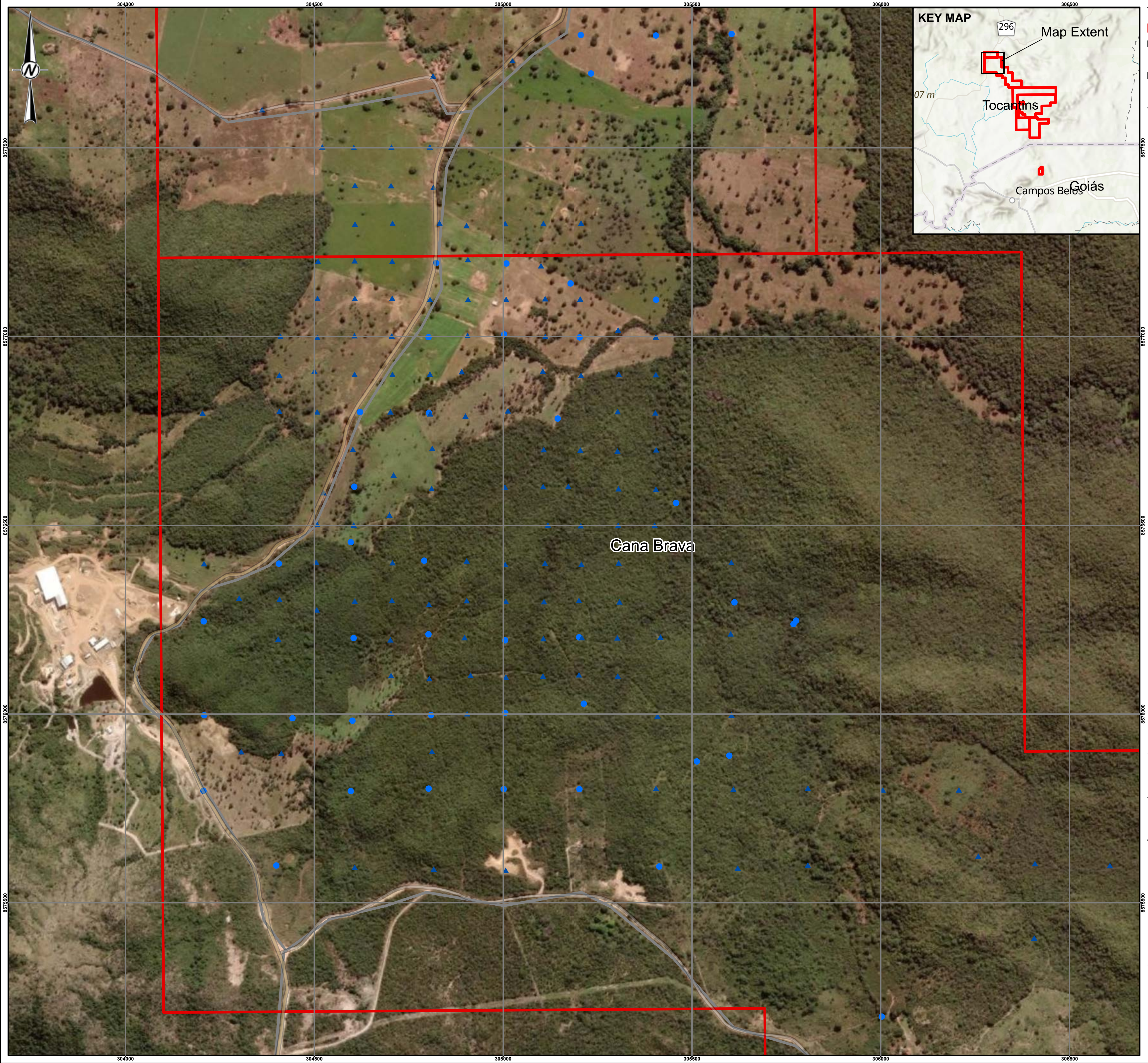

LEGEND

ARRAIAS PERMITS

PRE-2020 CORE DRILLING

2010

PRE-2020 RC DRILLING

2010

ROADS

0 200 400 600

1:10,000 METERS

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT

ITAFOS INC.

PROJECT

ITAFOS ARRAIAS NI 43-101 PEA

TITLE

CANA BRAVA DRILL HOLE LOCATION MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JS
REVIEWED	JD
APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
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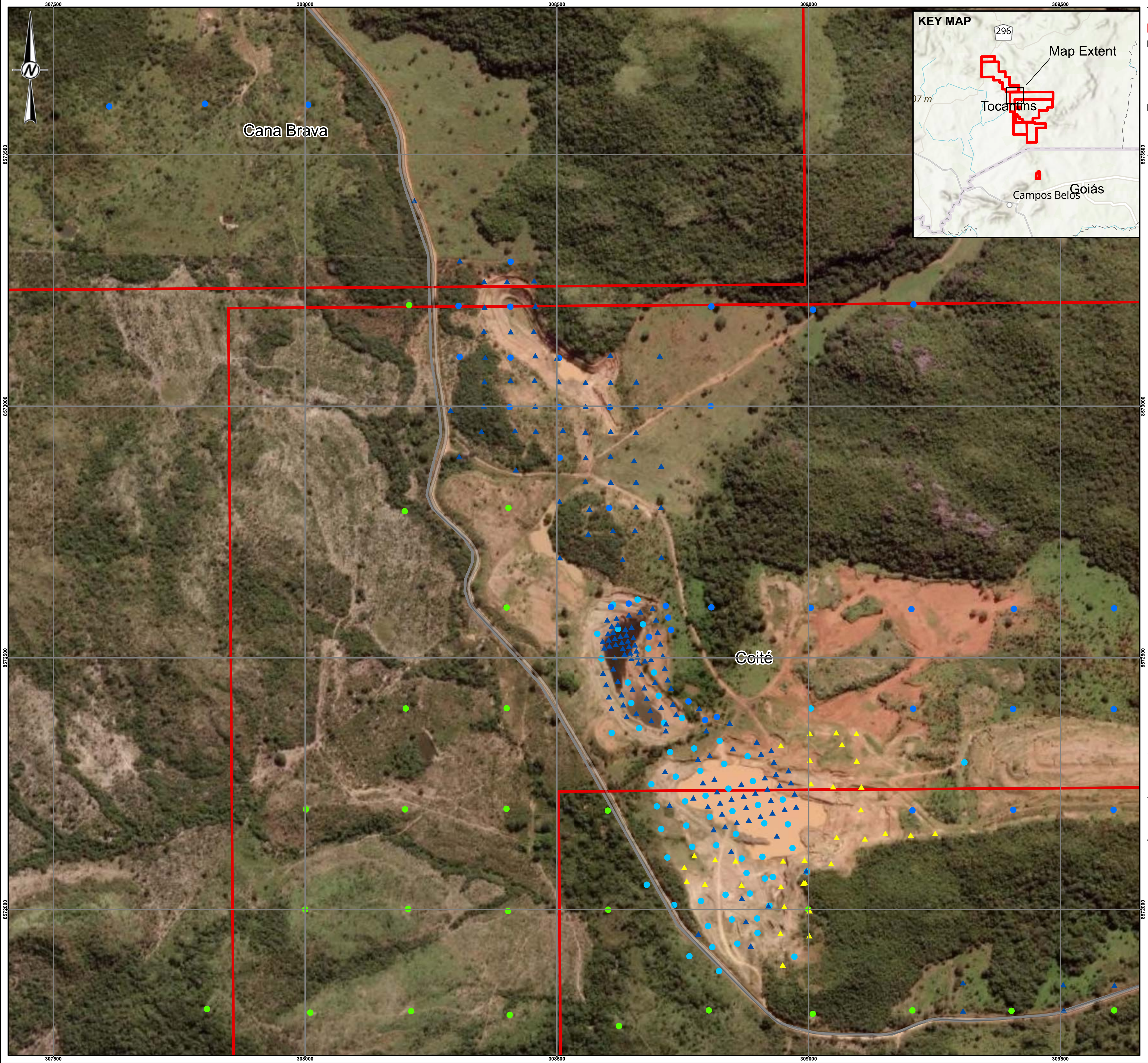

LEGEND

- ARRAIAS PERMITS

PRE-2020 CORE DRILLING

- 2008
- 2009
- 2010

PRE-2020 RC DRILLING

- 2010
- 2017
- ROADS

0 250 500

1:7,500 METERS

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT

ITAFOS INC.

PROJECT

ITAFOS ARRAIAS NI 43-101 PEA

TITLE

COITÉ DRILL HOLE LOCATION MAP

CONSULTANT

WSP

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JS
REVIEWED	JD
APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
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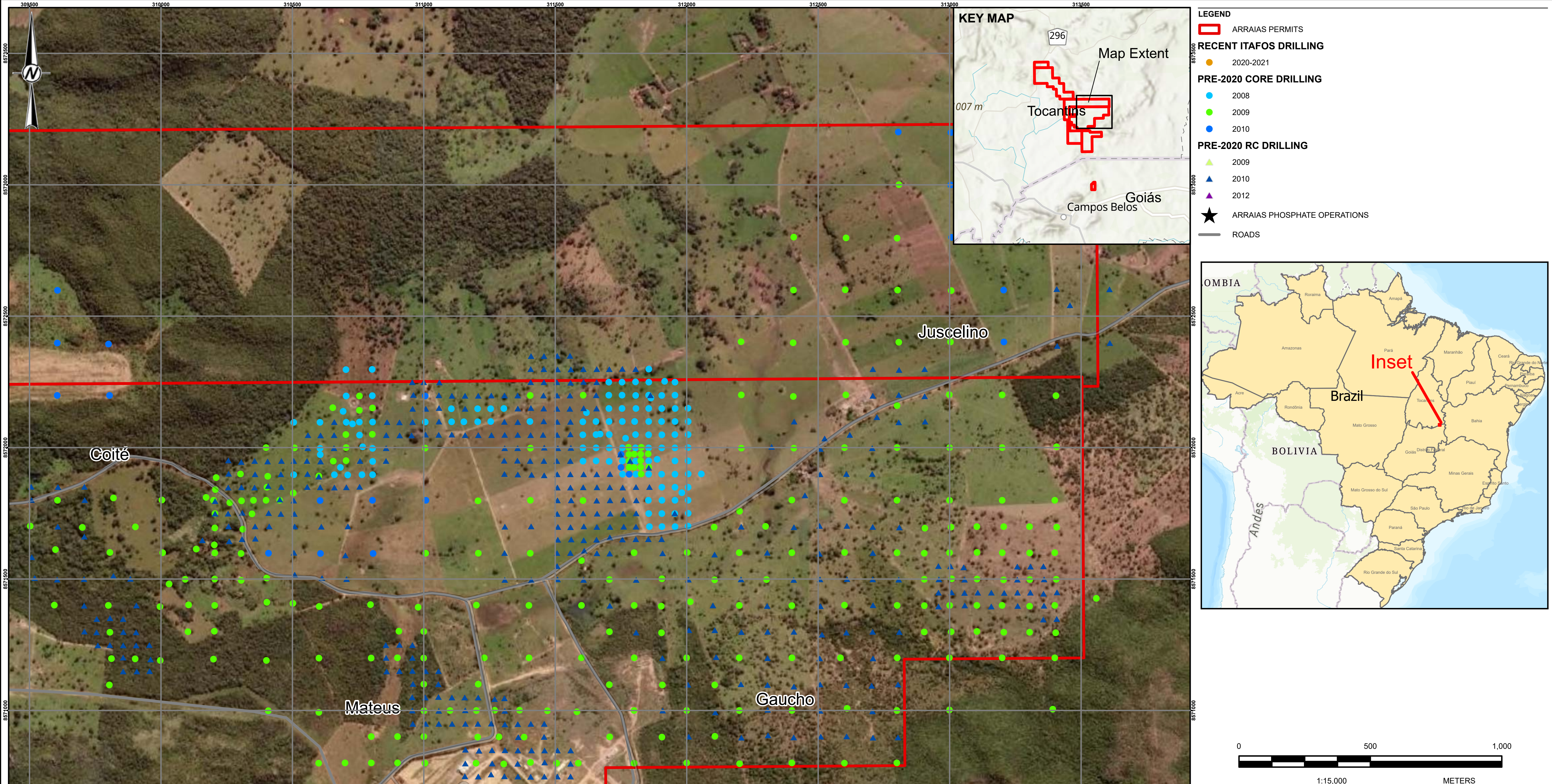
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ISO A3



NOTE(S)

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
NEAR MINE DRILL HOLE LOCATION MAP

CONSULTANT		
	YYYY-MM-DD	2026-01-30
	DESIGNED	JS
	PREPARED	JS
	REVIEWED	JD
	APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455		0	10.4

Figure 10.5: Domingos Representative Cross Section

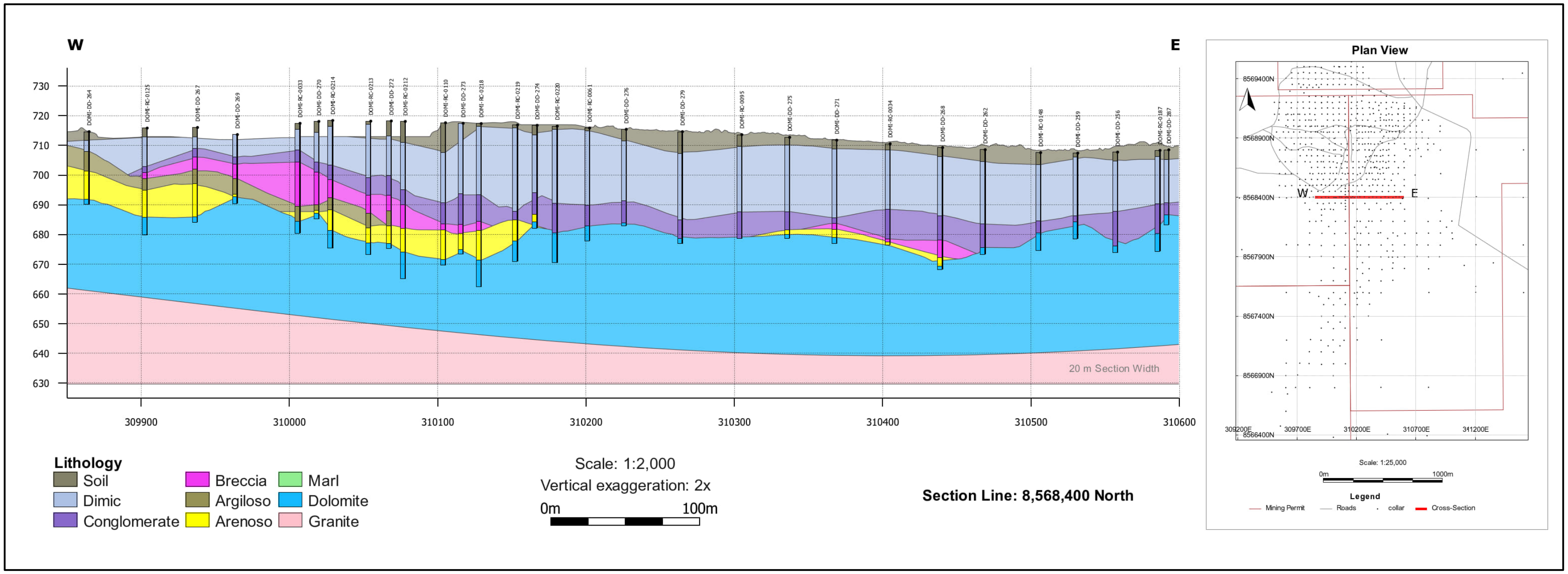


Figure 10.6: Cana Brava Representative Cross Section

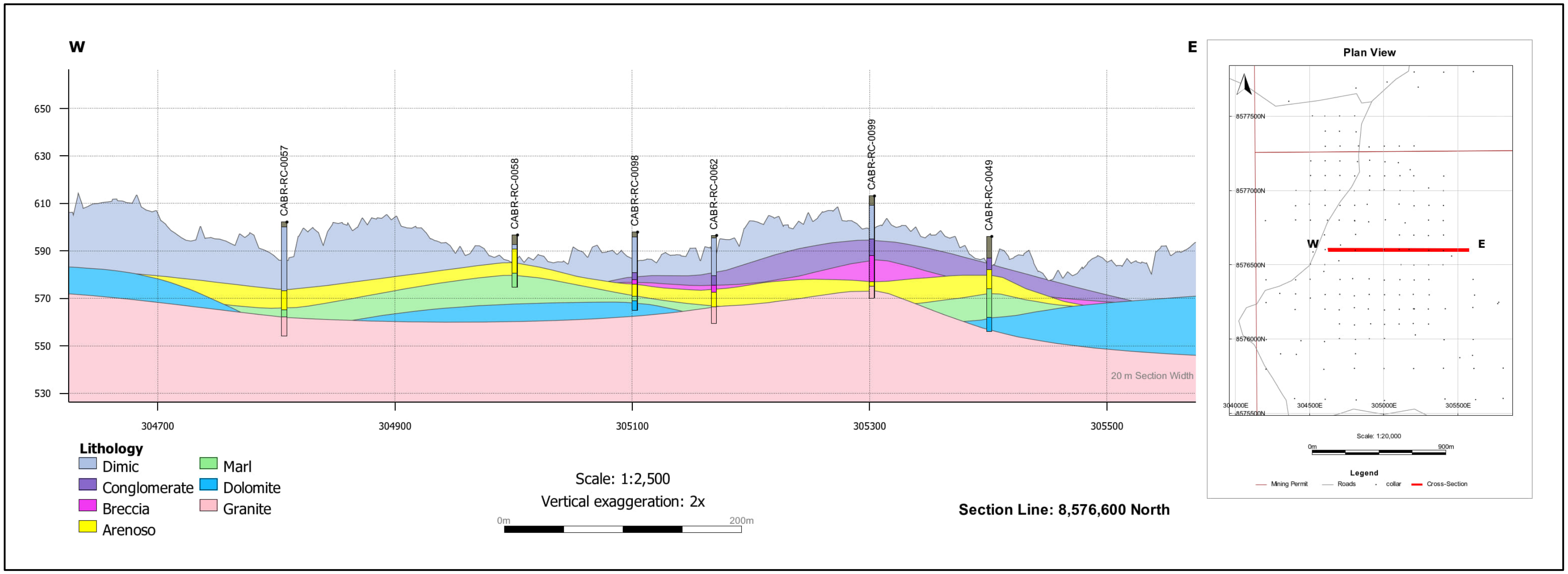


Figure 10.7: Coité Representative Cross Section

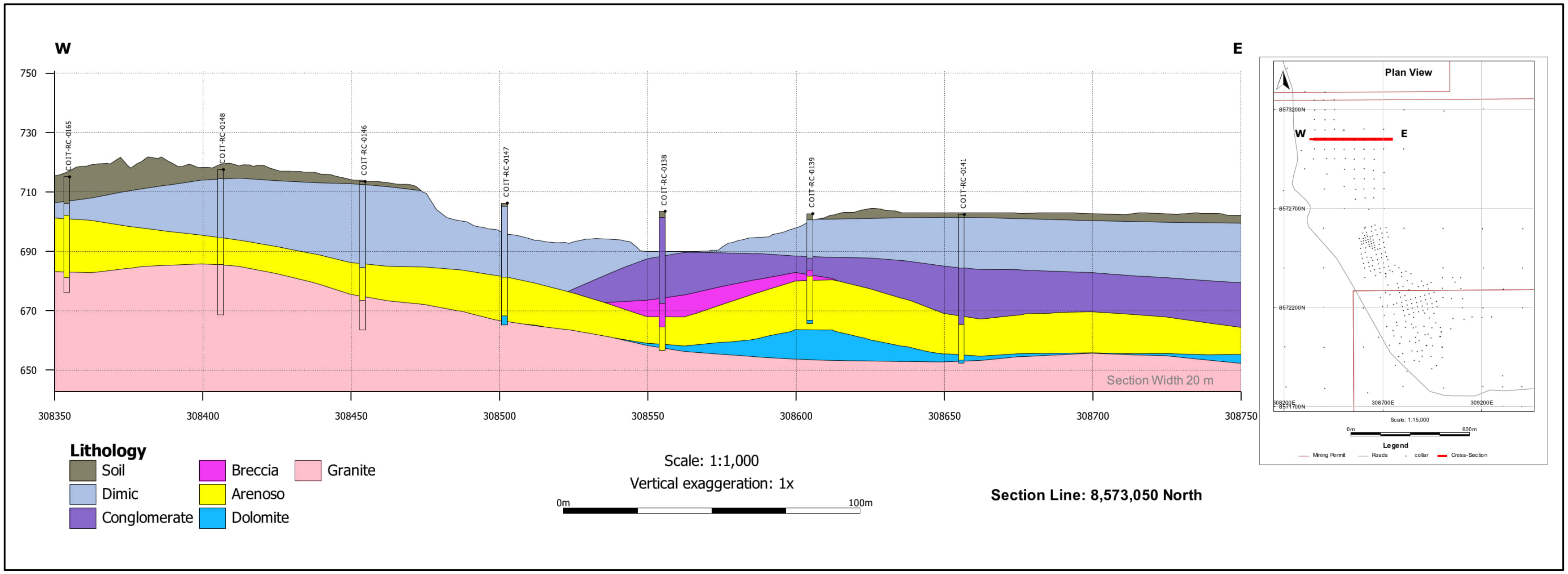
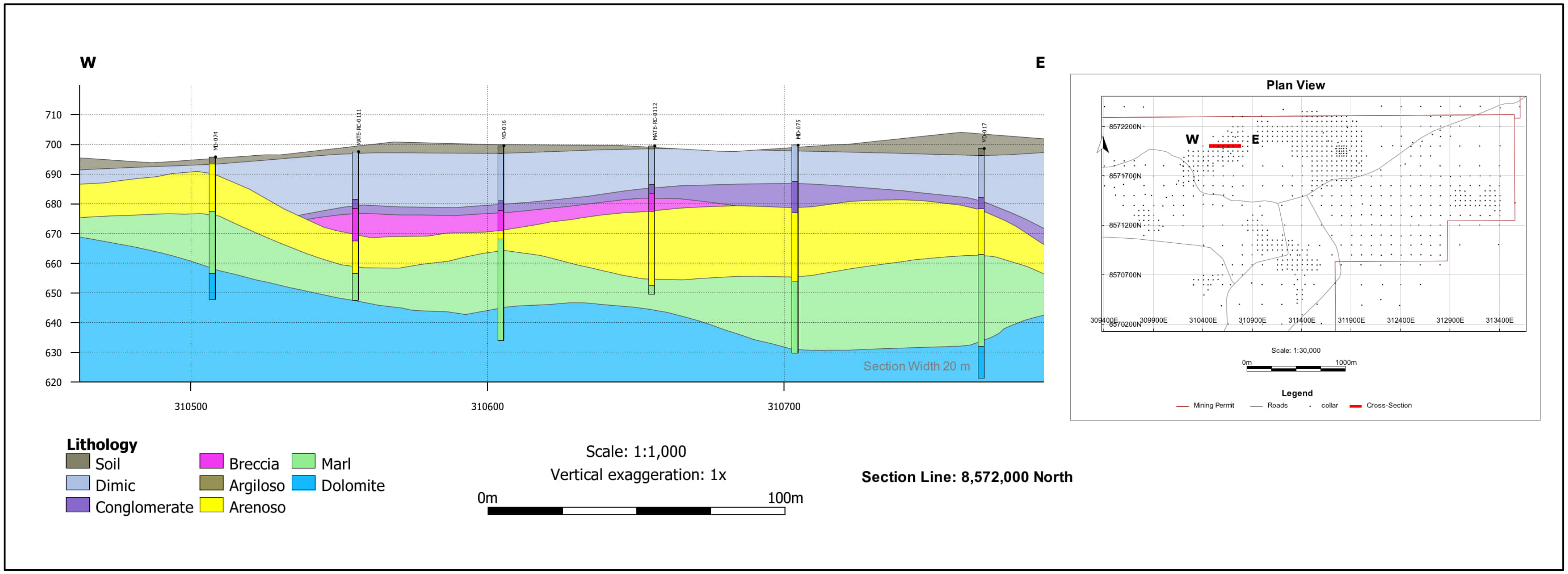


Figure 10.8: Near Mine Representative Cross Section



10.1.2 Pre-2020 Drilling

MBAC conducted an extensive regional drilling campaign utilizing both core and RC drilling across the Arraias Project from 2008 through 2010, with further RC drill campaigns in 2012 and 2017.

The 2008 MBAC campaign focused on the priority zones at Coité, Juscelino, and São Bento deposits that were initially explored using 50 m and 100 m spaced drilling. Drilling was primarily by diamond core drilling methods in 2008. A total of 7,015 m core was completed in 198 core holes.

In March 2009, MBAC began a second mapping and drilling campaign, this time mainly in the Mateus and Gaucho deposits using 100 m and 200 m spaced grid drilling while also expanding its regional holdings north and south along the 150 km long contact between the granitic basement to the west and the favorable siltstone lithologies to the east. Exploration drilling focused on the Near Mine blocks where initial production was to be based, while exploration of the outlying regional blocks continued to expand the known extents of the siltstone host rock. Drilling was primarily core in 2009, totaling 14,505 m in 373 core holes, with minor Reverse Circulation (RC) methods commencing late in 2009 (63 m in three (3) RC holes).

A third MBAC drilling program using four RC drills began in late 2009 with the primary objective of providing a sample database for Mineral Resource estimation. Around this time, the certified international laboratory ALS Chemex Ltd. (ALS) established a sample laboratory at the Project site for handling core and RC drill samples. By early 2010, six RC drills and three diamond drills were operating at the Project. In April and May 2010, additional drilling was completed by Itafos in the Cana Brava and Domingos targets, with a further RC drilling campaign in the Domingos area in 2012. Between 2009 and 2012, 560 core and 1,160 RC holes were drilled, totaling 61,953 m.

In 2017, Itafos conducted an RC program at the Coité and Domingos deposits, with all samples analyzed only for P_2O_5 content at the internal Itafos mine laboratory. A total of 118 RC holes amounting to 3,000 m were drilled.

RC drilling was conducted by Servitec Sondagens using Atlas Copco Explorac R50 RC rigs with 5.5-inch (139.7 mm) face sampling hammers. All RC drill holes were drilled vertically with a mean recovery of 84%. RC chip samples were recovered and stored in wooden boxes labelled with the drill hole information.

Core drilling was initially performed by Geosonda using a Drill XY-4 rotary drill, later replaced by Servitec using Boart Longyear DB-525 and Maquesonda FS-320 rigs. Core sizes were primarily HQ (63.5 mm core diameter), and NQ (47.6 mm core diameter), which was used for core greater than 100 m in depth. All core holes were drilled vertically, and MBAC reported a mean core recovery of greater than 85%. Core was collected and stored in three-row wooden boxes, each with a nominal capacity of 3.0 m of core, with metal tags affixed to the outside labeled with drill hole number and depth information. Core boxes were securely fastened and transported to the core shed facility at the main camp. After sampling, core boxes were photographed in sequence (two by two) with drill hole and box numbers labeled. Boxes were then closed and placed in order according to a storage diagram.

RC and core drill collars were marked with concrete markers post-drilling (Figure 10.9), and locations were verified using hand-held GPS units.

Figure 10.9: Example of an MBAC RC Drill Collar Monument

Source: WSP 2024

10.1.3 Recent Itafos Drilling

10.1.3.1 2020-2021 Drilling

Itafos completed a closely spaced infill core drilling program at Domingos from September 2020 through January 2021. Drilling was completed on a 50 m-x-50 m grid across the proposed three-year mine plan area, an area of approximately 90 ha (

Figure 10.1). A total of 7,553 m was drilled in 280 core holes. Included in this total were 15 core holes that were submitted for grain size analysis.

In 2020-2021, core drilling was contracted to Servitec Foraco (now Foraco Brasil). Foraco used two drill rigs, and the drilling was entirely HQ-sized core (Figure 10.10). Drill holes were drilled vertically and were not surveyed downhole; however, given the relatively shallow drill hole depths, Itafos believed that there would not be sufficient deviation to make a material difference. The drill core was not oriented as all holes were vertical.

The drill core was collected and stored in plastic core boxes at the drill site and then transported to the core logging facility for logging and sampling (Figure 10.11). Core run markers were included in each core box with metal tags indicating drilled depth and the core recovery. Core recovery was measured and recorded for each drill run. Prior to sampling, the core was geologically logged (lithology, alteration, structures, and geotechnical characteristics) and photographed. Drill hole collars were surveyed using a high-precision real-time kinematic (RTK) global positioning system (GPS). Drill core from the 2020-2021 drilling campaign is securely stored at the APO (Figure 11.7).

Figure 10.10: Drilling Inside and Outside the Open Pit Using Two Drill Rigs in 2020-2021

Source: Itafos 2022

Figure 10.11: Plastic Core Boxes and Core Logging Area in 2020-2021

Source: Itafos 2022

10.1.3.2 2025 Drilling

In 2025, as part of the PEA study for the Arraias Project, Itafos drilled a further 31 core holes totaling 1,304 m at the Domingos deposit. The drilling program had two main objectives: delineating high grade phosphate deposits identified during geological modeling of the Domingos deposit and characterizing the carbonate rocks within the previous Domingos pit. The high-grade phosphate exploration drilling at Domingos was ongoing as of the effective date of this TR, however, the QP has not included drilling received beyond the Mineral Resource effective date in the Project database.

To execute the core drilling program, Itafos contracted Brazdrill Brazilian Drilling Company Ltda. (Brazdrill), responsible for mobilizing the SONDEQ SS-71 and MAXSONDA-700 rigs (Figure 10.12). The operational capacities of the drilling equipment include HQ (up to 100 m depth), NQ (up to 250 m depth) and BQ-sized (36.5 mm core diameter; up to 350 m depth).

To maximize core recovery, especially in intervals with abrupt transitions between weathered material and fresh rock, core holes were initiated in HQ-size, with reduction to NQ2-size (50.5 mm core diameter) whenever necessary after the interception of fresh rock.

The drill holes were terminated in either underlying carbonates or granite. For the phosphate-focused campaign, the drill holes were terminated 3 m after intercepting limestone or dolomite. For the carbonate focused campaign, the drill holes were terminated 3 m after intercepting the top of the granitic basement.

Brazdrill also provided the required technical personnel, including a project manager, drill operators, and field assistants, ensuring full support for drilling, core handling, and field logistics. The drill core was collected and stored in plastic core boxes (Core Case Generation II) at the drill site and transported by Brazdrill at the completion of each hole to the geology base located near the administrative office for the Domingos Mine (Figure 10.13). Logged and sampled core is stored securely at APO (Figure 11.8).

Core run markers were included in each core box with metal tags indicating drilled depth and the core recovery. Core recovery was measured and recorded for each drill run. Prior to sampling, the core was logged, sampled, and photographed (Figure 10.14).

After the completion of each drill hole, a concrete monument was installed directly over the collar to provide a permanent record of the location and to ensure operational safety. A metal plate was attached to each marker with drill hole number, collar coordinates, and total depth.

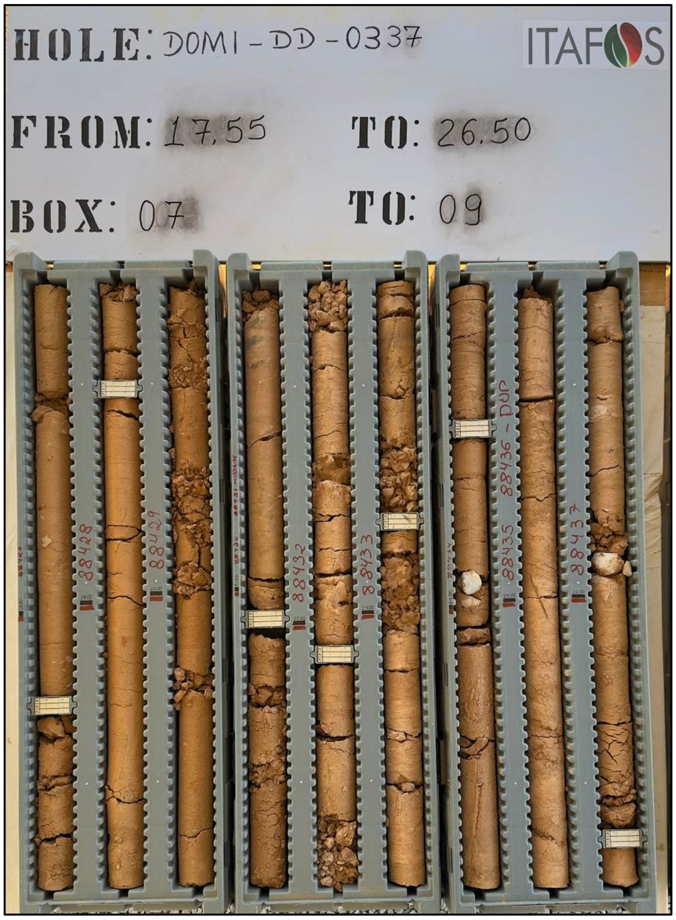
Figure 10.12: Itafos Drilling at Domingos in 2025

Source: Itafos 2025

Figure 10.13: Core Logging Area at Domingos Mine Site Office

Source: WSP 2024

Figure 10.14: Core Photo Example from 2025 Drilling



Source: Itafos 2025

10.1.4 Collar Survey

MBAC surveyed the final drill hole collars with hand-held Garmin global positioning system (GPS) units for the pre-2020 drilling.

Final drill hole collars were surveyed by the Itafos survey team using a high-precision Global Navigation Satellite System (GNSS) equipment with RTK technology. All drill hole collar information, including collar coordinates, elevation, and total depth, was stored in standardized Excel spreadsheets forming part of the official Project database.

10.1.5 Core Recovery

For the MBAC drilling, it was reported that core recovery across the Arraias drilling campaigns was generally high, with diamond drill holes achieving core recoveries normally above 80%, mean 77%, while RC drilling averaged approximately 84%. Core recovery was determined by measuring the total core recovery per core run against the total length of the core run. RC recovery was calculated as the proportion of sample material successfully retrieved compared to the theoretical volume expected for the drilled interval.

Recovery was reported as being consistent in most lithologies due to the relatively soft siltstone host rock. However, localized issues occurred at contact zones between different lithologies, particularly near karstic or dissolution surfaces and weathered brecciated phosphorite, where recovery could drop below acceptable limits. In cases where recovery fell below 60% over three consecutive runs, MBAC re-drilled the holes to maintain data integrity.

Core recovery was recorded for each recent Itafos programs. As all the drilling at Arraias was vertical, the core was not oriented; however, it was pieced together by the Itafos geologists to obtain a continuous run. Core recovery during the Itafos drilling programs was very good, with a mean recovery of 91% for the 2020-2021 drilling and 94% for the 2025 drilling.

10.2 Impacts of Drilling on the Accuracy and Reliability of the Results

This Item discusses drilling, sampling, and recovery factors that could materially impact the accuracy and reliability of the results for the Arraias projects.

There are several potential drilling related impacts on the accuracy and reliability of the Arraias project data relating to the following:

- Local reliance on older drilling.
- Wider than adequate drill hole spacing to identify aerially restricted high-grade zones.
- Reliance on RC drilling which may cause grades to be smeared when compared to diamond drill core.
- Factors relating to sample recovery from RC drilling.

Pre-2020 MBAC drilling was conducted with the intention of delineating the Project-wide lower grade siltstone mineralization, with less emphasis on the high-grade breccia and conglomerate intervals, which are the focus of this Mineral Resource estimate and the current mining. This has resulted in a data set that has limitations with respect to drill hole spacing in the some of the higher-grade breccia and conglomerate zones which impacts the correlation between drill holes in this area. Infill drilling will be required to adequately delineate these zones.

10.3 Relationship Between Drill Intercept Angles and Bed Contacts

All drilling at Arraias has been completed vertically. Given the relatively flat lying nature of the deposit, drilling intercepts are interpreted to be close to true thickness.

11. Sample Preparation, Analyses, and Security

There have been two main methods of sample collection at Arraias. Prior to 2020, samples were collected from both core and RC drill holes by MBAC. The samples collected after 2020 were all collected from fully cored drill holes.

Sample preparation and analysis for two time periods, pre-2020 MBAC programs and 2020-Present Itafos programs, are detailed in the sub-Items below. All sampling was completed by geologists employed by MBAC or Itafos depending on the program. The QP was not directly involved during the exploration drilling programs or sample selection for any of the MBAC or Itafos drilling programs.

11.1 Core Handling, Sampling, and Security

11.1.1 Pre-2020 Sampling

MBAC collected RC samples on a nominal 1 m interval. MBAC originally utilized a single tier riffle splitter and passed the dry sample approximately three times through the apparatus to get a 3-kg sample. Andes Mining Consultants (AMC) recommended that MBAC purchase or fabricate a 3-tier riffle splitter to reduce the workload and reduce potential error. AMC believed that the single tier splitter MBAC was using was of poor design. For wet RC samples, MBAC dried the full sample in an oven (on a flat galvanized tin surface) and then used a manual quartering technique to determine a 3-kg sample.

During the pre-2020 drilling, MBAC geologists supervised all core sampling. Core samples were taken nominally on 1 m intervals with some taken between 0.75 m and 1.25 m intervals based on the logged geological intervals. Core was split in half using a blade in the weathered material and a diamond saw in the fresh material. One half of the core was bagged, labelled, and sealed, then sent for preparation while the remaining half of the core was returned to the core box. A plywood lid was nailed on, and the box was retained for future reference.

RC and core samples were transported daily from the drilling sites to the MBAC Arraias camp located approximately 10 km south of the APO, just over state boarder in Goiâs. Core was logged and sampled at the camp and then securely stored in large sheds. MBAC included Quality Assurance and Quality Control (QA/QC) samples (blanks, standard reference material (SRM) standards, and duplicates) which were inserted alternately every 25-40 samples in the batches sent for analysis, details of which are included in Item 11.3.

Figure 11.1 and Figure 11.2 illustrate the MBAC core and RC chip storage at the APO.

Figure 11.1: MBAC Core and RC Chip Storage Facility

Source: WSP 2024

Figure 11.2: Example of MBAC RC Chip and Core Sample Storage

Source: WSP 2024. Image A shows RC Chip Storage and image B shows core storage.

During the QP site visit, Itafos personnel toured the WSP QPs through the former MBAC camp area where some of the MBAC core was stored. The camp was no longer active as exploration logging and sampling activities have since moved to the APO; however, the MBAC core remains onsite in large metal sheds. WSP understands that in June 2023, unbeknownst to Itafos, the owner of the camp facility removed the metal core storage shelves and haphazardly stacked the core boxes in random order (Figure 11.3). Itafos was in the process of re-organizing the core boxes and intends to transport all boxes to the Itafos mine site for secure and orderly storage as of the effective date of this TR.

Figure 11.3: MBAC Core Storage Facility as Observed in the 2024 WSP QP Site Visit

Source: WSP 2024

11.1.2 Recent Itafos Sampling

For the 2020 and 2025 core drilling, all geological logging was completed by an experienced geologist, with oversight and review by the senior Itafos geologist. Geological logging was carried out in a methodical and detailed way to accurately identify the intervals of the different rock types as well as contacts and geological structures. Each interval was tested by ammonium molybdate and if a reaction was identified (denoted by the yellow color), the interval was sampled (Figure 11.4). Samples were typically taken on 1.0 m intervals, adjusted for lithology boundaries. A color code system was used in the core boxes to identify the length, geological contacts, and sample number (Figure 11.5). The core was photographed prior to being cut for sampling.

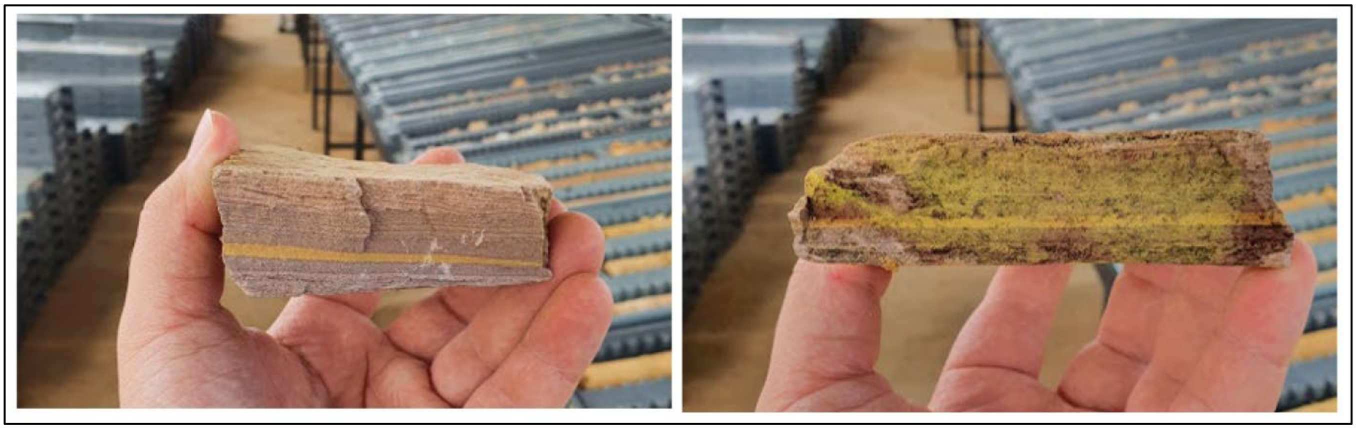
Itafos did not complete any RC drilling or sampling during the 2020 or 2025 drilling programs.

About 20% of the 6,415 samples sent for analysis in 2020 and 20% of the 1,013 samples sent in 2025, consisted of QA/QC samples (blanks, certified reference material (CRM) standards, and duplicates) which were inserted alternately every 5 samples. Details of the Itafos QA/QC program are discussed in Item 11.3.

The samples were placed in plastic bags, identified by labels, and separated into batches of approximately 100 to 150 samples and sent by truck to the ALS Brazil laboratory in Goiânia, (Goiâs)

(Figure 11.6). For the 2025 program, the samples were first prepared at the Itafos internal laboratory, then forwarded to ALS in Goiânia for analysis. A small aliquot (approximately 25 g) was retained for analysis at the internal laboratory.

Figure 11.4: Ammonium Molybdate Reaction Indicating P_2O_5 Content in the Sample



Source: Itafos 2022

Figure 11.5: Color Coding on Core Boxes during Logging

Source: Itafos 2022

Figure 11.6: Sample Preparation and Transportation

Source: Itafos 2022

For the 2020-2021 drilling, core samples were transported directly from the drilling area to the logging and sampling facility located at the APO, and in 2025 to the logging and sampling area at the Domingos mine site office by the drilling contractor. Core sample boxes and drilling field bulletins were checked upon arrival at the mine site. After logging, core samples were marked for splitting and sampling by Itafos geologists, along with a sampling plant document. Soft samples were split using spatulas, while fresh rock samples were split using a core saw. Itafos protocol was to sample the right half of the split core, and the other half remained in the core box and securely stored in the core shed at the site (Figure 11.7 and Figure 11.8).

Each core sample was tagged and placed in a plastic bag (also tagged) which in turn was placed in a nylon bag (identified with a batch number and a bag number) for transporting via truck to the ALS sample preparation laboratory located in Goiânia (Figure 11.6). For the 2025 drilling program, the sample preparation was completed at the Itafos internal laboratory prior being shipped to the ALS Laboratory in Goiânia.

A Chain of Custody document registered every sample that was sent to ALS for every batch sent and was checked by ALS staff upon arrival.

Figure 11.7: 2020-2021 Drill Core Storage Facility at the APO

Source: WSP 2024

Figure 11.8: 2025 Core Storage Facility at the APO

Source: Itafos 2025

11.1.3 Sample Results

To date, there have been a total of 65,903 samples collected and analyzed on the Arraias Project, of which 19,177 are core samples from drill holes and 41,232 are chip samples from the RC drill holes. Included in this total are 4,035 QA/QC samples collected during the 2008 to 2012 campaigns and 1,441 QA/QC samples collected during the 2020 and 2025 drilling programs. A summary of the sampling by year and deposit is presented in Table 11.1 and Table 11.2.

Table 11.1: Summary of Core Sampling by Exploration Campaigns

Deposit	2008		2009		2010		2020		2025		Total Number of Samples	Total Meters Sampled
	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled		
Cana Brava					1,281	2,145					**1,281**	**2,145**
Coité	549	1,183	436	767	564	896					**1,549**	**2,846**
Domingos	102	181			861	960	5,078	4,497	650	647	**6,691**	**6,286**
Gaucho			3,108	5,574							**3,108**	**5,574**
Juscelino	1,540	3,603	674	1,102	160	268					**2,374**	**4,972**
Mateus	694	1,477	2,779	5,062	177	327					**3,650**	**6,866**
São Bento	107	151	316	497	51	90	50	42			**524**	**780**
Total	**2,992**	**6,595**	**7,313**	**13,001**	**3,094**	**4,687**	**5,128**	**4,539**	**650**	**647**	**19,177**	**29,468**

Table 11.2: Summary of RC Sampling by Exploration Campaigns

Deposit	2009		2010		2012		2017		Total Number of Samples	Total Meters Sampled
	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled	Number of Samples	Meters Sampled		
Cana Brava			5,541	5,541					**5,541**	**5,541**
Coité			4,772	4,772			661	661	**5,433**	**5,433**
Domingos			6,511	6,511	4,101	4,101	1,546	1,546	**12,158**	**12,158**
Gaucho			5,052	5,052					**5,052**	**5,052**
Juscelino			5,353	5,353					**5,353**	**5,353**
Mateus			6,148	6,147					**6,148**	**6,147**
São Bento	63	63	1,484	1,484					**1,547**	**1,547**
Total	**63**	**63**	**34,861**	**34,860**	**4,101**	**4,101**	**2,207**	**2,207**	**41,232**	**41,231**

11.2 Laboratory Sample Preparation Methods and Analytical Procedures

Several independent commercial laboratories have been utilized for sample preparation and analysis on the Arraias Project since 2008. Details of each are summarized in Table 11.3.

Table 11.3: Summary of Sample Preparation and Analytical Laboratories f

Laboratory Name	Location	Duration Used	Purpose	Accreditations	Independent
ALS	Belo Horizonte, Minas Gerais, Brazil	2008-2012	Primary sample preparation	ISO/IEC 17025:2017 ISO 9001:2015	Yes
	Goiânia, Goiâs, Brazil	2008-2012, 2020-2021, 2025	Primary sample preparation		
	Arraias, Tocantins, Brazil[1]	2009-2011	Primary sample preparation		
	Lima, Peru	2008-2012, 2020-2021, 2025	Primary analysis		
SGS Geosol	Belo Horizonte, Minas Gerais, Brazil	2010	Primary sample preparation and analysis	ISO/IEC 17025:2017 ISO 9001:2015	Yes
	Carajâs, Pará, Brazil	2010			
Instituto de Tecnologia August Kekulé (ITAK)	João Monlevad, Minas Gerais, Brazil	2021	Primary sample preparation, PSD and assay analysis	ISO/IEC 17043:2019 ISO 17025:2017 ISO 17034:2016 ISO 9001:2017	Yes
Itafos Arraias Internal	Arraias, Tocantins, Brazil	2017, 2025	Primary sample preparation and analysis[2]	Unknown	No

Notes:

1. ALS was contracted to set-up a field preparation laboratory at the Arraias Camp in 2009 through 2011
2. Itafos internal laboratory prepared the sample for assaying, and conducted initial P_2O_5 analysis for 2025 drilling, with formal assaying at ALS.

All external laboratories use a common X-Ray Fluorescence (XRF) fusion step prior to analysis. Each external laboratory produced a suite of oxide analyses (Al_2O_3, CaO, Fe_2O_3, K_2O, MgO, MnO_2, Na_2O, P_2O_5, SiO_2, TiO_2), plus a Loss-On-Ignition (LOI) analysis by Thermogravimetric Analyzer.

The internal laboratory at the APO conducts regular analysis on samples from the mine site in a purpose-built laboratory (Figure 11.9). The laboratory is not independent, nor is it accredited; however, the equipment and methodology are in alignment with industry best practice. The internal lab analyzed only for P_2O_5 using the colorimetric method.

11.2.1 Pre-2020 Sample Preparation Methods

The drill samples from 2008 and most from 2009 were securely sealed, bagged, and trucked by MBAC and ALS staff to the ALS laboratory located in Belo Horizonte. All sample preparation from rock to final pulp was completed at the ALS laboratory in Belo Horizonte and final pulps were sent to the ALS laboratory in Peru for assaying.

In late 2009, ALS was contracted to set up a sample preparation facility at the Project site under contract to MBAC; the preparation laboratory had a capacity of approximately 200-300 samples per day.

The preparation procedure involved the following:

- Two stages of coarse and fine crushing to 2 mm (10 mesh), pulverizing to -200 mesh, followed by riffling to produce a 10 g sub-sample for shipment.
- The samples were prepared in a clean, covered facility in the MBAC office compound near Campos Below.
- Cleaning of all equipment by compressed air was carried out after processing each sample and additionally on a periodic basis using crushed quartz.
- Composite rejects of each sample were bagged and stored at the sample preparation facility.

In early 2010, the drill programs were increased substantially with the introduction of up to six RC drills. At this stage, sample preparation requirements increased beyond the capacity of the facilities at site, so samples were sent out to an additional four laboratories (Table 11.3) for preparation and subsequent assaying.

11.2.2 Recent Sample Preparation Methods

The 6,415 samples from the 2020 drilling program were all securely bagged, labelled, and sealed prior to transport to ALS in Goiânia for preparation. After preparation, the samples were sent to ALS Lima (Peru) for geochemical analysis. Sample results and certificates were sent electronically to Itafos and forwarded on to WSP (formerly Golder Associates, acquired in 2022) for review during the geological modeling process. ALS completed the following for each sample:

- Samples were weighed (g).
- Samples were labelled with a barcode and logged into the internal ALS system.
- Samples were then crushed to fine level of 70% of material being < 2 mm.
- Samples were then riffle split and pulverized to create a 250 g sample with 85% of material being <75 micron (µm).
- The samples were then analyzed by XRF with Lithium Tetraborate Fusion (detection limit of P_2O_5 was 0.01%). A full suite of oxide analyses, plus a loss on ignition (LOI) analysis by Thermogravimetric Analyzer was completed.

The 1,013 samples from the 2025 drilling program were all securely bagged, labelled, and sealed prior to transport to the internal Itafos laboratory at the APO for preparation and initial P_2O_5 analysis. After preparation, the samples were sent to ALS in Goiânia for further preparation, before being transferred by ALS internally to ALS Lima in Peru for geochemical analysis.

The Itafos internal laboratory completed the following:

- Samples were crushed to fine level of 100% of material being < 2 mm.

- Samples were then riffle split and pulverized to create a sample with 80% of material being <74 µm (200 mesh).
- A small aliquot of approximately 25 g from each sample was retained by the internal laboratory for analysis by the colorimetric method to determine P_2O_5 content.
  - The colorimetric method involves reacting a dissolved sample with a molybdate reagent, in this case ammonium molybdate, in an acidic solution to form a yellow or blue complex (Figure 11.9). The intensity of the color is then measured using a spectrophotometer, and the P_2O_5 is determined by comparing the absorbance to a calibration curve created with known standards. The method typically involves an initial dissolution or hydrolysis step to convert all phosphorus forms to orthophosphate, as only orthophosphate will form the colored complex.

ALS completed the following for each sample:

- Samples were weighed (g).
- Samples were labelled with a barcode and logged into the internal ALS system.
- Samples were then crushed to fine level of 70% of material being < 2 mm.
- Samples were then riffle split and pulverized to create a 250 g sample with 85% of material being <75 µm.
- The samples were then analyzed by XRF with Lithium Tetraborate Fusion (detection limit of P_2O_5 was 0.01%). A full suite of oxide analyses, plus a loss on ignition (LOI) analysis by Thermogravimetric Analyzer was completed.

The internal laboratory results were forwarded to WSP for review and inclusion in the updated Domingos geological model. Sample results and certificates from ALS were sent electronically to Itafos and forwarded on to WSP for review during the updated geological modeling process for Domingos. The 2025 ALS results were not included in the updated model as they were received after the data cut-off.

Figure 11.9: Itafos APO Internal Lab

Source: WSP 2024. Notes: Lab technician undertaking colorimetric analysis on left, example colorimetric testing (left)

11.2.2.1 2020 Particle Size Distribution Study

A total of 15 core holes were selected on a 200-m-by-200-m grid for Particle Size Distribution (PSD) studies during the 2020-2021 drilling campaign. The goal of the PSD program was to determine the granulometric distribution in each of the four rock types, namely breccia, conglomerate, arenoso, and argiloso, at three different fractions, as well as the oxide grades for each. A total of 321 samples were sent to Instituto de Tecnologia August Kekulé (ITAK) laboratory in João Monlevade, Minas Gerais, which generated 963 granulometric fractions.

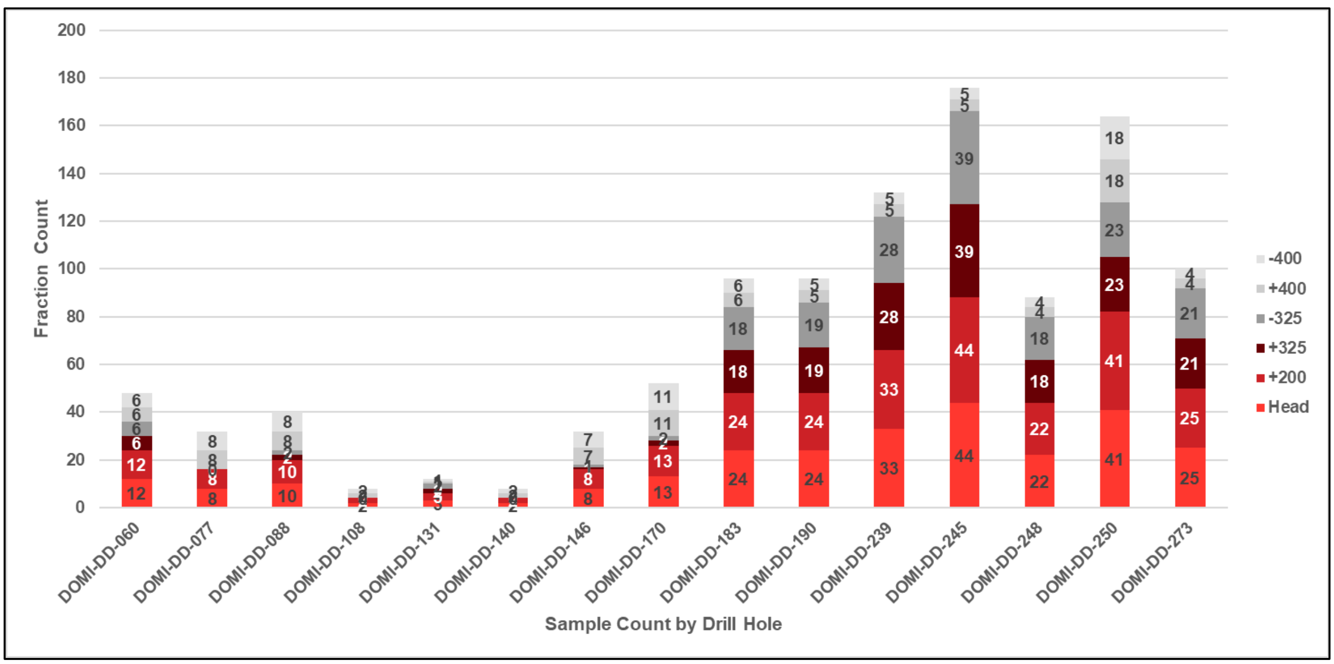
The size fractions were requested to be the analyzed at >75 µm (+200 US Mesh), <75 and >38 µm (+400 mesh) and <38 µm. However, due to some laboratory difficulties, approximately 66% of the samples were analyzed at >75 µm, <75 and >44 µm (+325 mesh) and <44 µm. A summary of the PSD drill holes is included in Table 11.4. The samples were taken in approximately 1 m interval thicknesses. A summary of the number of samples at the five different PSD fractions (in mesh) by drill hole is presented in Figure 11.10.

Table 11.4: Summary of PSD Drill Hole Samples

Drill Hole ID	Total Meters Drilled	Number of Head Samples	Number of Fraction Samples
DOMI-DD-060	13.40	12	36
DOMI-DD-077	14.10	8	23
DOMI-DD-088	51.36	10	30
DOMI-DD-108	41.27	2	6
DOMI-DD-131	4.00	3	9
DOMI-DD-140	26.83	2	6
DOMI-DD-146	35.81	8	24
DOMI-DD-170	37.06	13	37
DOMI-DD-183	35.07	24	72
DOMI-DD-190	36.00	24	72
DOMI-DD-239	33.25	33	99
DOMI-DD-245	36.40	44	132
DOMI-DD-248	32.87	22	65
DOMI-DD-250	32.10	41	122
DOMI-DD-273	44.00	25	75
Total	**473.52**	**271**	**808**

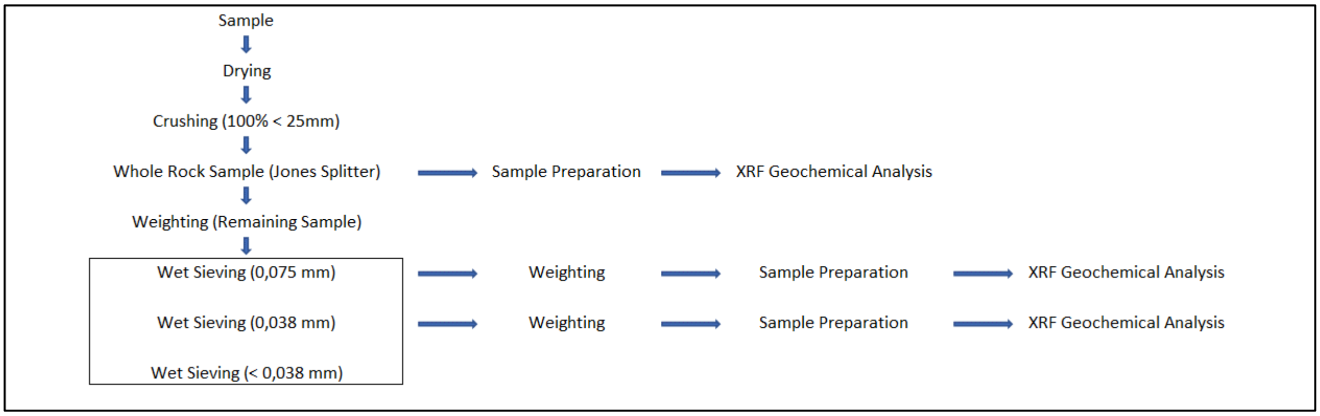
Note: Some samples were combined to meet minimum mass, sample count reflects this.

Figure 11.10: PSD Data by Size Fraction (mesh) and by Drill Hole



The ITAK sample preparation is shown in Figure 11.11

Figure 11.11: ITAK Sample Procedure



Source: Itafos 2022

ITAK determined the percentage of each sample at +200 mesh and +325 or +400 mesh and calculated the remaining percentage for the -325 or -400 mesh fraction. The whole sample (head grade), +200 mesh, and +325 or +400 mesh size fractions were then analyzed by XRF producing a full suite of oxide analyses, plus a LOI analysis. The oxide grades for the -325 and -400 mesh were calculated by WSP using the head, +200 and +325/+400 fraction and analyzed oxides. Negative values were identified in the fines fraction during calculations; this was likely a result of assaying error. These values were first flagged, and any negative values were adjusted to be equivalent to one half of the detection limit. XRF variability was reviewed for the duplicate PSD samples and found to be quite good, though there were only a few pairs. Unfortunately, many of the duplicate samples were combined in order to have enough material to perform the PSD analyses on, and WSP was therefore unable to review the performance of these pairs. The PSD data was not included in the current Mineral Resource estimate for Domingos.

11.3 Quality Assurance and Quality Control Sampling Procedures and Results

11.3.1 Summary

Quality assurance and quality control (QA/QC) procedures are typically established to ensure the precision, accuracy, and overall reliability of the exploration data and are essential industry standard practice. In general, this will include inserting Certified Reference Materials (CRM) or Standard Reference Materials (SRM) samples to measure the accuracy of the laboratory, duplicate samples to measure the reliability of the laboratory, and blanks to detect contamination during sample preparation and analysis.

Several variations of QA/QC procedures were implemented on the Project for the various drilling programs. The QA/QC procedures for each program are as follows:

- 2008-2012 programs: one of three different SRMs, field blanks, and field duplicates were inserted regularly into the sample sequence (1 every 25 for SRM, 1 every 40 for blanks and duplicates).

- 2017 program: no record of QA/QC samples.
- 2020-2021 program: QA/QC samples comprising CRMs, field blanks, and field duplicates were inserted into each sample batch alternating every 5 samples.
- 2025 program: QA/QC samples comprising CRMs, field blanks, and field duplicates were inserted into each sample batch alternating every 5 samples.
  - Many of the 2025 QA/QC sample results were still pending as of the effective date of this TR, however, WSP has reviewed what was available. While these results were not included as part of the geological model update and Mineral Resource estimate for Domingos, the QA/QC results do help with the data validation for the 2025 drilling.

Table 11.5 summarizes the QA/QC sample counts by drilling program and type, as well as the percentage of the total assay samples submitted by program.

Table 11.5: Summary of QA/QC Samples by Drilling Program and Type

Drill Program	Total Assay Samples	QA/QC Samples					
		CRM	SRM	Blank	Duplicate	Total QA/QC Samples	Precentage of Total Samples
2008-2012	52,423		1,453	1,231	1,222	3,906	7%
2017	1,546	-	-	-	-	-	-
2020-2021	5,128	305		305	626	1,236	24%
2025	650	68		44	90	202	31%
Total	**59,747**	**373**	**1,453**	**1,580**	**1,938**	**5,344**	**9%**

Note: 2025 QA/QC sample totals as of data cut-off date.

The following sub-Items present WSP findings relating to each of the types of QA/QC samples. Control charts for WSP's review of the Itafos 2020-2021 and 2025 drilling programs, as well as the MBAC drilling programs (all years combined) are included. A larger selection of QA/QC charts were included in the last published TR for the Arraias Project (MBAC, 2013).

11.3.2 Certified Reference Material

CRMs are used to evaluate the analytical laboratories accuracy against a certified value. Assay results for a CRM should be within ±3 standard deviation (SD) tolerance range of the certified value, otherwise they are considered to have failed. WSP used the Half Absolute Relative Difference (HARD) method to assess CRM accuracy. HARD is determined by the following formula and expressed as a percentage:

$$HARD = \frac{(x1 - x2)}{(x1 + x2)} \times 100$$

Where: x1 = certified value, x2 = assay value.

The HARD value indicates the percentage of the difference between the expected value of the CRM and analyzed value of the CRM. The lower the HARD value, the higher the precision between the expected and analyzed value. The Half Relative Difference (HRD) determines the relative differences between the certified and analyzed value and can be positive or negative. The HRD indicates potential biases in the measurements, while the HARD measures the overall precision.

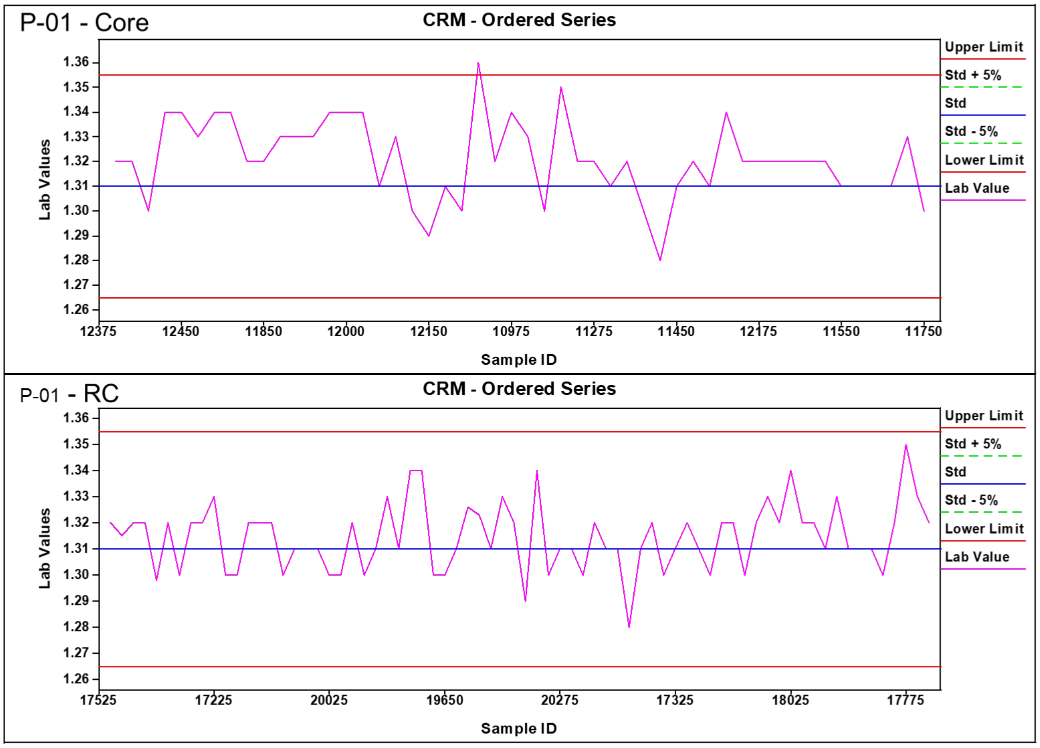
In late 2009, MBAC had an internal standard prepared from siltstone mineralization collected from São Bento pit outcrop and prepared as a pulp standard material at the laboratories of the state laboratory facility in Brasilia, METAGO. Three SRMs were prepared including a low grade (P-01), medium grade (P-02) and high grade (P-03). In January 2010, homogenized sub-samples were shipped to six external laboratories (ALS and SGS) for round-robin testing, of which only two laboratories returned results. Further records of the round-robin testing were not included in the MBAC archives. MBAC used the mean SRM values determined by METAGO as shown in Table 11.6.

In 2010, MBAC sent drill core collected from São Bento to the SGS Geosol laboratory (Belo Horizonte), who were contracted to prepare and certify three SRMs with sub-samples sent to 10 domestic and foreign labs for round-robin analysis. Averages from results received were used to monitor accuracy. SGS prepared a high grade (PFA), medium grade (PFM) and low grade (PFB) SRMs. AMC analyzed the performance of these SRMs in a series of control charts and found that, in general, the SRM assay result indicated acceptable accuracy was being achieved, with the majority of SRMs falling within 80% of the Standard Tolerance Values. AMC assumed that the problems observed with PFB were potentially associated with poor equipment calibration. AMC speculated that the minor outliers identified were potentially associated with sample submission errors (i.e., mixing of samples). A summary of the SRM performance is included in Table 11.6. WSP reviewed the pre-2020 SRM sample performance and obtained similar results as those reported by AMC, which indicate a good level of analytical accuracy at all the laboratories used. Examples of two SRMs, P-01 and PFB, are shown in Figure 11.12 and Figure 11.13 respectively.

Table 11.6: Summary of MBAC SRMs and Performance

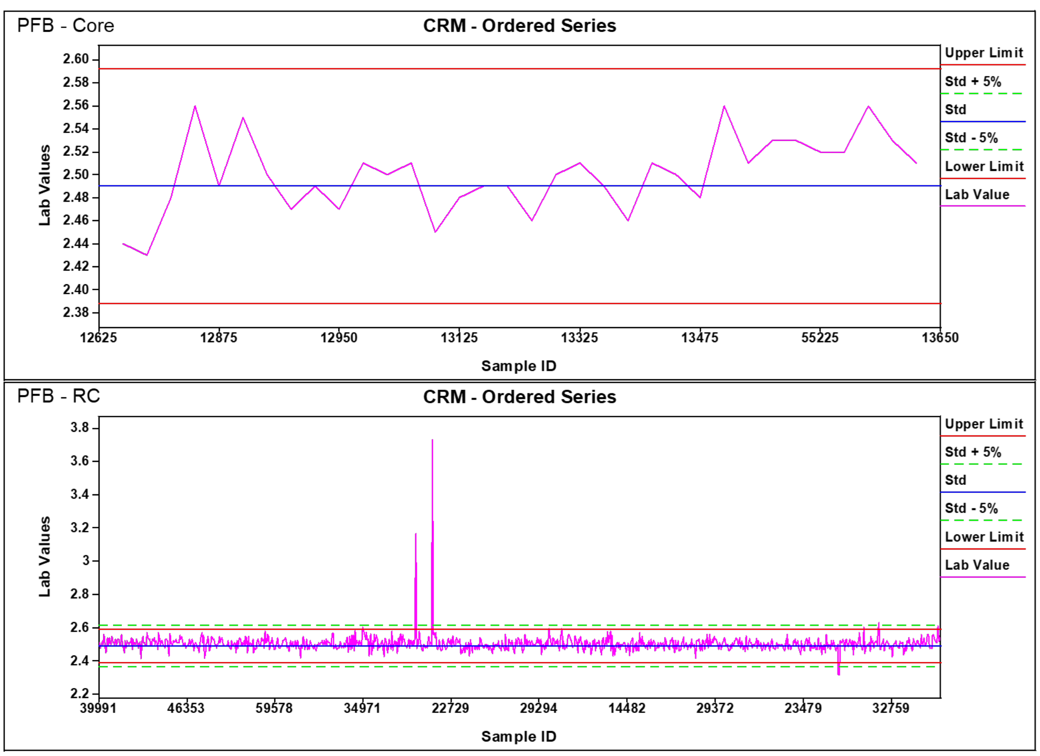
SRM	Certified Value (P_2O_5 wt.%)	SD	Core Samples			RC Samples		
			Sample Count	Mean Hard	Outliers	Sample Count	Mean Hard	Outliers
P-01	1.31	0.015	50	0.58%	1	72	0.39%	0
P-02	5.93	0.047	13	0.27%	0	24	0.29%	0
P-03	8.47	0.080	13	0.44%	0	-	-	-
PFA	12.99	0.157	15	0.55%	1	237	0.46%	3
PFB	2.49	0.034	34	0.52%	0	955	0.54%	10
PFM	11.09	0.200	-	-	-	40	0.37%	0
Total			**125**	**0.47%**	**2**	**1,328**	**0.42%**	**13**

Figure 11.12: MBAC SRM – P-01



Note: Results for core samples on top, and RC samples on bottom

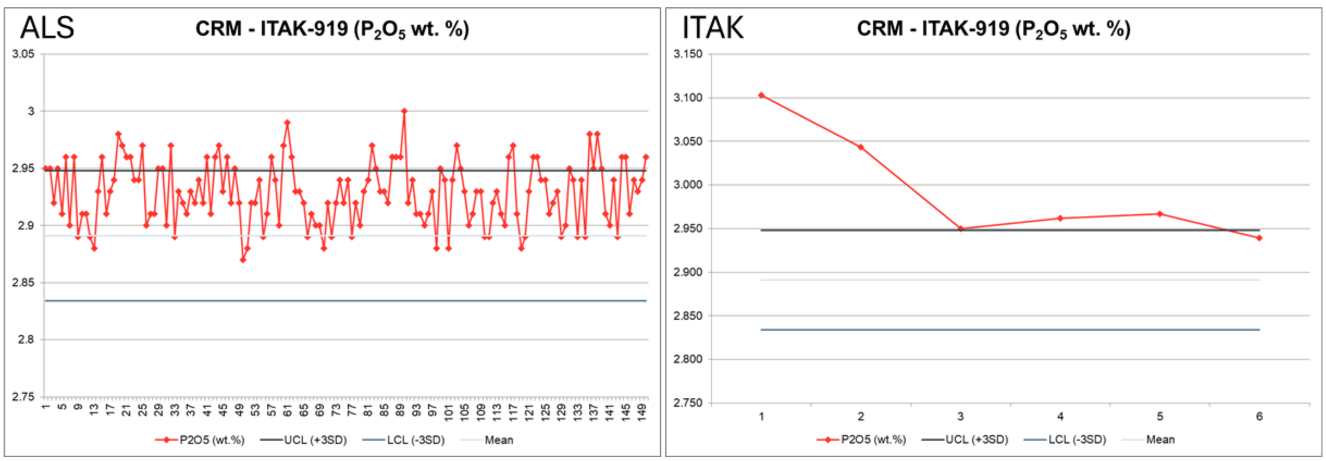
Figure 11.13: MBAC SRM – PFB



Note: Results for core samples on top and RC samples on bottom

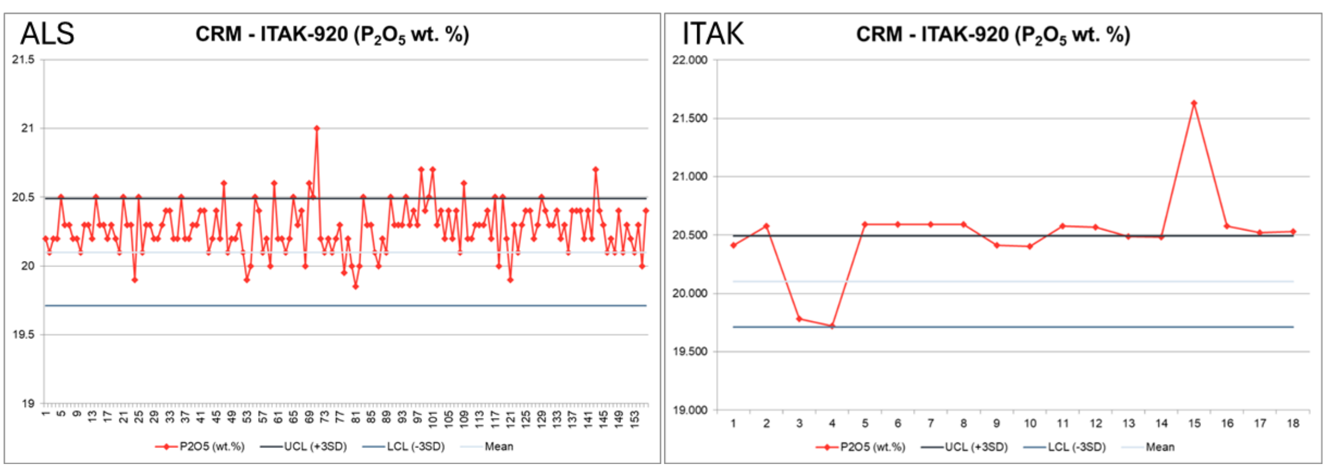
For the 2020-2021 drilling, Itafos purchased two commercially prepared CRMs from ITAK, a low-grade CRM (ITAK-919) and high-grade CRM (ITAK-920). WSP prepared a set of control charts to analyze the performance of the two CRMs at both ALS and ITAK, as shown in Figure 11.14 and Figure 11.15. The performance of both CRMs was considered to be mostly acceptable at ALS, as the majority of the results fell within 3 standard deviations (SD) of the mean. However, WSP noted an overall bias towards results which were higher than the mean for both CRMs, and generally higher overall. There were relatively few of each CRM sent to ITAK for analysis with the PSD samples; however, WSP noted that almost all results returned were higher than the expected mean for each CRM. WSP is of the opinion that there may be some inherent variability within these two CRMs, leading to an overall higher bias in the results received. For the 2025 drilling, these CRMs were not used by Itafos.

Figure 11.14: CRM ITAK-919



Notes: ALS results on left, ITAK results on right.

Figure 11.15: CRM ITAK-920



Notes: ALS results on left, ITAK results on right.

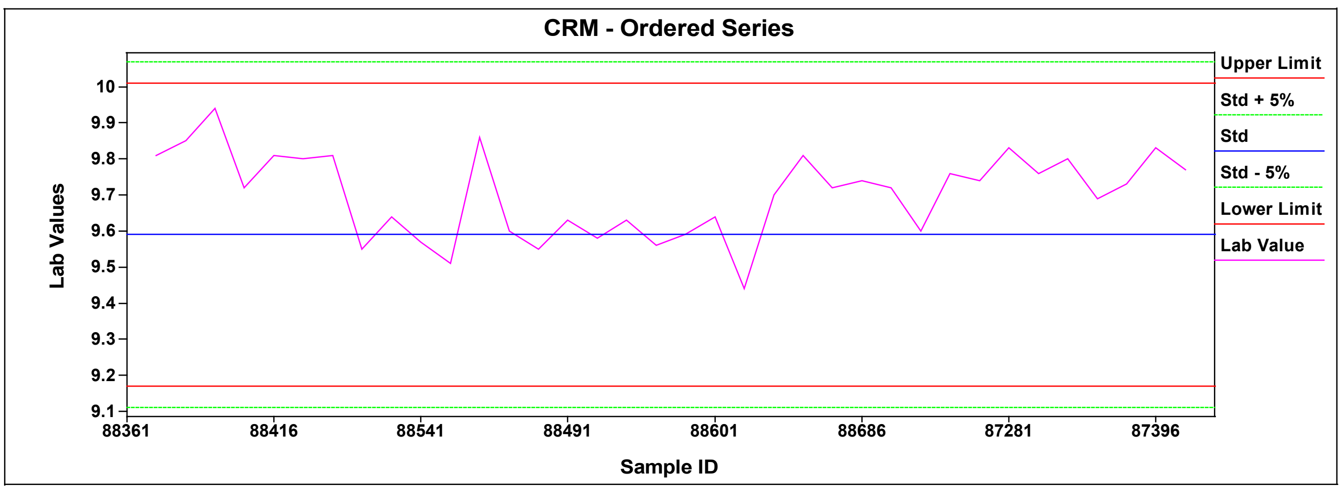
For the 2025 drilling, Itafos used 10 different commercially prepared CRMs from ITAK. The only CRM with a suitable number of samples to permit analysis was ITAK-913, the rest had too few samples. WSP addressed the issue of having too many CRMs and low number of samples per CRM with Itafos and understands that there was a delay in shipping from ITAK, which led to the geology team using the

CRMs that were available at site. Going forward, Itafos will limit the number of CRMs to one low-grade, one medium-grade and one high-grade CRM per campaign. The results from ALS were pending as of the effective date of this TR; however, WSP assessed the limited number of samples that were available and found that there was a high level of accuracy when compared to the certified value, as shown in Table 11.7. WSP prepared a control chart for ITAK-913 as shown in Figure 11.16. For the CRMs with limited samples, WSP reviewed the results against the certified value and found all values to be within ±3SD of the expected with only 2 outliers.

Table 11.7: Itafos CRM Sample Counts and Statistics

CRM	Years	Counts	Certified Value (P_2O_5 wt.%)	SD	Mean (P_2O_5 wt.%)	HRD (%)	HARD (%)	Outliers	Percent Passing QC
ITAK-919	2020-2021	150	2.891	0.0190	2.928	0.64	0.66	44	71%
ITAK-920	2020-2021	155	20.100	0.1300	20.275	0.43	0.49	23	85%
ITAK-913	2025	36	9.590	0.1400	9.703	0.58	0.69	0	100%
ITAK-905	2025	3	0.171	0.0034	0.1711	-1.33	1.33	1	
ITAK-907	2025	3	0.572	0.0065	0.5719	1.26	1.37	1	
ITAK-908	2025	3	3.357	0.0560	3.357	0.77	0.84	0	
ITAK-909	2025	3	11.587	0.1100	11.587	-0.09	0.31	0	
ITAK-910	2025	2	4.430	0.1200	4.43	0.22	0.90	0	
ITAK-911	2025	3	11.120	0.1900	11.12	0.36	0.36	0	
ITAK-912	2025	3	3.550	0.0390	3.55	1.07	1.07	0	
ITAK-914	2025	2	36.530	0.3900	36.53	1.11	1.11	0	
ITAK-915	2025	3	3.425	0.0540	3.425	1.22	1.22	0	

Figure 11.16: 2025 Preliminary Control Chart for CRM ITAK-913



11.3.3 Blanks

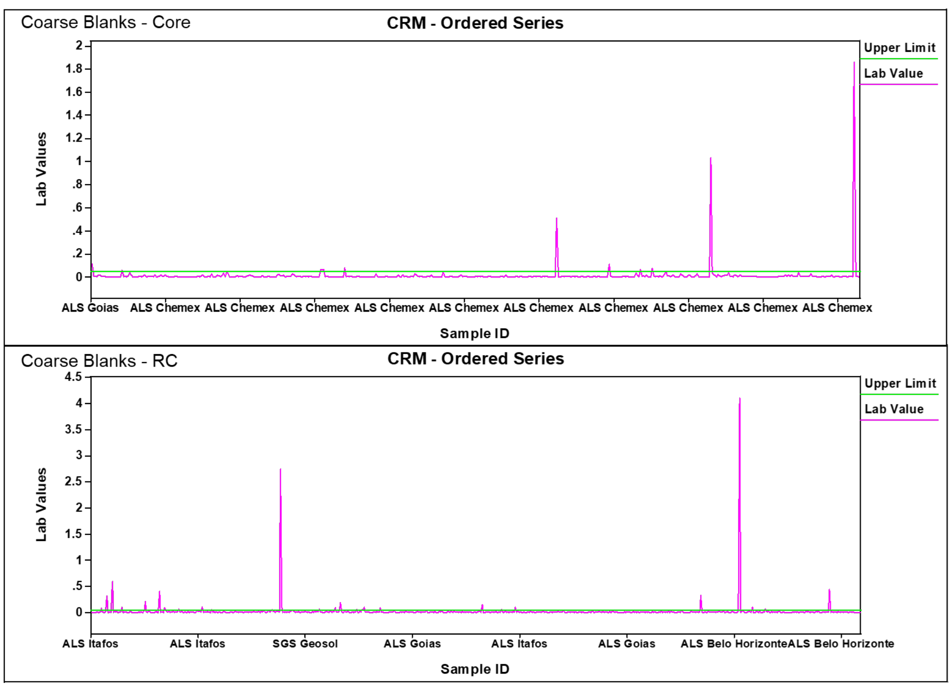
Blank samples are used to assess contamination at both the preparation (coarse blank) and analytical (pulp blank stage) stage. Samples are considered to have passed if they are within 5 times the detection limit (5x DL) of the analysis method.

For the 2008-2012 drilling, MBAC sourced coarse (field) blank material from un-mineralized Arraias Project granites collected at one specific site (not specified) on the Project. AMS, QPs and authors of the 2013 TR, reviewed the field blank performance and found that overall, there were a minor number of outliers which were likely due to the blank material used having variable background P_2O_5 values, possible contamination in the sample preparation stage, or sampling handling errors either in the field or at the laboratory (i.e. samples mis-identified as blanks). WSP also reviewed the coarse blank performance and found similar results to AMC. These results indicate reliability at the sample preparation stage. Performance of the coarse blanks is summarized in Table 11.8, and Figure 11.17 illustrates the coarse blanks for core and RC samples.

Table 11.8: Summary of MBAC Coarse Blanks

Drill Hole Type	Sample Count	Upper Tolerance (%)	Minimum (%)	Maximum (%)	Mean (%)	Outliers	Outlier %
Core	514	0.05	0.005	1.860	0.016	13	2.53%
RC	717	0.05	0.005	4.110	0.026	34	4.74%
Total	**1,231**					**47**	**3.82%**

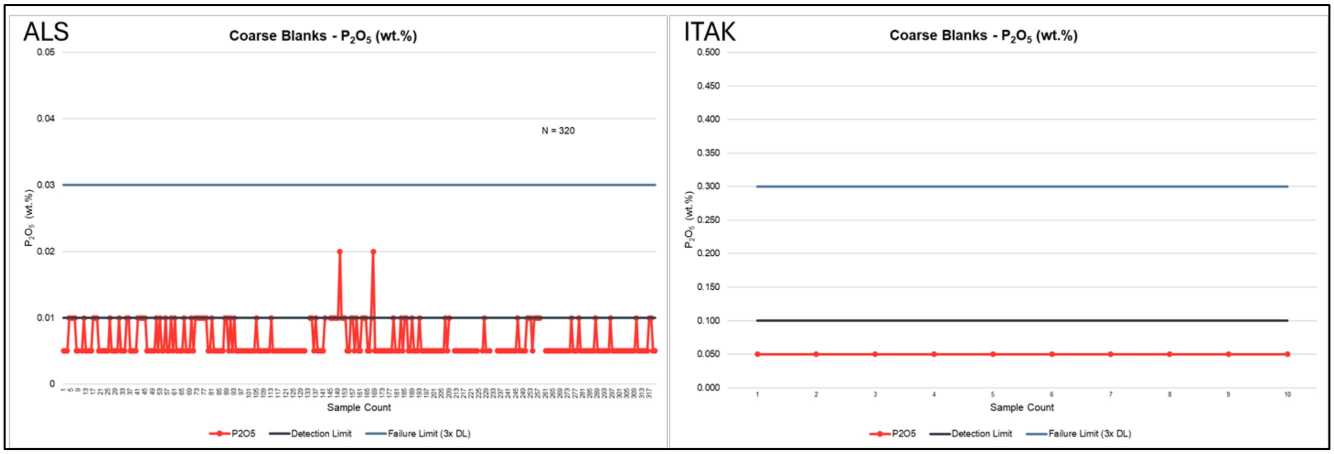
Figure 11.17: MBAC Coarse Blanks



Note: Results for core samples top, and RC samples bottom

Itafos used pure quartz for the blank material submitted for analysis in the sample stream during the 2020-2021 and 2025 drilling. WSP prepared control charts to review the behavior (Figure 11.18) and found that, except for a small number of outliers, all samples returned values well within the control limits for both. The results indicated that both laboratories were consistent with their analysis process with no contamination between samples. For the 2025 drilling, of the 29 samples returned as of the effective date of this TR, no outliers were observed.

Figure 11.18: Itafos Coarse Blanks



Notes: ALS results on left, ITAK results on right.

11.3.4 Duplicates

Duplicates assess the accuracy of the sampling at different stages in the process. Pulp duplicates assess accuracy at the laboratory analytical stage, preparation at the sample crushing and preparation stage, and field (twin) at the sample cutting stage (half or quarter core). Itafos did not take preparation or pulp duplicates, rather they have relied on the ALS internal QA/QC processes for preparation and pulp duplicates.

The HARD value indicates the percentage of the difference between the value of the original sample and that of the duplicate. If the HARD value is below 10%, it is considered acceptable. The failure range is different for each type of duplicate, as follows:

- Pulp duplicates should have 90% of the samples having less than 10% difference.
- Preparation duplicates should have 80% of the samples having less than 10% difference.
- Field duplicates should have 70% of the samples having less than 10% difference.

MBAC took field duplicate samples (quarter core) approximately every 40 samples in the sequence. WSP reviewed the performance and found there was a very good correlation between the original and duplicate samples, indicating strong precision as shown in Table 11.9 and Figure 11.19.

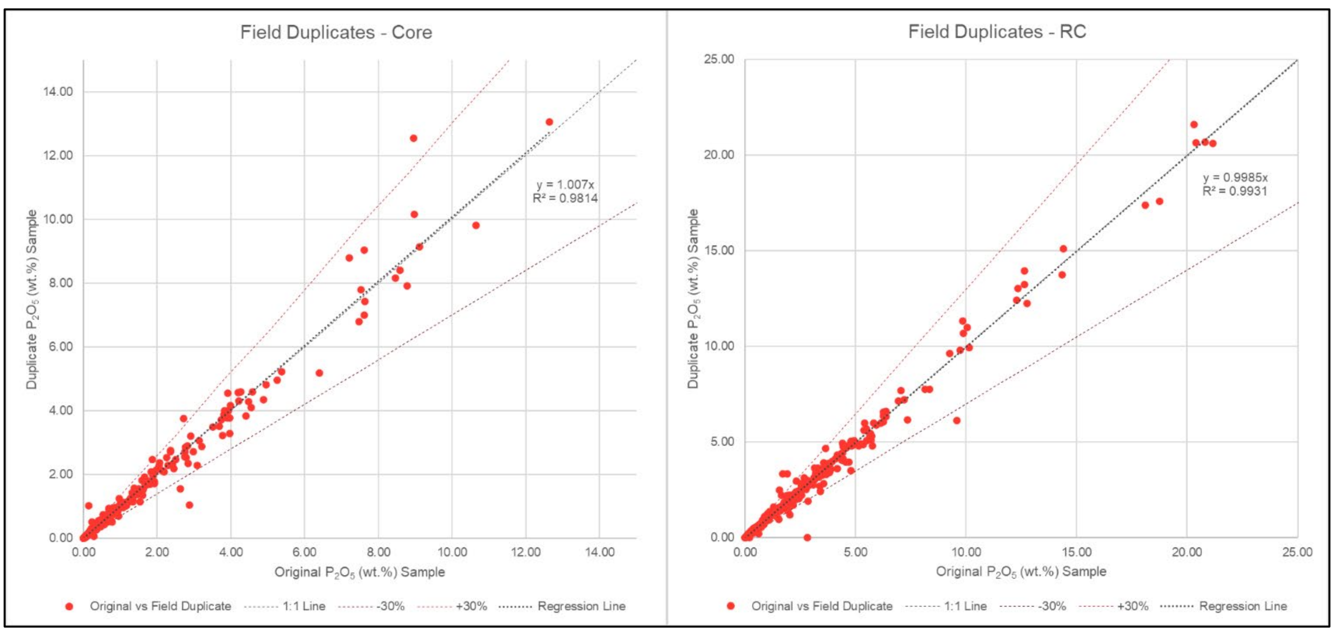
In late 2009, over 200 sample pulps stored at the onsite ALS preparation laboratory were selected for cross-checking of the primary lab (ALS) against a secondary lab at SGS Geosol. AMC noted that there was very good precision between the two laboratories; however, WSP was unable to verify as records of the samples sent for umpire testing were not retained in the archive.

Table 11.9: Summary of MBAC Coarse Duplicates

Statistic	Core		RC	
	Original P_2O_5 Sample	Duplicate P_2O_5 Sample	Original P_2O_5 Sample	Duplicate P_2O_5 Sample
Pairs	513	513	709	709
Mean	0.934	0.934	1.592	1.582
Minimum	0.005	0.005	0.005	0.005
Maximum	12.650	13.050	27.700	27.800
Variance	2.766	2.887	9.022	9.098
CV	1.780	1.819	1.887	1.906
Total Sample Count >10%	45		43	
Total Sample >10%	9%		6%	
Percent Passing	91%		94%	
Average Bias	0.000%		0.010%	

Notes: CV = Coefficient of Variation

Figure 11.19: MBAC Field Duplicates



Note: Results for core samples left, and RC samples right

During the 2020-2021 drilling program, Itafos geologists inserted 640 pairs of field duplicates, consisting of quarter core of a single sample, into the sample sequence sent to both ALS and ITAK. ALS analyzed these samples concurrently with the original sample. Table 11.10 summarizes field duplicate samples from the 2020-2021 Domingos drilling, as well as the ALS internal pulp duplicates, while Figure 11.20 illustrates the results of the field and pulp duplicate analysis. There is a high degree of precision shown in Figure 11.20 for the field duplicates, with an R^2 value of 0.9714, with minimal outliers, which is considered very good. The pulp duplicates returned R^2 value of 1.00 which indicates excellent accuracy at the pulp analysis stage.

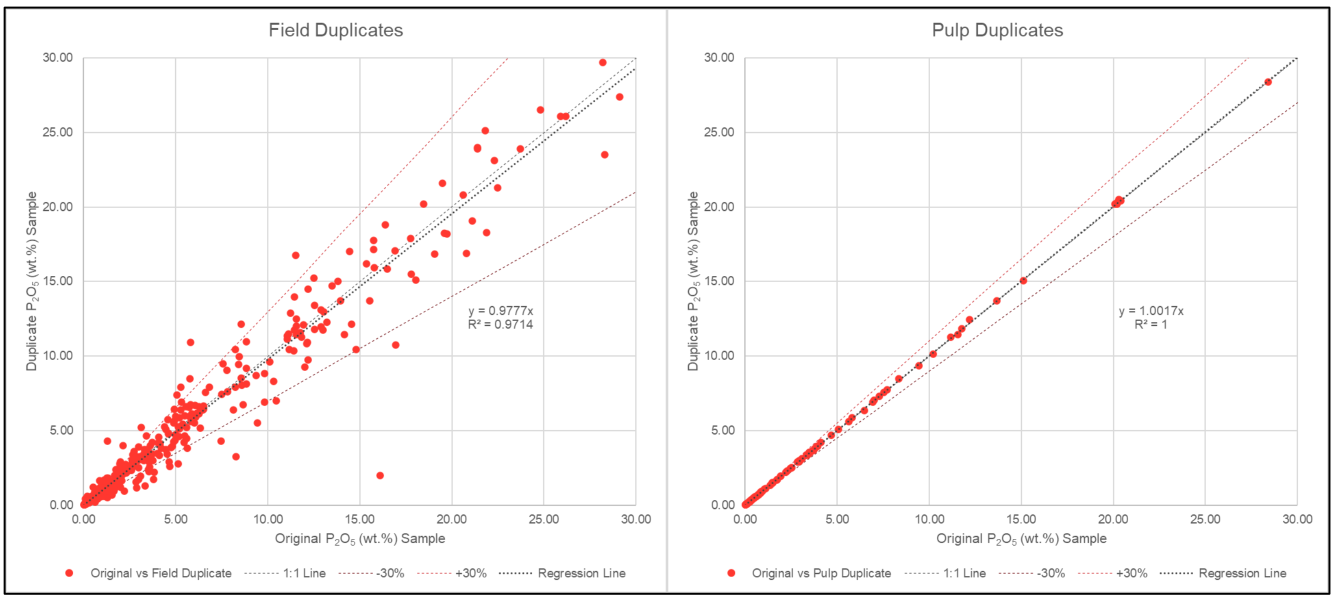
ITAK combined 33 of the duplicate samples into one larger sample in order to obtain enough mass to complete the PSD fraction analysis. As a result, only a minor number of sample pairs were analyzed independently (10 of 43 pairs). Of these 10 duplicate pairs, 5 were missed during the original ITAK assaying program and were reanalyzed by SGS in early 2022. An analysis of the 10 pairs shows a very good overall correlation (R^2 value of 0.9894) however, the sample population is quite small.

Table 11.10: Summary of Itafos Coarse and Pulp Duplicates

Statistic	Field		ALS Pulp	
	Original P_2O_5 Sample	Duplicate P_2O_5 Sample	Original P_2O_5 Sample	Duplicate P_2O_5 Sample
Pairs	626	626	122	122
Mean	3.421	3.365	3.812	3.822
Minimum	0.005	0.010	0.005	0.005
Maximum	31.900	32.800	31.300	31.200
Variance	30.566	30.275	36.078	36.180
CV	1.616	1.635	1.575	1.574
Total Sample Count >10%	169		1	
Total Sample >10%	27%		1%	
Percent Passing	73%		99%	
Average Bias	0.057%		-0.009%	

Notes: CV = Coefficient of Variation

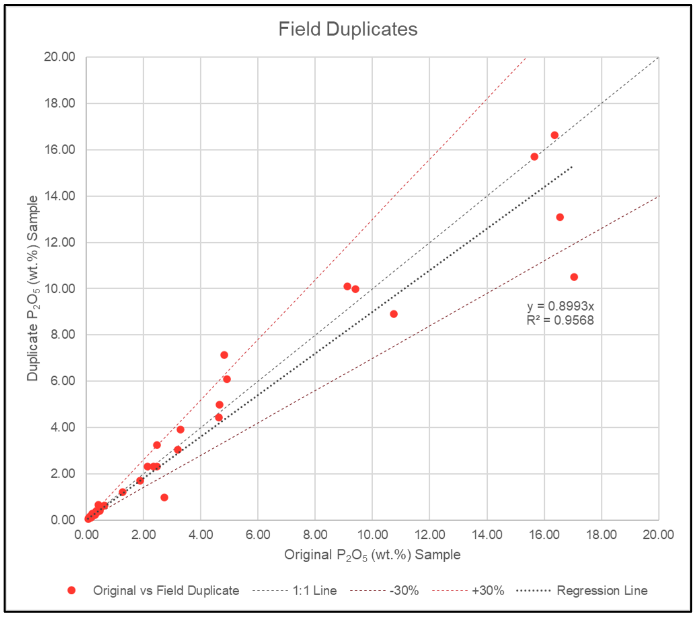
Figure 11.20: 2020-2021 Field and Pulp Duplicates



Notes: Itafos field duplicates (left) and ALS internal pulp duplicates (right)

In 2025, Itafos took field duplicate samples regularly in the sample sequence. Preliminary results from ALS were reviewed and found to have a very good precision (R^2 = 0.9568) as shown in Figure 11.21 with only minor outliers.

Figure 11.21: Preliminary 2025 Field Duplicates



11.4 Qualified Person Statement on the Adequacy of Sample Preparation, Security, and Analytical Procedures

It is the QP's opinion that the sample preparation, security, and analytical procedures applied by MBAC and Itafos at the Arraias Project are appropriate and fit for the purpose of establishing an analytical database for use in grade modeling and estimation of Mineral Resource estimates as summarized in this TR.

12. Data Verification

12.1 Mineral Resources

The WSP QP for Mineral Resources attended a site visit to the APO from July 29 to August 2, 2024, as detailed in Item 2.3. During the site visit, the QP visited several pre-2020 and recent 2020-2021 drill hole collars for verification, as well as reviewed core, and core and RC chip storage from the pre-2020, and 2020-2021 drilling programs, and reviewed the Itafos logging and sampling practices. A map detailing the locations visited is illustrated in Figure 12.1.

12.1.1 Exploration Data Compilation

All available MBAC and Itafos exploration drilling data, including survey information, downhole geological units, sample intervals, and analytical results, were compiled by WSP and loaded into a Microsoft (MS) Access Database. WSP reviewed all drilling from each of the main deposits, namely Domingos, Coité, Cana Brava, Juscelino, Gaucho, Mateus, and São Bento.

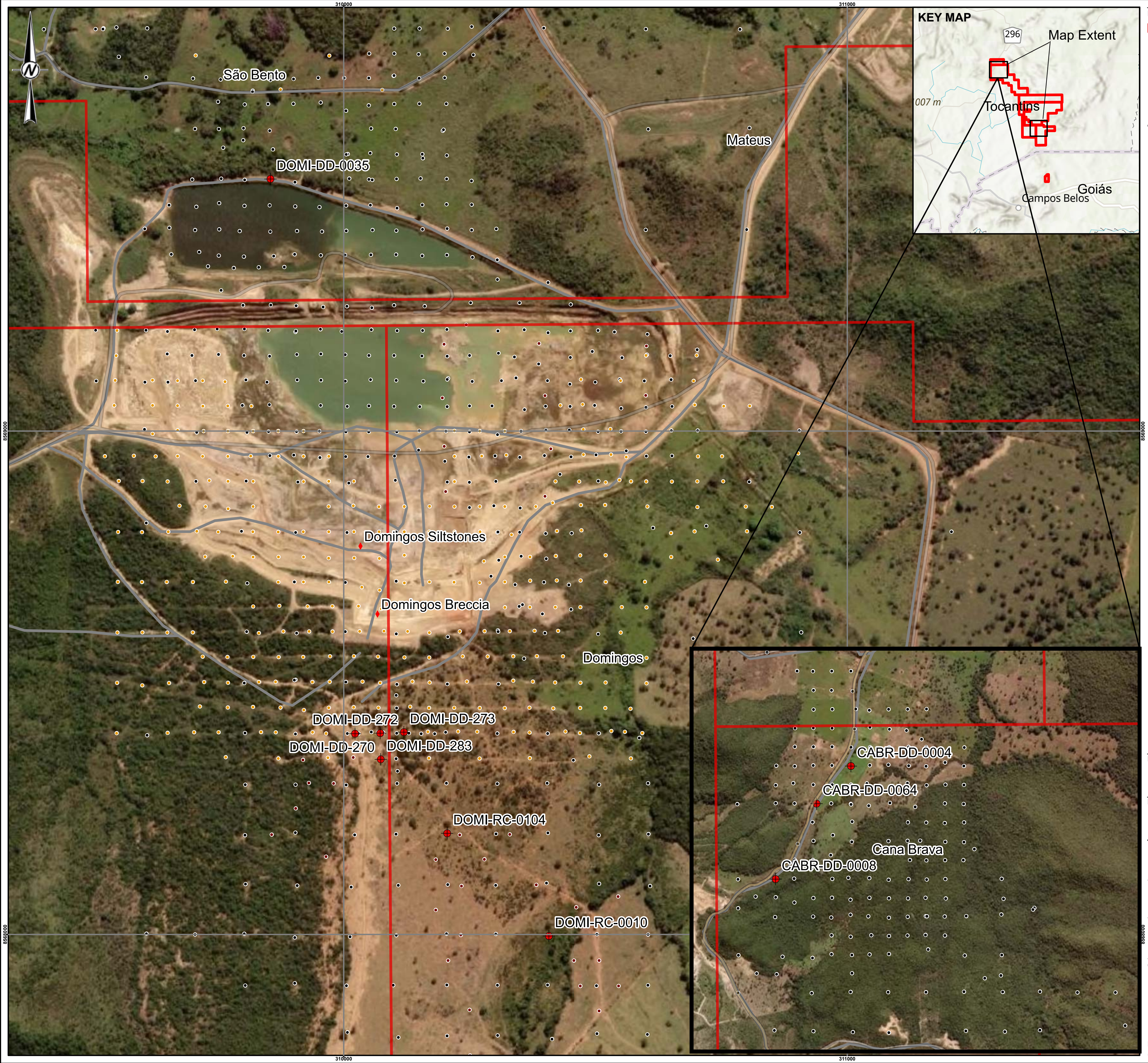
Drill hole data for four other regional deposits are included in the larger drill hole database, namely Avião, Brejo, Cabeçudo, and Covanca. The QP has not reviewed or validated this information as drill holes from these deposits were not included in the geological modeling or Mineral Resource estimation.

Compiled drilling data for the APO Project is summarized by deposit in Table 12.1. Compiled supporting documentation for the MBAC and Itafos drilling data included laboratory certificates, descriptive logs, core photos, collar survey reports, geological maps, and internal report documents.

Collar survey and downhole geological unit intervals, sample intervals, and analytical results were imported into a Seequent Leapfrog Geo (Leapfrog) project, and correlation sections arranged as a graphic downhole log was prepared for each drill hole to facilitate visual inspection of each individual drill hole, as well as to allow for a review of correlations of geological units, geometallurgical domains, and mineralized zones between adjacent drill holes during the data validation and interpretation processes.

Table 12.1: Summary of Compiled Core and RC Drilling Data by Deposit

Deposit	Drill Hole Data				
	Number of Holes	Meters Drilled	Lithology Length (m)	Number of Assay Samples	Assay Length (m)
Cana Brava	249	8,538	8,518	6,822	7,686
Coité	371	9,682	9,681	6,321	7,618
Domingos	762	23,696	23,504	18,849	18,444
Gaucho	277	11,601	11,601	8,160	10,626
Juscelino	259	10,821	10,819	7,727	10,325
Mateus	306	13,809	13,809	9,797	13,013
São Bento	122	2,647	2,628	2,071	2,327
Total	**2,346**	**80,794**	**80,560**	**59,747**	**70,038**



LEGEND

- ARRAIAS PERMITS
- VISITED DRILL HOLE
- VISITED OUTCROP
- 2020-2021 DRILL HOLE
- 2025 DRILL HOLE
- PRE-2020 DRILL HOLE
- ROADS

0 200 400

1:7,500 METERS

NOTE(S)

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
QP SITE VISIT MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JS
REVIEWED	JD
APPROVED	JDW

PROJECT NO. CA0031307.2455 | CONTROL | REV. 0 | FIGURE 12.1

12.1.2 Exploration Data Validation

For all drilling, drill hole logs were recorded by logging geologists on formatted paper sheets, then transcribed into MS Excel. Data and observations entered into the logging sheets were reviewed for transcription or keying errors or omissions by senior MBAC and Itafos geologists. WSP evaluated the tabular data provided by Itafos for errors or omissions as part of the data validation procedures described in the following section.

WSP performed data validation on the drill hole database records using available underlying data and documentation including, but not limited to, original drill hole descriptive logs, available core photos, and laboratory assay certificates. Drill hole data validation checks were performed in MS Access using a series of in-house data checks to evaluate for common drill hole data errors including, but not limited to, data gaps and omissions, overlapping lithology or sample intervals, miscorrelated units, drill hole deviation errors, and other indicators of data corruption including transcription and keying errors. The topographic surface used for modeling was reviewed against the drill hole collars.

Database assay values for every sample were compared to the available laboratory assay certificates using a WSP proprietary script to ensure the tabular assay data was free of errors or omissions. Minor data mismatch errors were identified primarily in the pre-2020 database where the oxide MnO_2 was labeled as MnO in the database for approximately 28,000 samples from 2009 and 2010. MnO and MnO_2 were not estimated as part of the Mineral Resource; however, this error was corrected in the Project database. Additional minor transcription errors for LOI, TiO_2 and Total Oxides were identified and updated in the database. Drill hole recovery data was also reviewed, as well as QA/QC results.

Several minor errors, omissions, or proposed revisions were identified by WSP during the review process; these included typographic errors and omission of some data and observations. Any updates made to the data were tracked within MS Access and stored.

12.1.2.1 2025 Drilling

As part of the 2025 drilling program a 25 g aliquot of the prepared sample split was analyzed by the internal Itafos laboratory using the colorimetric method, as described in Item 11.2.2. WSP reviewed the preliminary XRF results from ALS against the internal laboratory results and found that there was a good correlation (R^2 = 0.9087) between the two data sets, despite being analyzed by different methods (Figure 12.2). However, when reviewing the statistics (Table 12.2) and quantile-quantile (QQ) comparison (Figure 12.3), WSP observed that the internal laboratory had a slightly higher bias overall. For any subsequent Resource model updates in Domingos, WSP recommends that the internal laboratory assays be replaced with the finalized ALS results.

Table 12.2: Internal vs ALS Assay Statistics

Data	Assay	Count	Min	Max	Mean	Variance	StDev	CV	Median
Internal Laboratory	P_2O_5 (wt. %)	582	0.00	27.71	2.72	22.55	4.75	1.75	0.48
ALS	P_2O_5 (wt. %)	582	0.04	29.60	2.49	19.83	4.45	1.79	0.35

Figure 12.2: Comparison Between Internal Colorimetric and ALS XRF Results

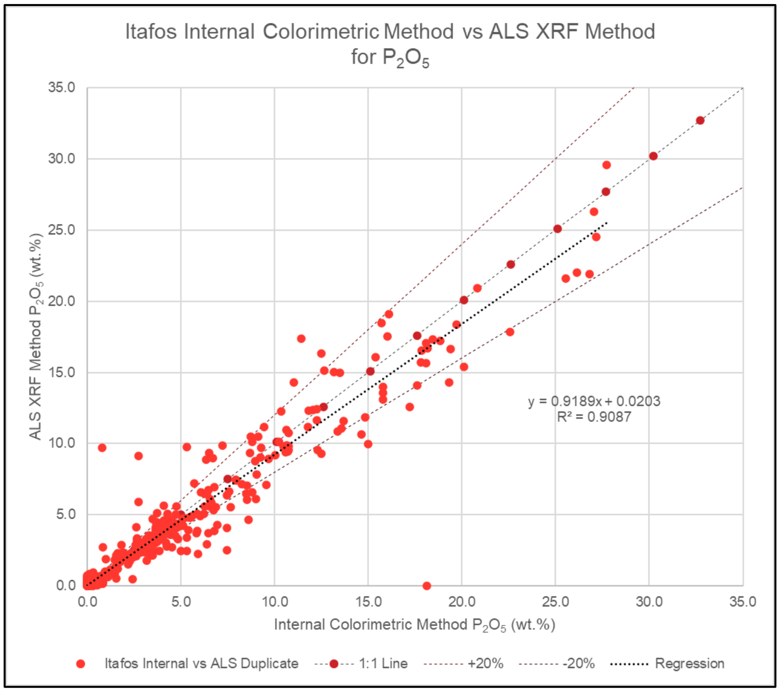
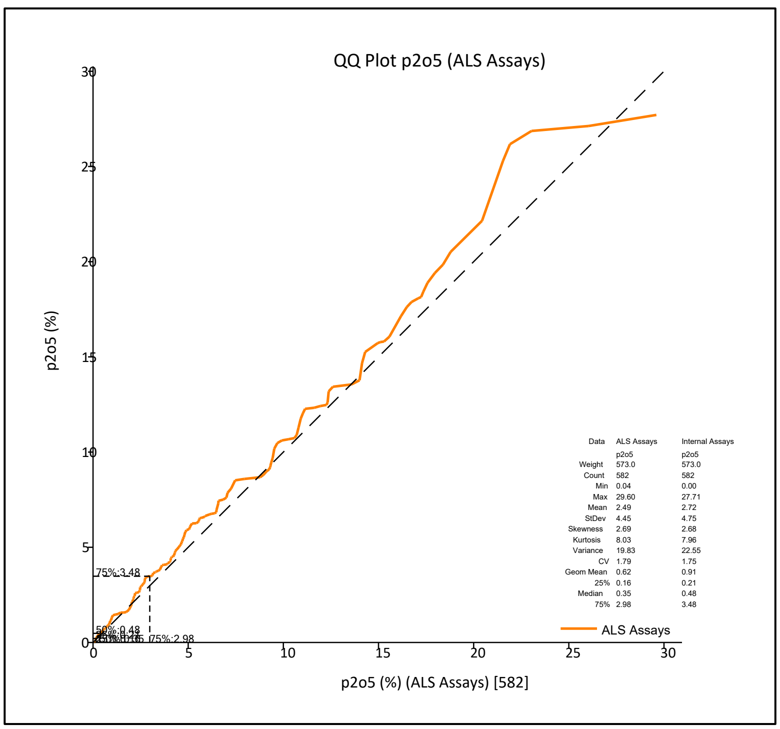


Figure 12.3: QQ Plot of ALS vs Internal Lab Assays



12.1.3 Validated Drill Hole Information

WSP prepared four separate geological models for the Arraias Project, namely Domingos, Cana Brava, Coité, and Near Mine (combination of Gaucho, Juscelino, and Mateus deposits). Geological models for São Bento, and individual models for each of the three Near Mine deposits were prepared in addition to the four main geological models, however these were not used for Resource modeling. Of the 2,346 drill holes reviewed during the data validation and correlation process, WSP omitted 289 drill holes (127 core and 162 RC) across the Arraias Project (Table 12.3). Drill holes that were omitted included those in previously mined areas where uncertainty in collar elevation existed, as well as drill holes outside of the individual model boundaries, or those without assay data to allow for correlation of the geometallurgical domains. A summary table providing key details for all validated drill holes for the Project is presented by type and drilling program in Table 12.4.

Table 12.3: Summary of Omitted Drill Holes by Deposit

Deposit	DD		RC	
	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled
Cana Brava	52	1,410	35	1,188
Coité	23	595	11	302
Domingos	3	104	90	2,504
Gaucho	12	613	9	389
Juscelino	18	315	9	101
Mateus	15	494	8	184
São Bento	4	50		
Total	**127**	**3,580**	**162**	**4,668**

Table 12.4: Summary of Validated Drill Holes by Type, Year and Deposit

Deposit	DD		RC	
	Number of Holes	Meters Drilled	Number of Holes	Meters Drilled
Cana Brava	42	1,265	120	4,675
Coité	122	2,726	215	6,060
Domingos	345	9,912	326	11,256
Gaucho	125	5,535	131	5,064
Juscelino	114	4,980	118	5,425
Mateus	140	6,958	143	6,173
São Bento	55	1,025	63	1,572
Total	**943**	**32,400**	**1,116**	**40,225**

12.1.4 Qualified Person Statement on the Adequacy of the Data

It is the QP's opinion that the verified data disclosed, including sampling, analytical, and test data underlying the information or opinions contained in the written disclosure by Itafos and its predecessors at the Arraias projects are appropriate and fit for the purpose of establishing an analytical database for use in grade modeling and estimation of Mineral Resource estimates as summarized in this TR.

12.2 Mining and Mineable Resource Data Verification

- The WSP QP reviewed the current mining operations and methods at Domingos and verified that they are appropriate for all four deposits in this report (Domingos, Coite, Cana Brava, and Near Mine.)
- The pit optimization work was cross-checked by the QP and the results verified using multiple software platforms.
- The WSP QP visited the Arraias operations resource areas during the Project site visit in 2024, as detailed in Item 2.3, and it is the opinion of WSP's QP that the identified mining methods, site locations, and main haulage routes are reasonable and properly accommodate surface topographic features. There were no concerns identified during the site visit with regard to the mining methods.
- The QP reviewed the financial data that was provided by Itafos and used to formulate the unit costs used in the Discounted Cash Flow. The unit costs appeared to reflect previous operational costs and were reasonable when compared to other similar open pit mines in Brazil.

12.3 Metallurgy and Mineral Processing Data Verification

- The Millcreek QP visited the APO during a site visit in 2022, as detailed in Item 2.3.
- Analysis of phosphate rock samples was completed at several laboratories including Eriez, Minprotech, Pocock Industrial. All labs followed a standard QA/QC program that included duplicates, standards, and blind control samples.
- The QA/QC procedures used by the three analytical laboratories are considered to be of high quality.
- Duplicate and standard analyses are considered to be of acceptable quality.
- Itafos is actively carrying out follow-up metallurgical test work to better define processing pathways based on updated mine planning and the initial P_2O_5 grades observed in breccia. Recent geological assessments have also identified a secondary rock type with potential to upgrade to a 28% P_2O_5 concentrate. Inclusion of new test results may result in alterations to the proposed flow sheet.

13. Mineral Processing and Metallurgical Testing

The assumptions or predictions regarding recovery estimates are forward-looking information. The material factors that could cause actual results to differ materially from these assumptions and predictions include actual plant feed characteristics that are different from the historical operations or from samples tested to date, and actual plant flowsheet, equipment and operational performance that yield different results from the historical operations and historical and current test work results.

This Item presents an overview of the metallurgical testing conducted on samples from the Itafos Arraias Project. The work was carried out across multiple campaigns by Eriez (2021 and 2025), MINPROTECH (2023), and Pocock Industrial (2025), with key objectives including flotation efficiency, reagent selection, flowsheet refinement, and tailings management.

13.1 Metallurgical Testwork

13.1.1 Eriez 2021 – SAN 529281 MTR 20-203

In 2021, the Eriez Flotation Division (EFD) undertook a study titled "Evaluation of Flotation Performance of 38x0 Micron and 75x38 Micron Size Fractions of Ore Samples from Arraias Project." The study involved comprehensive characterization of the samples through chemical and mineralogical analysis, size-based separation, and liberation analysis by fraction. Grade-recovery curves for P_2O_5 were generated, and various flotation process pathways were tested to produce a marketable phosphate concentrate.

The primary goal was to evaluate how ultra-fine −38 µm and milled fine materials responded to flotation and to determine whether target benchmarks, ≥28% P_2O_5 grade and ≥55% recovery, could be met.

Key Outcomes:

- Argiloso (38x0 µm, milled): 31.0% P_2O_5 at 85.1% recovery
- Arenoso (38x0 µm): 30.5% P_2O_5 at 83.7% recovery
- 75x38 µm feed: 86.4–90.8% recovery with concentrate grades between 28.6% and 31.8%

Techniques Applied: Denver D12 mechanical flotation and 3" Eriez column flotation.

Conclusions: Column flotation yielded better results than mechanical flotation, particularly for fines. Due to the high content of both natural and processed fine particles, a dedicated manufactured fines flotation circuit was recommended. Additionally, blending is advised to reduce variability in head grade and ensure stable plant operations.

13.1.2 MINPROTECH – Technical Report, June 2023

In 2023, MINPROTECH executed a flotation-focused test campaign aimed at optimizing comminution, desliming, and collector dosage across varied particle size distributions. The purpose of this study was to determine an ideal milling duration that minimizes slimes generation, and to identify the best performing reagent combination and pH conditions. Closed-circuit ball milling was conducted using a 100# sieve to control particle size. The material was agitated and conditioned with dispersant and depressant and then subjected to flotation testing using various collector types and dosages. Flotation was performed at two pH levels: 9.5 and 10.5.

Optimized Reagents:

- Sodium silicate – 1,000 g/t
- Cornstarch – 1,000 g/t
- Custafloat CF 167 – 1,300 g/t (rougher) + 300 g/t (cleaner)
- Tested at pH 9.5 and 10.5

Results Achieved:

- P_2O_5 recovery: 91%
- Concentrate grade: >24% P_2O_5
- Mass yield: ~37%

Recommendation: A pilot-scale test program is strongly suggested to validate these promising laboratory findings.

13.1.3 Eriez 2025 – SAN 222389

A follow-up study by EFD in 2025 focused on testing fresh breccia samples from the Arraias deposit using both mechanical and column flotation systems. The primary aim was to generate a concentrate containing no less than 28% P_2O_5 and to achieve a minimum of 60% overall P_2O_5 recovery. This work was conducted using the available industrial-scale flotation columns at the plant. Two circuit configurations were evaluated:

- Scenario 1: Maximize recovery while maintaining at least 28% P_2O_5 in the final concentrate.
- Scenario 2: Maximize product grade while ensuring no less than 60% recovery.

Recommended Plant Setup Based on Testing:

- 1 × 5 m Ø column for rougher flotation
- 1 × 5 m Ø column for cleaner flotation
- 2 × 4 m Ø columns (in parallel) for the scavenger stage

- 1 × 5 m Ø column for the scavenger-cleaner stage

These modifications are projected to improve overall plant efficiency and better utilize existing infrastructure.

13.1.4 Pocock Industrial – Tailings Dewatering

Pocock Industrial was tasked with developing design parameters for thickening and filtration of tailings produced from flotation operations. The tailings sample, prepared by Eriez and shipped to Pocock's lab in Salt Lake City, arrived as a slurry and was analyzed at its natural pH of 7.94. To preserve sample integrity, all testing was performed promptly upon receipt. The overarching goal was to gather robust data to inform the design and optimization of tailings dewatering systems. Testing covered a full suite of evaluations, including flocculant screening, static and dynamic thickening, underflow rheology, and both vacuum and pressure filtration.

Key Outcomes:

- Optimal flocculant: SNF AN920VHR (60 g/t)
- Preferred thickening method: High-rate thickeners
- Recommended dewatering method: Pressure filtration (better moisture control and cake stackability).

The results demonstrated that pressure filtration, especially with membrane presses, outperformed vacuum filtration by reducing final cake moisture and improving handling. The system was shown to produce stackable cakes efficiently and within target dryness limits, even under demanding operating conditions.

13.2 Metallurgical Sample Characterization and Testing Methodology

13.2.1 Eriez 2021 – SAN 529281 MTR 20-203

The EFD received approximately 680 kg of argiloso, 685 kg of arenoso (both classified as “SAN 529281”), and 240 kg of conglomerate and breccia from Itafos Arraias. The argiloso and arenoso materials were evaluated through benchtop mechanical flotation and 3-inch laboratory column flotation tests. Upon arrival, the argiloso and arenoso samples were blended, split, and analyzed for particle size distribution and chemical composition. As shown in Tables 1 and 2 in Figure 13.1, the argiloso had a significantly lower head grade of P_2O_5 (4.8%) compared to arenoso (9.0%). The natural fines below 38 µm made up 55.7% and 69.0% of the total sample weight for argiloso and arenoso, respectively, and accounted for 46.0% and 48.1% of their total P_2O_5 content.

Figure 13.1: EFD Argiloso and Arenoso Grade by Size Fraction

Table 1 – Argiloso As-Received Ore Sample Particle Size Distribution and Chemical Analysis Results

Itafos Arraias Argiloso As-Received PSD															
Particle Size (µm)		Wt. Dist. (%)		Assay (%)											Distribution
Passing	Retained	Indv.	Cml. Pass	P2O5	CaO	SiO2	MgO	Al2O3	Fe2O3	K2O	Na2O	Sulf	TiO2	Zn	LOI	P2O5 (%)
	1000	28.2	100.0	6.2	7.6	73.8	0.30	5.0	2.00	1.10	0.00	0.22	0.21	0.0	3.0	36.09
1000	850	0.9	71.8	6.7	7.5	71.3	0.29	5.70	2.60	1.10	0.00	0.01	0.22	0.0	2.9	1.27
850	600	1.7	70.9	6.9	7.4	68.3	0.45	7.1	3.50	1.40	0.00	0.01	0.28	0.0	3.3	2.36
600	425	0.9	69.2	7.5	7.8	69.5	0.27	5.60	3.90	1.00	0.00	0.02	0.18	0.0	3.3	1.38
425	212	2.0	68.3	7.1	7.8	69.0	0.31	5.60	4.00	1.20	0.00	0.01	0.21	0.0	3.0	2.91
212	150	1.1	66.4	7.4	8.7	70.3	0.30	5.40	3.20	1.10	0.00	0.01	0.19	0.0	2.4	1.69
150	106	2.4	65.3	5.9	7.2	72.3	0.39	5.9	2.90	1.50	0.00	0.01	0.27	0.0	2.3	2.89
106	75	2.0	62.9	4.9	6.0	75.9	0.36	5.60	2.70	1.40	0.00	0.01	0.25	0.0	2.0	2.05
75	53	2.0	60.8	3.7	4.6	80.0	0.26	4.8	2.40	1.20	0.00	0.01	0.20	0.0	1.6	1.49
53	38	3.2	58.9	2.8	3.4	81.6	0.31	5.20	2.40	1.40	0.00	0.01	0.25	0.0	1.7	1.86
38	0	55.7	55.7	4.0	4.8	68.9	0.71	11.00	4.30	2.20	0.00	0.00	0.53	0.0	2.0	45.99
Cumulative		100.0		4.84	5.82	71.16	0.53	8.44	3.44	1.75	0.00	0.06	0.39	0.03	2.34	100.00

Table 2 – Arenoso As-Received Ore Sample Particle Size Distribution and Chemical Analysis Results

Itafos Arraias Arenoso As-Received PSD															
Particle Size (µm)		Wt. Dist. (%)		Assay (%)											Distribution
Passing	Retained	Indv.	Cml. Pass	P2O5	CaO	SiO2	MgO	Al2O3	Fe2O3	K2O	Na2O	Sulf	TiO2	Zn	LOI	P2O5 (%)
	1000	22.2	100.0	17.2	20.5	36.1	0.79	9.6	5.20	2.00	0.00	0.02	0.33	0.1	7.0	42.32
1000	850	0.4	77.8	17.9	16.9	31.5	0.74	12.90	6.40	1.90	0.00	0.01	0.33	0.1	10.0	0.69
850	600	0.5	77.4	18.5	17.0	29.7	0.73	12.9	6.90	1.80	0.00	0.01	0.32	0.1	10.0	0.96
600	420	0.6	77.0	14.9	14.0	37.2	1.00	14.40	7.20	2.40	0.03	0.03	0.47	0.1	7.0	1.02
420	212	0.6	76.3	16.3	15.6	33.8	0.68	11.30	10.20	1.70	0.02	0.02	0.32	0.1	8.0	1.14
212	150	0.4	75.7	13.1	13.0	44.5	0.58	9.90	9.20	1.90	0.00	0.02	0.31	0.1	6.0	0.59
150	106	0.9	75.3	9.2	9.7	56.9	0.56	9.2	6.90	2.50	0.00	0.02	0.32	0.1	4.2	0.93
106	75	0.9	74.4	8.0	8.6	61.8	0.41	8.40	5.70	2.80	0.00	0.01	0.28	0.0	3.4	0.83
75	53	1.0	73.4	8.9	9.8	59.9	0.39	7.7	6.70	2.70	0.00	0.02	0.27	0.0	3.3	0.99
53	38	3.4	72.4	6.3	6.8	62.7	0.91	10.90	4.40	2.90	0.00	0.01	0.53	0.0	3.8	2.40
38	0	69.0	69.0	6.3	6.3	56.5	1.20	15.10	5.30	3.20	0.00	0.01	0.67	0.1	3.0	48.11
Cumulative		100.0		9.03	9.78	51.74	1.07	13.47	5.35	2.88	0.00	0.01	0.57	0.05	4.06	100.00

Source: Eriez - SAN 529281 MTR 20-203, 2021

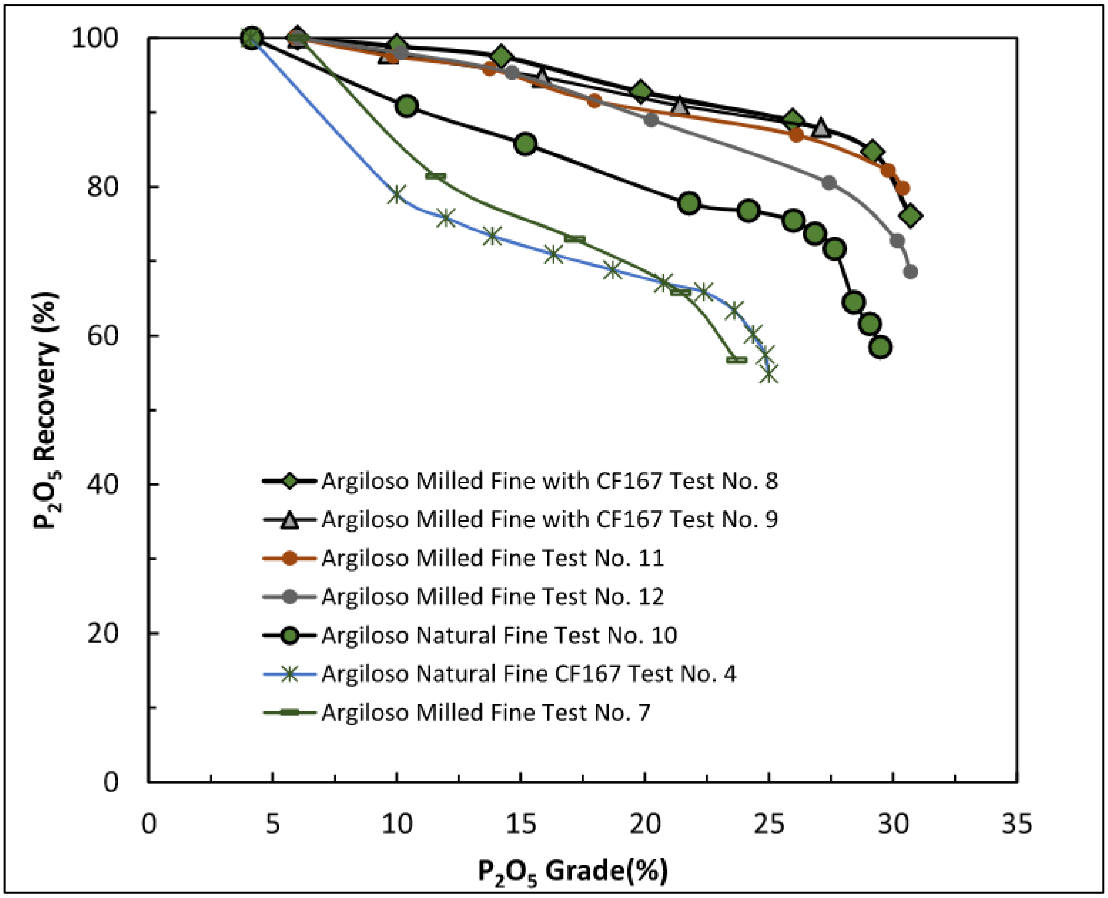
Both samples were initially screened at 38 µm using a 48” Sweco vibratory screen. The undersize fraction, rich in clays, was used exclusively in benchtop flotation testing. The oversize material (+38 µm) was further milled, then screened at 75 µm and 38 µm to produce 75x38 µm and -38 µm flotation feedstocks. Notably, visual differences in the +1000 µm fractions between the two samples suggested potential variability in mineralogy and flotation behavior.

13.2.1.1 Benchtop Mechanical Cell Flotation

Argiloso: Natural Fine and Milled Fine (38x0 µm)

Figure 13.2 shows the flotation response for Argiloso fines. Achieving >28% P_2O_5 in concentrate was more consistent for milled material than for natural fines. While a grade of 29.5% was reached in Test 10 using nine cleaning stages on the natural fines, Tests 8, 11, and 12 on milled fines delivered 29.2 to 30.7% P_2O_5 at 72.7 to 84.7% recovery. These tests used sodium silicate (1.0 kg/t), starch (0.5 kg/t), and ArrMaz CF 167 collector (1.6–1.8 kg/t) during rougher-scavenger flotation, and reduced reagent dosages during cleaning stages.

Figure 13.2: Argiloso 38x0 µm Natural Fine and Milled Fine Feedstocks – Benchtop Test Results

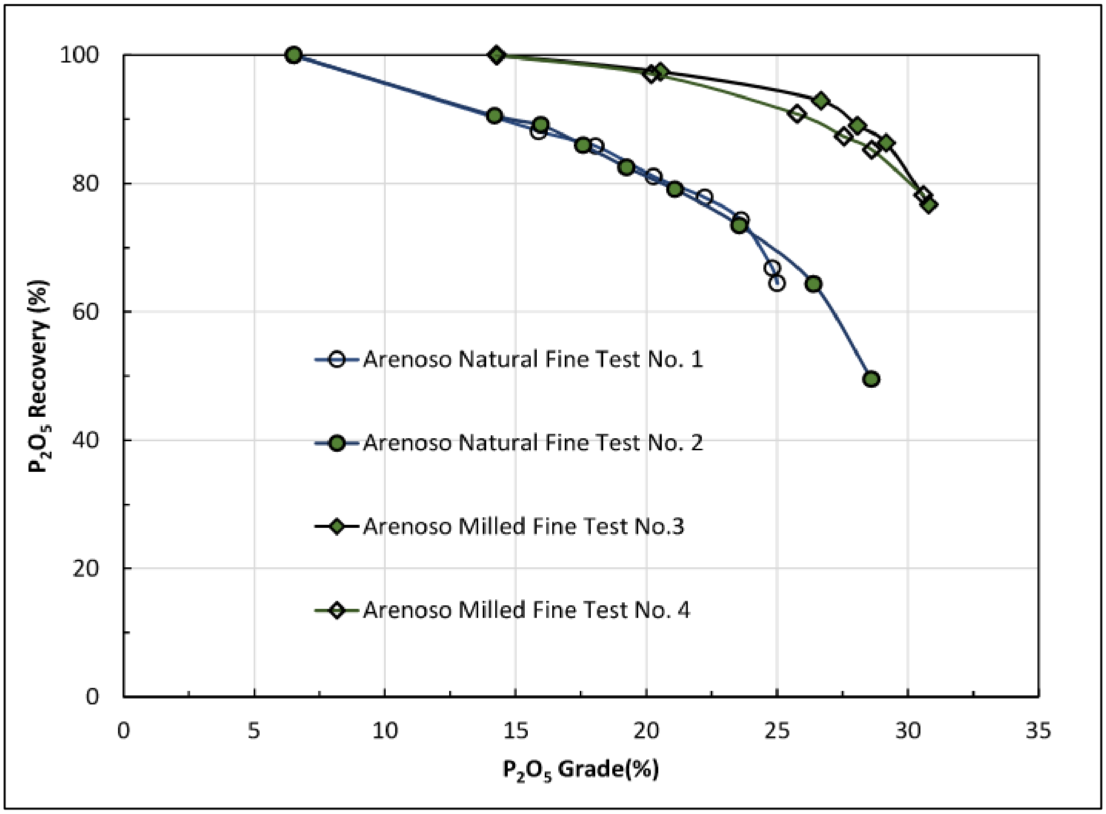


Source: Eriez - SAN 529281 MTR 20-203, 2021

Arenoso: Natural Fine and Milled Fine (38x0 µm)

Figure 13.3 illustrates flotation results for Arenoso samples. The milled fraction had a notably higher head grade (14.3%) than the natural fine fraction (6.5%). As expected, flotation of the natural fines struggled to meet the 28% P_2O_5 target (Tests 1 and 2). However, the milled fines achieved 28.6% to 30.8% P_2O_5 at 76.7% to 86.3% recovery in Tests 3 and 4 using a similar reagent scheme to Argiloso: sodium silicate (1.0 kg/t), starch (0.5 kg/t), and CF 167 collector (1.6–1.8 kg/t in rougher, 0.35 kg/t in cleaner).

Figure 13.3: Arenoso 38x0 µm Natural and Milled Fine Feedstocks – Benchtop Test Results



Source: Eriez - SAN 529281 MTR 20-203, 2021

13.2.1.2 Summary of 2021 Testing

The goal of this program was to evaluate the flotation performance of fine and ultra-fine materials (< 38 µm) from argiloso and arenoso and determine flowsheet conditions capable of achieving at least 28% P_2O_5 concentrate grade and 55% recovery. Natural fines were separated via 38- µm screening and accounted for ~46 to 48% of the material's P_2O_5 content. The remaining +38 µm material underwent milling to 80% passing 75 µm and was screened to produce standardized flotation feed sizes. Both benchtop mechanical and column flotation tests were conducted on these feeds. Column flotation showed superior performance, especially on milled 38x0 µm material:

- Argiloso (38x0 µm milled): 31.0% P_2O_5 at 85.1% recovery
- Arenoso (38x0 µm milled): 30.5% P_2O_5 at 83.7% recovery

For 75x38 µm feed the following performance was achieved:

- Argiloso: 28.6 to 31.8% grade at 86.4 to 90.8% recovery
- Arenoso: Avg. 31.8% grade at 87.3% recovery (across six tests)

Recommendations:

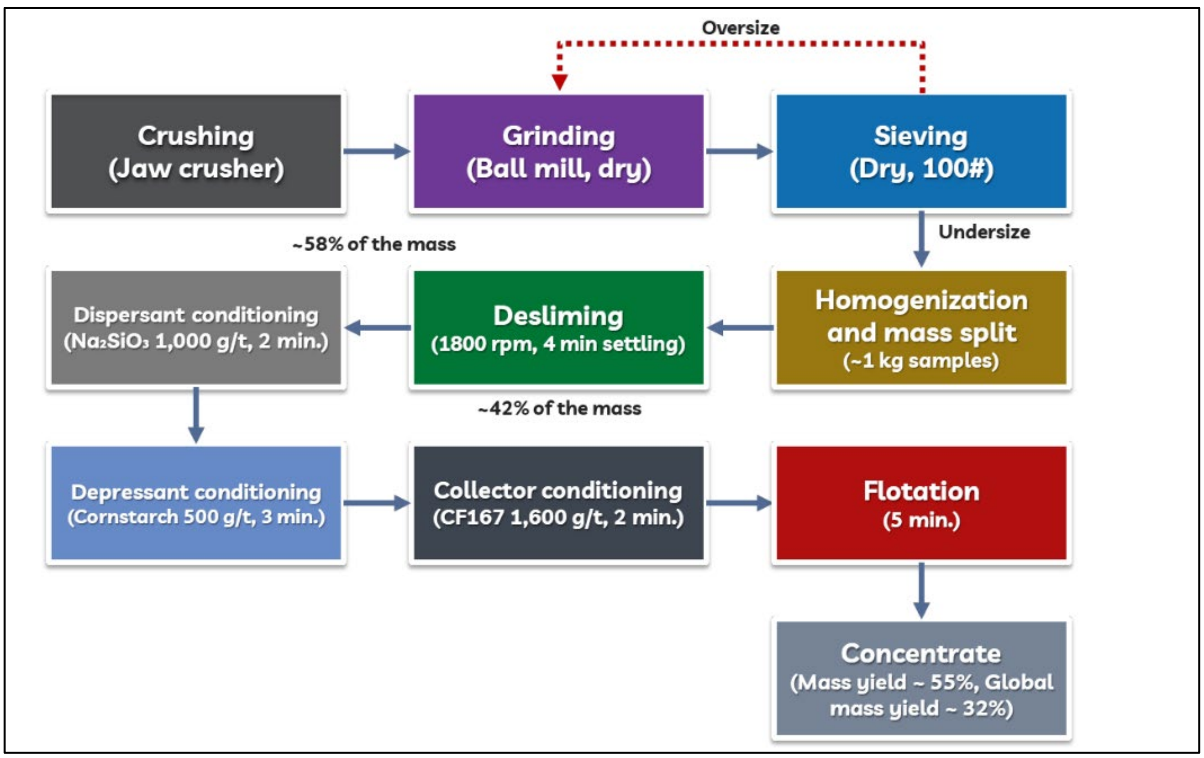
- Conglomerate and breccia: Given the strong results from argiloso and arenoso, similar flotation testing should be performed on the 240 kg of conglomerate and breccia material already received.
- Natural Fines (<38 µm): Due to their high P_2O_5 content, further mineralogical and reagent studies are warranted, including flowsheet development tailored to this fraction.

13.2.2 MINPROTECH – Technical Report (June 2023)

13.2.2.1 Methodology

As part of their testing campaign, MINPROTECH evaluated comminution, desliming, and flotation responses across varying particle sizes. Phosphate rock samples arrived bagged and were dried at 120 °C for 48 hours. After drying, the material was crushed using an Engendrar model 120080 jaw crusher and quartered into 7.7 kg batches via a Jones splitter. Granulochemical analysis was conducted on a subsample prior to milling. Figure 13.4 shows the experimental setup adopted in the tests.

Figure 13.4: MINPROTECH Experimental Setup



Source: MINPROTECH 2023

Samples were milled in a 30 x 30 cm ball mill operating at 70% critical speed using 150 steel balls. Milling continued in closed circuit with a 100# sieve until the entire sample passed below 100 mesh. Samples were then homogenized and quartered again to produce ~1.0 kg batches for flotation testing.

Before flotation, samples were stirred at 1,800 revolutions per minute (rpm) and allowed to settle for 4 minutes to remove slimes. Sodium silicate (1,000 g/t) was added as a dispersant, followed by cornstarch

(500 or 1,000 g/t) as a depressant. Three collectors were tested—CADM 22-292, CADM 22-293 (Clariant), and Custafloat CF 167 (Arrmaz), at various dosages and pH levels (9.5 and 10.5).

Initial results led to three additional tests, each with a rougher and cleaner stage. Two tests were performed at pH 9.5 and one at 10.5. CF 167 was dosed at 1,300 g/t in the rougher and an additional 300 g/t in the cleaner, with consistent use of 1,000 g/t for both depressant and dispersant. Figure 13.5 presents the flotation test results.

Figure 13.5: Flotation Test Results

Test	Feed (g)	Dispersant Na_2SiO_3 (g/t)	Dispersant Cond. (min)	Depressant dosage (g/t)	Depressant Cond. (min)	Collector	Collector dosage (g/t)	Collector Cond. (min)	pH	Cond. Speed (rpm)	Flotation speed (rpm)	Flotation time (min)	Slime (g)
1	955	1,000	2	500	3	CADM 22-292	250	2	10.5	1,200	1,000	5	451.615
2	1,000	1,000	2	500	3	CADM 22-292	500	2	9.5	1,200	1,000	5	424.462
3	950	1,000	2	500	3	CADM 22-292	500	2	9.5	1,200	1,000	5	423.762
4	955	1,000	2	500	3	CADM 22-292	750	2	10.5	1,200	1,000	5	298.733
5	1,163	1,000	2	500	3	CADM 22-292	750	2	9.5	1,200	1,000	5	465.891
6	1,000	1,000	2	500	3	CADM 22-292	1,000	2	10.5	1,200	1,000	5	412.349
7	1,035	1,000	2	500	3	CADM 22-292	1,000	2	9.5	1,200	1,000	5	438.394
8	925	1,000	2	500	3	CADM 22-293	250	2	9.5	1,200	1,000	5	407.947
9	1,020	1,000	2	500	3	CADM 22-293	250	2	10.5	1,200	1,000	5	408.245
10	985	1,000	2	500	3	CADM 22-293	500	2	9.5	1,200	1,000	5	397.610
11	1,120	1,000	2	500	3	CADM 22-293	500	2	10.5	1,200	1,000	5	491.582
12	970	1,000	2	500	3	CADM 22-293	750	2	9.5	1,200	1,000	5	443.021
13	965	1,000	2	500	3	CADM 22-293	750	2	10.5	1,200	1,000	5	424.409
14	950	1,000	2	1,000	3	CADM 22-292	500	2	10.5	1,200	1,000	5	386.718
15	1,005	1,000	2	1,000	5	CADM 22-292	500	2	10.5	1,200	1,000	5	400.161
16	930	1,000	2	1,000	3	CADM 22-292	500	2	9.5	1,200	1,000	5	386.019
17	945	1,000	2	1,000	5	CADM 22-292	500	2	9.5	1,200	1,000	5	380.052
18	1,070	1,000	2	1,000	3	CADM 22-293	750	2	9.5	1,200	1,000	5	443.855
19	1,030	1,000	2	1,000	3	CADM 22-293	750	2	10.5	1,200	1,000	5	416.139
20	910	1,000	2	500	3	Custafloat CF 167	1,600	2	9.5	1,200	1,000	5	380.908
21	1,000	1,000	2	500	3	Custafloat CF 167	1,600	2	10.5	1,200	1,000	5	398.172
22	1,025	1,000	2	500	3	Custafloat CF 167	1,000	2	9.5	1,200	1,000	5	422.779
23	1,025	1,000	2	500	3	Custafloat CF 167	1,000	2	10.5	1,200	1,000	5	432.415
24	975	1,000	2	500	3	Custafloat CF 167	1,300	2	9.5	1,200	1,000	5	408.530

Test	Feed (g)	Dispersant Na_2SiO_3 (g/t)	Dispersant Cond. (min)	Depressant dosage (g/t)	Depressant Cond. (min)	Collector	Collector dosage (g/t)	Collector Cond. (min)	pH	Cond. Speed (rpm)	Flotation speed (rpm)	Flotation time (min)	Slime (g)
25	980	1,000	2	500	3	Custafloat CF 167	1,300	2	10.5	1,200	1,000	5	478.141
26	955	1,000	2	500	3	Custafloat CF 167	1,300	2	9.5	1,200	1,000	5	381.526
27	900	1,000	2	500	3	Custafloat CF 167	1,600	2	10.5	1,200	1,000	5	337.196
28 Rougher	950	1,000	2	500	3	Custafloat CF 167	1,300	2	10.5	1,200	1,000	5	456.177
29 Cleaner	249	1,000	2	500	3	Custafloat CF 167	300	2	10.5	1,200	1,000	3	-
T01 - Rougher	1,065	1,000	2	500	1	Custafloat CF 167	1,300	2	9.5	1,200	1,000	5	-
T01 - Cleaner	-	-	-	-	-	Custafloat CF 167	300	2	9.5	1,200	1,000	3	-
T02 - Rougher	900	1,000	2	500	1	Custafloat CF 167	1,300	2	9.5	1,200	1,000	5	-
T02 - Cleaner	-	-	-	-	-	Custafloat CF 167	300	2	9.5	1,200	1,000	3	-
T03 - Rougher	1,025	1,000	2	500	1	Custafloat CF 167	1,300	2	10.5	1,200	1,000	5	-
T03 - Cleaner	-	-	-	-	-	Custafloat CF 167	300	2	10.5	1,200	1,000	3	-

Source: MINPROTECH 2023

13.2.2.2 Summary

Phosphate samples from Arraias, Brazil, were processed via milling and flotation to evaluate their beneficiation potential. The program targeted:

- P_2O_5 grade >24%
- Mass yield >40%
- Recovery >60%

These targets were achieved using:

- Sodium silicate (1,000 g/t)
- Cornstarch (1,000 g/t)
- Custafloat CF 167 (1,300 + 300 g/t)

Results:

- Mass yield: 37%
- Recovery: 91% P_2O_5

The results confirmed the effectiveness of the recommended reagent scheme. However, further validation through pilot-scale trials is strongly recommended before industrial implementation.

13.2.3 Eriez 2025 – SAN 222389

This laboratory program was undertaken to assess the flotation behavior of breccia from the Domingos deposit and determine the most effective column configuration using existing equipment on-site. The plant has the following available columns:

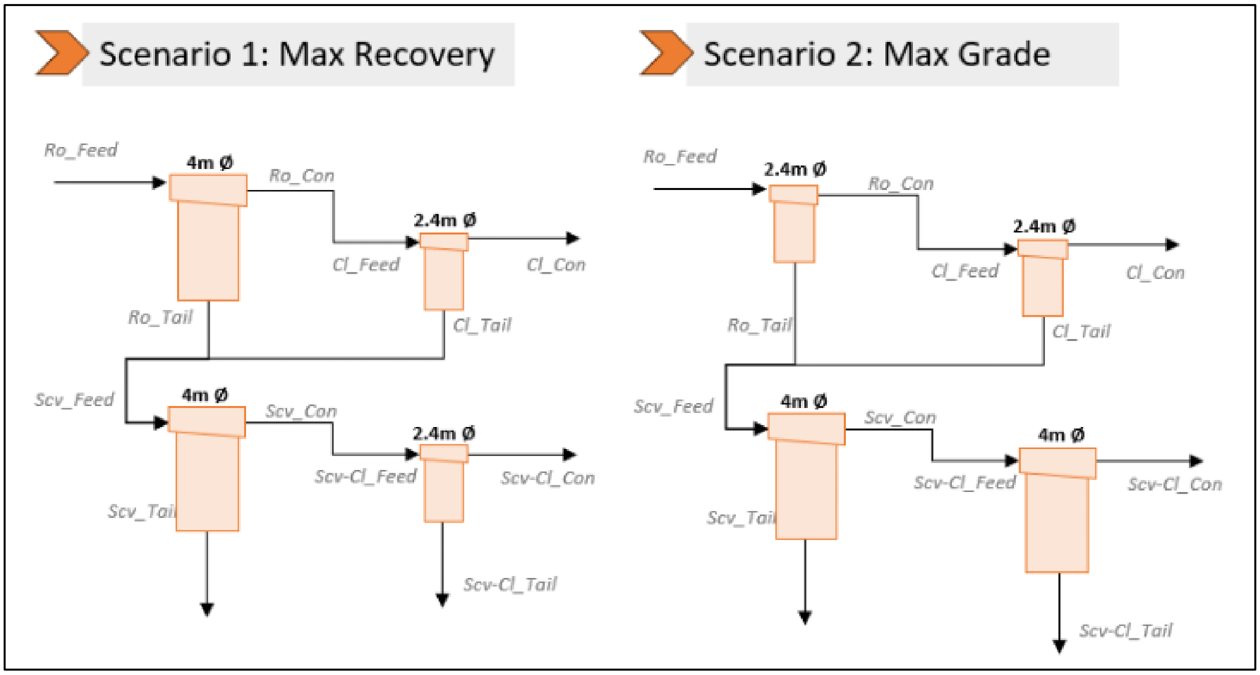
- Three (3) columns – 5.0 m diameter × 14 m height
- Two (2) columns – 4.0 m diameter × 14 m height
- Two (2) columns – 2.4 m diameter × 14 m height

The 5.0 m columns were not in service at the time of testing. Four of the columns could be utilized in various arrangements. Two testing scenarios were designed:

- Scenario 1: Maximize recovery while targeting a final concentrate grade of at least 28% P_2O_5.
- Scenario 2: Maximize final concentrate grade while maintaining an overall P_2O_5 recovery of at least 60%.

Figure 13.6 illustrates the proposed circuits for each scenario.

Figure 13.6: Maximize Recovery and Grade Circuit Configurations Tested



Source: Eriez - SAN 222389, 2025

The test campaign was conducted by Eriez to investigate the flotation response of an Itafos Arraias breccia, testing two different circuit configurations to optimize the current industrial flowsheet considering the 4 existing columns in the plant (2.4 Ø m and 4.0 Ø m column diameters), targeting the following scenarios:

- Scenario 1: Maximize recovery (with a final concentrate grade higher than 28% of P_2O_5).
- Scenario 2: Maximize grade (with an overall recovery of at least 60%).

The test sequence began with bulk crushing, followed by grinding and classification to generate consistent flotation feed. Reagent optimization was performed using bench-scale flotation cells, and further process refinement occurred in the Eriez lab-scale flotation column, equipped with Cavitation-Tube sparging technology. This Cav-Tube system recirculates pulp from the column base through a sparger where air is introduced. The high shear mixing produces fine air bubbles, enhancing particle collection efficiency during flotation.

13.2.3.1 Summary of Results

Two circuit configurations were tested using the 2.4 m and 4.0 m columns. The column feed, prepared by crushing, screening, and grinding, was found to contain 76% of its P_2O_5 content in particles finer than 53 µm.

Once the grade-recovery curve for the rougher-cleaner stage was established using a 3-inch Cav-Tube column, Scenario 1 became the focus, as Scenario 2 resulted in unacceptable recovery losses when attempting to push concentrate grades above 28%.

The result of the Bulk Rougher-Cleaner Stage was a final concentrate grade of 28% of P_2O_5, 60.8% of Recovery and 42.8% of Mass Pull. The material that did not float (57.2% of the rougher feed) reported to the underflow as tailings with an average grade of 13.5% of P_2O_5. The bulk tailings generated from the rougher and cleaner stages were stored for further evaluation in the Project: Scavenger and Scavenger-Cleaner stage.

The result of the bulk Scavenger, Scavenger-Cleaner Stage using a 2-inch diameter Column Eriez Cavitation-Tube Technology, was a final concentrate grade of 27.6% of P_2O_5, a recovery of 44.2% and a Mass Pull of 58.1%. Using the performance of the Rougher, Cleaner, Scavenger, and Scavenger-Cleaner stages, the overall mass balance simulated was 78.1%, overall recovery with a final concentrate grade of 27.9% (combined concentrate of Cleaner and Scavenger-Cleaner stages), and an overall Mass Pull of 55.1%. The other two products were the Scavenger Tail with a P_2O_5 grade of 9.2% corresponding to 36.0% of the mass and the Scavenger-Cleaner Tail with a P_2O_5 grade of 11.3% and representing just 8.9% of the total mass.

A revised configuration is recommended than what was originally proposed. The 2.4 Ø m column will not provide enough area for the flotation process. The smaller diameter columns introduced a higher carrying capacity that impacted the recovery of the stage by losing some material that could have been recovered when utilizing the larger diameter columns.

Eriez recommends implementation of the following circuit configuration to optimize the plant performance, which considers:

1. One (1) column of 5 Ø m for the Rougher Stage
2. One (1) column of 5 Ø m for the Cleaner Stage
3. Two (2) columns in parallel of 4 Ø m for the Scavenger Stage
4. One (1) column of 5 Ø m for the Scavenger-Cleaner Stage

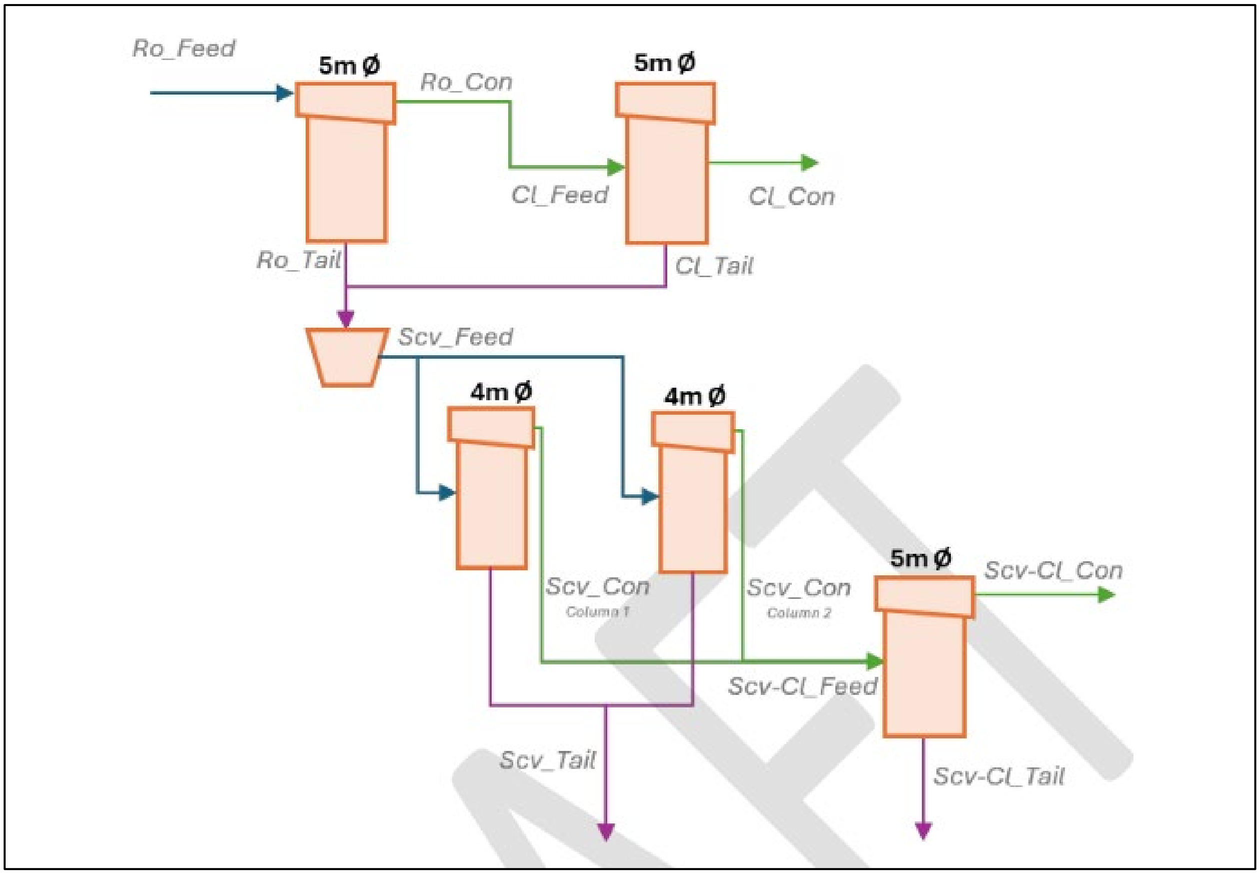
Industrial Application

The results suggest the originally proposed configuration is suboptimal. The 2.4 m columns proved inadequate due to limited flotation area and elevated carrying rates, which compromised recovery. Use of the larger 5.0 m columns is recommended to improve circuit efficiency and reduce material loss.

Figure 13.7 represents the Proposed Optimized Circuit:

1. 1 × 5.0 m column for Rougher
2. 1 × 5.0 m column for Cleaner
3. 2 × 4.0 m columns in parallel for Scavenger
4. 1 × 5.0 m column for Scavenger-Cleaner

Figure 13.7: Proposed Optimized Circuit



Source: Eriez - SAN 222389, 2025

13.2.4 Pocock Industrial – Arraias Tailings Dewatering

To support ongoing flowsheet development, flotation tailings were sampled and shipped to Pocock Industrial's lab in Salt Lake City, Utah. The material, received in slurry form at pH 7.94, was tested immediately using process water for all dilutions to prevent aging. The aim was to collect comprehensive data to guide the design and optimization of thickening and filtration equipment. Each sample underwent a complete suite of tests:

1. Characterization
2. Flocculant screening
3. Static and dynamic thickening
4. Viscosity measurements
5. Vacuum and pressure filtration trials

Thickening & Rheology Testing

Flocculant screening identified products capable of delivering acceptable clarity in the overflow, settling rates, and underflow handling. Once the preferred flocculant was selected, thickening trials defined:

- Flocculant dose and type
- Rise rate
- Hydraulic loading
- Torque requirements
- Overflow and underflow solids concentration
- Viscosity testing helped establish operational limits for underflow density, also informing pump and pipe design

Filtration Performance

Both vacuum and pressure filtration tests were conducted. Design criteria derived from the tests included:

- Cake bulk density
- Moisture content
- Filtration rate

Findings supported the suitability of standard and membrane-type plate filter presses over vacuum filtration due to better cake moisture control and stackability.

Design Summary

Thickening performance showed moderate sensitivity to flocculant dosage and feed solids concentration, meaning consistent operation requires careful monitoring of these parameters. In-line flocculation worked well, but if feed solids are above recommended levels, auto- or forced-dilution feed wells are advised to ensure effective flocculation:

- Flocculant concentrations: 0.1 to 0.2 g/L
- Aggressive mixing before the center-well is beneficial
- Overflow solids increase if under-flocculated or overloaded
- Underflow density depends on both retention time and rake performance. A robust rake drive (minimum torque rating of k = 45) is recommended to avoid mechanical limitations.

Flocculant & Filter Press Results

- The best-performing flocculant was SNF AN920VHR, a slightly anionic, high molecular weight polyacrylamide. It produced robust flocs and favorable settling behavior. Static settling tests indicated that a dosage of 60 g/t achieved good clarity and target underflow viscosity at 15–20% solids.
- Unit area requirements for high-rate thickeners ranged from 0.239 to 0.319 m^2/ metric tonne per day (MTPD) for reaching 60% underflow solids.
- Filter Cake Performance & Stackability
- Membrane filter presses, particularly when used after air-blow squeezing, produced cakes with 1.4% lower moisture and excellent stackability. Cakes from air-blow only methods sometimes discharged poorly or lacked structural integrity.
- Tested filter cloths (8 to 10 cubic feet per minute (cfm)/ft^2 mono-multi polypropylene) yielded good clarity and cake release. If ultra-clear filtrate is needed, the initial filtrate from each cycle should be recycled to the feed tank.

Final Recommendations:

- Pressure filtration is the preferred approach over vacuum filtration.
- Membrane-type presses further reduce moisture and improve cake consistency.
- A detailed economic analysis—factoring in capital, operations, labor, and potential downtime—is recommended to finalize equipment selection.
- All production rates reflect a 1.25 scale-up factor, based on 20-hour daily operation.

13.3 Ongoing Follow-Up Metallurgical Testing at Itafos Arraias

Itafos is actively carrying out follow-up metallurgical test work to better define processing pathways based on updated mine planning and the initial P_2O_5 grades observed in breccia. Recent geological assessments have also identified a secondary rock type (conglomerate) with potential to upgrade to a 28% P_2O_5 concentrate. Should this material prove unfeasible to process to that grade, preliminary results suggest it may still be suitable for use in an alternative fertilizer product. The current test work program includes the following components:

Lower-Grade Phosphatic Breccia Testing

As mine development expands into other deposits such as Coité and Cana Brava, the average grade of phosphatic breccia has been found to decrease—from 18% P_2O_5 at the Domingos Mine to approximately 16% P_2O_5, based on current Mineral Resource estimate. Flotation testing is being planned for this lower-grade breccia, starting with replication of the successful 2024 tests conducted at Eriez using 18% P_2O_5 samples. If these new tests do not yield a 28% P_2O_5 concentrate, additional beneficiation steps—such as pre-flotation desliming or alternative circuit configurations—may be explored.

Phosphatic Conglomerate Testing

Additional flotation trials are scheduled for the phosphatic conglomerate, which has an average P_2O_5 grade of 12%. If successful, these tests could substantially increase the Project's mineral resource estimates. The primary objective is to produce a concentrate with 28% P_2O_5 for use in single superphosphate (SSP) production. However, if this proves technically challenging, achieving a 20–22% P_2O_5 concentrate would still allow for the production of a partially acidulated fertilizer—an alternative product that has already shown strong market acceptance.

Domingos Breccia Hardness Evaluation

Recent mining activity has revealed that the breccia from the Domingos Mine, averaging 18% P_2O_5, is displaying increased hardness and a higher degree of apatite crystallization, particularly in the southern extent of the deposit. Comparative flotation testing is planned to assess whether this harder material will perform similarly to the materials tested in 2024.

14. Mineral Resource Estimates

This Item contains forward-looking information related to Mineral Resource estimates for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information including any significant differences from one or more of the material factors or assumptions that were set forth in this sub-item including geological and grade interpretations and controls, and assumptions and forecasts associated with establishing the reasonable prospects for eventual economic extraction.

14.1 Key Assumptions, Parameters, and Methods Used to Estimate the Mineral Resources

The following sub-items of this Item provide discussion of the key assumptions, parameters, and methods used to estimate the Mineral Resources to provide an understanding of the basis for the estimate and how it was generated.

14.1.1 Introduction

This Item contains a discussion of the key assumptions, parameters, and methods used to estimate the Mineral Resources on the Arraias Project. The purpose of the discussion is to provide readers with an understanding of the basis for the Mineral Resource estimate and how it was generated. The Mineral Resource estimates comply with all disclosure requirements for Mineral Resources that are set out in NI 43-101. The Item concludes with a general discussion on the extent to which the Mineral Resource estimates could be materially affected by any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors.

The Project's updated MRE was disclosed by Itafos on January 27, 2026, in a news release, titled "Itafos Completes Updated Preliminary Economic Assessment for the Arraias Phosphate Project" and this NI 43-101 Technical Report is in support of that disclosure.

The Mineral Resource estimate has been prepared in accordance with NI 43-101 and following the requirements of Form 43-101F1. The Mineral Resource estimate follows the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines (November 2019) and was classified following CIM Definition Standards (CIMDS) for Mineral Resources & Mineral Reserves (May 2014).

The QP for this Mineral Resource estimate is Ms. Jennifer Simper, P.Geo., an independent QP, as defined under NI 43-101 and an employee of WSP based in Calgary, Alberta, Canada. The effective date of this Mineral Resource estimate is November 14, 2025. The Mineral Resource estimates outlined in the following sections were derived from drill hole data and a lithological model (created in Leapfrog Geo software), using a 3D block modeling approach in Leapfrog Edge and Maptek Vulcan software.

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated, and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

14.1.2 Available Data

WSP evaluated all available drill holes from the MBAC 2008-2012, and 2017 campaigns, as well as the recent Itafos drilling from the 2020-2021 and 2025 drilling campaigns at Domingos during the data review, validation, and geological modelling process. All available exploration drilling data, including survey information, downhole geological units, gamma logs, sample intervals, and analytical results, were compiled by WSP and loaded into a MS Access database. Most of the exploration data was extracted from the MBAC 2008-2012 MS Access database and several MS Excel spread sheets from 2017 for Coité and Domingos, and for the drilling at Domingos in 2020-2021 and 2025, which were provided by Itafos.

As described in Item 12 of this TR, the QP performed data validation on the drill hole database records using available underlying data and documentation including, but not limited to, original drill hole descriptive logs, chip and core photos, and assay certificates from ALS and SGS.

Validated drilling data for Cana Brava comprised 158 drill holes (120 RC and 38 core holes) totaling 5,865 m of drilling and containing 5,105 analytical samples. Validated drilling data for Coité comprised 336 drill holes (214 RC and 122 core holes) totaling 8,780 m of drilling and containing 6,626 analytical samples. Validated drilling data for Domingos comprised 649 drill holes (328 RC and 321 core holes) totaling 20,471 m of drilling and containing 17,146 analytical samples. Validated drilling data for Near Mine comprised 771 drill holes (392 RC and 379 core holes) totaling 34,134 m of drilling and containing 24,463 analytical samples. Compiled supporting documentation included assay laboratory certificates, descriptive logs, core and chip photos, collar survey reports, geological maps, previous MBAC TRs and internal report documents.

Collar survey and downhole geological unit intervals, sample intervals, and analytical results were imported into a Leapfrog project, and correlation sections arranged as a graphic downhole log were prepared for each drill hole to facilitate visual inspection of each individual drill hole as well as to allow for a review of correlations of geological units, geometallurgical domains, and mineralized zones between adjacent drill holes during the data validation and interpretation processes.

Several drill holes were excluded from the final resource modeling database following the review and update process. Excluded drill holes were primarily chosen due to location relative to previous mining (Domingos, Coité), concerns over assay quality and reliability or lack of assay data, and location relative to the geological model boundaries. Table 14.1 summarizes the different drill holes by type and program for the four deposits. Table 14.2 summarizes the drill holes that were excluded from the final resource modeling database.

Table 14.1: Summary of Resource Modeling Database

Deposit	Drill Program	Core			RC		
		Number of Holes	Meters Drilled	Number of Assay Samples	Number of Holes	Meters Drilled	Number of Assay Samples
Cana Brava	2010	38	1,190	654	120	4,675	4,451
Coité	2008-2010	122	2,726	1,255	186	5,383	4,736
	2017				28	671	635
Domingos	2008-2012	40	1,259	963	306	10,790	10,070
	2017				22	568	547
	2020-2021	266	7,300	5,078			
	2025	15	554	488			
Near Mine	2008-2012	379	17,472	8,515	392	16,662	15,948
Total		**860**	**30,501**	**16,953**	**1,054**	**38,749**	**36,387**

Table 14.2: Summary of Drill Holes Excluded from Resource Model

Deposit	Drill Program	Core			RC		
		Number of Holes	Meters Drilled	Number of Assay Samples	Number of Holes	Meters Drilled	Number of Assay Samples
Cana Brava	2010	56	1,485	627	35	1,188	1,090
Coité	2008-2010	23	595	294	6	156	36
	2017				6	152	26
Domingos	2008-2012				26	793	542
	2017				62	1,609	999
	2020-2021	9	72				
	2025	18	830	162			
Near Mine	2008-2012	45	1,423	617	26	674	604
Total		**151**	**4,405**	**1,700**	**161**	**4,572**	**3,297**

The drill hole database included a table for the collar, downhole survey, lithology, and assay for each deposit. Drill holes were flagged as to whether they were included or excluded in the geological modeling.

14.1.3 Geological Modeling

Geological modeling and Mineral Resource estimation for Cana Brava, Coité, Domingos, and Near Mine was performed by or under the supervision of the WSP QP. The geological model was developed as a stratigraphically controlled geological domain model in Leapfrog and a geological domain constrained grade block model using both Leapfrog and Maptek Vulcan (Vulcan), which are computer-assisted geological, grade modeling, and estimation software applications.

The geological interpretation was used to control the Mineral Resource estimate by developing a contiguous stratigraphic model (all units in the sequence were modeled) of the host rock units deposited within the basin, the roof and floor contacts of which then served as hard contacts for constraining the grade interpolation

The following items provide details on the model extents as well as key components of the geological model developed in Leapfrog and Vulcan, namely the topographic model, structural model, and the grade model.

14.1.3.1 Topographic Model

The topographic model was developed from a combination of ASTER high resolution regional scale satellite data accessed via Global Mapper v24.1 software on October 30, 2024, and detailed orthophoto drone survey imagery data collected in early 2025 over three of the four deposits. The orthophoto imagery for Cana Brava, Domingos and Coité were converted into a digital elevation model (DEM) by Itafos personnel. The DEM data was imported into Global Mapper and reviewed for anomalies; it was then exported as an X-Y-Z grid and imported into Leapfrog to develop a merged topographic surface. The merged surface used ASTER data as the base, with the individual DEMs embedded. As presented in Item 12.1 of this TR, the topographic surface was reviewed against the surveyed drill hole collars for each of the deposits.

14.1.3.2 Stratigraphic Model

WSP interpreted that the mineralized zones were continuous between drill holes based on review of the drill hole data. It was also assumed that grades vary between drill holes based on a distance-weighted interpolator. This interpretation of geological continuity was used directly in guiding and controlling the Mineral Resource estimation. The mineralized zones were modeled as stratigraphically controlled phosphate deposits. As such, the primary directions of continuity for the mineralization are horizontally within the geometallurgical units.

The stratigraphic and structural model for the Project was developed using Leapfrog Geo v2024.1.2, then updated to v2025.1.1 with the additional Domingos drilling in October 2025. The stratigraphic model forms the basis of the estimation domain model. The Arraias Project covers several deposits across a very large area, so it was necessary to develop individual geological models for each of the deposit areas. The extents of each model are summarized in Table 14.3, and shown on Figure 14.3.

For each of the validated core and RC holes included in Table 14.1, WSP used the logged lithology, including lithology type, grain size and color, along with the oxides, P_2O_5, Al_2O_3, CaO, MgO, SiO_2, and LOI to assign the geometallurgical domains used to model each of the deposit areas. Drill holes were selected on 'fence sections' (i.e. connected one by one along the section lines), as shown in Figure 14.1, and the assigned domains were included in a Leapfrog 'Interpretation Table', under a field termed 'ore_WSP'. The Interpretation Table formed the basis of the geological models. This method allowed for dynamic adjustments to the correlated units, the effect of which could be observed in 'real-time' in cross-section and plan. An example correlation is illustrated in Figure 14.2.

Table 14.3: Summary of Arraias Geological Model Extents

Model	Origin (m)			Extent (m)		
	Easting (X)	Northing (Y)	RL (Z)	X	Y	Z
Cana Brava	304,143	8,575,488	497	1,915	2,357	219
Coité	308,151	8,571,673	603	1,325	1,779	155
Domingos	309,176	8,566,316	630	2,490	3,224	188
Near Mine	309,381	8,570,125	593	5,485	2,382	173

Figure 14.1: Example of Correlation Fence Sections in Leapfrog

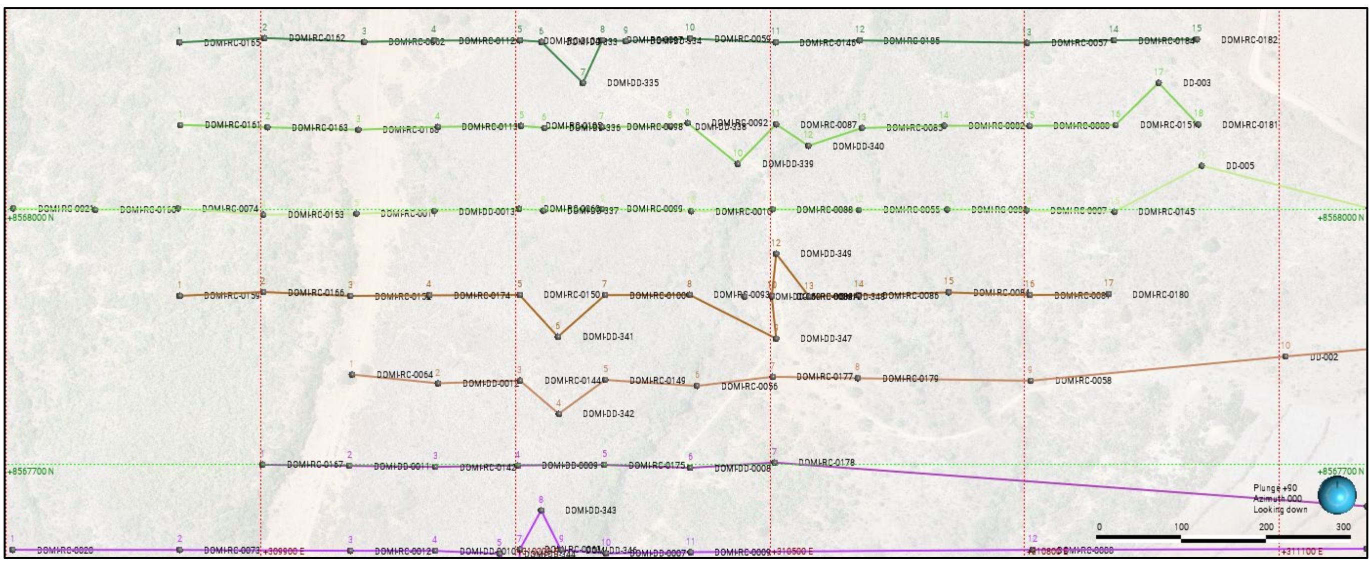
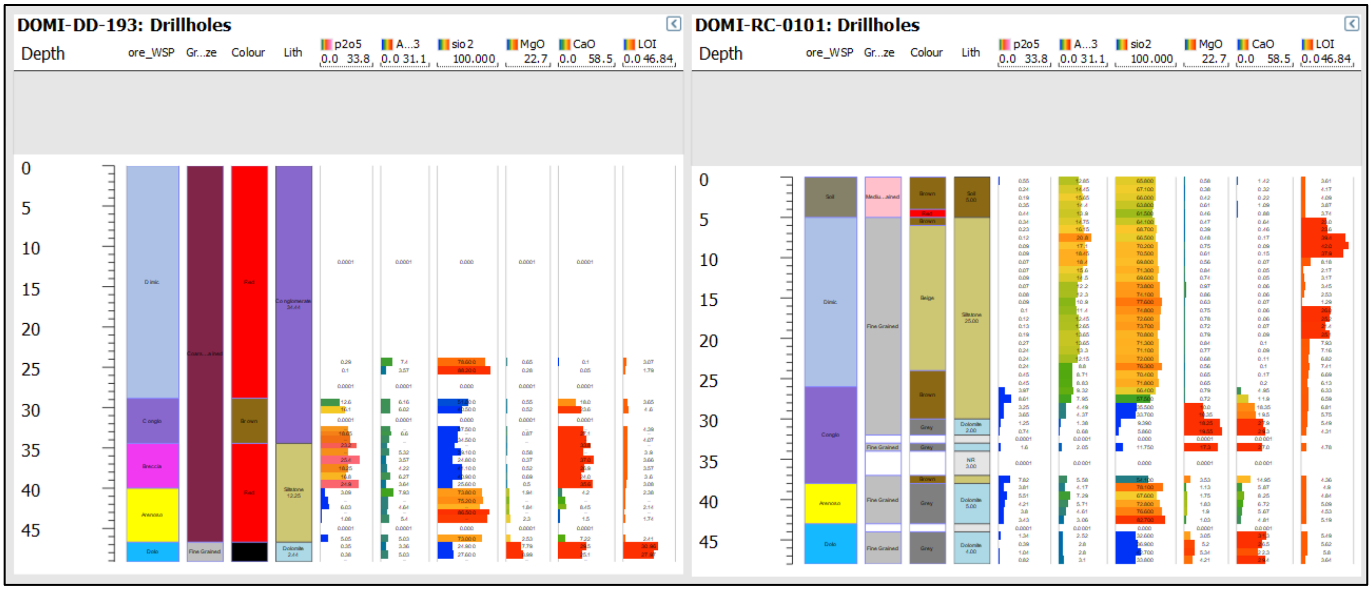
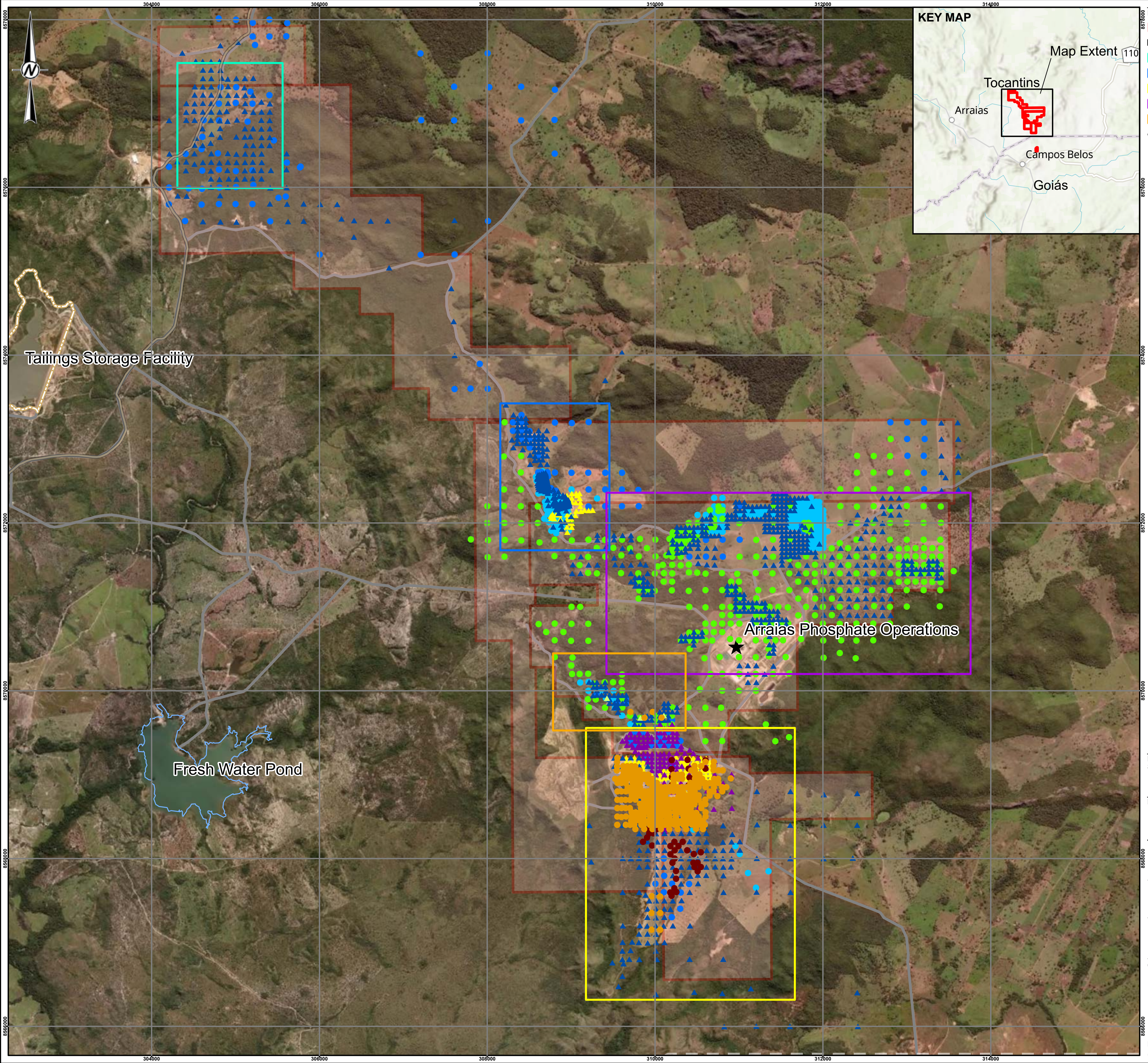


Figure 14.2: Example Correlation Section





LEGEND

ARRAIAS PERMITS

MODEL BOUNDS
- CANA BRAVA
- COITE
- DOMINGOS
- NEAR MINE
- SAO BENTO
- ROADS

RECENT ITAFOS DRILLING
- 2020-2021
- 2025

PRE-2020 CORE DRILLING
- 2008
- 2009
- 2010

PRE-2020 RC DRILLING
- 2009
- 2010
- 2012
- 2017

0 1,000 2,000
1:45,000 METERS

NOTE(S)
SAO BENTO IS A GEOLOGICAL MODEL ONLY, NO GRADE MODEL PREPARED

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
ARRAIAS GEOLOGICAL MODEL EXTENTS

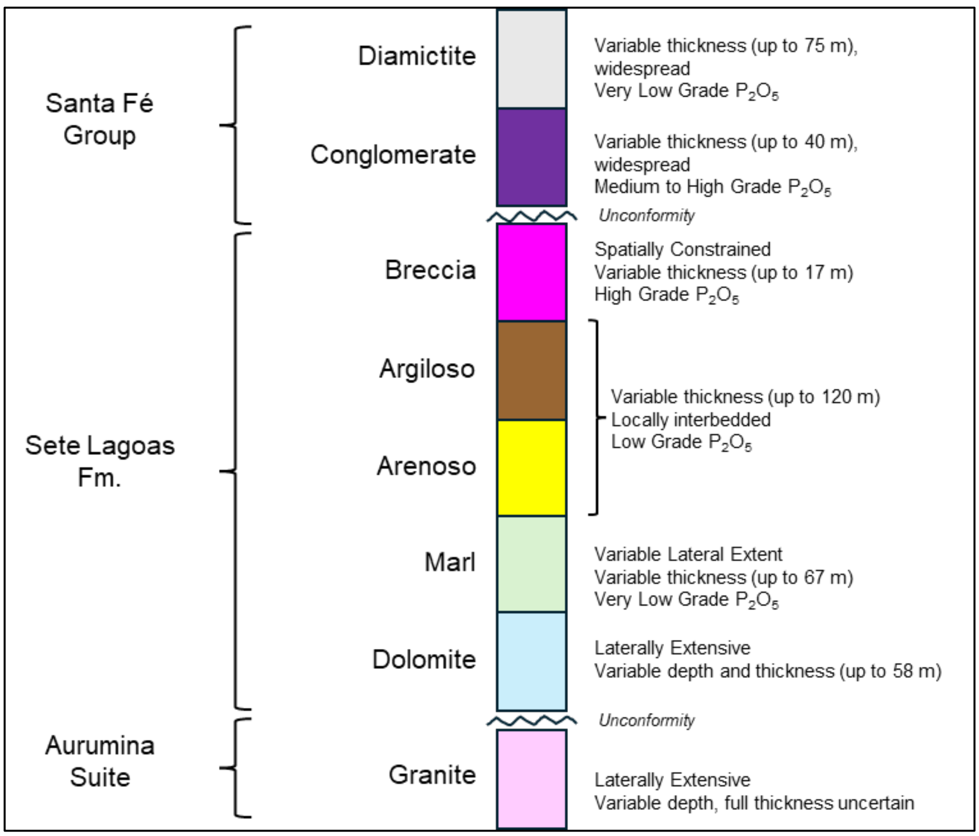
CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JS
REVIEWED	JD
APPROVED	JDW

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455		0	14.3

Each of the geological models was developed as a Leapfrog stratigraphic model, using the 'Deposit' surface chronology method, which is designed to model sedimentary depositional environments. This method produces a conformable model, in which the floor of the overlying unit is the roof of the underlying unit. WSP did not model the logged lithology from the MBAC drilling, which primarily included siltstones, carbonates, and minor references to breccia; however, the logged lithology was used to confirm the correlations, especially in the RC drill holes. The WSP correlated geometallurgical domains form the basis of each geological model. In total, nine units were modeled for each deposit, as shown in Figure 14.4. The domains were correlated stratigraphically, with the lowest unit being the granite basement, overlain by the sedimentary units of the Sete Lagoas formation and the Santa Fé Group. Units were allowed to 'pinch-out' where they were not correlated in the drill holes. Only the high-grade breccia and conglomerate domains were included in the block model, with all others assigned to waste.

Figure 14.4: Arraias Project Correlated Geometallurgical Domains



Source: WSP 2025

As described in Item 12 of this TR, the QP performed data validation on the drill hole database records using available underlying data and documentation including, but not limited to, original drill hole descriptive logs, core photos, and assay certificates.

14.1.4 Exploratory Data Analysis

14.1.4.1 Descriptive Statistics

WSP performed Exploratory Data Analysis (EDA) on the geological modeling databases for Cana Brava, Coité, Domingos, and Near Mine. The EDA was comprised of a statistical and geostatistical analysis of the verified data for each individual area to allow for evaluation of the statistical and spatial variability of the geological data. The EDA aided in the evaluation of the geological domains used in modeling by evaluating statistical and spatial trends in the data for the identified geological domains. Additionally, the EDA process supports the development of interpolation parameters used in geological modeling as well as aiding in establishing the Mineral Resource categorization parameters of Measured, Indicated, and Inferred.

The QP used Phinar Software X10-Geo™ (X10) software to develop descriptive univariate statistics, box and whisker graphs, histograms, probability statistics, and scatter plots for all the available assay data to evaluate the geological and grade data as part of both the data validation and modeling process. Key findings from the statistical analyses are as follows:

- P_2O_5 grades are highest in breccia, moderate to high in the conglomerate, low to moderate in arenoso and low in the argiloso (Figure 14.5).
- P_2O_5 shows a strong positive correlation with CaO for the argiloso, arenoso and breccia and moderate positive correlation with the conglomerate.
- SiO_2 is the key parameter in distinguishing the argiloso and arenoso units, with argiloso having typically greater than 75% SiO_2 and arenoso having less than 75% (Figure 14.6).

Summary statistics for each deposit are presented in Table 14.4 through Table 14.7.

Table 14.4: Summary Statistics for Cana Brava Estimation Variables

Grade Variable (wt. %)	Raw Sample Count	Min	Max	Mean	Variance	StDev	CV	Skewness	Kurtosis	Median
P_2O_5	5,134	0.01	27.60	1.60	8.34	2.89	1.81	3.67	18.15	0.38
Al_2O_3	5,134	0.01	30.30	10.10	32.22	5.70	0.56	-0.05	-0.96	10.50
CaO	5,134	0.01	50.10	5.44	81.91	9.05	1.67	1.98	3.10	0.61
Fe_2O_3	5,134	0.10	18.60	3.90	5.14	2.30	0.58	0.61	1.01	3.80
K_2O	5,134	0.01	7.32	1.98	2.23	1.49	0.75	0.71	-0.45	1.60
LOI	5,134	0.11	45.40	7.56	104.70	10.23	1.35	2.43	4.69	4.11
MgO	5,134	0.03	21.80	2.61	22.03	4.69	1.80	2.79	6.69	0.93
Na_2O	5,134	0.01	6.75	0.12	0.23	0.48	3.88	6.11	41.07	0.03
SiO_2	5,134	0.70	97.60	65.70	430.90	20.80	0.32	-1.25	1.39	69.20

Notes: StDev = standard deviation, CV = coefficient of variation

Table 14.5: Summary Statistics for Coité Estimation Variables

Grade Variable (wt. %)	Raw Sample Count	Min	Max	Mean	Variance	StDev	CV	Skewness	Kurtosis	Median
P_2O_5	6,657	0.01	33.07	2.53	19.21	4.38	1.73	3.03	10.57	0.62
Al_2O_3	5,955	0.01	26.90	10.10	22.78	4.80	0.47	-0.03	-0.90	9.90
CaO	5,955	0.01	47.10	5.51	75.41	8.68	1.58	2.01	3.47	1.18
Fe_2O_3	5,955	0.10	50.00	4.50	5.94	2.40	0.55	3.16	38.71	4.40
K_2O	5,955	0.02	7.14	2.26	2.53	1.59	0.70	0.71	-0.73	1.66
LOI	5,955	0.01	45.62	5.87	56.98	7.55	1.29	3.33	11.06	3.96
MgO	5,955	0.01	22.60	2.04	10.94	3.31	1.62	3.76	15.31	0.83
Na_2O	5,955	0.01	5.46	0.24	0.50	0.71	2.92	4.20	18.05	0.05
SiO_2	5,955	1.80	98.40	66.10	283.90	16.90	0.25	-1.38	2.37	69.10

Notes: StDev = standard deviation, CV = coefficient of variation

Table 14.6: Summary Statistics for Domingos Estimation Variables

Grade Variable (wt. %)	Raw Sample Count	Min	Max	Mean	Variance	StDev	CV	Skewness	Kurtosis	Median
P_2O_5	17,534	0.01	33.80	2.40	19.68	4.44	1.85	2.93	9.51	0.45
Al_2O_3	16,200	0.01	31.10	9.50	27.45	5.20	0.55	0.22	-0.86	8.90
CaO	16,200	0.01	49.40	6.68	104.90	10.24	1.53	1.49	1.02	0.47
Fe_2O_3	16,200	0.01	67.40	4.90	14.14	3.80	0.76	4.04	33.59	4.40
K_2O	16,200	0.01	6.98	1.89	1.97	1.40	0.74	1.17	0.65	1.47
LOI	16,232	0.01	46.84	7.94	105.60	10.28	1.29	2.28	4.01	4.23
MgO	16,200	0.01	31.56	2.58	19.99	4.47	1.73	2.77	7.00	0.82
Na_2O	16,175	0.01	4.64	0.13	0.22	0.47	3.49	5.81	34.70	0.03
SiO_2	16,200	0.01	100.00	63.00	437.10	20.90	0.33	-1.13	0.76	68.00

Notes: StDev = standard deviation, CV = coefficient of variation

Table 14.7: Summary Statistics for Near Mine Estimation Variables

Grade Variable (wt. %)	Raw Sample Count	Min	Max	Mean	Variance	StDev	CV	Skewness	Kurtosis	Median
P_2O_5	24,534	0.01	25.50	1.14	3.57	1.89	1.66	4.54	30.73	0.42
Al_2O_3	24,532	0.01	23.60	10.50	16.41	4.10	0.39	-0.57	-0.07	11.00
CaO	24,532	0.01	58.50	6.04	115.00	10.72	1.78	2.09	3.36	0.70
Fe_2O_3	24,532	0.10	61.00	4.80	6.04	2.50	0.51	3.80	44.33	4.80
K_2O	24,532	0.01	5.79	1.10	0.69	0.83	0.75	1.08	0.77	0.85
LOI	24,530	0.10	46.78	8.43	79.51	8.92	1.06	2.34	4.57	5.11
MgO	24,532	0.01	22.00	2.09	10.18	3.19	1.53	3.40	13.87	0.89
Na_2O	24,532	0.01	2.58	0.05	0.01	0.10	2.08	8.57	103.40	0.04
SiO_2	24,532	0.80	99.30	65.00	306.10	17.50	0.27	-1.63	2.37	69.90

Notes: StDev = standard deviation, CV = coefficient of variation

Figure 14.5: Box Plots for P_2O_5 (wt. %) by Domain and Deposit Area

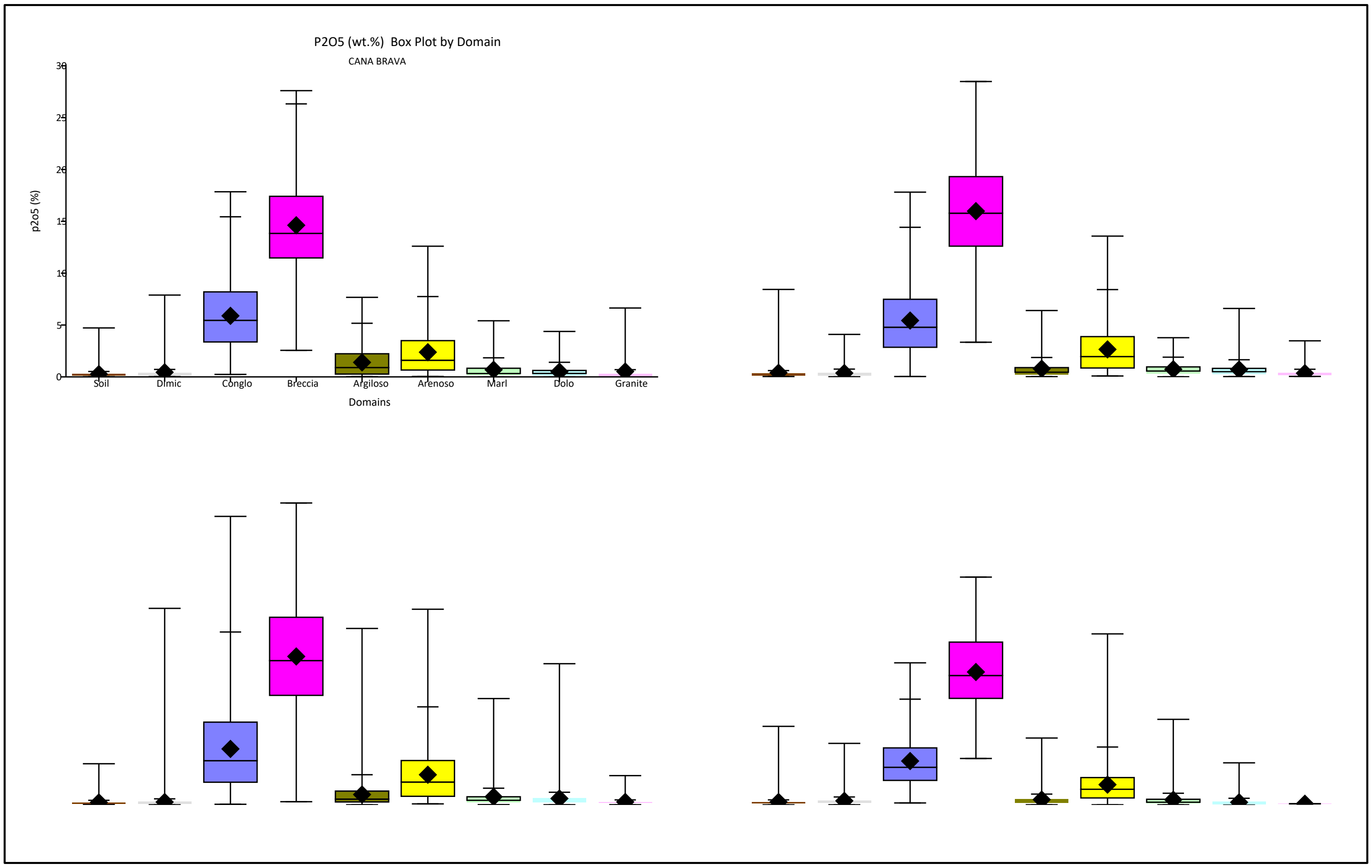
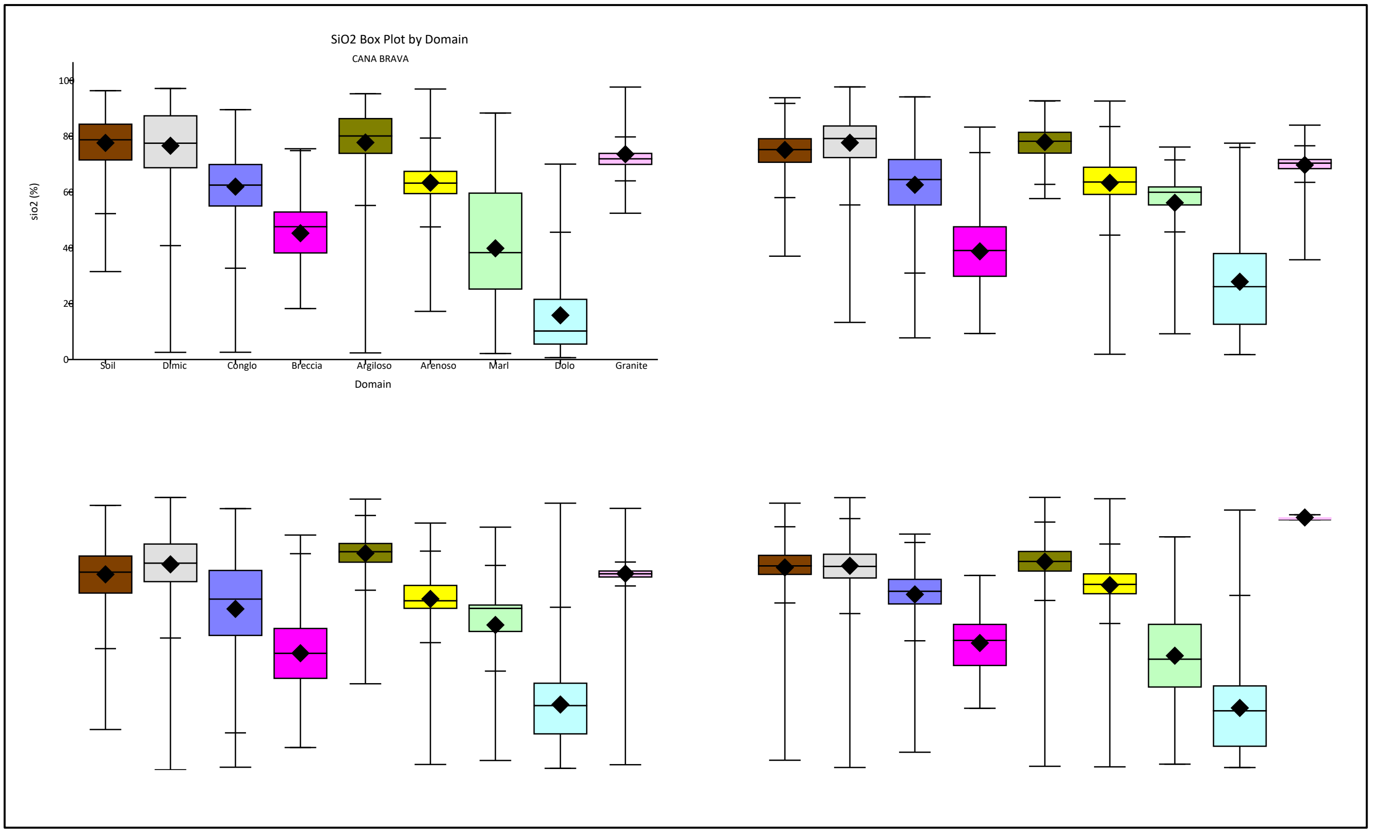


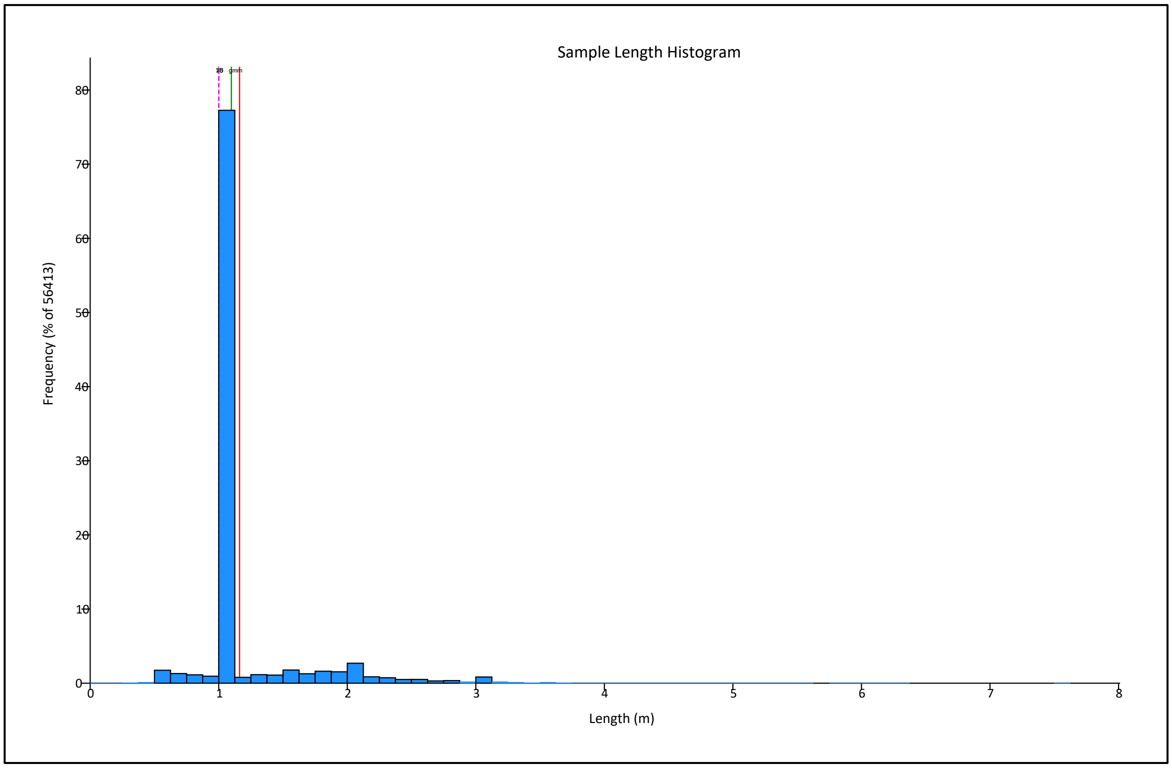
Figure 14.6: Box Plots for SiO_2 (wt. %) by Domain and Deposit



14.1.4.2 Sample Compositing

Compositing samples is a technique used to give each sample relatively equal length weighting to reduce the potential for bias due to uneven sample lengths. A histogram of the raw sample length was generated to determine the most common (modal) sample length (Figure 14.7)

Figure 14.7: Raw Sample Length Histogram



The modal length of 1.0 m, combined with the block size and mining bench height in the Z direction of 2.5 m, were considered when determining the final compositing length of 1.0 m. Compositing was completed in Leapfrog Edge and visually and statistically inspected in Vulcan. All composites were constrained by the estimation domain (i.e., composites were not allowed to span boundaries of units) with no overlaps. Small composites that occurred at domain boundaries or at the end of drill holes with a length of less than 0.5 m were added to the previous interval. The raw sample length and composite length statistics, for breccia and conglomerate combined, are summarized in Table 14.8.

Table 14.8: Raw and Composite Sample Length Statistics

Deposit	Raw Sample Length (m)				Composite Sample Length (m)			
	Sample Count	Mean	Minimum	Maximum	Sample Count	Mean	Minimum	Maximum
Cana Brava	439	1.11	0.90	3.85	490	1.00	0.59	1.38
Coité	1,062	1.11	0.35	5.97	1,181	1.00	0.50	1.45
Domingos	3,167	0.94	0.23	3.70	2,974	1.00	0.46	1.49
Near Mine	437	1.35	0.30	5.06	590	1.00	0.51	1.48

14.1.4.3 Outlier Evaluation

High-grade outlier data has the potential to bias local block model grades if they are not handled by grade capping (also known as top cutting) or otherwise restricting their influence through other estimation criteria. Log probability plots of the composited data were used to determine the capping values for P_2O_5, Al_2O_3, CaO and Fe_2O_3. Outliers were also examined in three-dimensional (3D) space to determine spatial correlation. A summary of the capping by deposit is presented in Table 14.9 for breccia, and Table 14.10 for conglomerate, and examples of the log probability plots are shown in Figure 14.8 and Figure 14.9.

Table 14.9 Grade Cap Per Variable and Capping Statistics by Deposit for Breccia

Deposit	Variable	Grade Cap (wt.%)	Number of Samples Capped	Uncapped Mean (wt. %)	Capped Mean (wt. %)	Uncapped CV	Capped CV
Cana Brava	P_2O_5	23	10	14.58	14.35	0.37	0.35
	Al_2O_3	14	5	7.82	7.77	0.37	0.35
	CaO		0	20.89	20.89	0.39	0.39
	Fe_2O_3	6	2	3.19	3.06	0.55	0.32
Coité	P_2O_5		0	18.56	18.56	0.30	0.30
	Al_2O_3	10	7	5.27	5.22	0.43	0.42
	CaO	45	2	27.33	27.31	0.31	0.31
	Fe_2O_3		0	2.35	2.35	0.44	0.44
Domingos	P_2O_5	32	3	16.82	16.81	0.37	0.37
	Al_2O_3	14	4	6.01	6.01	0.44	0.43
	CaO	48	2	23.99	23.98	0.38	0.38
	Fe_2O_3		0	2.81	2.81	0.46	0.46
Near Mine	P_2O_5		0	16.74	16.74	0.35	0.35
	Al_2O_3	14	12	6.17	6.17	0.44	0.44
	CaO		0	24.02	24.02	0.37	0.37
	Fe_2O_3	8	7	2.86	2.80	0.58	0.46

Notes: CV = coefficient of variation

Table 14.10: Grade Cap Per Variable and Capping Statistics by Deposit for Conglomerate

Deposit	Variable	Grade Cap (wt.%)	Number of Samples Capped	Uncapped Mean (wt. %)	Capped Mean (wt. %)	Uncapped CV	Capped CV
Cana Brava	P_2O_5		0	5.86	5.86	0.57	0.57
	Al_2O_3	20	14	10.66	10.58	0.44	0.42
	CaO	22	4	8.47	8.41	0.63	0.61
	Fe_2O_3	8	3	3.84	3.82	0.39	0.36
Coité	P_2O_5	17	3	6.31	6.30	0.61	0.61
	Al_2O_3	15	9	6.69	6.68	0.52	0.52
	CaO	25	14	10.83	10.70	0.62	0.59
	Fe_2O_3	12	6	3.69	3.58	0.76	0.52
Domingos	P_2O_5	23	16	6.53	6.51	0.77	0.76
	Al_2O_3	18	6	6.56	6.56	0.54	0.53
	CaO	38	8	11.83	11.82	0.72	0.72
	Fe_2O_3		0	3.76	3.76	0.48	0.48
Near Mine	P_2O_5	22	27	6.27	6.26	0.71	0.71
	Al_2O_3	20	16	7.61	7.60	0.52	0.52
	CaO	30	85	10.76	10.71	0.72	0.70
	Fe_2O_3	13	15	4.01	3.97	0.56	0.47

Notes: CV = coefficient of variation

Figure 14.8: Log Probability Plot of P_2O_5 (wt. %) for Breccia – Domingos

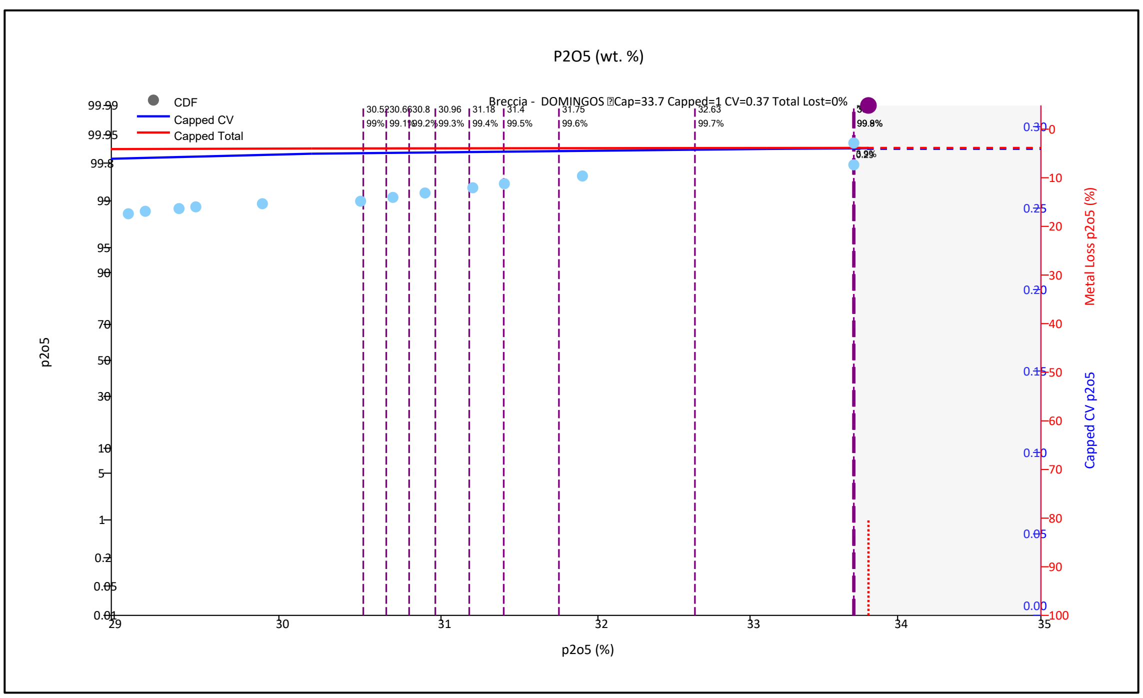
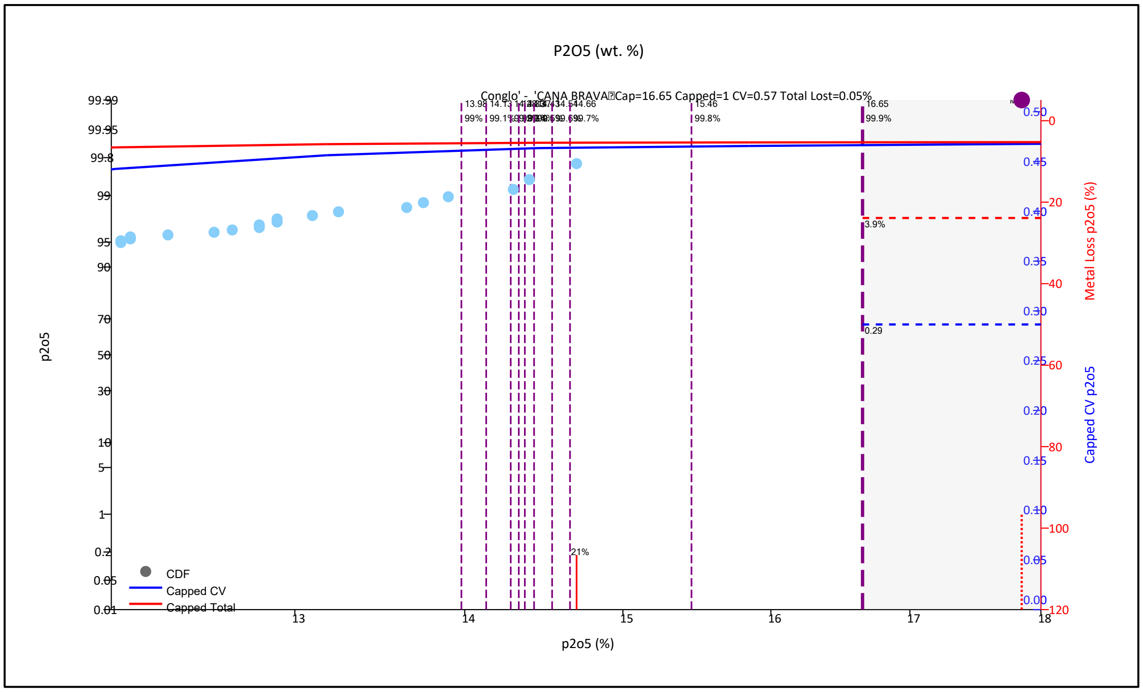


Figure 14.9: Log Probability Plot of P_2O_5 (wt. %) for Conglomerate – Cana Brava



14.1.4.4 Domain Statistics

A second phase of EDA was undertaken in X10 once the drill hole samples were composited within the estimation domains. To allow for the evaluation of trends and patterns in the domained data, the QP developed descriptive univariate statistics as well as a series of statistical plots including histograms, box and whisker plots, and probability plots for each variable in each domain. A summary of the descriptive statistics for the capped composited sample populations for breccia and conglomerate by deposit are shown in Table 14.11 and Table 14.12, respectively. Figure 14.10 and Figure 14.11 show box plots for the capped P_2O_5 by deposit for breccia and conglomerate, respectively.

Table 14.11: Descriptive Statistics for Capped – Composited Samples by Deposit for Breccia

Deposit	Grade Variable (wt. %)	Raw Sample Count	Min	Max	Mean	Variance	StDev	CV	Skewness	Kurtosis	Median
Cana Brava	P_2O_5	109	2.56	23.00	14.36	24.88	4.99	0.35	0.03	-0.23	14.00
	Al_2O_3	109	2.10	14.00	7.80	7.69	2.80	0.36	0.43	-0.10	7.70
	CaO	109	2.80	39.90	20.92	67.17	8.20	0.39	0.37	0.22	19.55
	Fe_2O_3	109	1.00	6.00	3.10	0.98	1.00	0.32	0.53	0.26	3.10
	MgO	109	0.26	2.03	0.93	0.16	0.40	0.43	0.43	-0.45	0.89
	SiO_2	109	18.30	75.50	45.30	140.80	11.90	0.26	-0.39	-0.13	43.50
Coité	P_2O_5	310	3.88	33.07	18.55	29.39	5.42	0.29	0.03	-0.16	18.36
	Al_2O_3	264	1.50	10.00	5.20	4.56	2.10	0.41	0.32	-0.59	5.10
	CaO	264	5.66	45.00	27.30	69.56	8.34	0.31	0.03	-0.43	26.80
	Fe_2O_3	264	0.70	5.00	2.30	1.01	1.00	0.43	0.47	-0.37	2.10
	MgO	264	0.17	9.98	0.68	0.74	0.86	1.26	8.79	90.20	0.51
	SiO_2	264	10.40	83.90	39.10	159.20	12.60	0.32	0.11	0.14	36.80
Domingos	P_2O_5	709	0.35	32.00	16.63	35.19	5.93	0.36	0.13	-0.42	16.20
	Al_2O_3	640	1.50	14.90	6.00	6.60	2.60	0.43	0.77	0.25	5.50
	CaO	640	1.64	48.00	23.89	74.91	8.66	0.36	0.14	-0.42	23.00
	Fe_2O_3	640	0.70	13.40	2.80	1.57	1.30	0.45	1.47	7.45	2.60
	MgO	640	0.21	10.55	0.88	0.70	0.84	0.96	6.11	52.79	0.68
	SiO_2	640	8.20	86.20	42.80	167.50	12.90	0.30	-0.01	-0.17	40.60
Near Mine	P_2O_5	175	5.19	25.50	14.81	19.11	4.37	0.30	0.09	-0.58	14.48
	Al_2O_3	175	1.70	14.00	6.60	6.63	2.60	0.39	0.37	-0.37	6.50
	CaO	175	7.35	38.40	21.40	44.40	6.66	0.31	0.11	-0.61	20.90
	Fe_2O_3	175	1.10	8.00	3.20	2.55	1.60	0.50	1.31	1.55	2.80
	MgO	175	0.05	6.23	1.25	1.81	1.35	1.08	1.62	1.71	0.74
	SiO_2	175	23.10	69.70	46.00	107.50	10.40	0.23	-0.13	-0.54	44.80

Notes: StDev = standard deviation, CV = coefficient of variation

Table 14.12: Descriptive Statistics for Capped – Composited Samples by Deposit for Conglomerate

Deposit	Grade Variable (wt. %)	Raw Sample Count	Min	Max	Mean	Variance	StDev	CV	Skewness	Kurtosis	Median
Cana Brava	P_2O_5	381	0.24	17.85	5.89	11.35	3.37	0.57	0.50	-0.25	5.46
	Al_2O_3	381	0.50	20.00	10.60	18.56	4.30	0.41	0.18	-0.26	10.00
	CaO	381	0.16	22.00	8.38	26.53	5.15	0.61	0.55	-0.29	7.49
	Fe_2O_3	381	0.30	8.00	3.80	1.79	1.30	0.35	0.07	0.28	3.80
	MgO	381	0.14	20.80	1.30	4.68	2.16	1.66	5.69	37.37	0.85
	SiO_2	381	2.60	89.50	61.90	129.40	11.40	0.18	-0.89	2.71	60.40
Coité	P_2O_5	871	0.04	19.00	6.27	14.55	3.81	0.61	0.70	-0.13	5.54
	Al_2O_3	763	0.01	15.00	6.70	11.98	3.50	0.52	0.59	-0.24	6.30
	CaO	763	0.02	25.00	10.62	39.17	6.26	0.59	0.52	-0.58	9.53
	Fe_2O_3	763	0.20	12.00	3.60	3.34	1.80	0.51	1.73	5.37	3.30
	MgO	763	0.13	19.60	1.67	8.04	2.84	1.70	3.69	14.44	0.91
	SiO_2	763	7.80	94.80	63.20	184.80	13.60	0.22	-1.08	2.05	61.10
Domingos	P_2O_5	2,398	0.06	23.00	6.26	22.11	4.70	0.75	0.96	0.40	5.00
	Al_2O_3	2,108	0.04	21.40	6.60	12.48	3.50	0.54	0.62	0.11	6.10
	CaO	2,108	0.02	38.00	11.66	67.22	8.20	0.70	0.56	-0.56	10.15
	Fe_2O_3	2,108	0.10	15.70	3.80	3.23	1.80	0.47	1.02	2.72	3.50
	MgO	2,108	0.06	21.40	2.74	19.39	4.40	1.61	2.43	5.08	1.23
	SiO_2	2,108	1.20	95.90	59.10	349.20	18.70	0.32	-0.84	0.37	54.20
Near Mine	P_2O_5	415	0.27	15.90	4.92	9.34	3.06	0.62	0.93	0.63	4.32
	Al_2O_3	415	0.40	18.40	10.50	6.93	2.60	0.25	-0.35	1.36	10.60
	CaO	415	0.03	30.00	7.28	26.94	5.19	0.71	1.49	3.52	6.34
	Fe_2O_3	415	0.50	13.00	4.70	2.31	1.50	0.32	1.03	3.55	4.60
	MgO	415	0.13	18.50	1.65	5.13	2.26	1.37	3.90	20.37	0.97
	SiO_2	415	6.40	81.30	63.50	88.32	9.40	0.15	-2.43	10.64	62.30

Notes: StDev = standard deviation, CV = coefficient of variation

Figure 14.10: Box Plot for Capped P_2O_5 (wt. %) by Deposit – Breccia

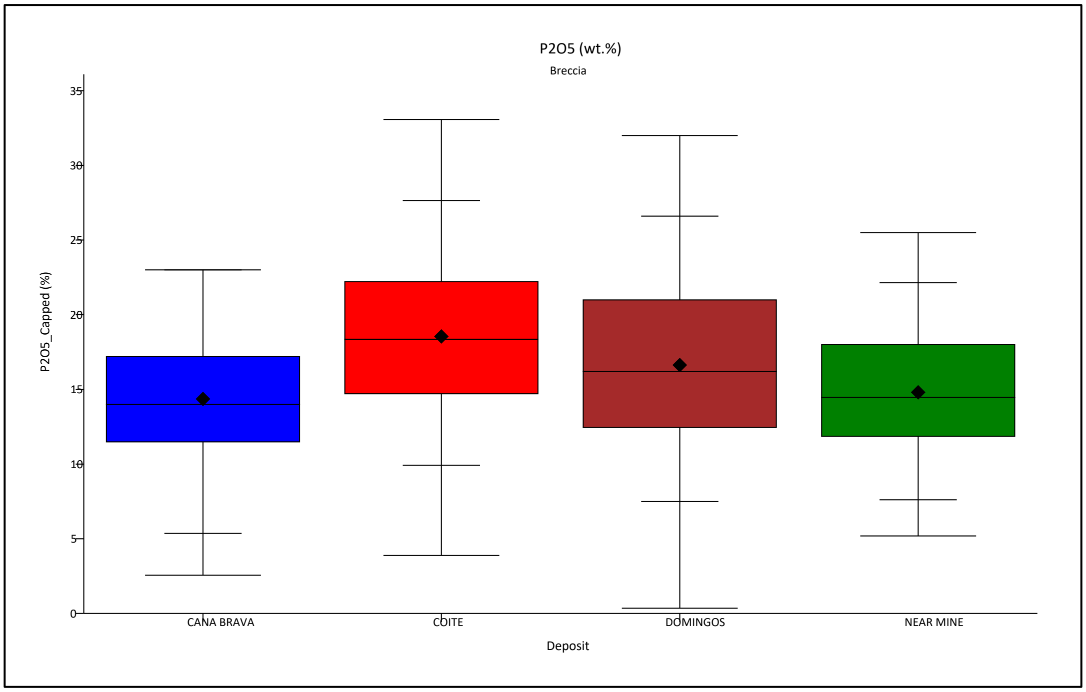
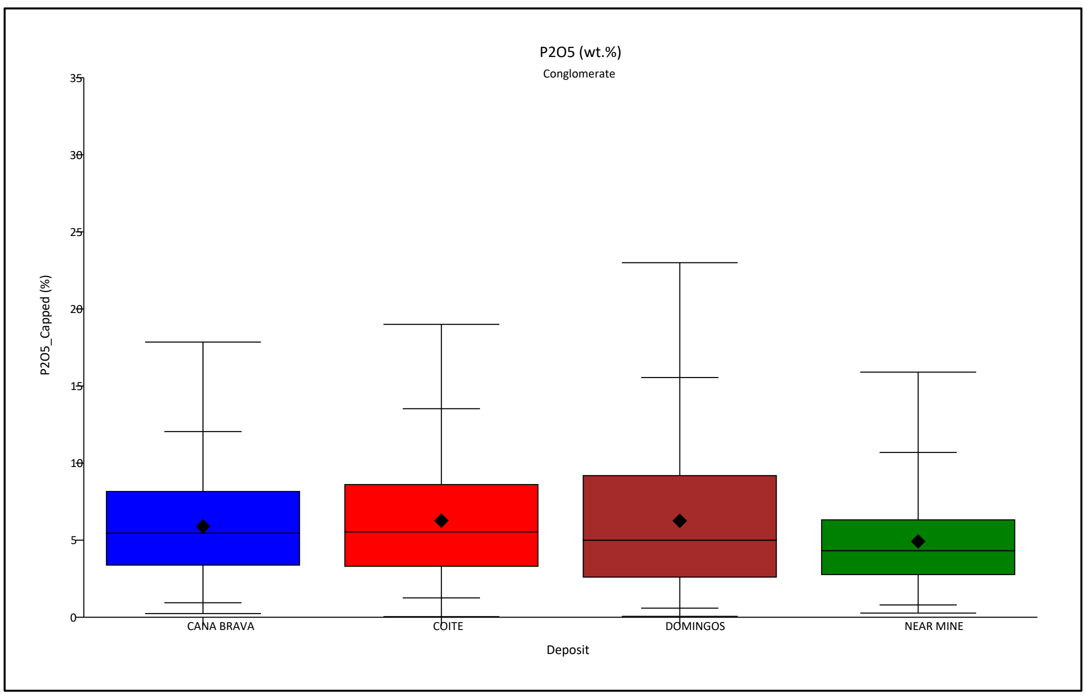


Figure 14.11: Box Plot for Capped P_2O_5 (wt. %) by Deposit – Conglomerate



14.1.5 Spatial Continuity

The QP evaluated the spatial continuity of mineralization using variography. Experimental semi-variograms were generated using Leapfrog Edge for P_2O_5, Al_2O_3, and CaO for the breccia and conglomerate domains for Cana Brava, Domingos, and Coité. Domingos was the most advanced deposit in terms of recent close-spaced core drill holes and has been logged and sampled in accordance with the geometallurgical domains identified during the 2020-2021 drilling program. The other three deposits were correlated using only the pre-2020 drilling, and the logging of these drill holes were primarily focused on the siltstones.

3D directional variography was completed on drill hole composites of capped assay data. The 3D directional-specific investigations on each domain yielded best-fit models along orientations that correspond to the mean strike and dip of each domain to evaluate potential directional anisotropy for the grade parameters in the breccia and conglomerate domains.

The experimental variograms were fitted using a two-structure spherical variogram model. A summary of the variogram model parameters and grade parameters for breccia and conglomerate, is presented in Table 14.13. Example variography for Domingos breccia and conglomerate are presented in Figure 14.12 and Figure 14.13, respectively.

As there were not enough samples to produce meaningful variography results for the breccia and conglomerate domains in the three other deposit areas, the QP chose to use the Domingos variography as the basis for Cana Brava, Coite, and Near Mine estimate. Variography will be updated for each deposit as more drilling takes place in the future.

Figure 14.12: Domingos Breccia Variography

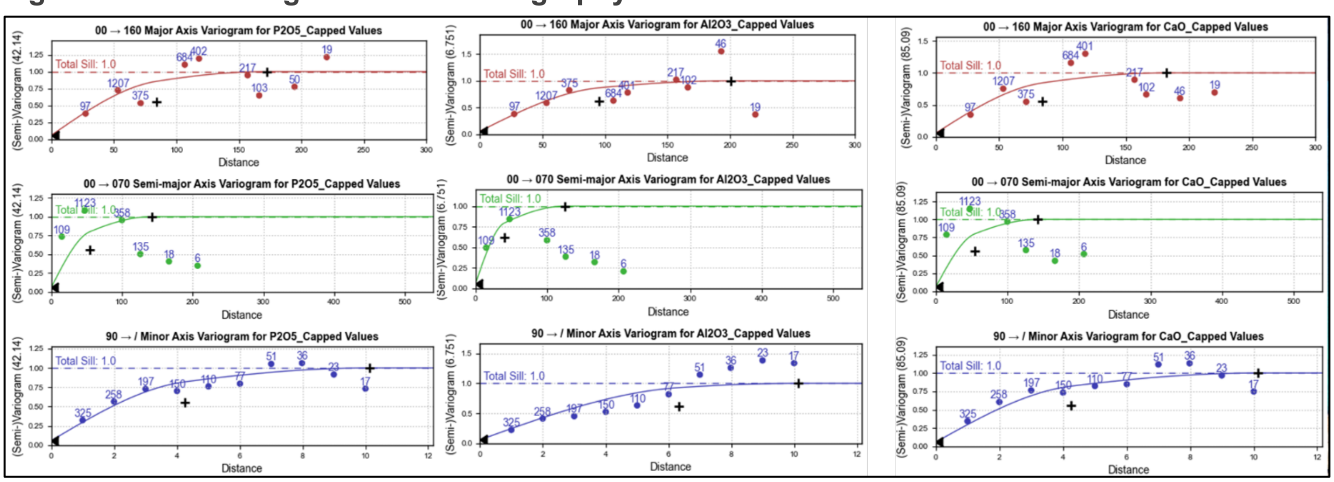


Figure 14.13: Domingos Conglomerate Variography

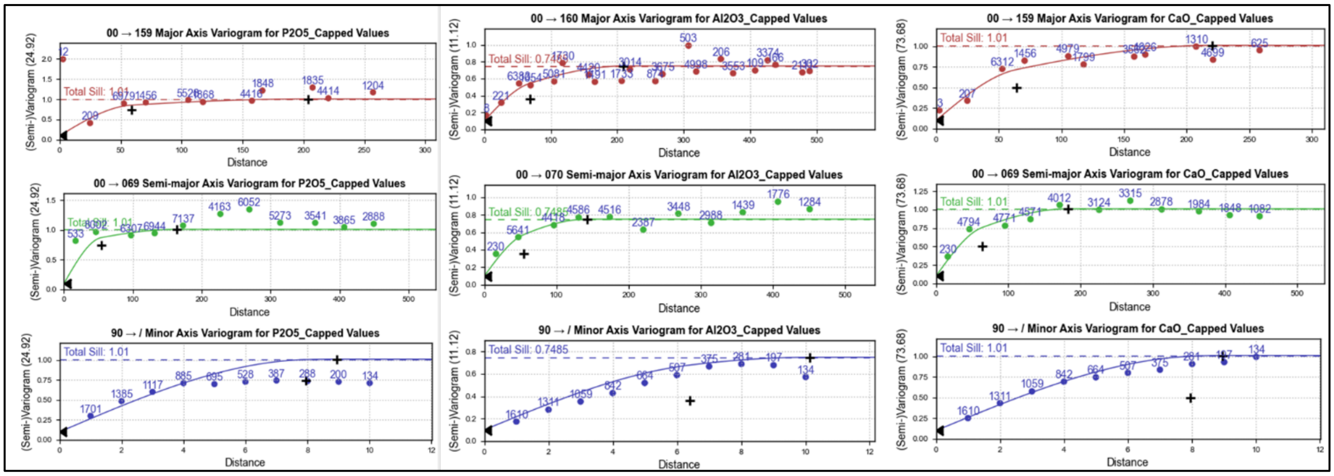


Table 14.13: Summary of Domingos Variogram Parameters

Variable	Domain	Normalised Nugget	Structure 1				Structure 2				Rotation		
			Normalised sill	Major	Semi-major	Minor	Normalised sill	Major	Semi-major	Minor	Dip	Dip Azi.	Pitch
Al_2O_3	Breccia	0.06	0.56	95	40	6	0.38	200	125	10	0	0	70
CaO		0.06	0.50	84	54	4	0.44	182	143	10	0	0	70
Fe_2O_3		0.06	0.50	84	54	4	0.44	172	143	10	0	0	70
MgO		0.06	0.50	84	54	4	0.44	172	143	10	0	0	70
P_2O_5		0.06	0.50	84	54	4	0.44	172	143	10	0	0	70
SiO_2		0.06	0.50	84	54	4	0.44	172	143	10	0	0	70
Al_2O_3	Conglomerate	0.10	0.26	68	54	6	0.39	209	143	10	0	0	70
CaO		0.10	0.40	64	64	8	0.51	220	183	9	0	0	69
Fe_2O_3		0.10	0.65	59	54	8	0.27	204	164	9	0	0	69
MgO		0.10	0.65	59	54	8	0.27	204	164	9	0	0	69
P_2O_5		0.10	0.65	59	54	8	0.27	204	164	9	0	0	69
SiO_2		0.10	0.65	59	54	8	0.27	204	164	9	0	0	69

Notes: DipAzi = dip azimuth

14.1.6 Grade Model

This sub-Item contains forward-looking information related to density and grade for the Cana Brava, Coité, Domingos, and Near Mine deposits. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information include any significant differences from one or more of the material factors or assumptions that were set forth in this sub-item including: actual in-situ characteristics that are different from the samples collected and tested to date, equipment, and operation performance that yield different results from current test work results.

WSP developed new 3D block models for Cana Brava, Coité, Domingos, and the Near Mine deposits using Leapfrog Edge and Vulcan conventional block modeling tools. The block model spatial extents and block size parameters for the models are presented in Table 14.14. Sub-blocking (or block splitting) was used along lithology boundaries, and within the area of the model with increased drill hole density. The model block size parameters were driven by drill hole spacing and using guidance from the Itafos and WSP mining engineering teams based on current mining methods and the selective mining unit at Domingos.

Table 14.14: Block Model Spatial Extents and Block Size Parameters for Each Model

Deposit	Direction	Origin (m)	Extent (m)	Parent Block Size (m)	Sub-Block Size (m)
Cana Brava	Easting (X)	304,301	1,260	10.0	2.5
	Northing (Y)	857,998	1,490	10.0	2.5
	RL (Z)	521	168	2.5	0.6
Coité	Easting (X)	308,155	1,300	10.0	2.5
	Northing (Y)	8,571,675	1,750	10.0	2.5
	RL (Z)	625	195	2.5	0.6
Domingos	Easting (X)	309,176	2,490	10.0	2.5
	Northing (Y)	8,566,316	3,240	10.0	2.5
	RL (Z)	643	263	2.5	0.6
Near Mine	Easting (X)	309,420	4,340	10.0	2.5
	Northing (Y)	8,570,200	2,160	10.0	2.5
	RL (Z)	630	278	2.5	0.6

14.1.6.1 Model Extents

The Mineral Resource evaluation presented in this TR covers an area of approximately 187 ha for Cana Brava, 228 ha for Coité, 807 ha for Domingos, and 937 ha for Near Mine. The models were constructed in SAD69 coordinate system. All models were constructed in metric units and model axes were oriented north-south and east-west; the models were not rotated.

The Mineral Resource plan dimensions, defined by the spatial extent of the drilling and constrained to within the lease boundaries were approximately 1,260 m east-west by 1,490 m north-south for Cana Brava, approximately 1,300 m east-west by 1,750 m north-south for Coité, approximately 2,490 m east-west by 3,240 m north-south for Domingos, and approximately 4,340 m east-west by 2,160 m north-south for Near Mine. The upper and lower limits of the Mineral Resource span from surface, where the mineralized units outcrop locally, through to a maximum depth of 165 m below surface for Cana Brava, 195 m below surface for Coité, 260 m below surface for Domingos, and 280 m below surface for Near Mine. Model extents are as shown in Figure 14.3.

14.1.6.2 Block Model Definition

Geological and grade parameter fields for the block models are summarized in Table 14.15; default (null) value of -99 have been assigned to numerical block parameters. All four block models had the same parameters.

Table 14.15: Block Model Fields and Parameters

Variable	Default Value	Default Value	Description
class	-99	integer	Resource Class Int. 1 = Mea, 2 = Ind, 3 = Inf
class_txt	null	name	Resource Class Text
density	-99	double	breccia = 2.65, conglo = 1.45
domains_num	-99	integer	breccia = 2, conglo = 1
eng_al2o3	-99	double	capped al2o3
eng_cao	-99	double	capped cao
eng_fe2o3	-99	double	capped fe2o3
eng_mgo	-99	double	mgo
eng_p2o5	-99	double	capped p2o5
eng_sio2	-99	double	sio2
mined	0	integer	0 = unmined, 1 = current mining, 2 = historically mined out
permit	null	name	Arraias Permits

14.1.6.3 Search Parameters

Grade estimation into the model blocks was performed using an Inverse Distance Squared (ID^2) interpolator. The composited sample database and the blocks in the model were flagged by the estimation domain wireframes in Leapfrog. Grades were interpolated within the domains using only samples within those units (i.e. hard boundaries). The sample search strategy consisted of three search passes, using the modeled variogram ranges to determine the distances. The search parameters for both domains are defined in Table 14.16.

Table 14.16: Search and Interpolation Parameters

Domain	Search Distance (m)				Discretization			Sample Count		
	Search Pass	Major Axis	Semi-Major Axis	Minor Axis	X	Y	Z	Minimum	Maximum	Maximum per Drill Hole
Breccia	1	100	80	5	4	4	4	4	20	3
	2	200	160	10	4	4	4	4	20	3
	3	400	320	20	4	4	4	4	20	3
Conglomerate	1	100	80	5	4	4	4	4	20	3
	2	200	160	10	4	4	4	4	20	3
	3	400	320	20	4	4	4	4	20	3

14.1.6.4 Density Determination

The density values used to convert volumes to tonnages were assigned on a by-domain basis using mean values determined by the Itafos internal laboratory based on samples collected from the recent mining activity at Domingos, on a dry basis. Previous bulk densities determined by MBAC (Item 9) were found to be inconsistent (lower for breccia and not determined for conglomerate) with the Itafos internal laboratory densities for mined samples at Domingos. The Itafos internal laboratory determined that the breccia had a density of 2.65 g/cm^3 and the conglomerate had a density of 1.45 g/cm^3, which were determined using both the Archimedes Principle and the water displacement method for comparison.

The Archimedes Principle measured the mass of the dry sample compared to the mass of the sample submerged in water. Standard practice for this methodology is to seal the sample with a waterproof coating to prevent water from entering the void space of the rock where necessary. The water displacement method measured the change in volume in a standardized beaker when the sample was submerged in water. The formulas used to calculate density for both methods are shown below:

Archimedes Principle:

$$Buoyant\ Force\ (1\ g = 1\ mL\ for\ water) = Dry\ mass\ (g) - Wet\ mass(g) = Volume\ (cm^3)$$

$$Density = \frac{Dry\ mass\ (g)}{Volume\ (cm^3)}$$

Water Displacement:

$$Volume\ Change = (Volume\ with\ Submerged\ Sample\ (mL) - Inital\ Volume\ (mL)$$

$$Density = \frac{Dry\ mass\ (g)}{Volume\ Displaced\ (cm^3)}$$

For both methods Itafos technicians wrapped the core samples in plastic and sealed them with adhesive tape prior to submerging in water. Typical practice is to coat the core samples in paraffin wax, rather than plastic. The QP would recommend evaluating this method and comparing it to the plastic wrapped sample results.

The application of assigned densities by domain assumes that there will be minimal variability in density within each of the units across their spatial extents within the project area. The use of an assigned density for all deposits based on the results from a single deposit increases the uncertainty and represents a risk to the in-situ tonnage estimate confidence. The QP recommends that density values be collected for each deposit area, by domain, and spaced regularly across the deposit extent, and that the density be re-evaluated for any future model updates.

14.1.7 Model Review and Validation

The QP performed internal reviews and validations of the block model using a combination of visual inspection and statistical analysis checks between drill hole data and modeled surfaces, thicknesses, and grades.

Visual inspection included review of regularly spaced sections through the block model. Figure 14.14 through Figure 14.17 show example cross-sections of the block model grades with the composited samples for each deposit. No material issues were identified in the visual inspection.

In addition to the ID^2 interpolation, the QP also estimated grade variables by Nearest Neighbour (NN) interpolation for the purposes of assessing global bias and grade smoothing. The QP also estimated all variables in Vulcan and compared the ID^2 results with the Leapfrog estimation. Global statistical comparisons were made between the ID^2 and NN in a series of statistical tables and swath plots. Clustering of the drill hole data can result in differences between the global mean of the composites and the block estimates, the NN estimation represents the declustered composited data. The Leapfrog and Vulcan ID^2 estimates align very well; however, there was some variability in the NN estimates, particularly in Coité, likely due to irregular distribution of the drill holes.

The P_2O_5 (wt. %) swath plot analysis for breccia and conglomerate for each deposit model and corresponding table is illustrated in Figure 14.18 through Figure 14.21 and Table 14.17 through Table 14.20.

Figure 14.14: Comparison of Block Grades and Composite Samples for P_2O_5 (wt. %) at Domingos

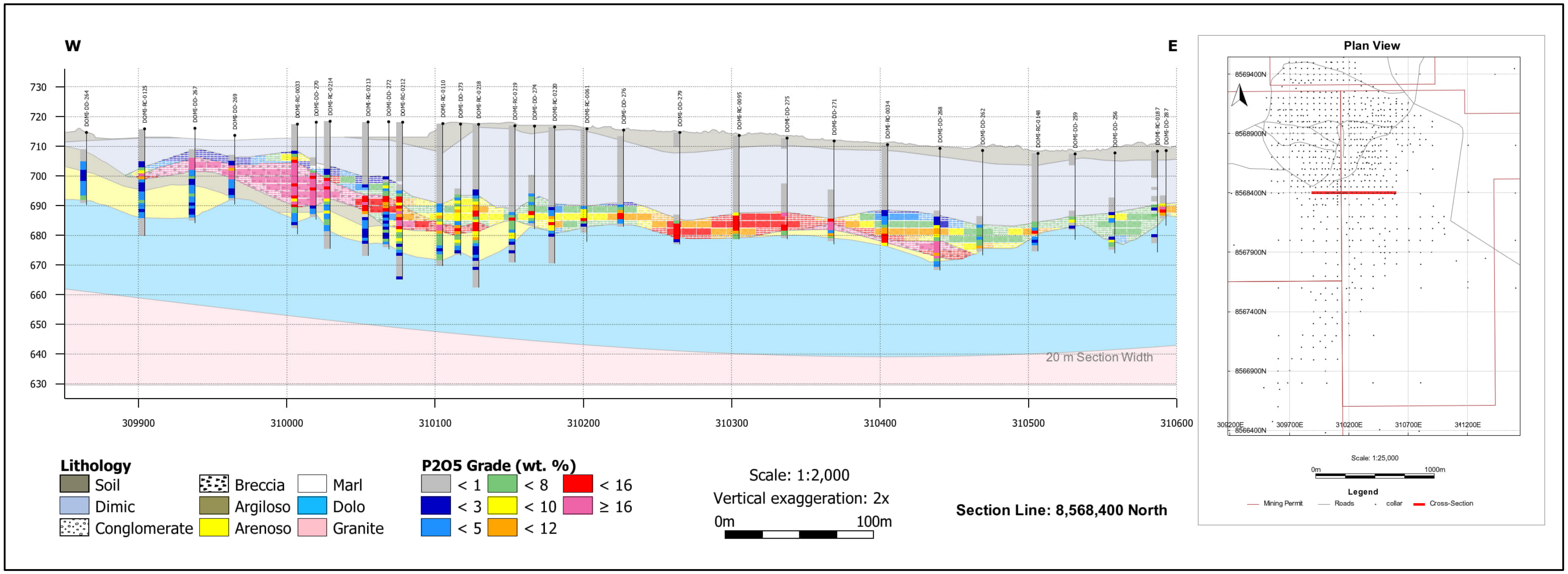


Figure 14.15: Comparison of Block Grades and Composite Samples for P_2O_5 (wt. %) at Cana Brava

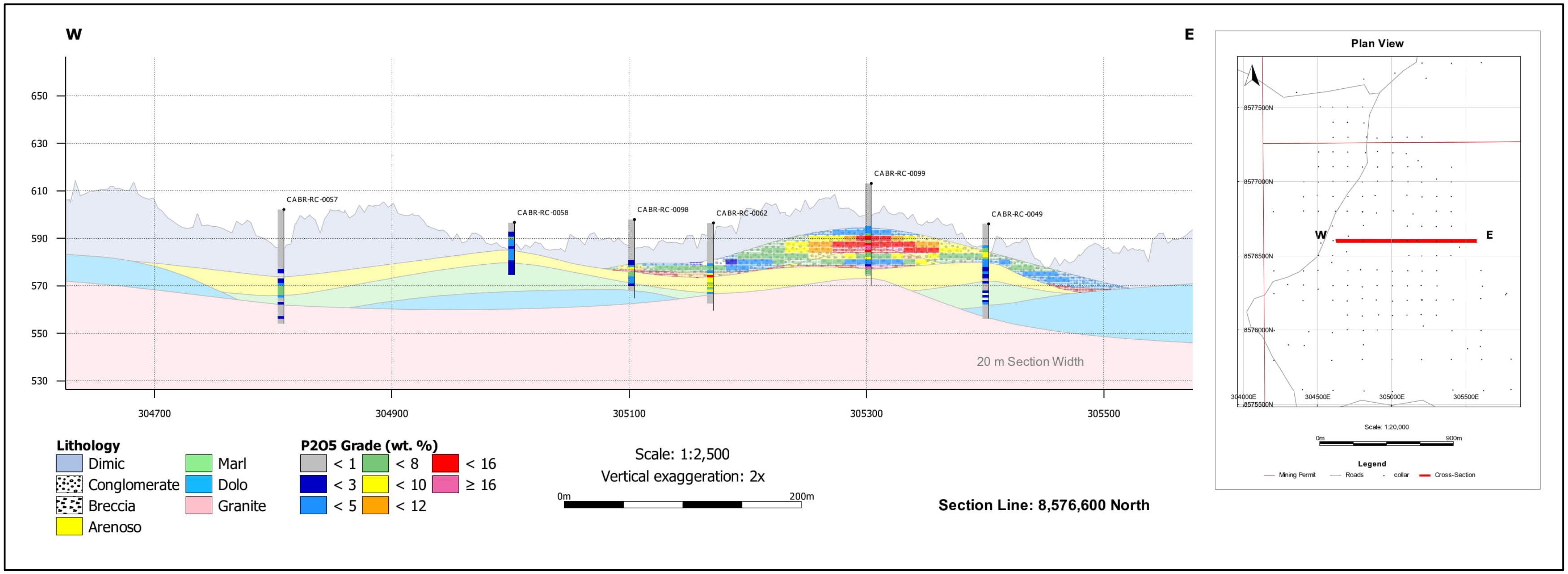


Figure 14.16: Comparison of Block Grades and Composite Samples for P_2O_5 (wt. %) at Coité

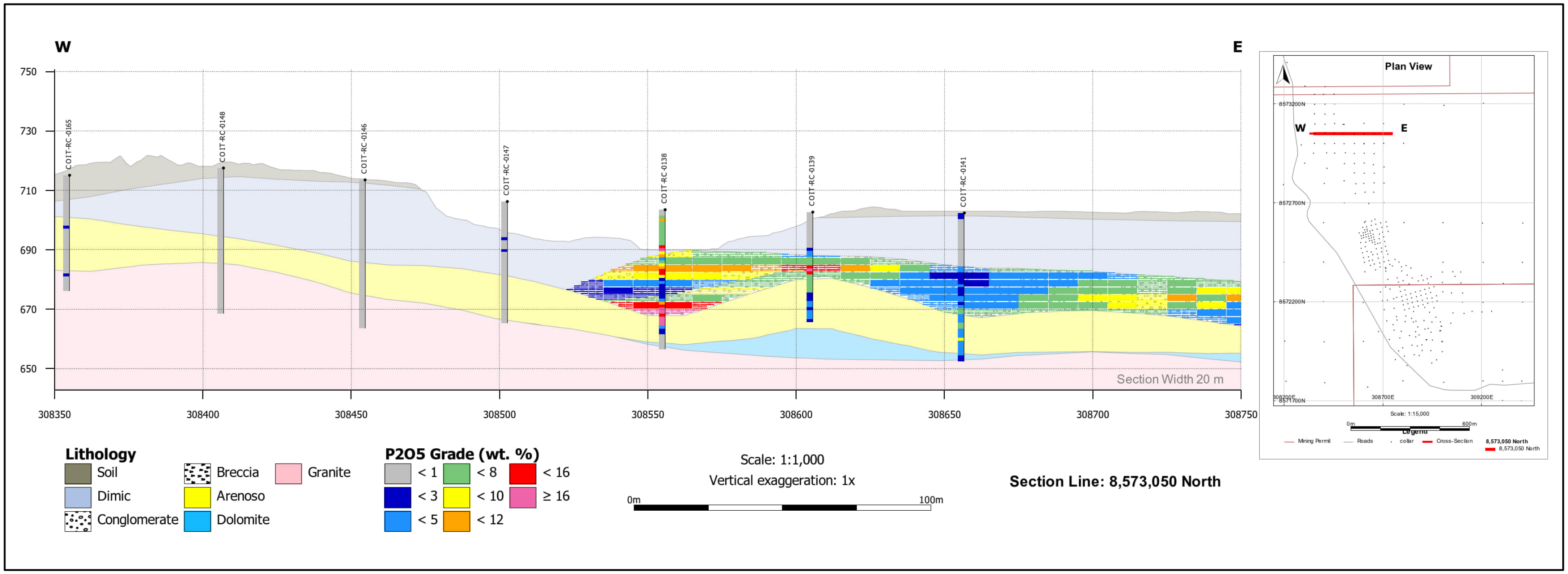


Figure 14.17: Comparison of Block Grades and Composite Samples for P_2O_5 (wt. %) at Near Mine

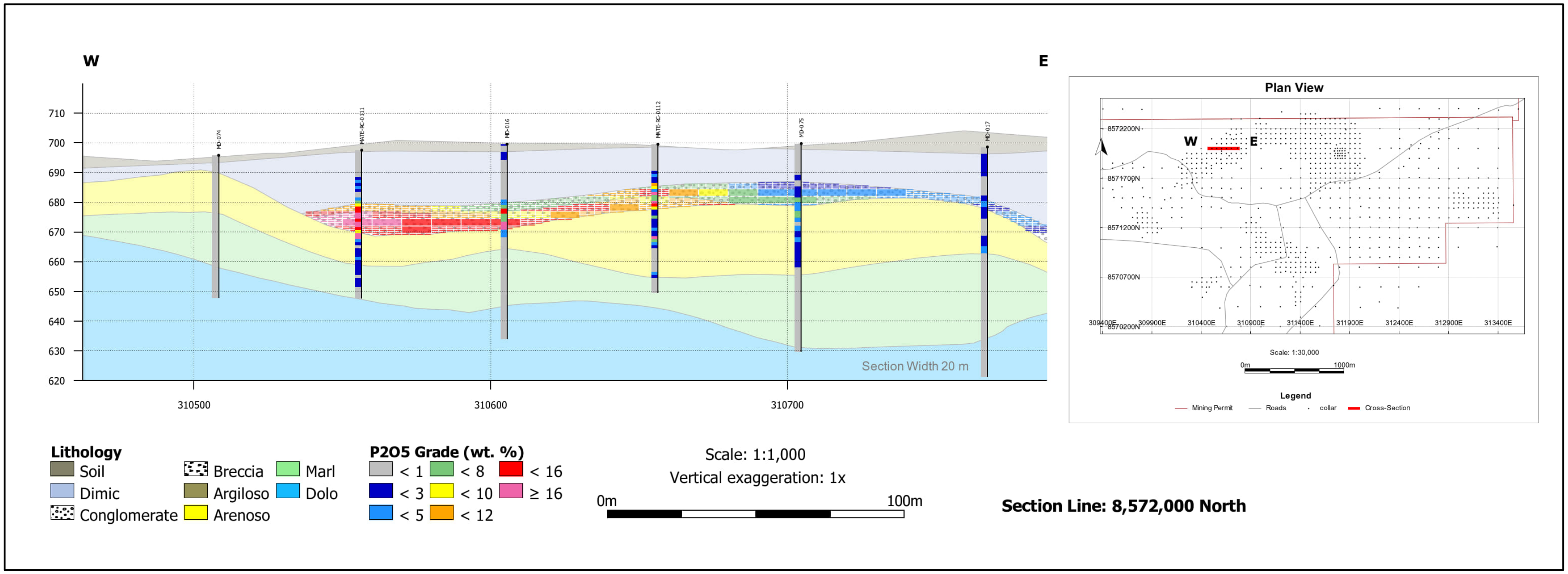


Figure 14.18: Breccia and Conglomerate Swath Plots for P_2O_5 (wt. %) – Domingos

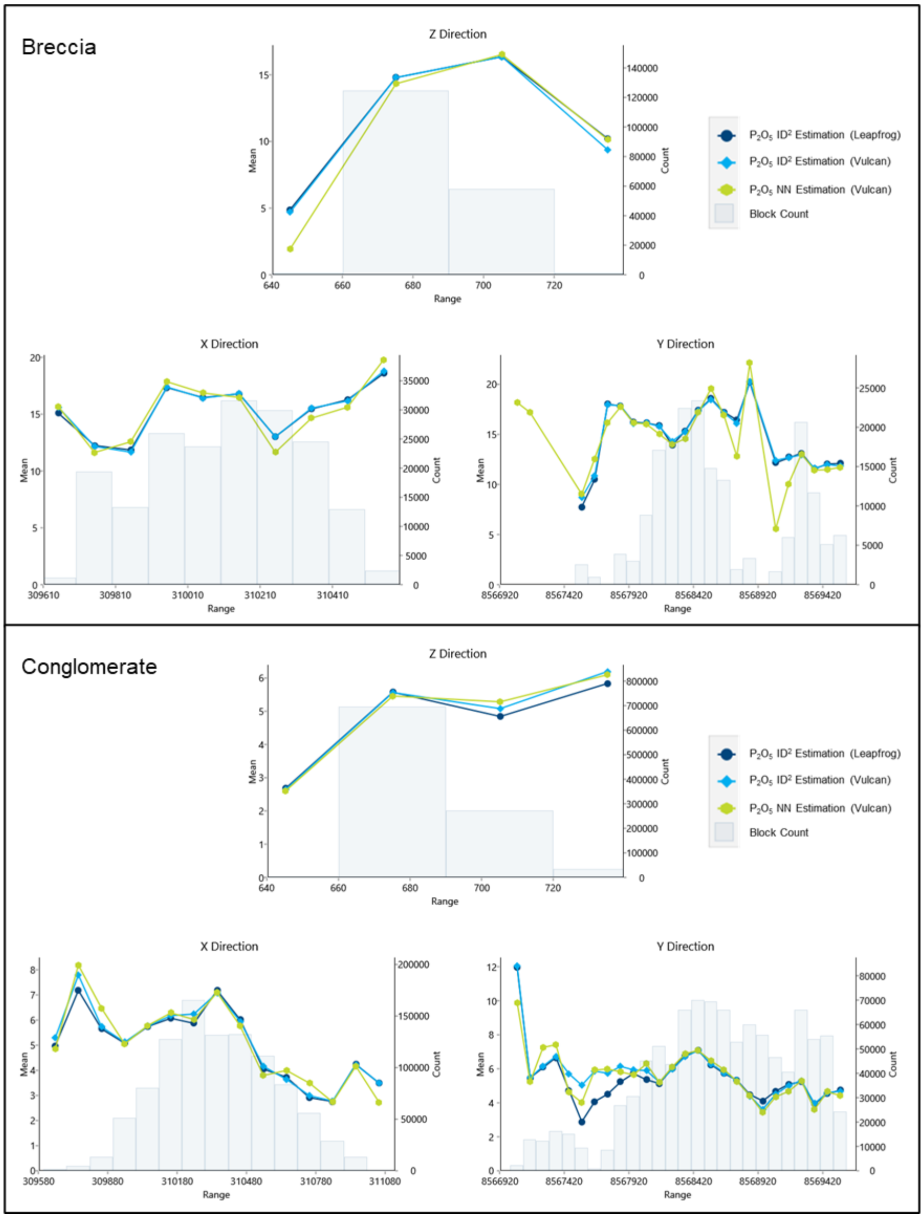


Table 14.17: Validation Comparison of Global Mean Grades by Domain – Domingos

Deposit	Domain	Variable	Estimation Type	Block Count	Mean	StDev	CV	Median	Variance % with NN
Domingos	Breccia	P_2O_5 (wt.%)	ID^2 (LF)	184,569	15.18	4.17	0.27	15.19	2.0
			ID^2 (Vul)	184,569	15.17	4.13	0.27	15.19	1.9
			NN (Vul)	184,924	14.89	5.93	0.40	15.10	-
Domingos	Conglomerate	P_2O_5 (wt.%)	ID^2 (LF)	998,623	5.38	2.86	0.53	4.76	-0.9
			ID^2 (Vul)	998,623	5.45	2.83	0.52	4.85	0.4
			NN (Vul)	998,623	5.43	3.87	0.71	4.52	-

Notes: StDev = standard deviation, CV = coefficient of variation, ID^2 = inverse distance squared, NN = nearest neighbor, LF = Leapfrog, Vul = Vulcan

Figure 14.19: Breccia and Conglomerate Swath Plots for P_2O_5 (wt. %) – Cana Brava

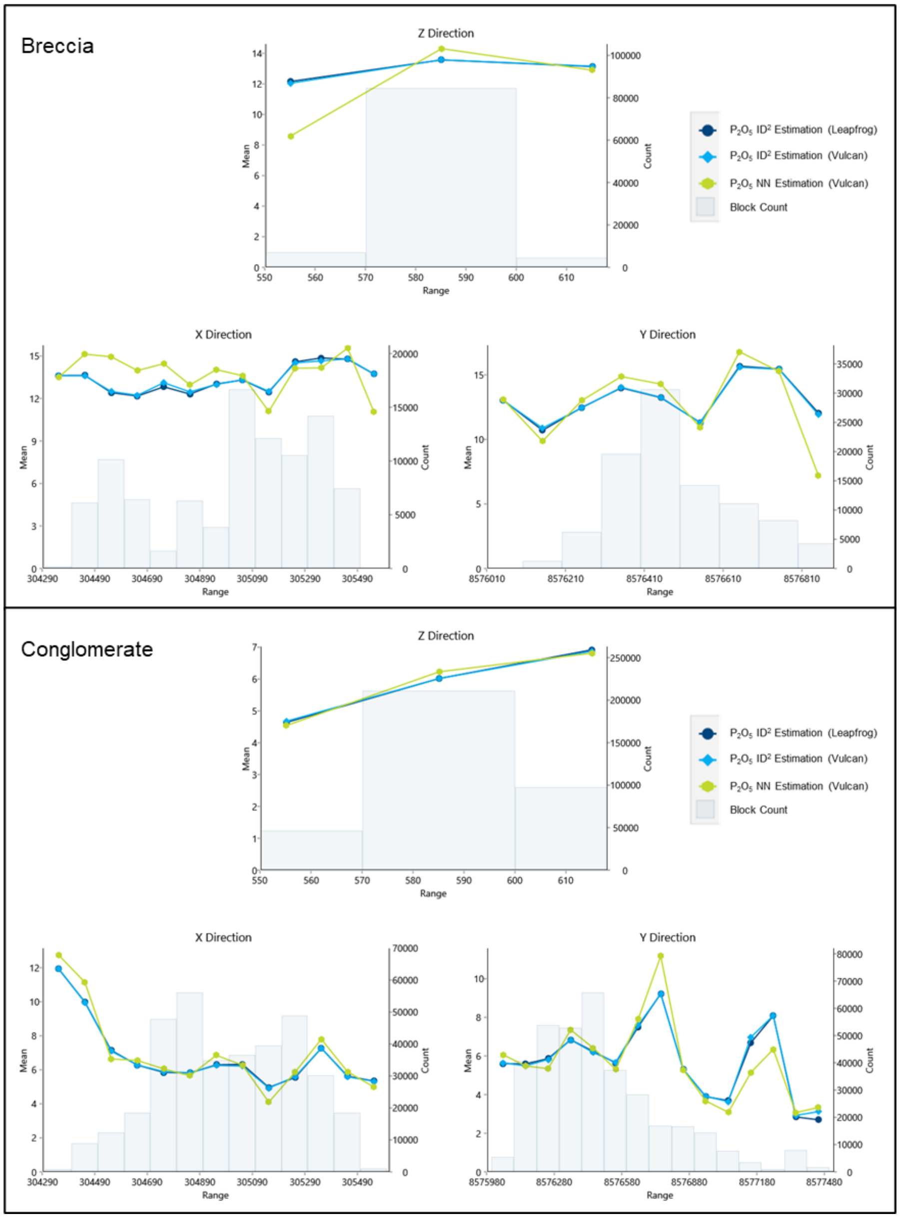


Table 14.18: Validation Comparison of Global Mean Grades by Domain – Cana Brava

Deposit	Domain	Variable	Estimation Type	Count	Mean	StDev	CV	Median	Variance % with NN
Cana Brava	Breccia	P_2O_5 (wt.%)	ID^2 (LF)	95,398	13.45	3.07	0.23	13.37	-2.8
			ID^2 (Vul)	95,286	13.45	3.07	0.23	13.17	-2.8
			NN (Vul)	95,398	13.83	5.72	0.41	13.65	-
Cana Brava	Conglomerate	P_2O_5 (wt.%)	ID^2 (LF)	353,005	6.09	2.83	0.47	5.78	-1.4
			ID^2 (Vul)	353,001	6.08	2.86	0.47	5.77	-1.5
			NN (Vul)	353,005	6.17	4.87	0.79	5.00	-

Notes: StDev = standard deviation, CV = coefficient of variation, ID^2 = inverse distance squared, NN = nearest neighbor, LF = Leapfrog, Vul = Vulcan

Figure 14.20: Breccia and Conglomerate Swath Plots for P_2O_5 (wt. %) – Coité

Table 14.19: Validation Comparison of Global Mean Grades by Domain – Coité

Deposit	Domain	Variable	Estimation Type	Count	Mean	StDev	CV	Median	Variance % with NN
Coité	Breccia	P_2O_5 (wt.%)	ID^2 (LF)	64,789	13.68	4.39	0.32	14.06	19.6
			ID^2 (Vul)	64,780	13.64	4.30	0.32	13.99	19.2
			NN (Vul)	64,789	11.44	5.51	0.48	12.00	-
Coité	Conglomerate	P_2O_5 (wt.%)	ID^2 (LF)	506,931	3.62	3.30	0.91	2.35	-13.8
			ID^2 (Vul)	506,365	4.21	2.10	0.50	3.91	0.1
			NN (Vul)	506,937	4.20	2.10	0.50	3.88	-

Notes: StDev = standard deviation, CV = coefficient of variation, ID^2 = inverse distance squared, NN = nearest neighbor, LF = Leapfrog, Vul = Vulcan

Figure 14.21: Breccia and Conglomerate Swath Plots for P_2O_5 (wt. %) – Near Mine

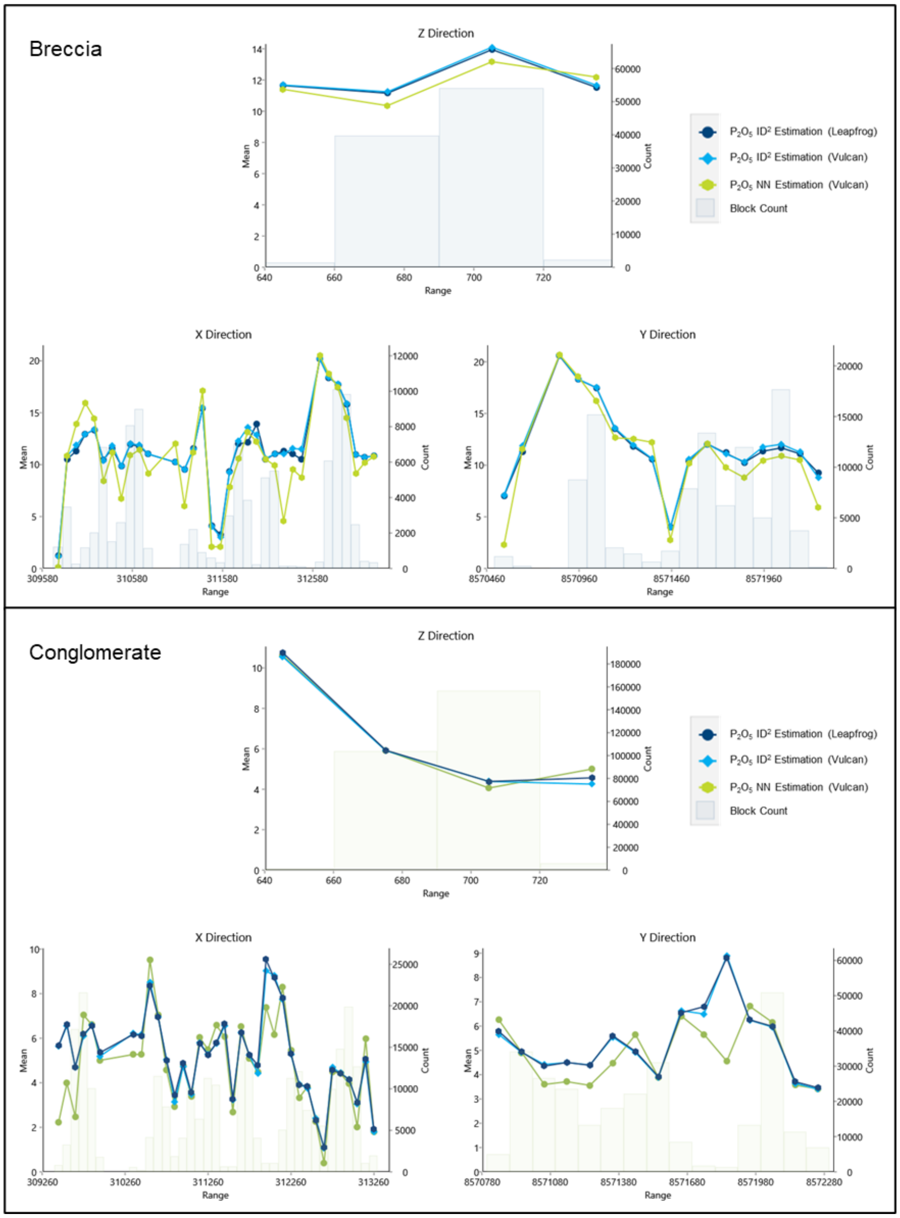


Table 14.20: Validation Comparison of Global Mean Grades by Domain – Near Mine

Deposit	Domain	Variable	Estimation Type	Count	Mean	StDev	CV	Median	Variance % with NN
Near Mine	Breccia	P_2O_5 (wt.%)	ID^2 (LF)	97,108	12.72	4.03	0.32	12.32	6.2
			ID^2 (Vul)	96,878	12.85	3.99	0.31	12.32	7.3
			NN (Vul)	97,108	11.98	5.71	0.48	12.50	-
Near Mine	Conglomerate	P_2O_5 (wt.%)	ID^2 (LF)	266,605	5.01	2.70	0.54	4.53	3.8
			ID^2 (Vul)	266,357	5.00	2.67	0.54	4.56	3.4
			NN (Vul)	266,601	4.83	4.45	0.92	3.60	-

Notes: StDev = standard deviation, CV = coefficient of variation, ID^2 = inverse distance squared, NN = nearest neighbor, LF = Leapfrog, Vul = Vulcan

14.2 Mineral Resource Estimate

This sub-item contains forward-looking information related to Mineral Resource estimates for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information including any significant differences from one or more of the material factors or assumptions that were set forth in this sub-item including geological and grade interpretations and controls, and assumptions and forecasts associated with establishing the reasonable prospects for eventual economic extraction.

14.2.1 Basis for Mineral Resource Estimate

The basis of the Mineral Resource estimates for the Arraias projects and the methods in which they were prepared are summarized in this Item. For estimating the Mineral Resources for the Arraias projects, WSP has applied the definition of "Mineral Resource" as set forth in the CIMDS adopted May 10, 2014.

Under CIMDS, a Mineral Resource is defined as:

> "… a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling."

A Mineral Resource can be estimated for material where the geological characteristics and continuity are known or reasonably assumed and where there is a potential for production at a profit.

Mineral Resources are subdivided into categories of Measured, Indicated, and Inferred, with the level of confidence reducing with each category respectively. Mineral Resources are always reported as in-situ tonnage and are not adjusted for mining losses or mining recovery.

The Mineral Resource estimates presented herein were prepared by or under the supervision of WSP's QP in accordance with the definitions presented in NI 43-101 and the CIMDS. The estimates were based on geological and grade block models generated from all verified exploration drill holes and analytical samples drilled to date for the Cana Brava, Coité, Domingos, and Near Mine deposits.

Data verification was performed under the supervision of the WSP QP while exploration data collection was performed under the supervision of Itafos personnel who are appropriately qualified to oversee on the basis of their education and relevant experience.

The WSP QP used verified exploration and sample data to construct a computer-based geological block model of the in-situ phosphate deposit and surrounding rocks and a P_2O_5 grade model for each of the Domingos, Cana Brava, Coité, and Near Mine deposits. The individual geological models were based on a structural interpretation of the deposits based on drilling intervals through the deposits. The grade model consisted of estimated grades within each geological block identified as in-situ phosphate. The block model grades were interpolated from sample values of drill hole intervals.

14.2.2 Limits and Constraints on the Mineral Resource Estimates

The Mineral Resources presented in this Item have been estimated by applying a series of physical and geological limits as well as high-level mining and economic constraints. The mining and economic constraints were limited only to a level sufficient to support reasonable prospects for future economic extraction of the estimated resources. A summary of the key constraints on the Mineral Resource estimates by type includes the following:

- Physical Limits:
  - Permit boundaries.
  - Topography.
  - Existing roads, utilities, ex-pit dumps, and other surface infrastructure in place at the current mining operations at Domingos.
- Geological limits:
  - Modeled roof and floor contacts of the individual beds.
  - Resource categorization parameters based on distance from point of observation, drill hole sample count criteria, and estimation pass.
- Mining and economic constraints:
  - Reasonable basic mining parameters and cost assumptions were applied to develop resource pit shells for the Arraias Project for the purpose of establishing reasonable prospects for future economic extraction. No formal mine design or economic analyses were performed as part of the resource evaluation process.
  - Minimum P_2O_5 grade.

14.2.3 Mineral Resource Classification and Categorization

Mineral Resource classification and categorization assigned to the Mineral Resource estimates as presented in this report were in accordance with NI 43-101, which provides for the classification of a mineral deposit into Mineral Resources. Under the NI 43-101 definitions, Mineral Resources should be estimated and categorized under Measured, Indicated, and/or Inferred categories, as applicable given the confidence of the estimator in the basis of the estimates. NI 43-101 requires the disclosure of these categories of Mineral Resources in technical reports.

At present, only Mineral Resources have been estimated and there are no current Mineral Reserves for the Project.

The Mineral Resource categorization applied by the QP has included the consideration of data reliability, spatial distribution and abundance of data, and continuity of geology and grade parameters. The QP performed a statistical and geostatistical analysis for evaluating the confidence of continuity of the geological units and grade parameters. The results of this analysis were applied to developing the Mineral Resource categorization criteria.

Following CIM Mineral Resource and Mineral Reserve Best Practice Guidelines, the QP used the following numeric-based parameters to define the Mineral Resource categories:

- The number of drill holes used.
- The estimation pass used to estimate a given block.
- The drill hole spacing.

The blocks were initially categorized using numerical criteria that considered the number of holes used, the search pass, and the average distance to the three closest drill holes. Deposit specific criteria were also applied to adjust confidence levels based on the following:

- Domingos is the best-characterized deposit, and the site of current mining. The 2020-2021 and 2025 closely spaced diamond core drilling have sufficiently defined the high-grade breccia and conglomerate domains to assign Measured, Indicated, and Inferred Resources. The 2025 drilling outside of the main breccia zone was assigned an Inferred Resource category as the assays used for modeling were from the internal Itafos laboratory and only include P_2O_5. The QP recommends that once all results of the drilling have been received, the database and models be fully updated and the confidence re-evaluated.
- Coité has been previously mined, and surface exposure of breccia in the highwall of the pit (visited during the 2024 QP site visit) adds to confidence levels, however, there is uncertainty around the remaining breccia in the mined-out area due to in-pit lakes. Much of the drilling at Coité is closely spaced (≤ 50 m), however, the QP is of the opinion that further fully cored delineation drilling is required to better understand the remaining Resource in and around the mined areas. Additional drilling is also required to infill between high-grade intercepts in the north and south of the deposit identified during modeling. For these reasons, only blocks within 50 m of a drill sample were assigned as Indicated Resources, and blocks within 100 m of a drill sample were assigned as Inferred Resources.
- Both Cana Brava and Near Mine deposits rely entirely on pre-2020 drilling and have not had any mining activity to date. High-grade breccia and conglomerate intercepts in Cana Brava were able to be correlated laterally between multiple drill holes; however, delineation diamond core drilling is required to better understand the mineralization extents. At the Near Mine deposit several high-grade P_2O_5 intercepts were identified during modeling, however, only a few high-grade intervals demonstrated lateral continuity across multiple drill holes. Further delineation diamond core drilling is required to better understand the extent of the high-grade mineralization. For these reasons, only Inferred Resources have been assigned at both deposits.

Mineral Resource categorization criteria for the Cana Brava, Coité, Domingos, and Near Mine deposits are summarized in Table 14.21.

Table 14.21: Mineral Resource Categorization Criteria

Deposit	Resource Category	Average Distance to 3 Closest Drill Hole Samples	Number of Holes	Search Pass	Additional Restriction
Domingos	Measured	≤ 50 m	3	1	
	Indicated	≤ 100 m	3	1 or 2	
	Inferred	≤ 200 m	2	1 to 3	
Coité	Measured	-	-	-	*Not assigned*
	Indicated	≤ 50 m	3	1 or 2	
	Inferred	≤ 100 m	2	1 to 3	
Cana Brava	Measured	-	-	-	*Not assigned*
	Indicated	-	-	-	*Not assigned*
	Inferred	≤ 200 m	2	1 to 3	
Near Mine	Measured	-	-	-	*Not assigned*
	Indicated	-	-	-	*Not assigned*
	Inferred	≤ 200 m	2	1 to 3	

The distance to the three closest drill holes was estimated into the model to represent the average drill hole spacing. A script was used to categorize the blocks based on the criteria in Table 14.21. The categorization was then smoothed to reduce the “spotted dog” effect, whereby isolated blocks within a category were adjusted to the match the category of the blocks around them.

Figure 14.22 through Figure 14.25 illustrate a plan and long section views of the final Mineral Resource classification for each deposit.

Figure 14.22: Plan Section of Mineral Resource Categorization at 681 m Elevation – Domingos

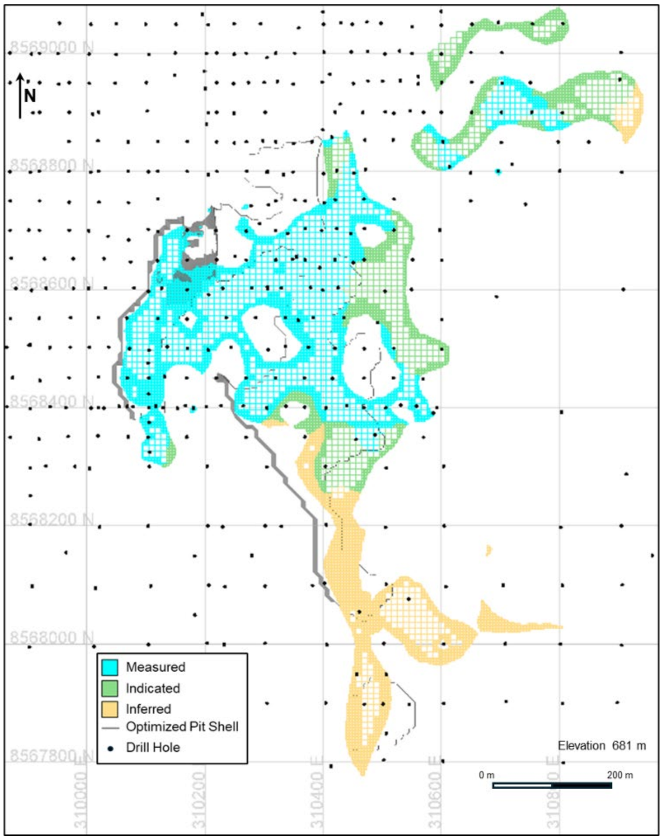


Figure 14.23: Plan Section of Mineral Resource Categorization at 601 m Elevation – Cana Brava

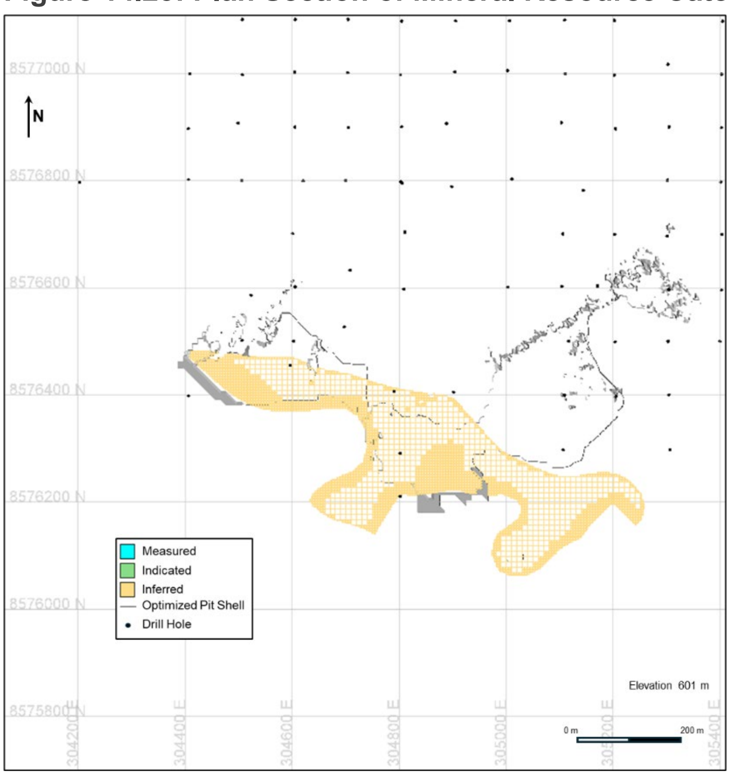


Figure 14.24: Plan Section of Mineral Resource Categorization at 684 m Elevation – Coité

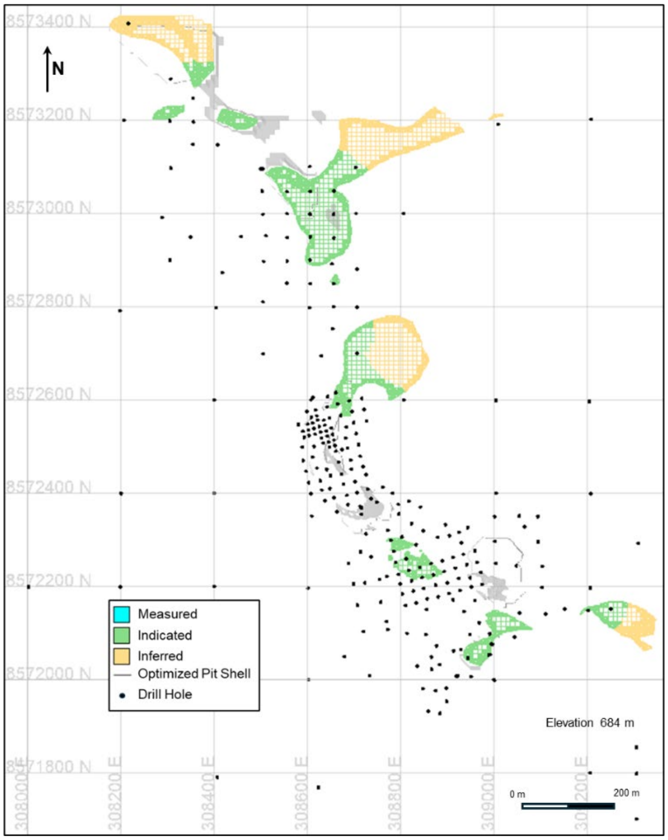
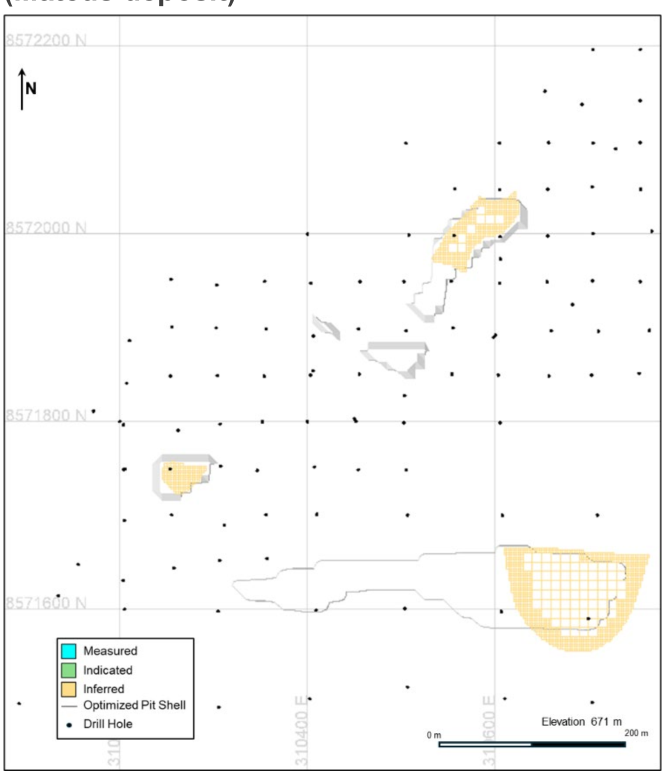


Figure 14.25: Plan Section of Mineral Resource Categorization at 671 m Elevation – Near Mine (Mateus deposit)



The volumes, tonnes, and grades for the categorized Mineral Resource estimates were then tabulated by breccia and conglomerate for Cana Brava, Coité, Domingos, and Near Mine. The estimates and their summary tabulations were reviewed by the WSP QP prior to stating the Mineral Resources as presented in Item 14.2.4.1 of this Report.

It is the QP's view that the categorization criteria applied to the Mineral Resource estimate are appropriate for the reliability and spatial distribution of the base data and reflect the confidence of continuity of the modeled geology and grade parameters.

14.2.4 Reasonable Prospects for Economic Extraction

The Mineral Resource estimates for the potentially surface mineable resources were constrained by conceptual resource pit shells for the purpose of establishing reasonable prospects for eventual economic extraction based on potential mining, metallurgical, and processing parameters identified by mining, metallurgical, and processing studies performed to date on the Project.

Key constraint inputs included reasonable assumptions for operating costs, current and forecast fertilizer prices for specific products, and a minimum P_2O_5 grade, varying for each deposit, for all estimated Mineral Resources.

The Mineral Resource estimates assumed the concurrent annual production of the following three fertilizer products:

- DAPR (Direct Application Phosphate Rock – Average 12% P_2O_5 conglomerates)
- PAPR (Partially Acidulated Phosphate Rock – 80% breccia with 18% P_2O_5 + 20% Sulfuric Acid)
- SSP (Single Superphosphate – 65% Concentrate with 28% P_2O_5 + 35% Sulfuric Acid)

Further details of the Mineral Resource justification are provided in the following Item 14.2.4.1.

14.2.4.1 Resource Pit Shells

WSP utilized Vulcan Pit Optimizer software to develop the resource pit shells. Vulcan Pit Optimizer uses the Lerch Grossman (LG) algorithm, along with the user defined input parameters and constraints, to assign a value to each block within a block model, to produce pit shells for selected commodity prices.

Given that Domingos is an actively producing mine, surface constraints such as existing roads, utilities, infrastructure, and other mine related structures were applied along with the permit boundaries as constraints to the resource shells. The Vulcan Pit Optimization program was used with the input parameters as presented in Table 14.22 to provide guidance to establishing reasonable prospects of eventual economic extraction.

Table 14.22: Resource Pit Shell Input Parameters

Parameter	Unit	Product		
		DAPR	PAPR	SSP
Mining Cost	USD/tonne	1.82		
Wall Angle	degrees	49		
Mining Recovery	%	100		
Mining Dilution	%	0		
Processing Cost	USD/tonne	35	77	119
Processing Recovery	%	100%	95%	45%
Sulfuric Acid Content of Product	%	0%	20%	35%
Product Price	USD/tonne	45	112	226

Notes: Product prices used in the determination of the resource pit shells are different than the product prices used in the Discounted Cash Flow (DCF) in Item 22. The resource pit shells were developed prior to the DCF and reflected the information available at the time. When the DCF was completed, the product prices were updated to reflect the most current information.

Commodity price assumptions for DAPR and PAPR are based on the realized prices during the 2024 operation at Domingos. The SSP product price was estimated based on a market study performed by MB Agro for the 2013 Mineral Resource Estimate. Mining and selling costs were provided by Itafos based on operational data from Domingos and were deemed to be reasonable based on general experience with other operations.

Using the parameters described in Table 14.22 produced a revenue factor (RF) pit shell at 1.0. Additional pit shells were then produced for each deposit by varying the product prices to generate Mineral Resource pit shells at varying revenue factors.

The results of the pit optimization are presented in Table 14.23 through Table 14.26. Nested shells were generated using RFs ranging from 0.2 to 1.2 in increments of 0.1. The selected final pit shell for each deposit corresponds to a RF 1.1. This shell was selected to maximize resources with the expectation of increased margin on product sales and favorable future exploration drilling results. The QP considers this selection reasonable for a PEA-level study based on current market conditions. Figure 14.26 through Figure 14.29 show oblique views of the P_2O_5 blocks for breccia and conglomerate constrained to the resource pit shell for each deposit.

Table 14.23: Domingos Pit Optimization Results

Pit	Revenue Factor	Ore Mt	Waste Mt	Rock Mt	Net Revenue $M
1	0.3	0.00	0.00	0.00	0.11
2	0.4	0.12	0.07	0.20	16.34
3	0.5	0.59	0.63	1.22	62.23
4	0.6	1.14	2.33	3.47	99.40
5	0.7	1.73	5.04	6.77	124.22
6	0.8	2.13	7.91	10.04	136.17
7	0.9	2.35	9.18	11.53	139.48
8	1.0	2.51	10.01	12.52	140.01
9	**1.1**	**2.71**	**11.69**	**14.40**	**139.47**
10	1.2	2.94	13.81	16.75	137.35

Table 14.24: Cana Brava Pit Optimization Results

Pit	Revenue Factor	Ore Mt	Waste Mt	Rock Mt	Net Revenue $M
1	0.5	0.25	0.16	0.41	17.71
2	0.6	0.56	0.89	1.45	35.55
3	0.7	0.92	1.89	2.81	50.89
4	0.8	1.35	3.06	4.41	61.39
5	0.9	1.58	3.90	5.47	64.61
6	1.0	1.70	4.49	6.18	65.06
7	**1.1**	**1.81**	**5.23**	**7.04**	**64.64**
8	1.2	1.88	5.81	7.68	63.96

Table 14.25: Coité Pit Optimization Results

Pit	Revenue Factor	Ore Mt	Waste Mt	Rock Mt	Net Revenue $M
1	0.6	0.22	0.45	0.66	13.80
2	0.7	0.52	2.70	3.22	30.69
3	0.8	0.74	5.90	6.64	39.71
4	0.9	0.78	6.69	7.47	40.51
5	1.0	0.78	6.89	7.68	40.57
6	**1.1**	**0.80**	**7.43**	**8.23**	**40.49**
7	1.2	0.80	7.53	8.34	40.43

Table 14.26: Near Mine Pit Optimization Results

Pit	Revenue Factor	Ore Mt	Waste Mt	Rock Mt	Net Revenue $M
1	0.5	0.00	0.00	0.01	0.26
2	0.6	0.01	0.02	0.03	0.90
3	0.7	0.35	3.80	4.15	19.96
4	0.8	0.62	5.21	5.83	27.76
5	0.9	0.89	6.60	7.49	32.49
6	1.0	0.99	7.57	8.55	33.12
7	**1.1**	**1.04**	**8.38**	**9.42**	**32.81**
8	1.2	1.07	9.08	10.15	32.19

Figure 14.26: Oblique View of Resource Blocks Within the Domingos Pit Shells

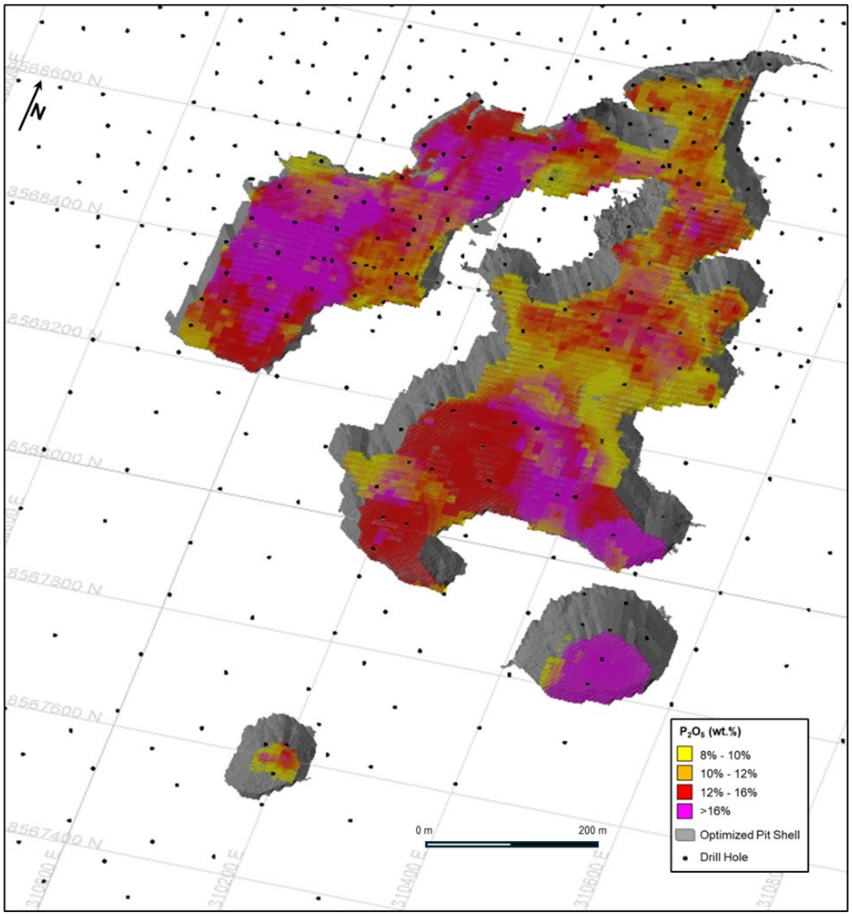


Figure 14.27: Oblique View of Resource Blocks Within the Cana Brava Pit Shells

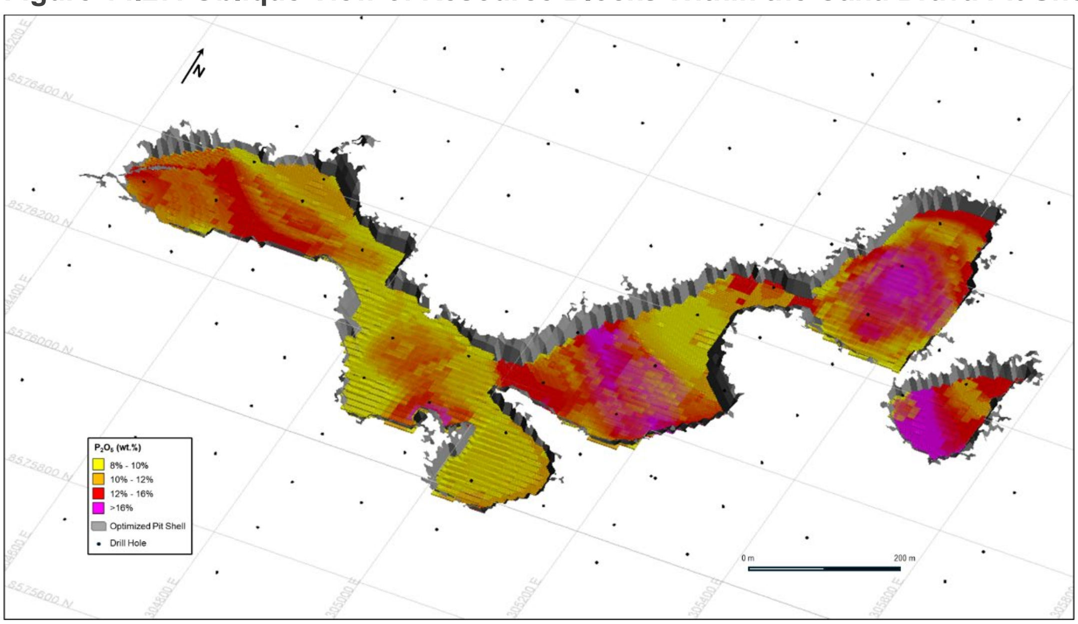


Figure 14.28: Oblique View of Resource Blocks Within the Coité Pit Shells

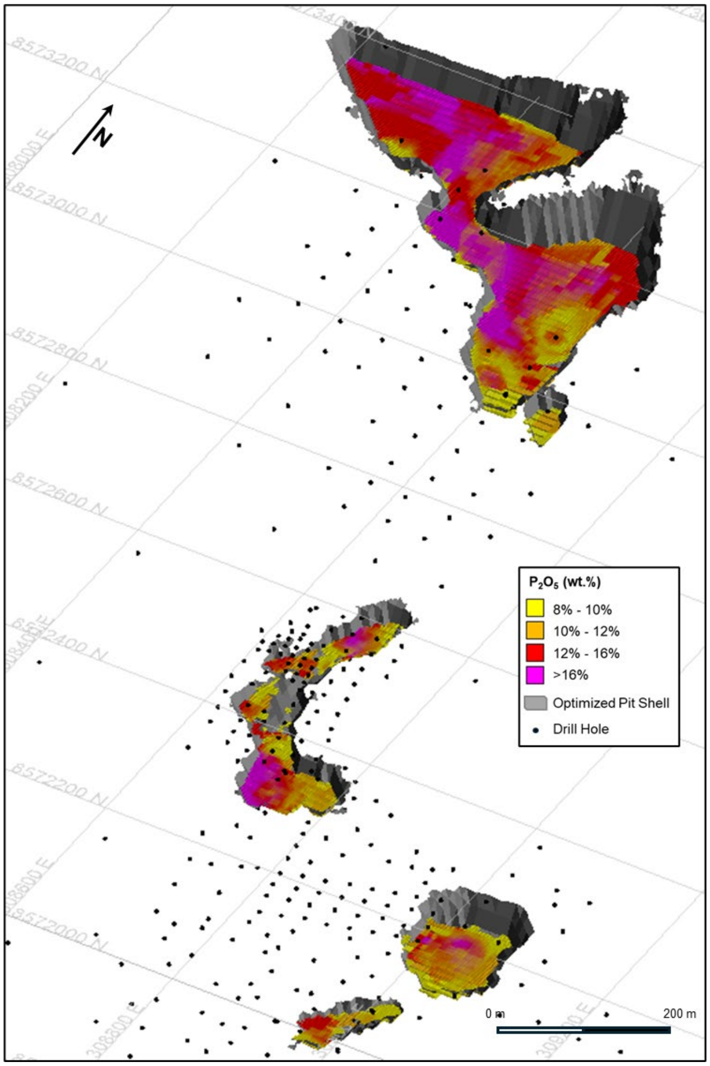
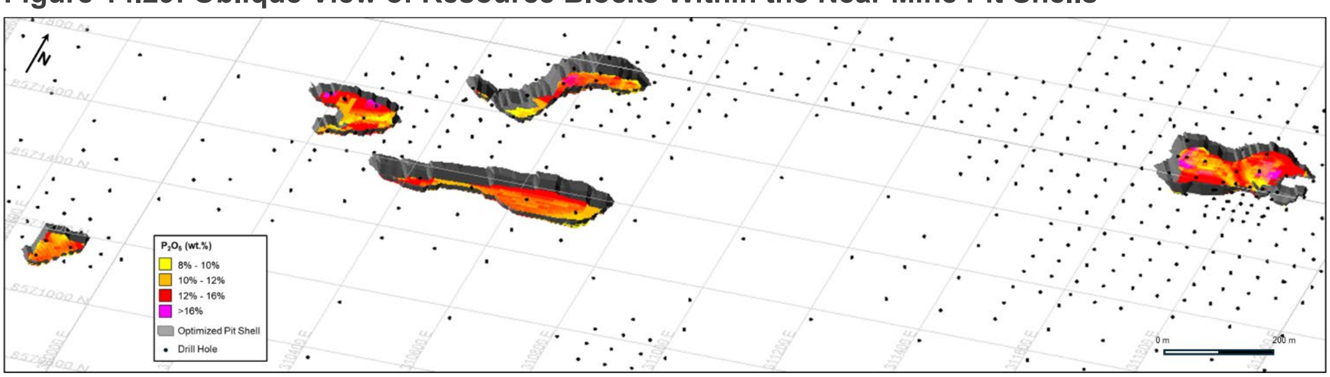


Figure 14.29: Oblique View of Resource Blocks Within the Near Mine Pit Shells



14.2.5 Mineral Resource Statement

Note to readers: The Mineral Resources presented in this Item are not Mineral Reserves and do not reflect demonstrated economic viability. The reported Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that all or any part of this Mineral Resource will be converted into Mineral Reserve. All figures are rounded to reflect the relative accuracy of the estimates and totals may not add correctly.

The categorized estimated Mineral Resources for Cana Brava, Coité, Domingos, and Near Mine are presented in Table 14.27, in accordance with the CIMDS (2014). The Effective Date of the Mineral Resource Estimate is November 14, 2025.

Table 14.27: Estimated Mineral Resources for Breccia – Effective November 14, 2025

Domain	Deposit	Classification	Mass (Mt)	P_2O_5 (wt. %)	Al_2O_3 (wt. %)	CaO (wt.%)	MgO (wt. %)	Fe_2O_3 (wt. %)
Breccia	Domingos	Measured	1.11	17.74	4.81	22.58	0.68	2.35
		Indicated	0.13	15.82	3.36	16.43	0.68	1.64
	Coité	Indicated	0.27	16.70	4.94	22.41	1.02	2.24
		Measured + Indicated	**1.51**	**17.39**	**4.70**	**22.01**	**0.74**	**2.27**
	Domingos	Inferred	0.68	14.46	3.21	14.19	0.92	1.50
	Cana Brava	Inferred	0.88	15.84	6.68	23.63	0.87	2.46
	Coité	Inferred	0.32	15.27	6.51	22.22	0.99	2.77
	Near Mine	Inferred	0.50	16.00	6.46	23.35	2.43	3.08
		Inferred	**2.37**	**15.40**	**5.62**	**20.69**	**1.23**	**2.36**

Domain	Deposit	Classification	Mass (Mt)	P_2O_5 (wt. %)	Al_2O_3 (wt. %)	CaO (wt.%)	MgO (wt. %)	Fe_2O_3 (wt. %)
Conglomerate	Domingos	Measured	0.46	12.10	5.23	18.68	1.94	3.48
		Indicated	0.06	11.19	6.95	16.53	1.36	3.48
	Coité	Indicated	0.03	12.27	4.59	15.59	0.67	2.48
		Measured + Indicated	**0.55**	**12.02**	**5.36**	**18.27**	**1.80**	**3.42**
	Domingos	Inferred	0.01	10.71	5.32	10.23	0.63	2.30
	Cana Brava	Inferred	0.47	12.00	8.99	16.98	0.89	3.29
	Near Mine	Inferred	0.08	12.09	7.76	17.57	0.88	3.50
		Inferred	**0.56**	**11.99**	**8.76**	**16.98**	**0.88**	**3.31**

Notes:

1. The Mineral Resource estimates were constrained by conceptual pit shells for the purpose of establishing reasonable prospects of eventual economic extraction based on potential mining, metallurgical, and processing grade parameters identified by studies performed to date on the Project.
2. Key constraint inputs included reasonable assumptions for operating costs, geotechnical slope parameters, processing costs and recovery, and specific product pricing (Table 14.22).
3. Variable Cut-Off Grades for P_2O_5 (wt. %) were assigned by deposit and domain based on sensitivity analyses and target feed grades for breccia of 16.0% and conglomerate of 12.0%. Domingos (breccia 10.0%, conglomerate 10.0%), Cana Brava (breccia 12.5%, conglomerate 9.5%), Coite (breccia 11.0%, conglomerate 11.0%), Near Mine (breccia 12.5%, conglomerate 8.5%)
4. Bulk Density applied to breccia (2.65 g/cm^3) and conglomerate (1.45 g/cm^3) based on results from the Itafos Arraias internal laboratory.
5. Tonnage estimates are rounded to the nearest 10,000.
6. Mt = Million tonnes; wt. % = weight percent.
7. Mineral Resources are reported in accordance with NI 43-101 and CIM Definition Standards for Mineral Resource and Mineral Reserves (2014) and CIM Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (2019).
8. No mining recovery or dilution factors have been applied.
9. Mineral Resource estimates are not precise calculations and may be materially affected by data quality, geological variability, metallurgical recovery, and the economic assumptions used to assess reasonable prospects for extraction. They are also influenced by the estimation methodology and parameters applied, including outlier treatment and search or estimation strategies. All figures are rounded to reflect the relative accuracy of the estimates.

From the effective Mineral Resource date of November 14, 2025, until the date of this TR January 30, 2026, the QP is not aware of any material changes that would affect the resource models or the Mineral Resource estimates.

Based on the geological results presented in this TR, supported by the active mining operations at Domingos, mine design, and processing studies performed for the project, it is the WSP QP's opinion that the Mineral Resources have reasonable prospects for eventual economic extraction based on the criteria presented in Item 14 of this TR.

The Mineral Resource estimates presented in this TR are based on the factors related to the geological and grade models, and the criteria for reasonable prospects of eventual economic extraction presented in Item 14.1 and Item 14.2, respectively, of this TR. The Mineral Resource estimates may be affected positively or negatively by additional exploration that expands the geological database and models of mineralized zones for the individual deposit areas. The Mineral Resource estimates could also be materially affected by any significant changes in the assumptions regarding forecast prices, costs, or other economic factors that were used in the resource pit shell development process. If the price assumptions are decreased or the assumed costs increased significantly, then the minimum P_2O_5 grade must be increased and, if so, the potential impacts on the Mineral Resource estimates would likely be material and need to be re-evaluated.

The Mineral Resource estimates are also based on assumptions that a mining project can be developed, permitted, constructed, and operated at each of these individual deposits. Any material changes in these assumptions would materially and adversely affect the Mineral Resource estimates for these deposits; potentially reducing to zero. Examples of such material changes include extraordinary time required to complete or perform any required activities, or unexpected and excessive taxation or regulation of mining activities that become applicable to any proposed mining projects. Except as described in this report, the WSP QP does not know of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimates.

15. Mineral Reserve Estimates

This Item 15 is not required for the Arraias Property because Mineral Reserves are not being estimated.

16. Mining Methods

This Item contains forward-looking information related to mining methods, mine design, equipment selection and production plans for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts or projections in the forward-looking information include any significant differences from one or more of the following material factors or assumptions that were applied in drawing the conclusions or making the estimates, designs, forecasts or projections set forth in this Item: mineral resource model, geotechnical, hydrogeological and other surface and underground characteristics described and design criteria; labor and equipment availability and productivity.

16.1 Mining Methods

The phosphate-bearing rock at the Arraias operations is recovered using conventional open-pit truck and excavator mining methods due to the proximity of the mineralization to the surface and the physical characteristics of the deposit and surrounding terrain. Four hydraulic excavators are used for both phosphate and waste removal at the Domingos Pit. These include 2 Volvo EC250 hydraulic excavators and 2 Volvo EC210 hydraulic excavators. Overburden is loaded into appropriate mid-sized articulated haul trucks and the hauled to an ex-pit overburden storage area or backfilled into a previously mined out area. Phosphate-bearing rock is loaded into similar sized articulated haul trucks which haul the material to the crusher where it enters the beneficiation circuit.

16.2 Parameters Relative to the Mine Design and Plans

16.2.1 Geotechnical

Geotechnical information was not available, but mining activity in the area supports the adopted parameters shown in Table 16.1 for the current stage of the Project.

Table 16.1: Geotechnical Design Parameters

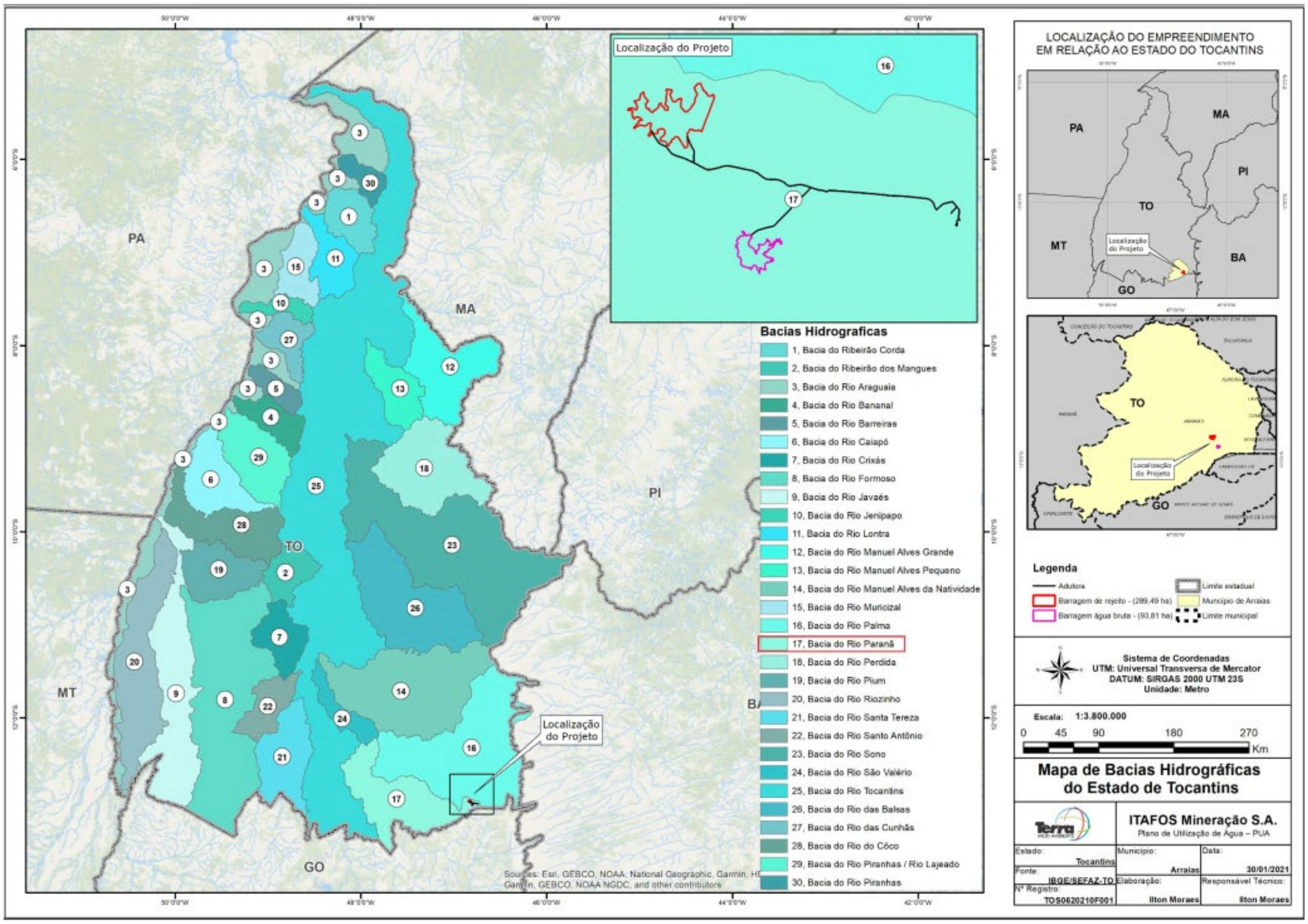
Open Pit Design Parameters	
Bench Height	5 m (two stacked 2.5 m benches)
Berm Width	2.5 m
Bench Face Angle	70°
Inter-Ramp Angle	49°
Ramp Width	15 m
Ramp Gradient	10%

16.2.2 Hydrological

The municipality of Arraias, in the southeast of the state of Tocantins, is located in the Araguaia-Tocantins hydrographic basin, according to the classification of the National Water Agency (ANA). This region covers the main watercourses of the state, with a predominance of the Tocantins River basin.

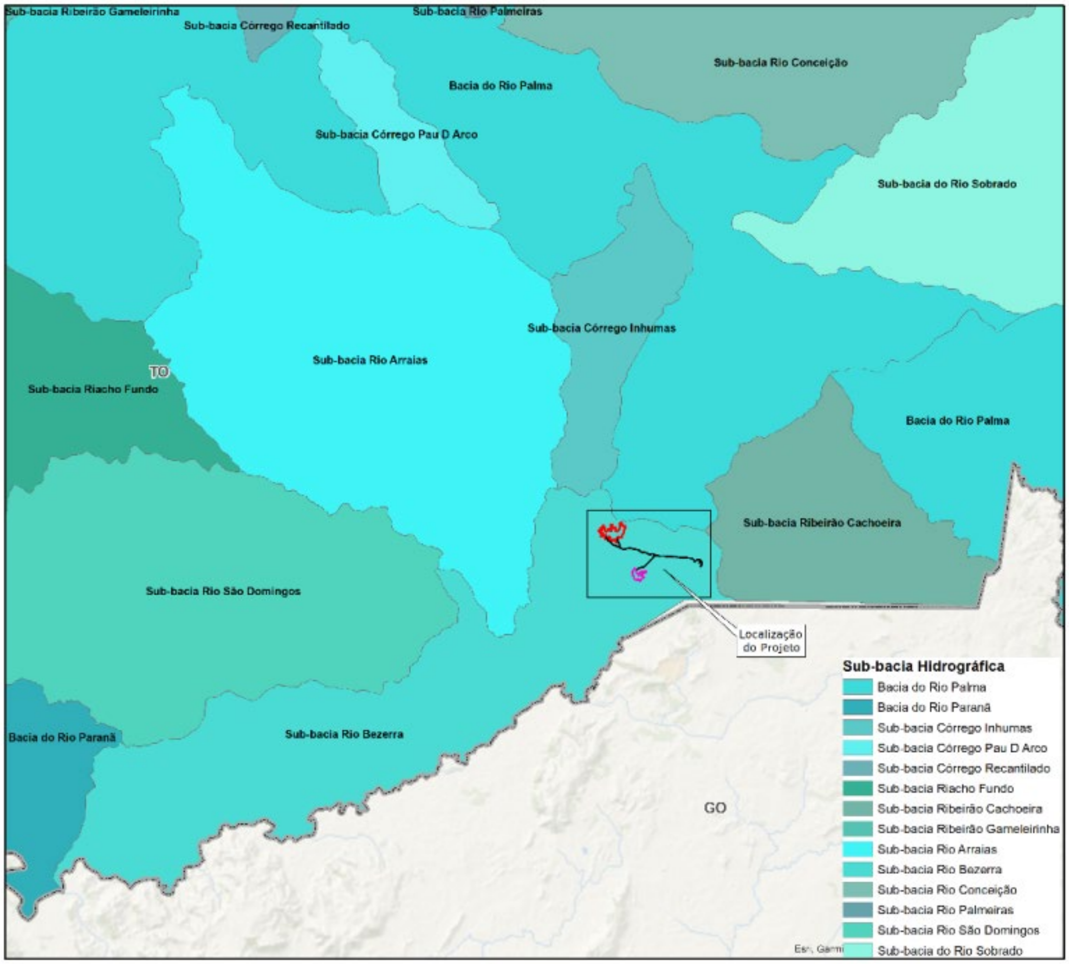
The Project is located in the hydrographic basin of the Paranã River, one of the main tributaries of the right bank of the Tocantins River (Figure 16.1). More specifically, it is part of the sub-basin of the Bezerra River (Figure 16.2), located between the sub-basins of the São Domingos, Arraias, Palma, Córrego Inhumas and Ribeirão Cachoeira rivers, and all these watercourses are part of the Paranã hydrographic system and play an important role in regional drainage (PUA, 2021).

Figure 16.1: Map of the Hydrographic Basins of the State of Tocantins



Source: Water Use Plan (PUA), Terra Meio Ambiente, 2021

Figure 16.2: Maps of the Sub-Basins of the State of Tocantins



Source: Water Use Plan (PUA), Terra Meio Ambiente, 2021

Despite the relatively dry climate of the region, the hydroelectric potential is significant, with several plants in operation in the region, such as São Domingos, São Salvador, Areia, Diacal, among others (EIA, 2010).

In 2010, an Environmental Impact Study (EIA) was prepared by the company Prominer Projetos Ltda, which covered the project area, located at the confluence of important water bodies, such as the Bezerra River and the Poção Stream, as well as other watercourses such as the Cachoeira Stream, Gameleira Stream, Tiúba and Bom Sucesso Stream. These water bodies, with perennial and intermittent regimes, are part of the hydrographic system of Paranã and are of strategic importance both for the regional water balance and for the planning of mining operations. Water availability and its geographical distribution reinforce the need for an integrated management of water resources, considering flow regimes, multiple uses and conservation of aquatic ecosystems.

To support this management, 13 fluviometric stations in the Tocantins basin were identified in the vicinity of the Project (up to 100 km), of which only 4 had historical series longer than 20 years, with complete data up to 2005, at the time of the development of the EIA in 2010. These series were fundamental to define reference flows and guide the limits of abstraction granted.

In 2017, Multi Consultoria Ambiental e Mineral developed a project for a waste pile with a capacity to store 24 Mm^3 of material, with a view to opening new open-pit mines, resulting in the removal of large volumes of waste material. For this structure, an integrated drainage system was provided to ensure its geotechnical stability and mitigate environmental impacts related to surface runoff. The system includes four main components: foundation drainage, peripheral drainage, secondary surface drainage, and erosion control measures.

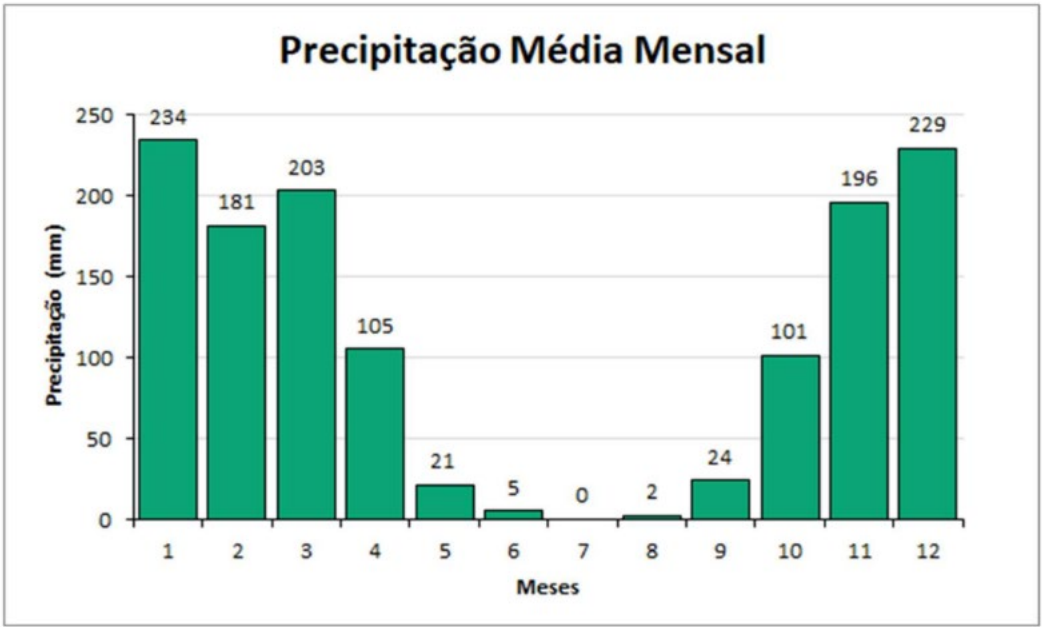
The drainage of the foundation, the first component planned to be executed, is composed of excavated drains 1.5 m wide by 1.0 m deep, filled with granular material (80% cracked and 20% gravel), and aims to intercept and conduct groundwater or infiltrated water at the base of the pile. The peripheral drainage was dimensioned by half-pipe channels of 0.80 m in diameter, which intercept rainwater from adjacent areas at upper elevations, safely leading it to trapezoidal ditches by means of collection boxes. Secondary surface drainage, on the other hand, includes 0.40 m channels along the slope bases, interconnected by hydraulic ladders that converge to a central channel draining into a 1 m^3 collection box. On the crest of the pile, additional channels were provided to prevent direct runoff and erosion on the slopes. As complementary measures, revegetation with native grasses, mainly the forage peanut (*Arachis pintoi*), and the construction of a sediment dam downstream were planned. It was informed that the system would be maintained through biweekly inspections and monthly topographic control.

The Project plan also has a tailings containment dam located on the Bezerra River, a tributary of the right bank of the Paranã River. This structure's main functions are the disposal of tailings from the beneficiation of phosphate rock, the retention of sediments from its contribution basin, the recirculation of industrial water, and the perennial of the downstream watercourse.

According to the Dam Safety Plan (PSB), prepared in 2023 by Terracota Consultoria e Projetos Ltda., the tailings dam was inactive at the time of the study, and the tailings disposal was ceased in April 2019. At that time, the reservoir formed by the dam had an estimated total volume of 12.28 Mm^3, of which about 4.41 Mm^3 are occupied by tailings and 1.16 Mm^3 by water. The useful volume of the reservoir up to the elevation of 635.0 masl was mentioned as being 3.93 Mm^3 and the volume available for damping was approximately 6.71 Mm^3.

Also in 2023, Terracota carried out hydrological and hydraulic studies to design the overflow system of the tailings dam, in accordance with ANM Official Letter No. 28614/2022. According to the study, the dam's contribution area covers about 57.83 km^2, composed of native vegetation, exposed soils, and water bodies. The Campos Belos (1346004) rainfall station, located 16 km from the area, was adopted as a reference, with an average annual rainfall of 1,301 mm between 1973 and 2020. The average monthly rainfall can be seen in Figure 16.3. It should be noted that the Maximum Probable Precipitation (PMP), for 24 hours, was estimated at 460 mm based on the Hershfield method, considering nine regional stations.

Figure 16.3: Average Monthly Rainfall at the 1346004 station – Campos Belos



Source: Hydrological-Hydraulic Studies, Terracota 2023

The maximum flow rates were simulated by modeling in the HEC-HMS 4.9 software. The dam has a damping capacity of 6.71 Mm³, and its overflow system is capable of discharging up to 239 m³/s. For events with a return time of 1,000 years, the estimated maximum effluent flow was 132.1 m³/s, with a freeboard of 1.32 m; for 10,000 years, the estimated flow was 174.1 m³/s, with a freeboard of 0.77 m in relation to the Maximum Water Level.

It was found that the current overflow system is adequate for flows associated with return times of up to 10,000 years, but does not meet the PMP, if its current configuration is maintained. The hydraulic check also pointed to overflow in the intermediate section of the channel during decamillenary flows, due to the transition between the stretches in rockfill and reinforced concrete. Despite this, according to Terracota (2023), as it is an area far from the dam massif, this condition does not pose an immediate risk to the structure. It was recommended, however, to prepare a project to adapt the overflow system to fully comply with ANM Resolution No. 95/2022, considering the most restrictive scenario between 10,000-year TR or PMP, in order to accommodate a minimum freeboard equal to or greater than 1 (one) meter.

The simulation of a hypothetical rupture (dam break) of the tailings dam, associated with the cascade rupture of the water catchment dam, is part of the Emergency Action Plan for Mining Dams (PAEBM), prepared by Terracota Geotecnia in 2022. The rupture study, also developed by Terracota Geotecnia in October 2022, considered a scenario with failure due to overtopping of the tailings dam, whose summit is at an elevation of 640.0 masl, triggering the subsequent rupture of the water catchment dam.

The resulting flood area extended for approximately 65 km, reaching the stopping criterion defined in the study. The Self-Rescue Zone (ZAS) was established based on the distance criterion, covering the first 10 km downstream of the dam. The portion of the slick that exceeds this limit was classified as a Secondary Rescue Zone (ZSS).

The area potentially impacted by direct damage, as a result of the flood wave, is predominantly composed of unpopulated regions, with low vegetation and tree cover. However, along the valley, some buildings scattered on rural properties, a small community, as well as relevant infrastructures such as state highways TO-296 and TO-050 / GO-118, the Bella Acqua Park recreation club, the Balneário do Rio Bezerra, local accesses, pastures, plantations, and small dams were identified.

In addition to the tailings dam, according to information obtained from the Regular Safety Inspection Report (RISR) of November 2024 (prepared by Terracota Geotecnia), the Itafos Project has a water catchment dam, located on the Bezerra River, built between November 2011 and January 2013. It is a gravity-type dam, with a central core in Roller Compacted Concrete (CCR) and jambs in compacted clay soil and rockfill. The crest is at an elevation of 599.70 masl, with a maximum height of 28.7 m and an approximate length of 123 m. The dam forms a reservoir with a total volume of 9,428,000 m³, of which 876,000 m³ were occupied by sediments in October 2023. The useful volume available for water accumulation is 4,184,000 m³ and the volume available for damping is 4,368,000 m³.

The dam's overflow system is of the Creager type, with a step channel and dissipation basin. It has a maximum flow capacity of 246.47 m³/s for events with a return time of 1,000 years, resulting in a minimum freeboard of 0.51 m, insufficient to support the breaking of wind waves, calculated at 0.90 m. Overtopping was observed for 3 durations (2, 3 and 5 days) for TR of 10,000 years and, for PMP, overtopping of the structure was observed for durations from 3 hours or more. Thus, the RISR consulted, dated 2024, did not attest to the hydraulic safety of the dam. The overflow channel is in good operational condition and is unobstructed; however, it was recommended to recover the concrete on all damaged steps, thus avoiding the worsening of the situation.

The structure also has two auxiliary dams, located on the left and right banks of the reservoir, for closing topographic saddles. Both have a core of clay soil and a rockfill coating. During construction, a diversion gallery with a section of 4 m by 4 m was used. Due to leaks, plugs were built in 2017 for sealing. Although the initial project did not provide for automated instrumentation, five topographic landmarks were installed at the top of the dam to monitor settlements.

The simulation of a hypothetical rupture (dam break) of the water catchment dam, with the delimitation of the potentially flooded area, is part of the Emergency Action Plan (PAE) prepared by Terracota Geotecnia in 2023. The rupture study, also developed by Terracota Geotecnia in November 2022, considered a scenario of isolated failure of the water catchment dam by overtopping, as described in the PAE.

In this scenario, the projected flood area reaches about 57 km, meeting the stopping criterion defined in the study. The Self-Rescue Zone (ZAS), established based on the criterion of wave arrival time (30 minutes), extends for 5 km downstream of the dam. The areas beyond this boundary make up the Secondary Rescue Zone (ZSS).

The potentially impacted region includes inhabited areas with the presence of human circulation, which reinforces the need to intensify monitoring and control measures of the structure. Impacts were also identified on side roads, the TO-050 / GO-118 highway, the Bella Acqua Park water park, the Bezerra River Resort, as well as riparian forest areas and areas intended for agriculture.

According to the Water Use Plan (PUA) prepared by Terra Meio Ambiente, in 2021, a preliminary water balance was developed based on existing information, focusing on the dams operated by Itafos. Regarding the tailings dam, it did not have, at the time, direct flow measurements, as also identified in the Basic Project of Pimenta de Ávila, prepared in 2012, which imposed limitations on the estimates. Even so, the available data allowed indication of water viability for the initial phases of the project. The implementation of a hydrometeorological monitoring system was recommended to support water planning with greater precision.

According to the PUA, the total water consumption of the project was estimated in 2021 at 2,474 m³/h, with approximately 28% of this volume supplied by raw water withdrawal from the water dam and the remaining from recirculation from the tailings dam. The main demand is associated with mineral processing, with consumption of 2,145 m³/h, of which about 83% is met by recirculation from the tailings dam.

Also in the PUA, based on the potential impacts identified on the Bezerra River as a result of the operation of the tailings and water catchment dams, mitigating measures were defined aimed at preserving environmental quality and complying with regulatory requirements. Among the actions planned, the following stood out:

- Implementation of vegetation cover on the slopes of the dams, as part of the stabilization and erosion control actions;
- Guarantee of minimum remaining flow in the Bezerra River, according to values granted by ANA: 40 L/s for the tailings dam and 90 L/s for the water catchment dam;
- Supervision of the operation of the dams by a specialized technical team;
- Qualitative and quantitative monitoring of the water downstream of the dams, based on the standards of CONAMA Resolution No. 357/2005 and on the background data obtained during the EIA/RIMA;
- Adoption of water control and treatment measures, when necessary, with attention to critical parameters such as phosphorus, sulfides, and ammonia nitrogen.

It was emphasized that these measures aim to ensure the hydrological balance and environmental integrity of the Bezerra River basin during the operation of the project.

No hydrological constraints or considerations were taken into account in the PEA Life of Mine Plan. The existing drainage structures on site have successfully managed surface water on the mine site. Additional surface water management plans will need to be developed for Cana Brava, Coité, and Near Mine in future studies.

16.2.3 Hydrogeological

16.2.3.1 Aquifers in the Project Area

According to Prominer Projetos Ltda (2010), the Itafos Project area includes the following aquifer systems:

- Crystalline Aquifer System (Aurumina Suite):
  - Geology and location: Composed mainly of leucocratic granites and tonalites, locally milonitized, this aquifer is found in the western part of the area, in the region where the tailings dam is located.
  - Hydrogeology: The aquifer consists of porous weathered mantles and fractured zones at depth. It is regionally distributed as a porous mantle, with low yields suitable for domestic use via shallow wells (up to 10 m deep).
  - Characteristics: Highly anisotropic, unconfined, and of limited potential, the aquifer is exploited by tubular wells (100–160 m deep). Average hydraulic conductivity is 1.6×10^{-6} m/s, and transmissivity is 1.8×10^{-4} m^2/s. Average yields are about 7,500 L/h, with a maximum of 20,000 L/h and specific capacity of 0.664 $m^3/h/m$.[1]
  - Recharge and drainage: Recharge areas are to the east, with water infiltrating through exposed soils and granites. Main perennial streams include the Poção creek and Bezerra river.
- Fractured Aquifer System (Araí Formation):
  - Geology and location: Consists of polymictic metaconglomerates with granite clasts in a sandy matrix, found in the western area, in contact with the Aurumina Suite and Bambuí Group.
  - Hydrogeology: Controlled by rock fracturing, which governs recharge and spring locations. Physical parameters such as conductivity and transmissivity are high, but storage is lower. By analogy with similar systems, productivity is high with moderate specific yields.
  - Yields: Data from nine wells from indicate average yields of 9 m^3/h, with a range from 5 to 19 m^3/h.[2]
- Karst Aquifer System (Bambuí Group):
  - Geology and location: Represented by the Sete Lagoas Formation, comprising marls, massive and laminated siltstones, calcareous and phosphatic siltstones, laminated and banded limestones, and dolomites forming isolated hills and ridges.
  - Hydrogeology: Characterized by extensive areas without surface water, with drainage occurring underground through depressions, conduits, fractures, and caves. The system exhibits rapid

[1] Data from public database and literature referred in Prominer Projetos Ltda. (2010).

infiltration and complex groundwater flow, with anomalies in flow direction relative to the regional potentiometric gradient.

- Recharge and features: Typical karst features such as dolines and caves serve as recharge areas, capturing water from micro-basins. Cave conduits follow local fracture patterns (N40E and N50W).
- Additional units: The Serra de Santa Helena Formation, composed of silicified siltstones, is anisotropic due to low primary porosity and forms elongated hills in the eastern area.

- Phreatic Aquifer System:
  - Geology and location: Composed of intergranular, unconfined aquifers with significant lateral extent, mainly affecting recharge of deeper reservoirs and regulating surface drainage over fractured aquifers.
  - Hydrogeology: Represented by various soils (cambisols, latosols, argisols) with "stone lines," formed by alternating torrential rains and dry periods. Thickness varies from 2 to 5 meters.
  - Hydraulic properties: Surface hydraulic conductivity ranges from 10^{-7} to 10^{-4} m/s, and at depth from 10^{-9} to 10^{-4} m/s. Average values are 3.3×10^{-5} m/s (surface) and 4.0×10^{-6} m/s (depth). Total porosity exceeds 20%, with effective porosity estimated at 7–9%.
  - Function: Acts as a filtering medium for water percolation to other aquifers, especially the phreatic aquifer, given the limited perennial surface drainage.

16.2.3.2 Well Data and Water Levels

According to Prominer Projetos Ltda (2010), a survey of deep tubular wells in the area, based on the CPRM SIAGAS database, found 16 wells in the municipality of Arraias but none within the Itafos Project boundary. No deep wells were available for physical-chemical or bacteriological water analysis.

According to Prominer Projetos Ltda (2010), water levels from 26 Itafos drill holes at the time the ESIA was prepared (prior to the development of the mine) indicated water levels ranging from 37 to 50 m below ground level.

16.2.3.3 Surface Water and Drainage

According to Prominer Projetos Ltda (2010), two field surveys (February and June 2010) confirmed that the only water point within the project area was a spring at UTM coordinates 23L 307,059 E / 8,571,434 N. Several dry river channels were observed, attributed to the presence of carbonates and the karst aquifer. Drainage over the Sete Lagoas Formation is intermittent, with water present only after rainfall, quickly infiltrating through fractures. During heavy rains, water accumulates in siltstone areas, forming temporary lakes that dry as water infiltrates the karst system. The main perennial watercourses are the Poção and Salobro do São Bento creeks and the Bezerra river, which flow over Aurumina Suite and Araí Formation rocks.

16.2.3.4 Aquifer Vulnerability Assessment

Prominer Projetos Ltda (2010) assessed the natural environmental vulnerability of the aquifers (i.e., risk of contamination in case a surface pollution load exists) in the Project area using the G.O.D. methodology (Groundwater occurrence; Overall lithology of unsaturated zone; Depth to the groundwater table) proposed by Foster % Hirata (1993) and existing information about:

- Hydraulic confinement degree (condition of groundwater occurrence).
- Lithological substrate occurrence.
- Water table depth.

Each parameter was assigned a value (0–1), and the natural vulnerability index was calculated by multiplying these values. The results indicate vulnerability as negligible, low, medium, high, or extreme.

The analysis found:

- Low vulnerability in the Aurumina Suite (granites and tonalites).
- Moderate vulnerability in the Araí Group (metaconglomerates) and Serra de Santa Helena Formation (silicified siltstones).
- High vulnerability in the Sete Lagoas Formation of the Bambuí group (karst system), due to high transmissivity, hydraulic conductivity, and recharge zones.

16.2.3.5 Aquifer recharge

Data from aquifer recharge tests carried out in September 2025 (dry season) by Itafos in two sumps in the Domingos pit area were available for review. The tests indicated aquifer recharge values of 491.68 m^3/h in the area of the main sump and 16.66 in the area of sump 2024, with water level initiating and stabilizing at levels 676 m and 679 m respectively.

Current operations in the Domingos Pit do not encounter substantial hydrogeological conditions, and normal pit dewatering techniques are sufficient to keep the mining operations in a dry condition.

No hydrogeological constraints or considerations were considered in the PEA Life of Mine Plan. Additional review of this point will be required in further studies.

16.3 Life of Mine Plan

16.3.1 Pit Design

Mine planning at Arraias follows the typical standards for open pit mining. The processes include:

1. Application of dilution and recovery factors

2. Development of a value for each of the blocks in the model
3. Perform pit optimization and select optimal pit shell to be used for the basis of the ultimate pit design
4. Ultimate pit design
5. Develop phase designs
6. Develop mine planning targets and constraints.

For this PEA, the unconstrained theoretical ultimate pit shells for each deposit were used as the basis for the mining sequence. In future studies, the ultimate pit shells will be refined to incorporate mine design elements such as benches, berms, ramps, and roads.

16.3.2 Overburden Storage Area Design

An Overburden Storage Area (OSA) near the Domingos pit was identified by Itafos and considered by WSP in the mine scheduling process. Additional OSAs will be required for Cana Brava, Coité, and Near Mine to store overburden until in-pit backfilling can begin.

16.3.3 Production Schedule

The production schedule was developed to target the conglomerate and breccia tonnes necessary to meet the annual fertilizer production targets. The production parameters are summarized in Table 16.2. Based on the processing recovery and proportion of sulfuric acid present in the final product, approximately 45,000 tonnes of conglomerate and 295,000 tonnes of breccia are required annually.

Table 16.2: Production Schedule Targets

Target	Rock Type	Annual Product Quantity (tonnes)	P_2O_5 Metallurgical Recovery	Concentrate Grade	Concentrate: Sulfuric Acid Ratio	ROM Ore Required (tonnes)
Product: DAPR	Conglomerate	45,000	100%	12%	100:0	45,000
Product: PAPR	Breccia	60,000	95%	16%	80:20	48,000
Product: SSP	Breccia	170,000	45%	28%	65:35	245,556
Total		**275,000**				**338,556**

The mine production schedule was created using Hexagon MinePlan and is shown in Table 16.3. Phosphate rock will be extracted solely from the Domingos Pit for 2 years, before the Cana Brava Pit is placed into operation. Starting in the third year, the two deposits will be mined concurrently; the breccia from Domingos will be blended with the breccia from Cana Brava to achieve a 16% P_2O_5 feed grade into the plant. The target feed grade for conglomerate was 12% P_2O_5 over the LOM. When the Cana Brava deposit is mined out after approximately 8 years of the total mine life, Coité will be opened and the phosphate rock from Coité will be blended with the Domingos material to meet the required plant feed grade. When Coité is exhausted after approximately the 12th year of the mine plan, the Near Mine deposit will be mined together with the remainder of the Domingos pit. The current life of mine plan for the resources extends for a period of about 14 years. The mining sequence for each pit is shown in Figure 16.4 through Figure 16.15.

Table 16.3: Production Statistics

Year	Breccia Mined		Conglomerate Mined		Waste Mined	Breccia Processed		Conglomerate Processed[1]	
	000 t	% P_2O_5	000 t	% P_2O_5	000 t	000 t	% P_2O_5	000 t	% P_2O_5
Year 1	765.1	17.9	45.1	12.12	1,999.4	270.0	16.1	44.9	12.1
Year 2	296.7	16.12	97.0	11.19	2,405.7	291.1	16.1	45.0	12.0
Year 3	322.6	15.67	196.4	10.82	2,095.9	293.6	16.0	45.0	12.0
Year 4	44.5	14.64	68.0	12.01	2,249.5	293.6	16.1	45.0	12.1
Year 5	524.9	16.46	202.2	13.4	1,472.9	293.6	16.1	45.0	12.1
Year 6	214.2	15.56	8.7	10.84	2,300.5	293.0	16.1	45.0	12.0
Year 7	423.8	13.96	139.6	11.31	1,997.7	293.0	16.1	45.0	12.0
Year 8	82.6	15.89	3.0	12.06	2,742.2	293.0	16.1	45.0	12.0
Year 9	550.6	15.89	10.6	11.59	2,496.1	293.0	16.1	45.0	12.0
Year 10	110.9	16.25	159.9	12	2,824.1	293.0	16.1	45.0	12.0
Year 11	12.0	16.68	--	--	3,034.3	293.0	16.0	45.0	12.0
Year 12	382.8	17.15	140.0	12.77	2,529.7	293.0	16.1	45.0	12.0
Year 13	95.0	13.63	17.0	10.64	1,747.8	293.6	17.8	45.0	12.0
Year 14	62.1	13.73	5.7	12.36	553.2	101.2	16.0	45.0	12.0
Total	**3,887.7**	**16.17**	**1,093.3**	**11.96**	**30,449.0**	**3,887.7**	**16.2**	**630.0**	**12.0**

Note: 1. Conglomerate Processed does not equal Conglomerate Mined. Conglomerate encountered during mining will be sold to the extent that the market will accept it. The remainder will be stockpiled, and this stockpiled amount was not included in the DCF.

16.4 Equipment Fleet

The phosphate-bearing rock at Arraias will continue to be recovered using open-pit conventional truck and excavator mining methods due to the proximity of the mineralization to the surface and the physical characteristics of the deposits. The infrastructure at Arraias is already in place and the Domingos pit is in production. Surface areas to be disturbed by the mining process are progressively cleared of vegetation ahead of pit advance. Waste is excavated by small hydraulic excavators and hauled by truck fleets to the ex-pit storage facility located on the western side of the pit. Dozers assist the loading fleet with general clean-up and material removal as necessary.

Mining activities at Domingos are currently carried out by contract miners, and this approach is also planned for the other deposits. The current primary mining equipment includes 2 Volvo EC250 hydraulic excavators, 2 Volvo EC210 hydraulic excavators, 18 haul trucks, 2 crawler dozers, 1 wheel loader, 1 motor grader, and 1 water truck. As overburden excavation requirements change to accommodate the required phosphate rock production, additional contractor equipment is added to the fleet.

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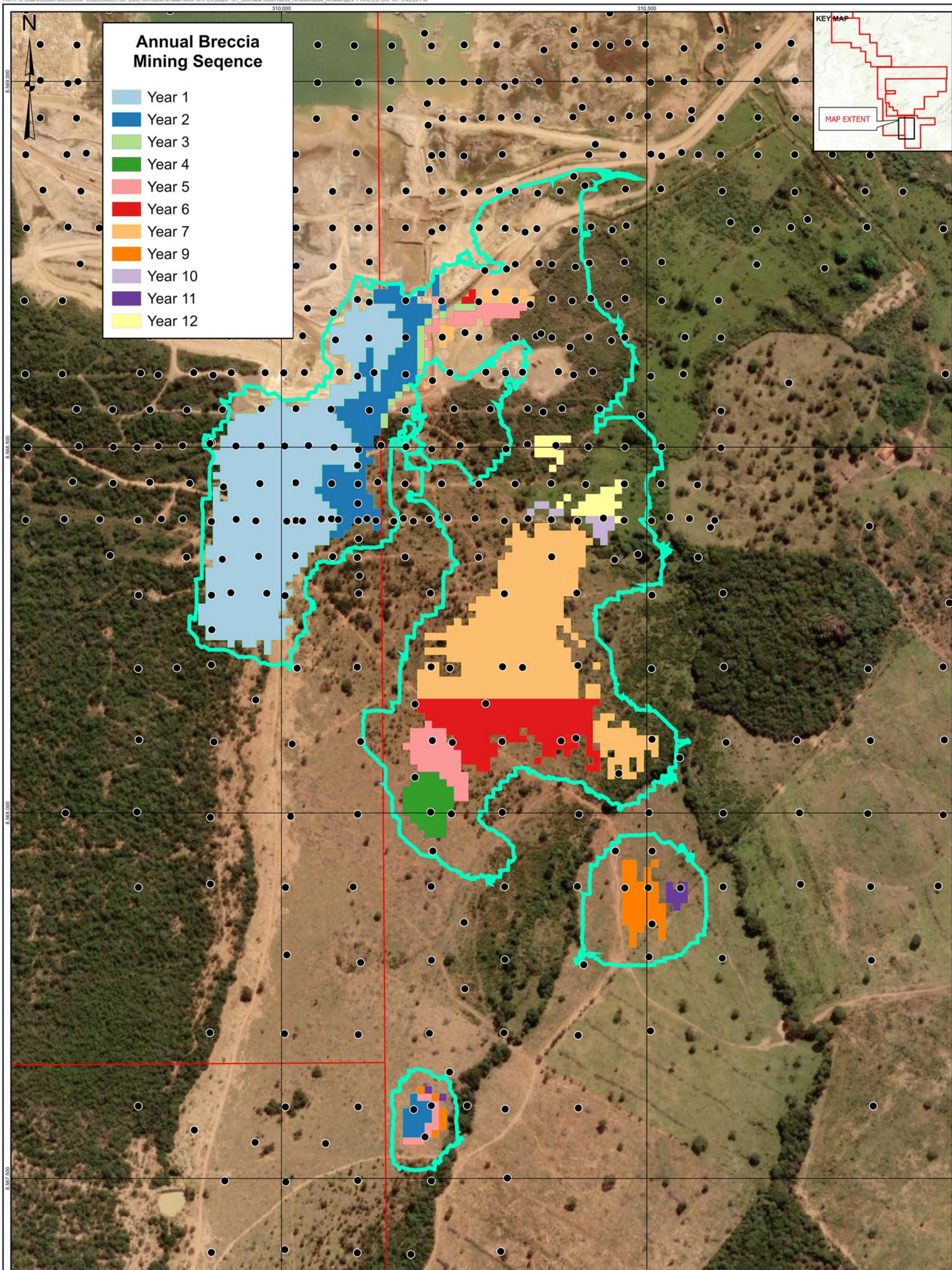

LEGEND

- Arraias Permits
- Drill Hole Location
- Resource Pit Outline

0 200 400

1:5,000 METERS

NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, FAO, NOAA, USGS

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
DOMINGOS ANNUAL BRECCIA MINING SEQUENCE MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JS
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.4

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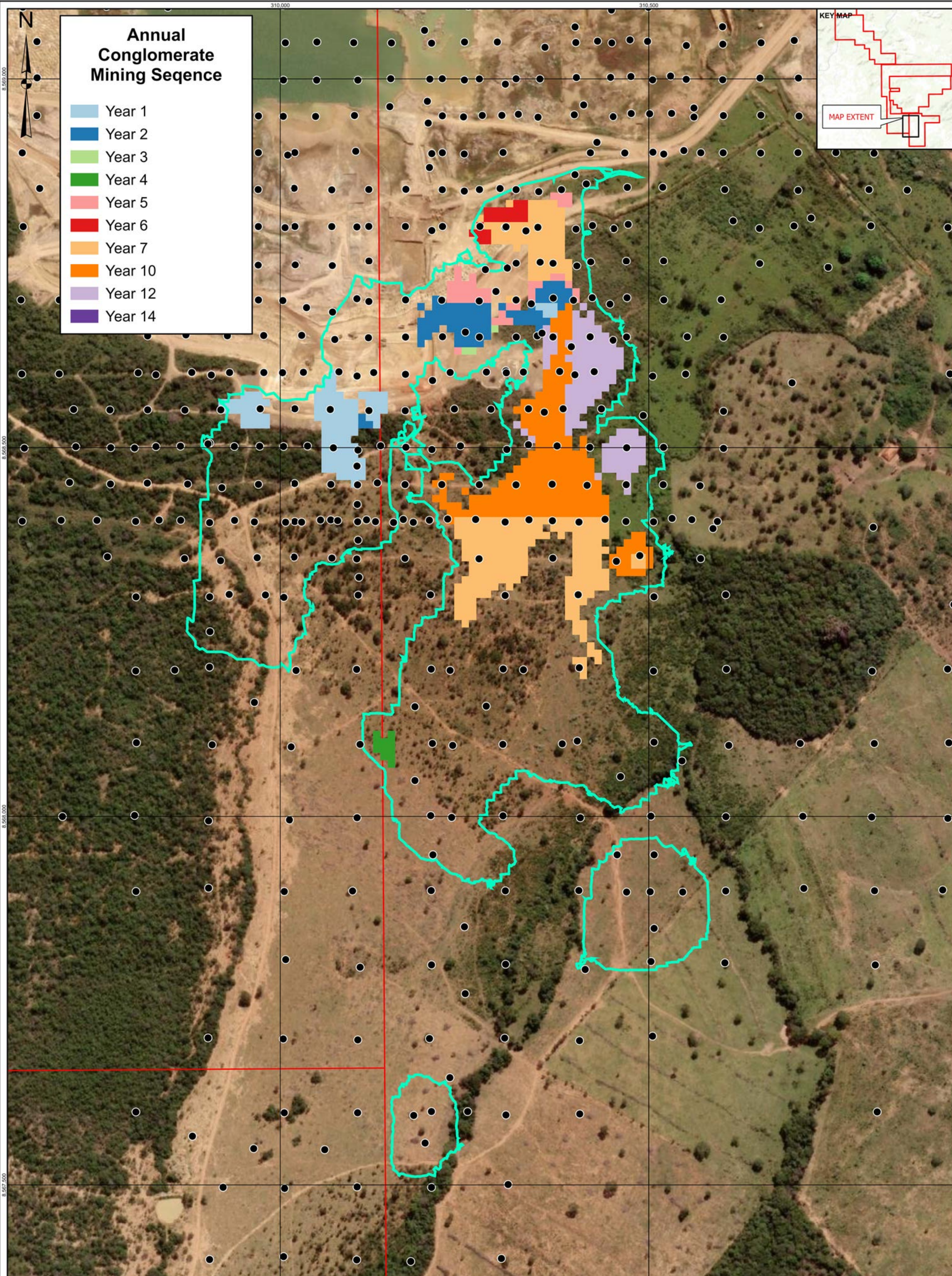

LEGEND

- Arraias Permits
- Drill Hole Location
- Resource Pit Outline

0 200 400

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NOTE(S)

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CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
DOMINGOS ANNUAL CONGLOMERATE MINING SEQUENCE MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JS
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.5

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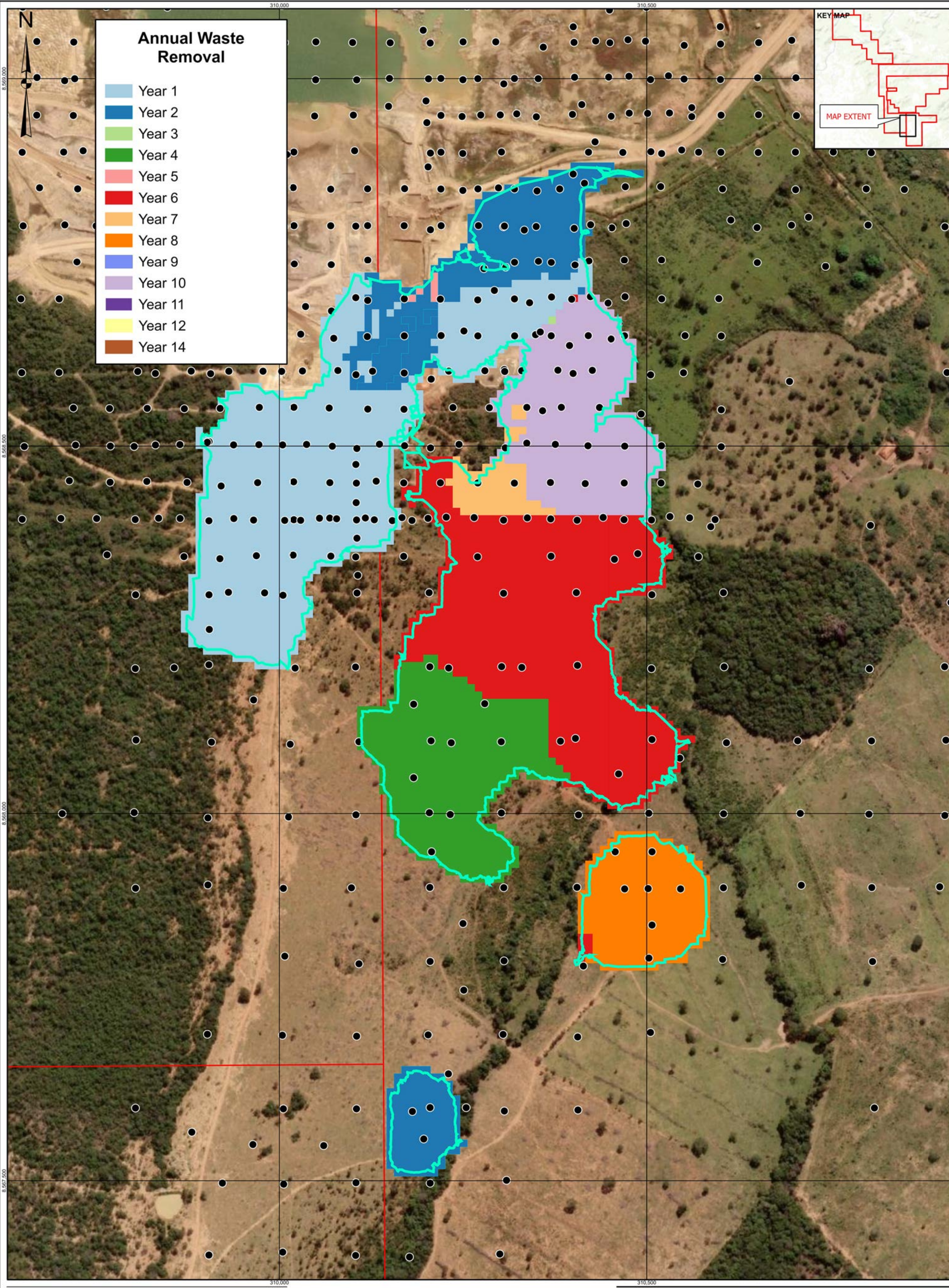

LEGEND

- Arraias Permits
- Resource Pit Outline
- Drill Hole Location

0 200 400

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NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

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2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, FAO, NOAA, USGS

CLIENT

ITAFOS INC.

PROJECT

ITAFOS ARRAIAS NI 43-101 PEA

TITLE

DOMINGOS ANNUAL WASTE REMOVAL MAP

CONSULTANT

wsp

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JS
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.6

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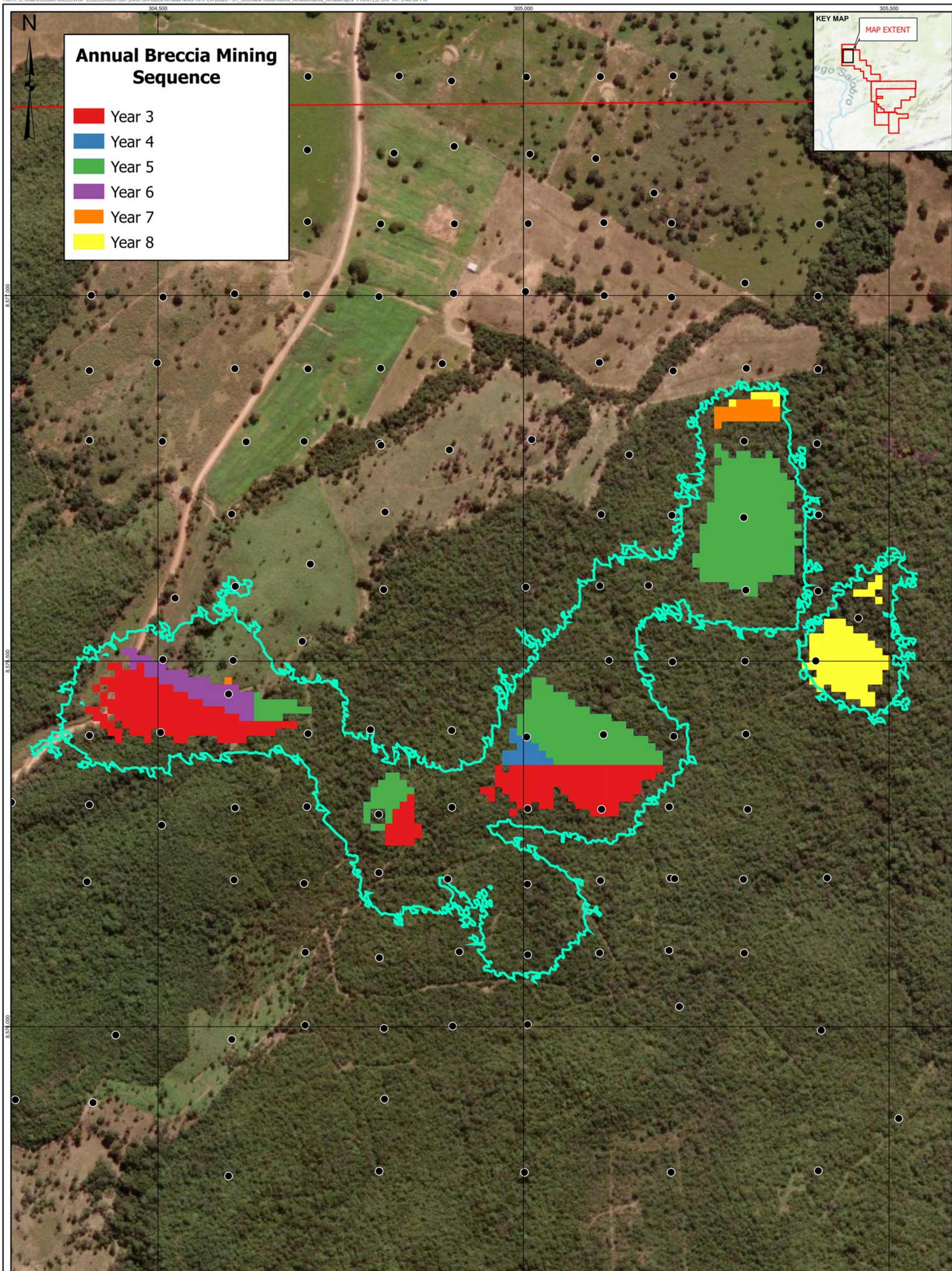

LEGEND

- Arraias Permits
- Drill Hole Location
- Resource Pit Outline

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1: 5,000 METERS

NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, FAO, NOAA, USGS

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
CAVA BRAVA ANNUAL BRECCIA MINING SEQUENCE MAP

CONSULTANT

wsp

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.7

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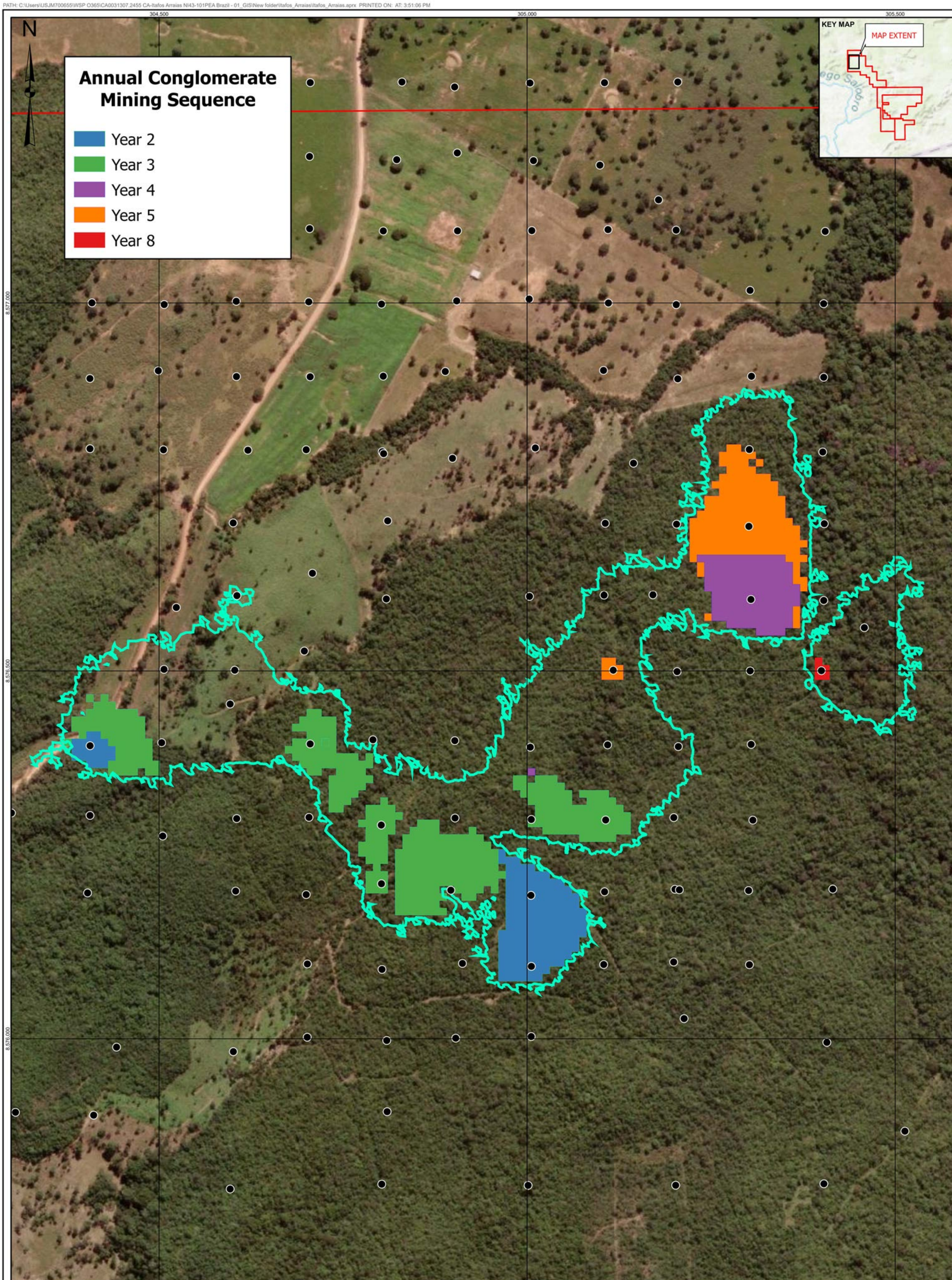

LEGEND
- Arraias Permits
- Drill Hole Location
- Resource Pit Outline

0 200 400
1: 5,000 METERS

NOTE(S)
SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)
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CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
CAVA BRAVA ANNUAL CONGLOMERATE MINING SEQUENCE MAP

CONSULTANT
wsp

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.8

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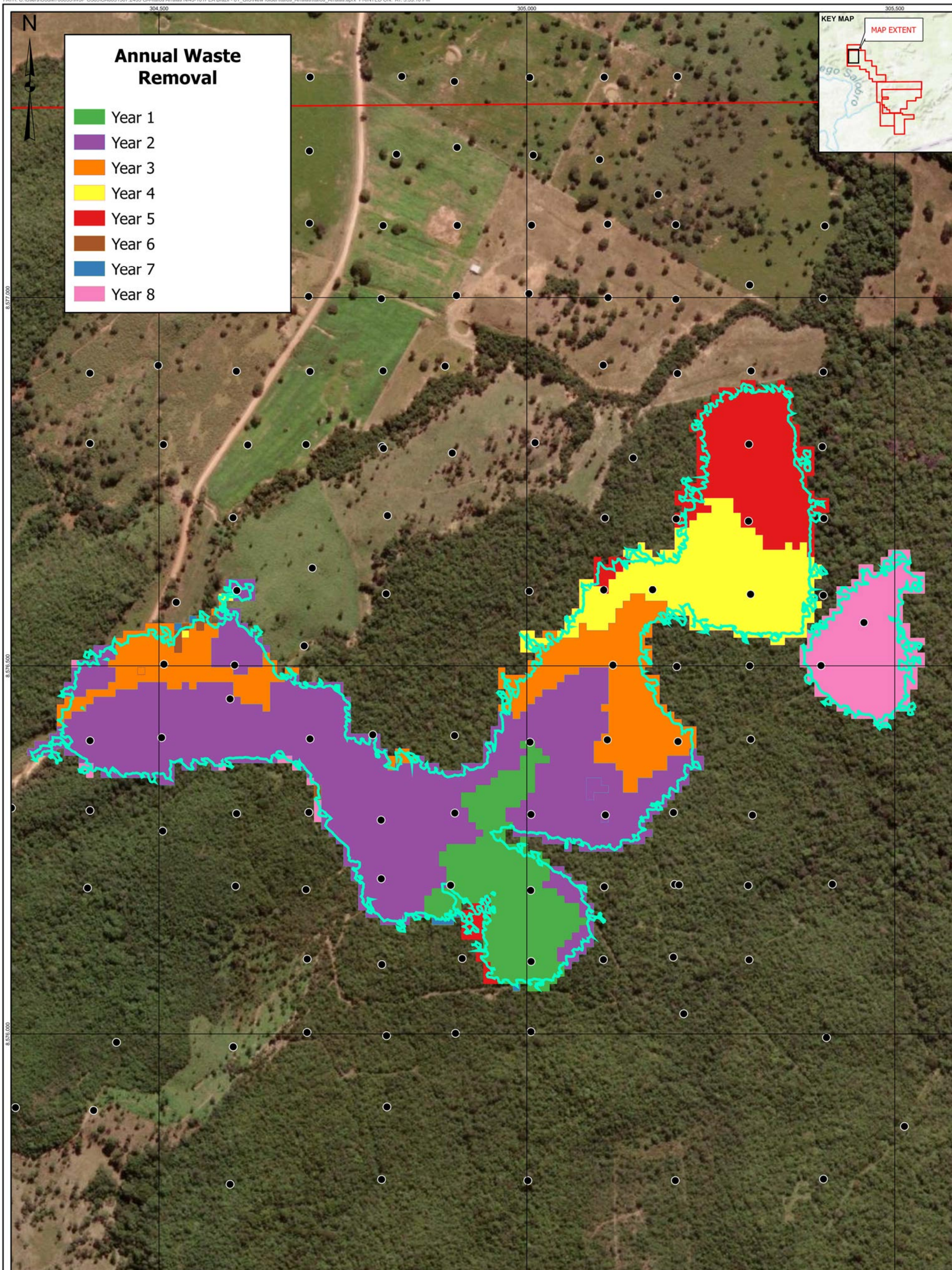

LEGEND

- Arraias Permits
- Drill Hole Location
- Resource Pit Outline

0 200 400

1: 5,000 METERS

NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

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CLIENT

ITAFOS INC.

PROJECT

ITAFOS ARRAIAS NI 43-101 PEA

TITLE

CAVA BRAVA ANNUAL WASTE REMOVAL SEQUENCE MAP

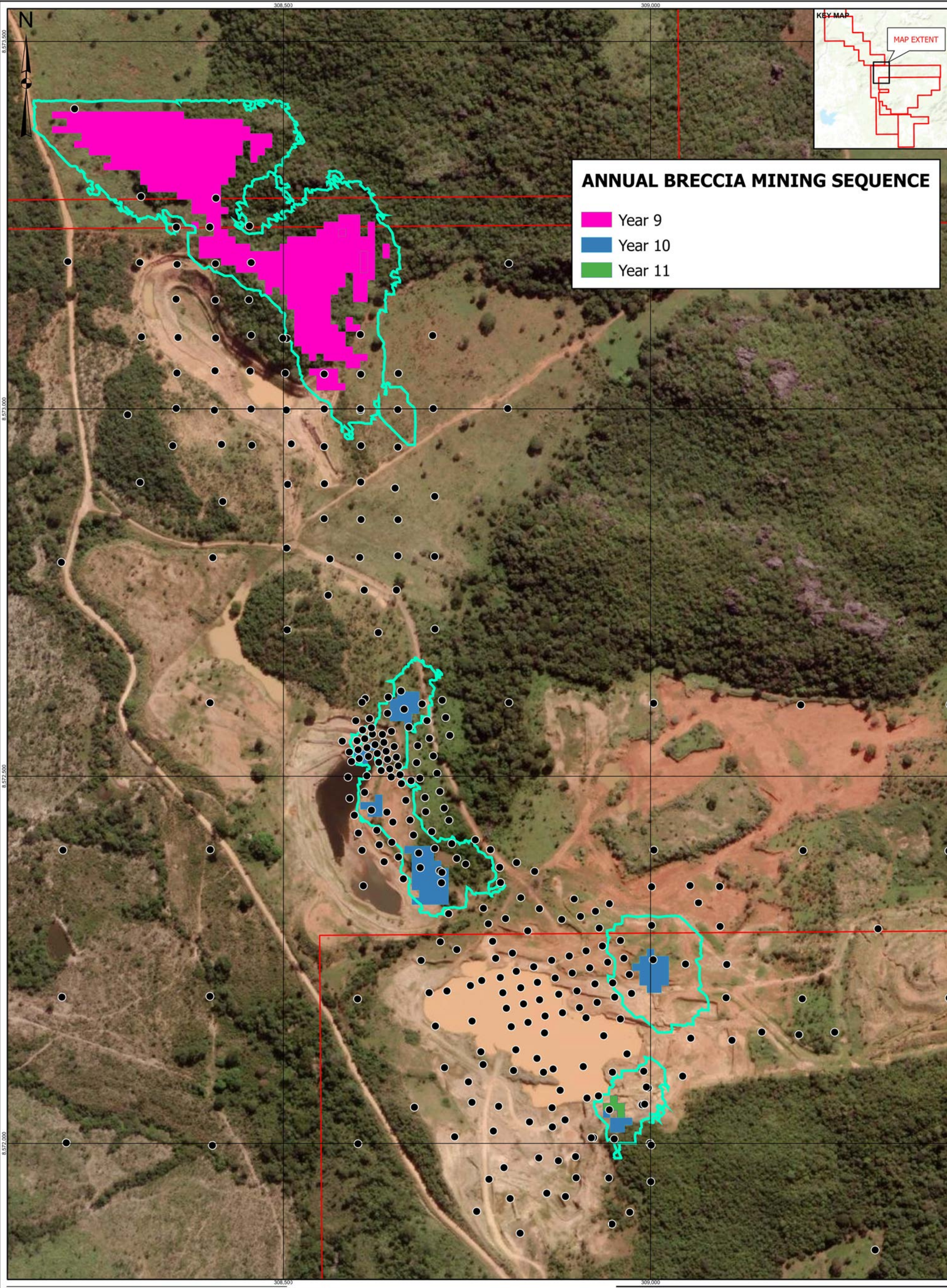
CONSULTANT

wsp

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- Arraias Permits
- Resource Pit Outline
- Drill Hole Location

0 200 400

1:5,000 METERS

NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, USGS, NGA

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
COITE ANNUAL BRECCIA MINING SEQUENCE MAP

CONSULTANT

wsp

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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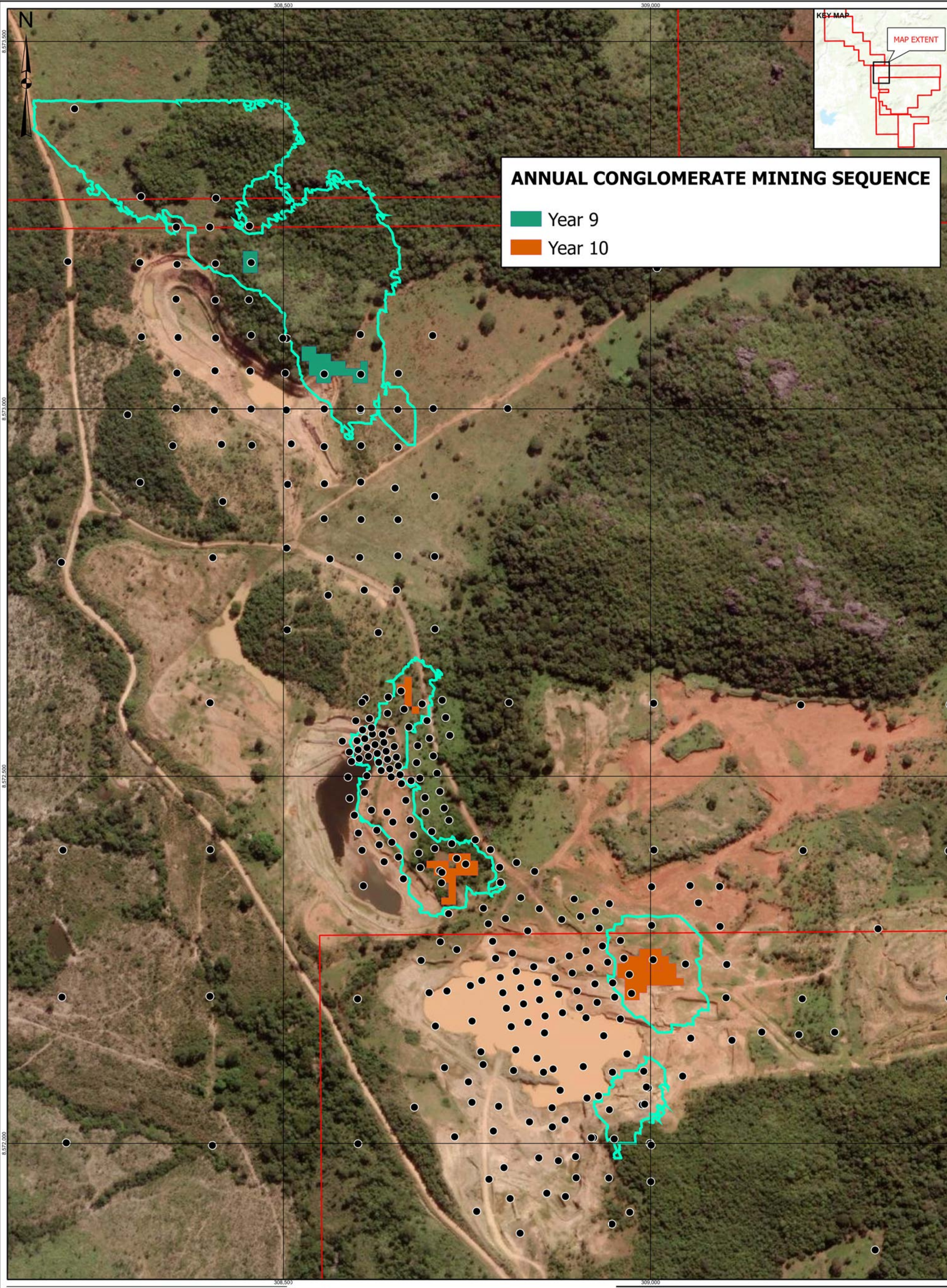

LEGEND

- Arraias Permits
- Resource Pit Outline
- Drill Hole Location

0 200 400

1:5,000 METERS

NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, USGS, NGA

CLIENT

ITAFOS INC.

PROJECT

ITAFOS ARRAIAS NI 43-101 PEA

TITLE

COITE ANNUAL CONGLOMERATE MINING SEQUENCE MAP

CONSULTANT

wsp

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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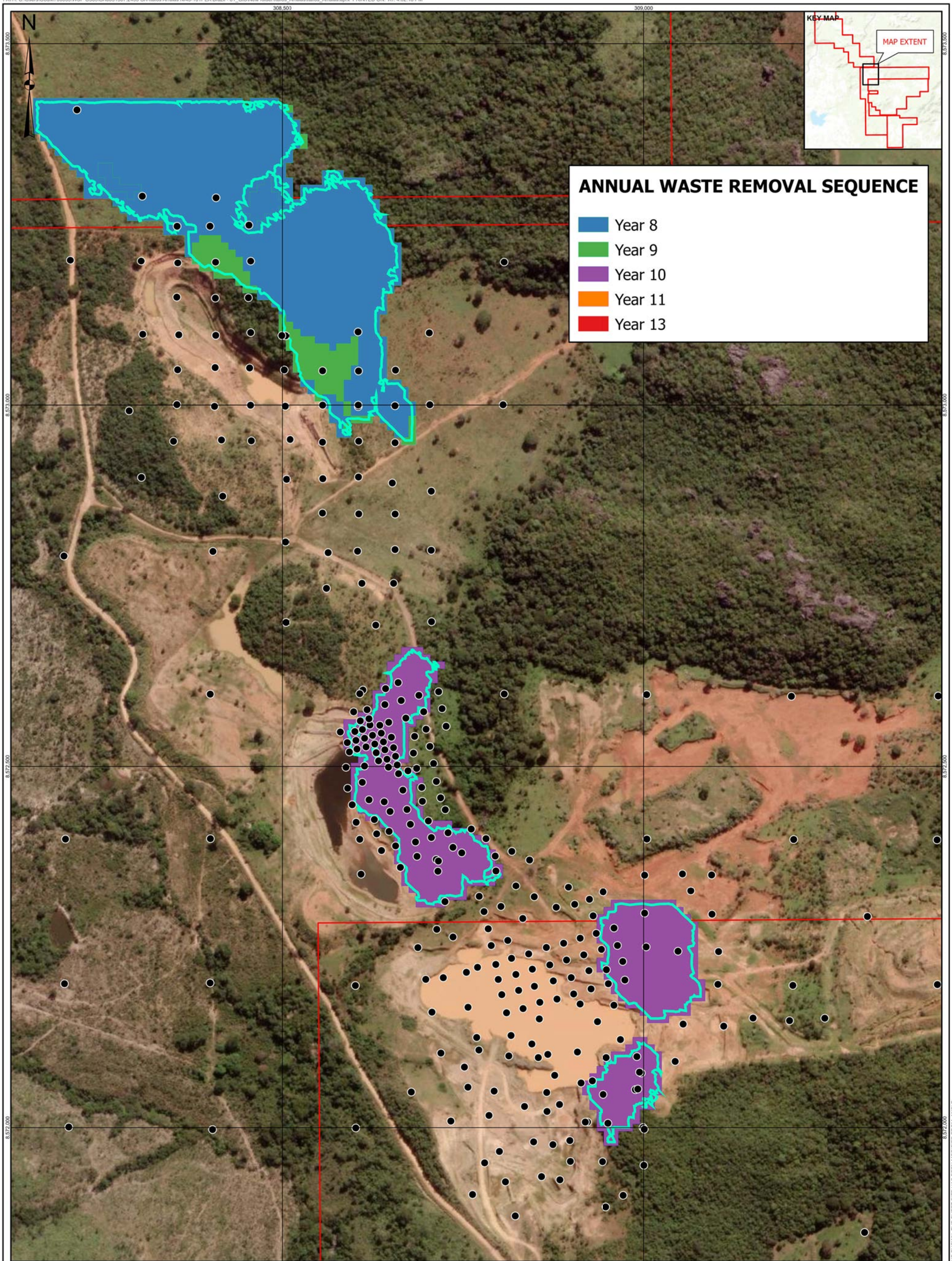

LEGEND

- Arraias Permits
- Drill Hole Location
- Resource PIt Outline

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NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, USGS, NGA

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
COITE ANNUAL WASTE REMOVAL SEQUENCE MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.12

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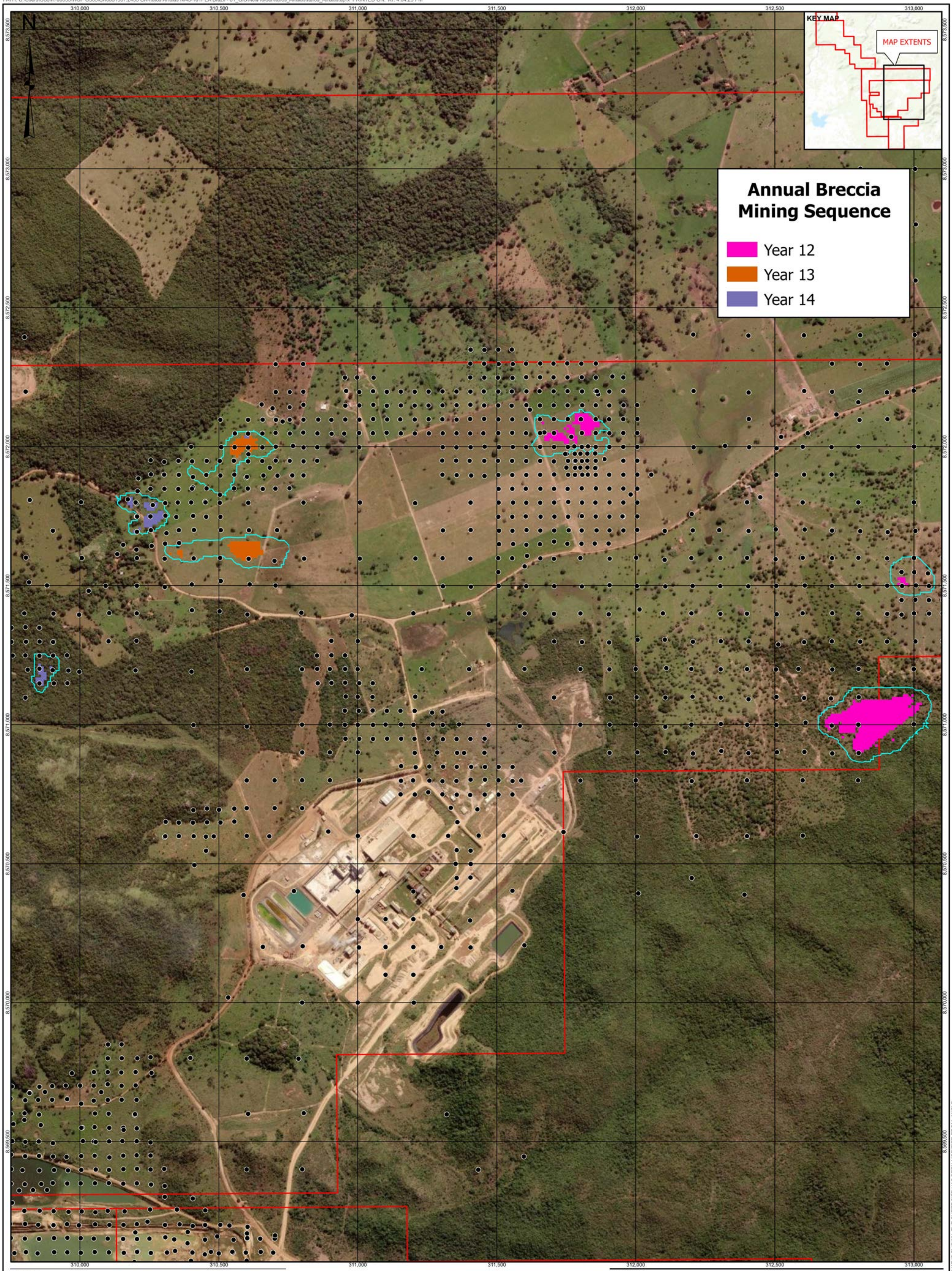

LEGEND

- Arraias Permits
- Resource Pit Outline
- Drill Hole Location

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NOTE(S)
SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, USGS, NGA

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
NEAR MINE ANNUAL BRECCIA MINING SEQUENCE MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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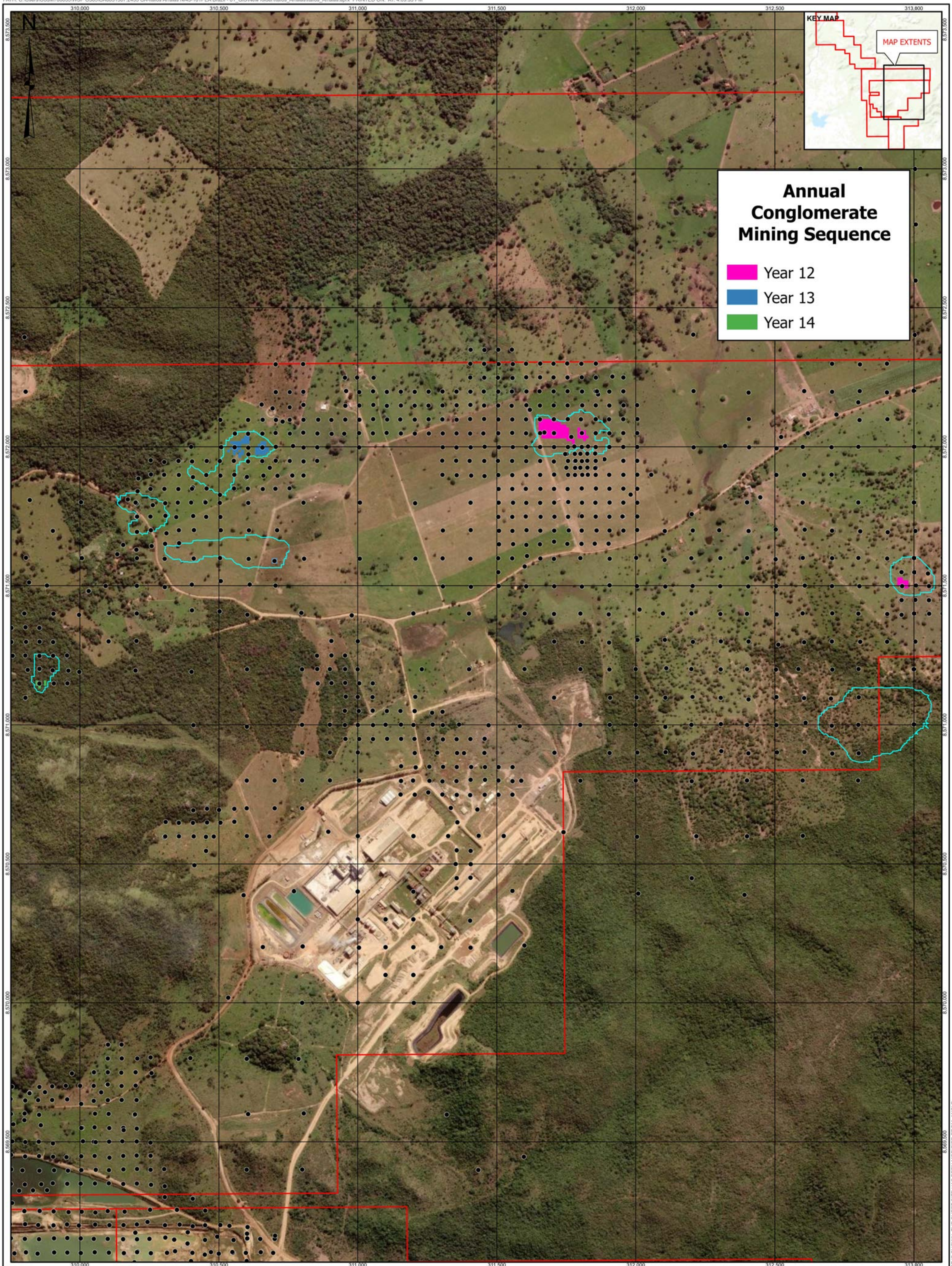

LEGEND

- Arraias Permits
- Resource Pit Outline
- Drill Hole Location

0 200 400
1:13,000 METERS

NOTE(S)
SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)
1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, USGS, NGA

CLIENT
ITAFOS INC.

PROJECT
ITAFOS ARRAIAS NI 43-101 PEA

TITLE
NEAR MINE ANNUAL CONGLOMERATE MINING SEQUENCE MAP

CONSULTANT

YYYY-MM-DD	2026-01-30
DESIGNED	JS
PREPARED	JRM
REVIEWED	JD
APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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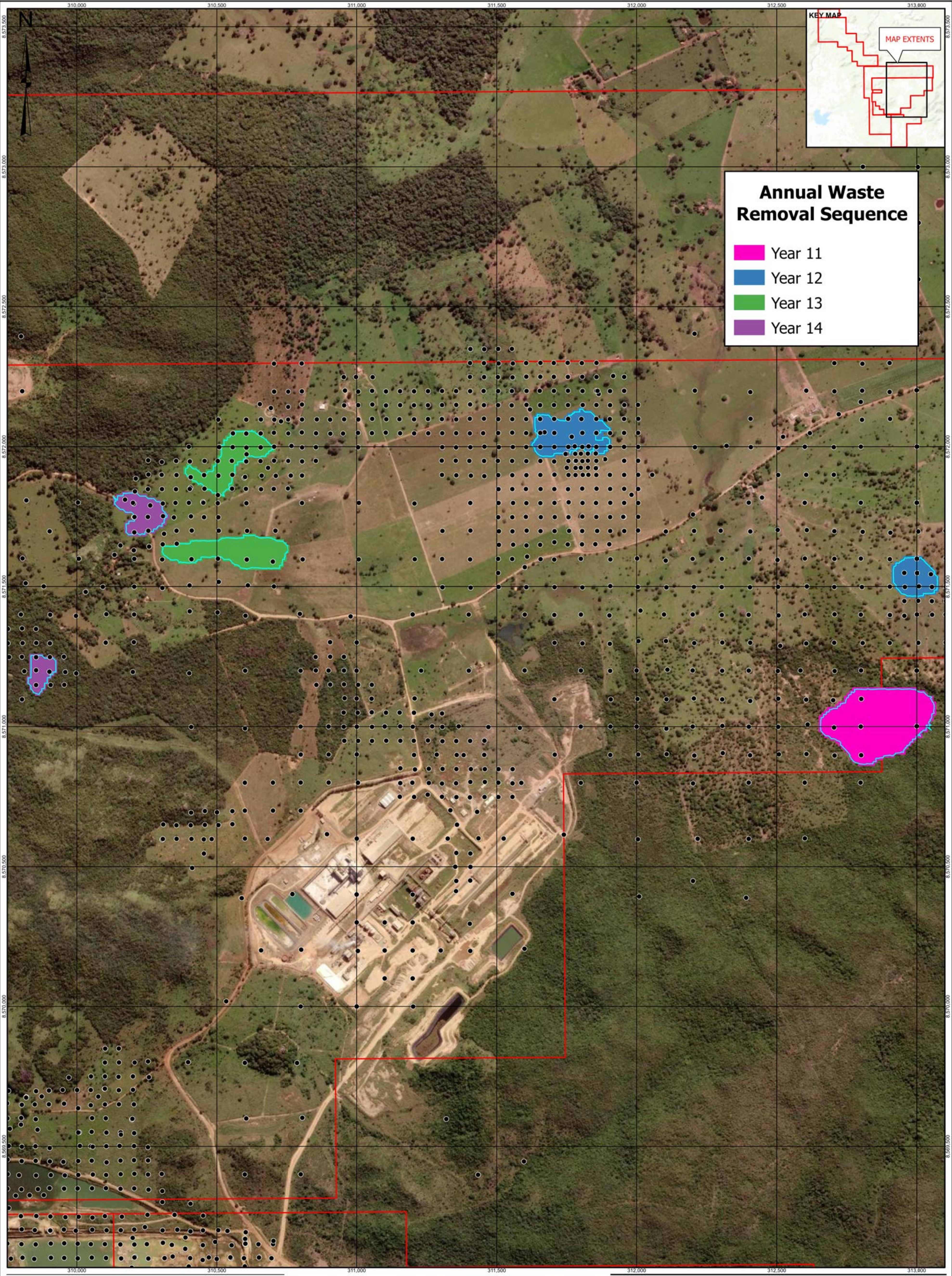


LEGEND

- Arraias Permits
- Resource Pit Outline
- Drill Hole Location

0 200 400

1:13,000 METERS

NOTE(S)

SOME FEATURES FROM LATER YEARS UNDERLIE PRIOR-YEAR FEATURES AND MAY NOT BE VISIBLE IN THIS TWO-DIMENSIONAL REPRESENTATION.

REFERENCE(S)

1. COORDINATE SYSTEM: SAD1969 UTM ZONE 23S
2. BASEMAP: EARTHSTAR GEOGRAPHICS, ESRI, HERE, GARMIN, FAO, NOAA, USGS

CLIENT

ITAFOS INC.

PROJECT

ITAFOS ARRAIAS NI 43-101 PEA

TITLE

NEAR MINE ANNUAL WASTE REMOVAL SEQUENCE MAP

CONSULTANT		
WSP	YYYY-MM-DD	2026-01-30
	DESIGNED	JS
	PREPARED	JRM
	REVIEWED	JD
	APPROVED	TK

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031307.2455			16.15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

17. Recovery Methods

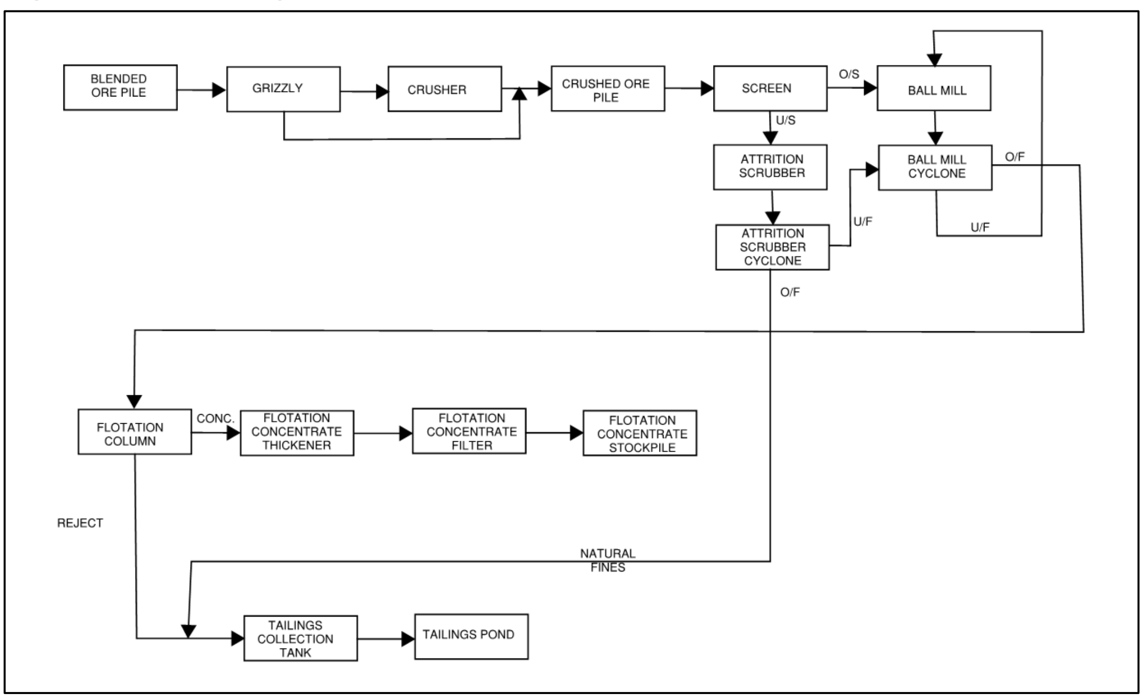
This Item contains forward-looking information related to handling and processing methods, plant design and equipment selection, and processing rates and recoveries for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts or projections in the forward-looking information include any significant differences from one or more of the following material factors or assumptions that were applied in drawing the conclusions or making the estimates, designs, forecasts or projections set forth in this Item including: plant feed characteristics and rate, mineral processing flowsheet, equipment selection and plant design, and metals recovery factors.

17.1 Process Design

The mineral processing facilities for the Itafos project are designed to treat breccia from the Arraias mineral deposit. The primary product will be phosphate concentrate, which will be further processed for fertilizer manufacture. A secondary product or by-product may be a low P_2O_5 grade tailings which can be sold as an agricultural product or returned to the mine as backfill.

The process design is based on the metallurgical testing programs presented in this report. Eriez laboratory tests evaluated the performance of the Itafos breccia flotation utilizing the existing columns. Figure 17.1 shows the existing circuit basic configuration.

Figure 17.1: Existing Plant Process

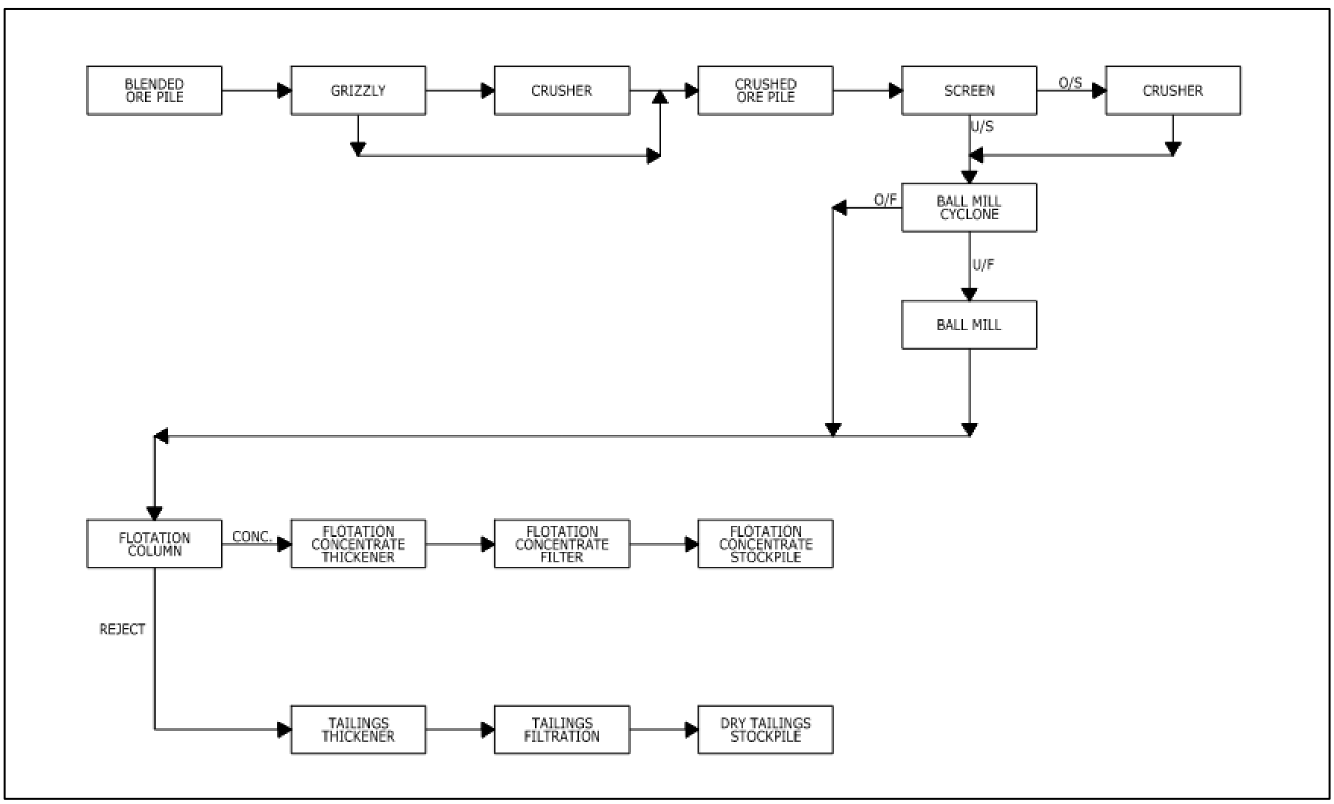


The best configuration for phosphate recovery and concentrate production was selected and incorporated into modification of the existing circuit to process the breccia. The unit operations included in the modified process are:

- Primary crushing using an MMD sizer;
- Crushed material stockpile and reclaim system;
- Single deck incline screen;
- Cage mill impact crusher;
- Cyclone classification;
- Column flotation, including rougher, cleaner, scavenger, and scavenger-cleaner column flotation cells;
- Concentrate handling, including thickening, filtration, storage, and reclaim; and,
- Tailings handling, including thickening, filtration, storage, and reclaim

Figure 17.2 shows the modifications of the existing process to allow for the new flotation circuit.

Figure 17.2: Modified Process for Breccia



17.2 Process Design Criteria

Millcreek was contracted by Itafos to analyze the metallurgical test data and to complete a scoping study to develop a preliminary capital cost estimate for modifications to the existing phosphate beneficiation plant and all associated infrastructure. Table 17.1 presents the analyses used by Millcreek for the scoping study process design.

Table 17.1: Millcreek Analysis Used for Process Design

Analysis (wt.%)	Fresh Breccia
P_2O_5	19.7
CaO	27.5
Al_2O_3	3.8
Fe_2O_3	3.3
SiO_2	40.3

The design of the phosphate processing facilities at the Itafos Arraias plant is based on the metallurgical testing programs presented in Item 13. The production rate for the purpose of this study is 40 tonnes per hour. The other design criteria for the Project are presented in Table 17.2.

Table 17.2: Process Design Criteria

Item	Units	Value	Source
Plant Feed Capacity Fresh Breccia	tonnes per year	297,840	Itafos
Operating Availability	%	85	Itafos
Operating Availability	days per year	310	Calculated
Plant Capacity	hours per year	7,446	Calculated
Plant Capacity	tonnes per hour	40	Calculated
Annual Production Concentrate	tonnes per year	163,812	Calculated
Annual Production Tailings	tonnes per year	134,028	Calculated
Plant Feed Grade, % P_2O_5	%	19.9	Eriez
Plant Feed Grade, % CaO	%	27.9	Eriez
Plant Feed Grade, % Fe_2O_3	%	2.9	Eriez
Plant Feed Grade, % Al_2O_3	%	3.9	Eriez
Concentrate Production Rate	tonnes per hour	22	Eriez
Concentrate Grade, % P_2O_5	%	27.9	Eriez
Concentrate Recovery, % P_2O_5	%	78.1	Eriez

17.3 Process Description

17.3.1 Primary Crushing and Crushed Rock Stockpile

Phosphate rock is transported from the mine to the concentrator using haul trucks and is dumped directly into the primary crusher feed bin. The rock is drawn from the feed bin using an apron feeder and discharged onto a single-deck, vibrating grizzly with 150 mm openings. The grizzly undersized material falls to the crusher discharge conveyor while the grizzly oversize material flows by gravity into the primary MMD-500 roll crusher where it is crushed to -150 mm. The combined grizzly undersize and crushed rock is conveyed to the crushed rock stockpile by the stockpile feed conveyor.

The crushed rock stockpile has a live capacity of approximately 50,700 tonnes. Phosphate rock is drawn from the stockpile through a stacker reclaimer system with a scraper bridge and transfer conveyance. The reclaim and transfer conveyors deliver the rock to the screening tower feed conveyor. A new transfer point will be installed to divert feed from the original screens and semi-autogenous (SAG) mill circuit to a new screening and crushing station for sizing and classification prior to introduction to the existing auxiliary mill.

17.3.2 Mill Grinding and Classification

Reclaimed feed from the stockpile is directed to a new 1.2 m x 2.4 m single deck inclined wet screen with a 4-mesh wire woven top deck. Oversize (+4 mesh x 50 mm) reports to the impact crusher. Minus 4 mesh reports to the screen sump and is pumped to the classifying cyclone.

A new Steadman Cage Mill crusher will be installed to crush the +4 mesh x 50 mm oversize to 100% passing 5 mesh. The crushed breccia and fines bypass will be recombined and pumped to a new hydro-cyclone for classification. The hydro-cyclone cut point will separate the -106 µm breccia and bypass the auxiliary ball mill. The coarse underflow will be fired directly to the auxiliary ball mill at 50% solids by weight.

The +106 µm breccia is fed to a 2.7 m diameter by 5.7 m long auxiliary ball mill equipped with a 400-kW drive and milled to a target particle size distribution of 90% passing 106 µm. The mill slurry discharges to a new sump and recombines with the cyclone fines. Combined slurry at approximately 30% solids is pumped to the existing conditioning tanks.

17.3.3 Flotation

The conditioner provides mixing and retention time for the addition of flotation reagents and pH modifiers to the slurry required for flotation. The primary phosphate reagents for the fresh breccia material are Custafloat 167 and sodium silicate. The pH is maintained at approximately 9.5 with NaOH, and starch is added as a depressant.

The flotation circuit consists of a rougher stage followed by a single stage of cleaning for concentrate production. In addition, a cleaner scavenger stage treats the first rougher and cleaner underflow and returns the concentrate to the concentrate thickener.

Estimated annual consumption of flotation reagents include:

- 566 tonnes of Custafloat 167
- 298 tonnes of sodium silicate
- 149 tonnes of starch

17.3.4 Rougher Stage Flotation

Rougher flotation consists of one 5.0 m diameter by 14.0 m high column flotation cell. The concentrate from the rougher column cell is pumped to a 5.0 m diameter by 14.0 m high first stage cleaner flotation column.

17.3.5 First Stage Cleaner Flotation

The concentrate from the cleaner column cell is pumped to the concentrate thickener. The tailings from the first stage cleaner column cells are pumped to a set of (2) 4.0 m diameter by 14.0 m high scavenger column flotation cells with a 2-way feed distributor.

17.3.6 Scavenger Flotation

The concentrate float from the scavenger cells is pumped to the feed of the scavenger-cleaner cell. The scavenger underflow slurry flows to the tailings thickener feed box.

17.3.7 Scavenger-Cleaner Flotation

The scavenger-cleaner cell is 5 m in diameter. The underflow from the second cleaner column cells flow to the tailings thickener feed box. The concentrate from second cleaner column reports to the concentrate thickener.

17.3.8 Flotation Circuit Sumps and Pumps

Existing flotation circuit sumps will be utilized for the new flotation configuration. Pumps and piping will be replaced with new pumps sized for the lower capacity rating of the modified circuit and piping will be modified to follow the proposed circuit.

17.3.9 Concentrate Dewatering, Drying, and Handling

Concentrate is pumped from the concentrate 20 m thickener to a 266 m^2 plate and frame filter for dewatering to approximately 16.4% moisture. The water recovered from the concentrate is pumped to the process water tank for reuse. Product is then distributed onto the storage stockpile by a conveyor system.

17.3.10 Tailings Dewatering and Handling

The tailings from the flotation circuit contain residual phosphate concentrations and may be sold as a low-grade phosphate agricultural product. If this market is unavailable, the tailings will be utilized as backfill in the mining operation.

The tailings are pumped from the concentrate thickener to a tank for pumping to a 266 m^2 plate and frame filter for dewatering to 16.4% moisture. The water recovered from the concentrate is pumped to the process water tank for reuse. The filter cake discharges onto a conveyor feeding a radial stacker.

The tailings are distributed onto the storage stockpile by a radial stacker system and later reclaimed. The stockpile capacity is 4,100 tonnes of tailings material. Reclaimed tailings product will then be trucked for local agricultural sale or used as backfill for the mining operation.

17.3.11 Process Water Storage and Distribution

The process water tank receives water from the concentrate thickener overflow, the filter filtrate, tailings reclaim water, and freshwater make-up water. The process water pumps distribute water throughout the plant according to process requirements. Both the thickener overflow and filter filtrate water is recycled to the plant raw water pond to be reused in the process. Makeup water losses are estimated to be minimal with the introduction of the filter presses, stockpile moisture content 18% by weight (8.8 m^3 per hour). Overall balance indicates 3.3 m^3 per hour freshwater makeup will be required.

17.3.12 Equipment Power Demand

The equipment connected load was estimated based on the listed kW for existing equipment that is to be reused and the addition of new process equipment. Power infrastructure, battery limits, and demand need to be reviewed and confirmed in next phase of engineering. Electricity distribution is 3-phase, 50 Hertz system. The following voltage levels are expected to be available for use within the project.

Motors

- 33 kV for all motors rated greater than 10 MW.
- 11 kV for all motors rated greater than 1000 kW but less than 10MW, load center transformers, switchgear, and all other loads 300 kW and above.
- 380 V for all motors rated less than 1000 kW, other loads above 100 kW, but less than 300 kW.

Lighting

- 220 V single phase supply for lighting etc.

Instrumentation

- 24 V (DC) direct current power for control instrumentation and miscellaneous essential loads for all plant operating conditions.

Total demand is estimated to be 7,210 kW.

17.3.13 Reagent Storage and Handling

The reagent storage and mixing area provides for receipt of chemicals in bulk bags, drums, and tanker trucks, and mixing and distribution of reagents to the process plant.

The reagents are required primarily for flotation and thickening and include:

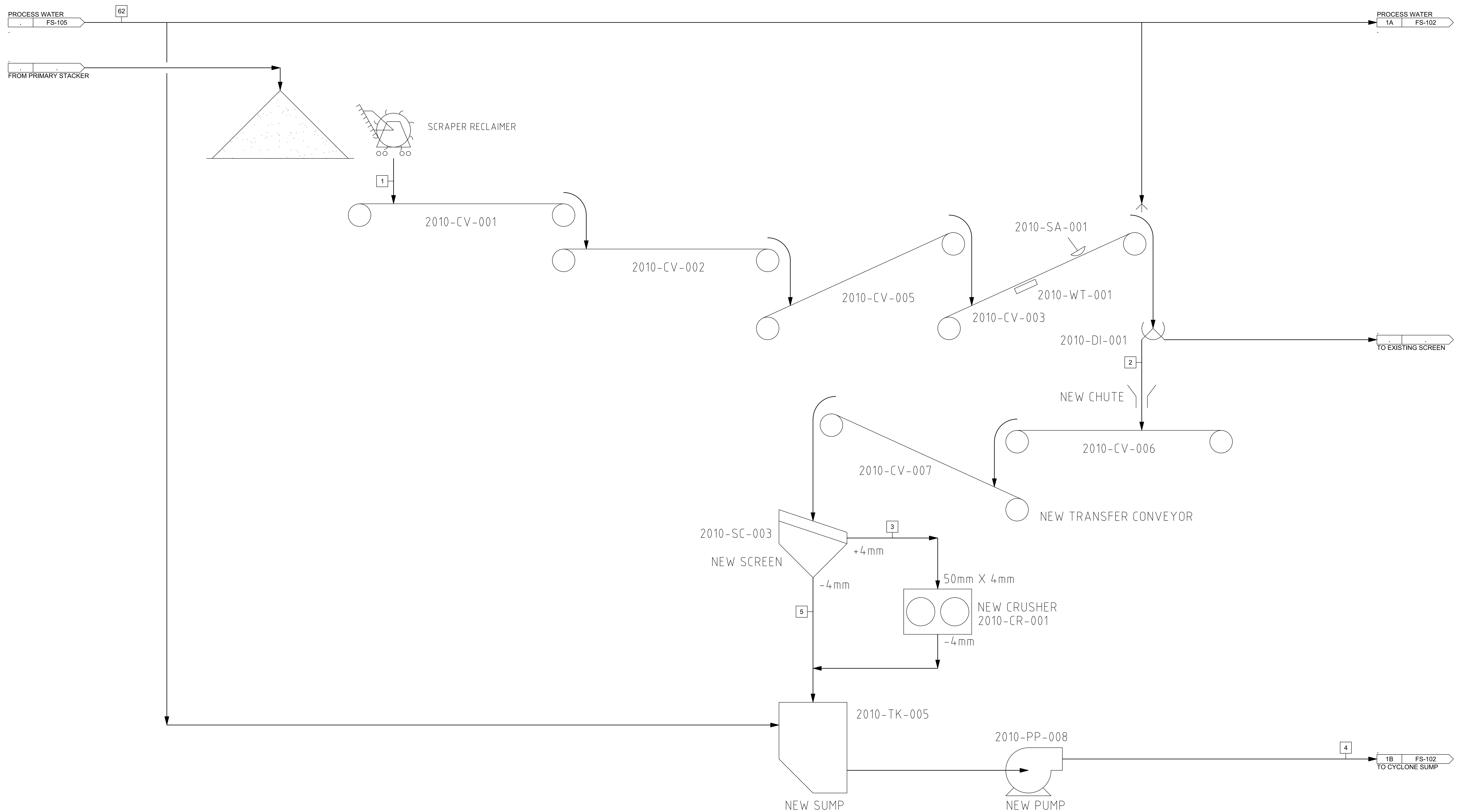
- Custafloat 167: phosphate collector – delivered by tanker truck;
- Cornstarch: depressant for carbonates – delivered in bulk bags – requires mixing with water and caustic, NaOH prior to distribution (Table 17.3); and,
- Caustic, NaOH, 50% solution: distributed for pH modification and mixed with cornstarch for use as a flotation reagent.

Table 17.3: Starch 2.5% Solution by Weight

Solution Components	Value (g)
Starch dry	25
Starch 10% Moisture	27.8
NaOH 10% Solution	75
Total D.I. Water	897.2

17.4 Flow Sheet

Figure 17.3 through Figure 17.8 illustrate the process flowsheets for phosphate beneficiation.



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MILLCREEK ENGINEERING

ITAFOS

CONTRACT	2505
DESIGNED BY	DDMMMYY
CHECKED BY	
APPROVED BY	
SCALE	NONE

ITAFOS - ARRAIAS TOCANTINS PLANT
PROCESS FLOW DIAGRAM
RECLAIM SYSTEM AND
CRUSHING AND SCREENING

DRAWING NUMBER 2505-FS-101 REV B

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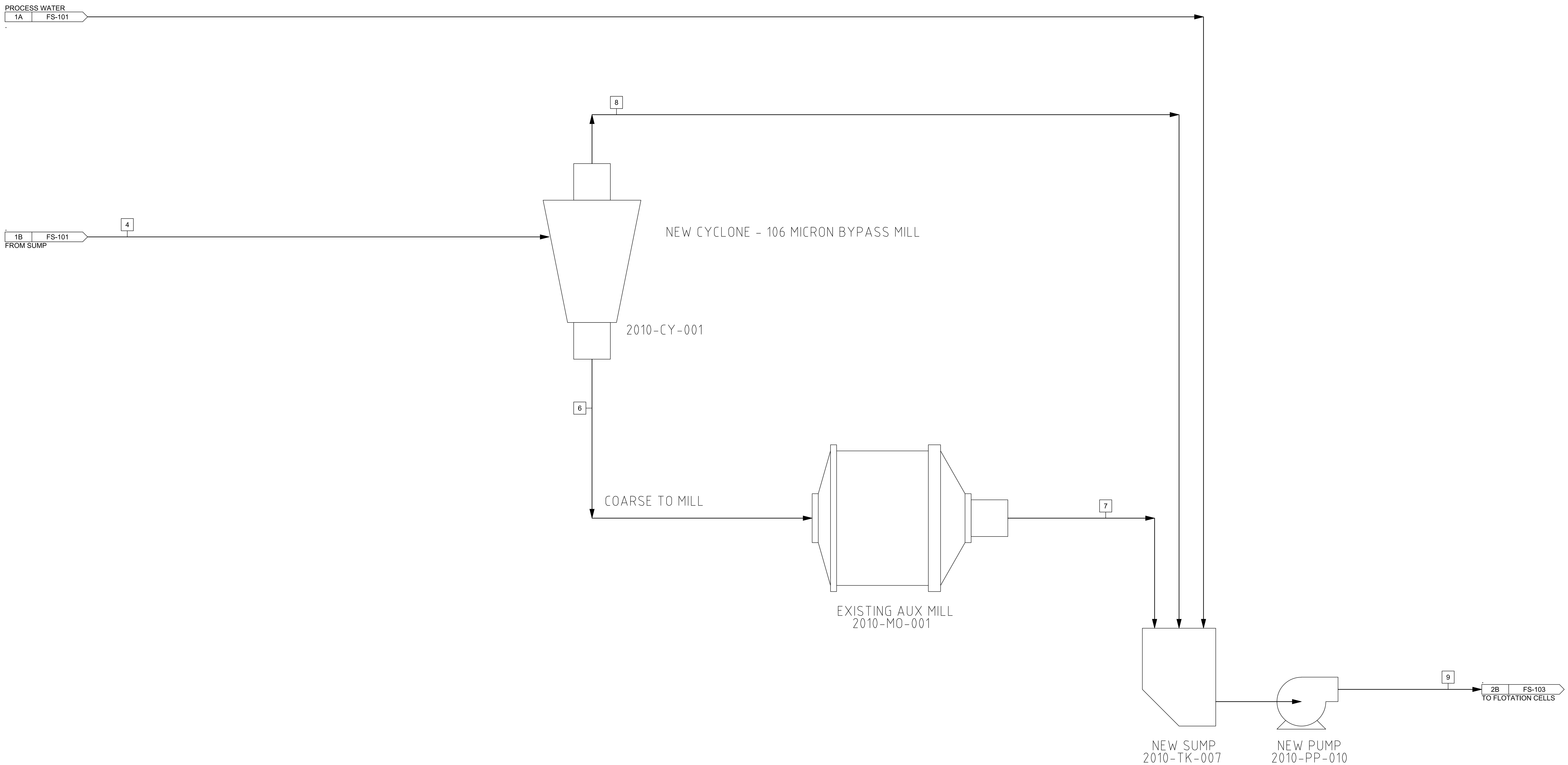

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B	12/12/2025	UPDATED PROCESS	RJM	RJS	RJS						

MILLCREEK ENGINEERING

ITAFOS

CONTRACT	2505
DESIGNED BY	DDMMMYY
CHECKED BY	
APPROVED BY	
SCALE	NONE

ITAFOS - ARRAIAS TOCANTINS PLANT
PROCESS FLOW DIAGRAM
AUXILLIARY BALL MILL
AND CYCLONE SEPARATOR

DRAWING NUMBER 2505-FS-102

REV B

REV	DATE	REVISION DESCRIPTION	BY	CHK	APPV	REV	DATE	REVISION DESCRIPTION	BY	CHK	APPV
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B	07/03/2025	ISSUED FOR REVIEW	RJM	RJS	RJS						
C	10/01/2025	ISSUED FOR REVIEW	RJM	AM	AM						

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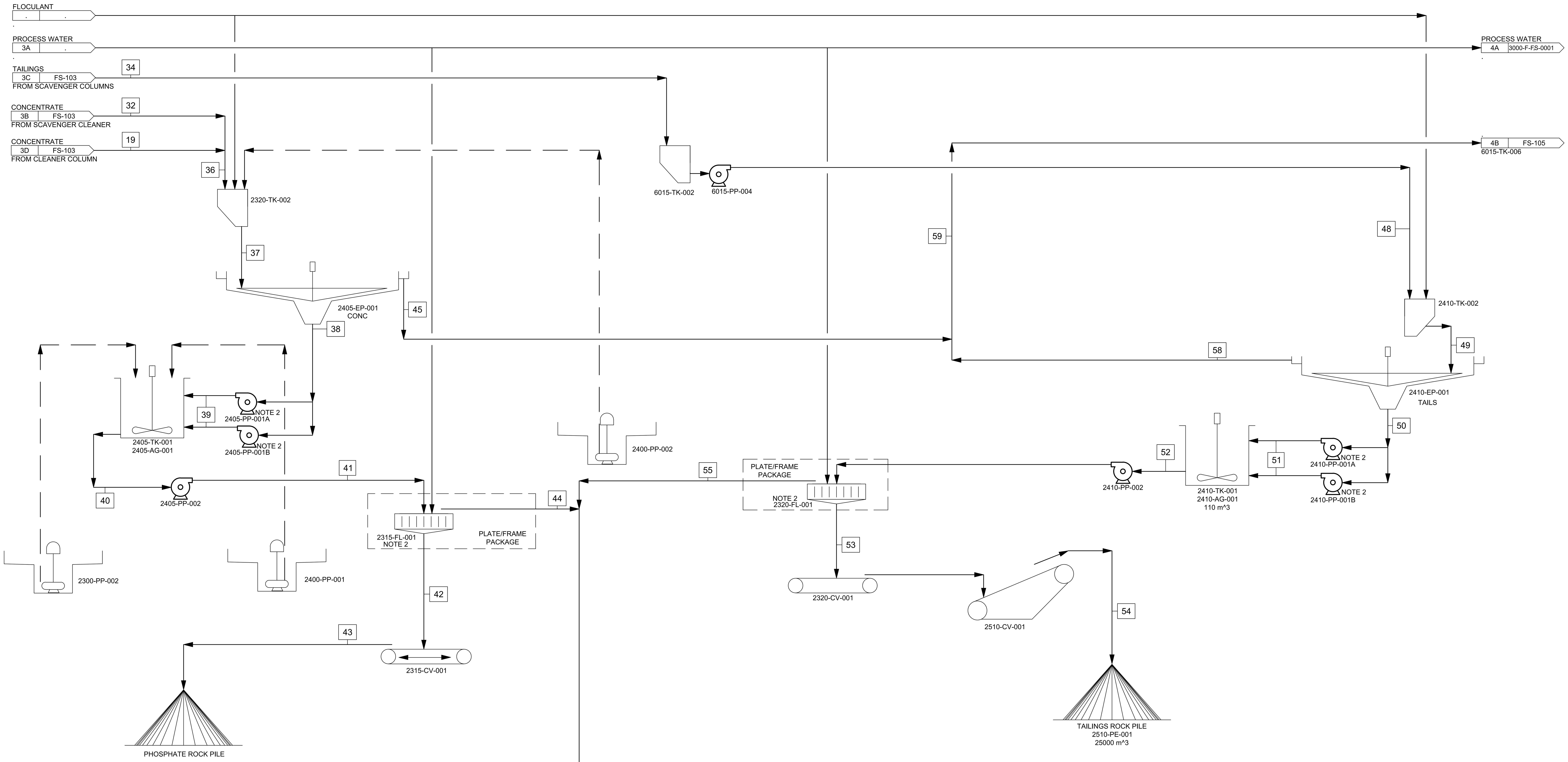
ITAFOS

CONTRACT 2505
DESIGNED BY DDMMMYY
CHECKED BY
APPROVED BY
SCALE NONE

ITAFOS - ARRAIAS TOCANTINS PLANT
COARSE FLOTATION CIRCUIT
PROCESS FLOW DIAGRAM
BENEFICIATION PLANT

DRAWING NUMBER 2505-FS-103
REV C



NOTES

1. FLOWS 33 AND 65 REFER TO THE FILTER AND WASH WATER
2. NEW EQUIPMENT

REV	DATE	REVISION DESCRIPTION	BY	CHK	APPV
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B	07/03/2025	ISSUED FOR REVIEW	RJM	RJS	RJS
C	10/01/2025	ISSUED FOR REVIEW	RJM	AM	AM

MILLCREEK ENGINEERING

ITAFOS

CONTRACT	2505
DESIGNED BY	RJM 06/19/2025
CHECKED BY	RJS
APPROVED BY	
SCALE	NONE

ITAFOS - ARRAIAS TOCANTINS PLANT
CONCENTRATE TAILS FILTRATION
PROCESS FLOW DIAGRAM
BENEFICIATION PLANT

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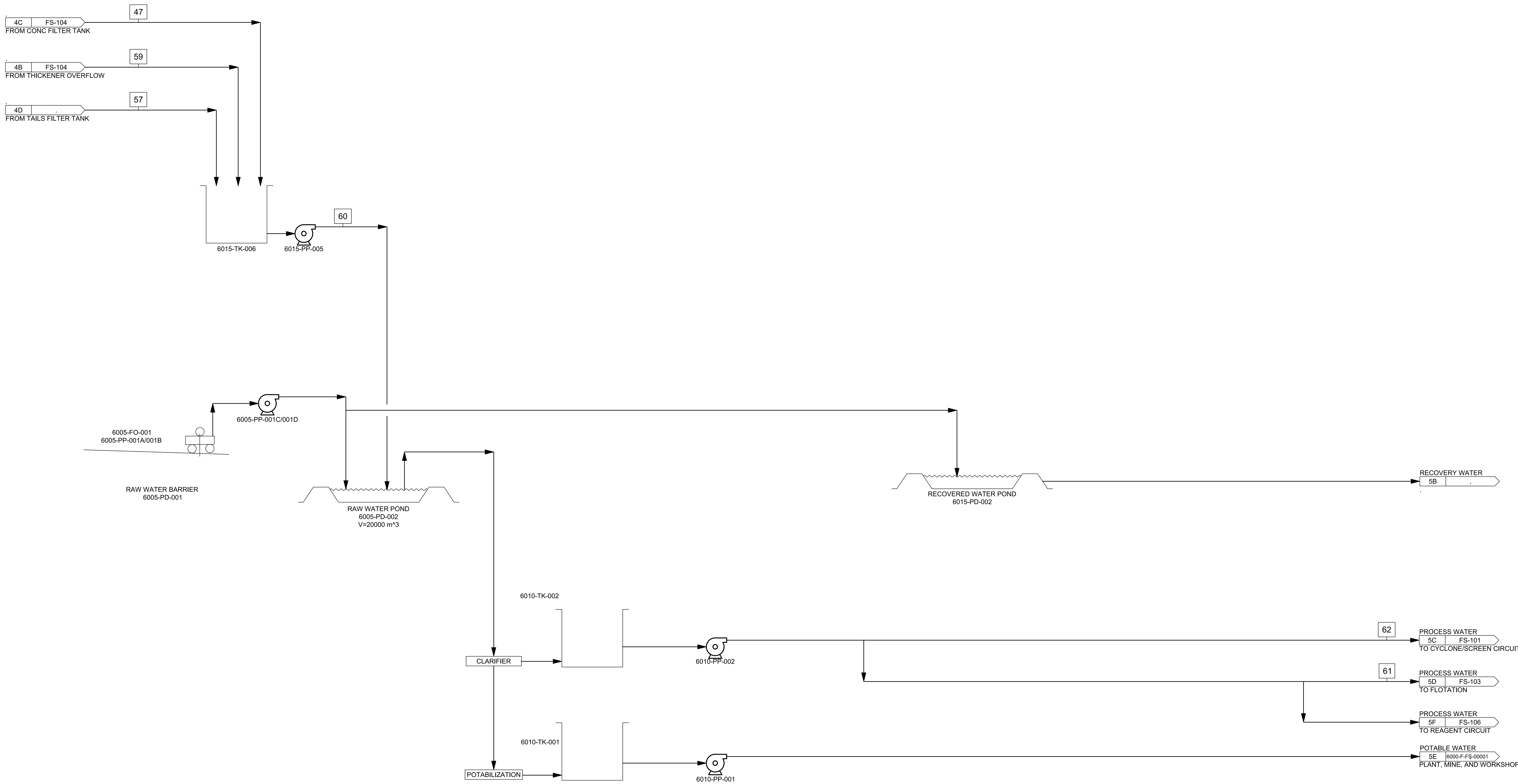

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A	06/19/2025	ISSUED FOR REVIEW	RJM	RJS	RJS						

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ITAFOS

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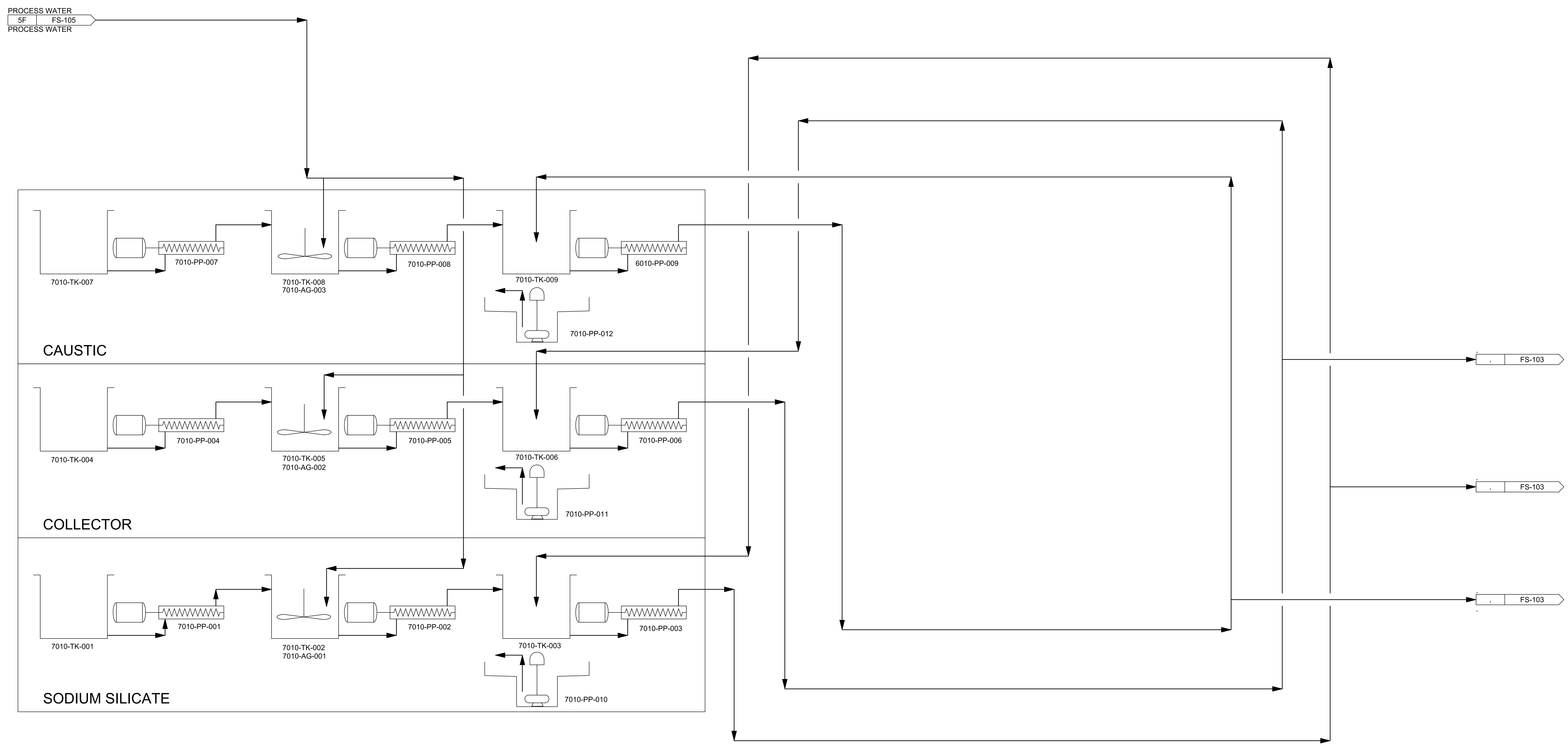
CHECKED BY	RJS
APPROVED BY	
SCALE	NONE

ITAFOS - ARRAIAS TOCANTINS PLANT
TAILINGS/WATER RECOVERY
PROCESS FLOW DIAGRAM
BENEFICIATION PLANT

DRAWING NUMBER **2505-FS-105** REV **A**



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ITAFOS

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ITAFOS - ARRAIAS TOCANTINS PLANT
REAGENT CIRCUIT
PROCESS FLOW DIAGRAM
BENEFICIATION PLANT

DRAWING NUMBER **2505-FS-106** REV **A**

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18. Project Infrastructure

This Item contains forward-looking information related to locations and designs of facilities comprising infrastructure for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts or projections in the forward-looking information include any significant differences from one or more of the following material factors or assumptions that were applied in drawing the conclusions or making the estimates, designs, forecasts, or projections set forth in this Item including: Project development plan and schedule, available routes and facilities sites with the characteristics described, facilities design criteria, access, and approvals timing.

18.1 Tailings Dam

The Arraias tailings dam (Figure 18.1), was constructed on the Bezerra River, which lies on the right bank of the Paranã River, part of the Tocantins River basin. The dam was built to dispose of tailings from the phosphate beneficiation plant, retain sediments, recirculate process water, and manage water flow in the Bezerra River.

According to Brazilian Technical Standard ABNT NBR 10.004 and results of lab tests of sample collected in 2018, the tailings deposited in the reservoir is classified as Class II A: Non-Hazardous and Non-Inert material.

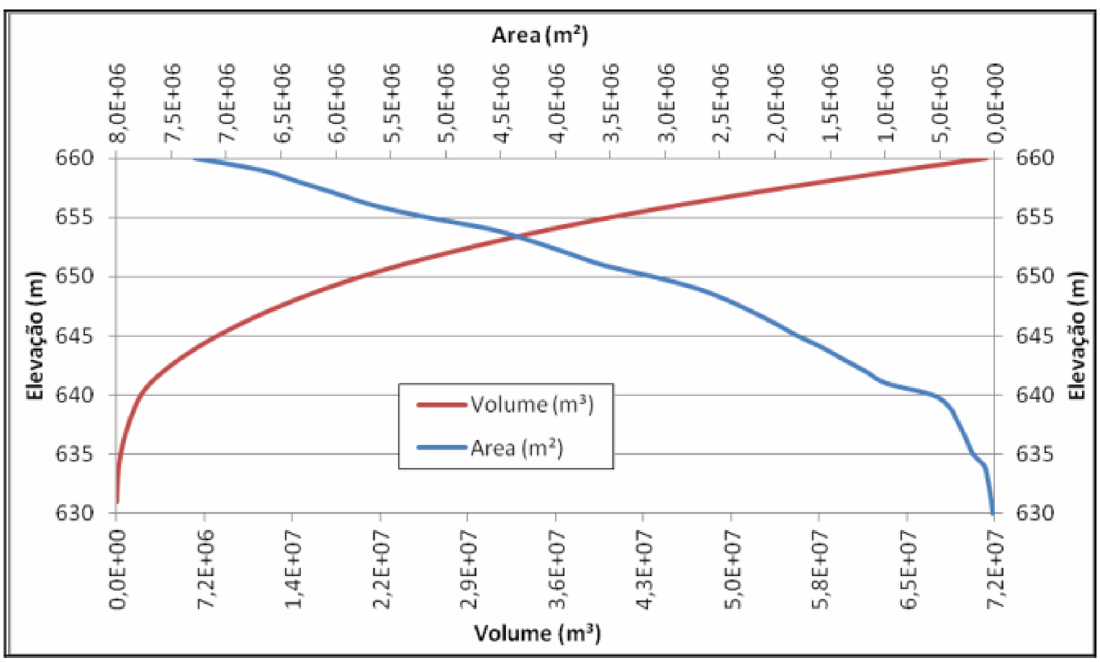
The tailings dam was designed by Pimenta de Ávila Consultoria Ltda between 2010 and 2012, with a “starter dam” at elevation 638.0 masl and downstream raises with crests reaching elevations between 642.0 to 655.0 masl. The starter dam was partially built beginning in March 2012 with a crest elevation of 636.0 m, 2.0 m below original design. Construction of the first raise began in December 2013 with a crest elevation at 638.8 masl to improve freeboard and reduce risks of overtopping. Construction of the most recent raise began in February 2018 and was completed in October 2019. The crest elevation of this raise was 640.0 masl, two meters below designed elevation according to detailed design, based upon technical recommendations of consulting company Terracota. Tailings disposal operations were suspended in April 2019.

The original design of the tailings dam mentions that final crest elevation would be 660.0 m, with a maximum height of 30.0 m, total embankment volume of 1.34 Mm^3 and spillway crest at 657.0 masl elevation. Figure 18.2 illustrates the designed relationship between the tailings dam elevation and storage capacity.

Figure 18.1: Aerial View of Tailings Dam

Source: Google Earth Image June 2025

Figure 18.2: Tailings Dam Elevation-Volume Curve (Pimenta de Avila – 2010)



Source: Pimenta de Avila 2010

The tailings dam was built with controlled and compacted clayey-silty materials over a foundation of residual soil; subsequent dam raises were executed using the downstream method. The embankment and foundation materials present dilatant behavior and, therefore, are not susceptible to liquefaction.

According to Dam Safety Reviews performed by Terracota in March of 2022 (Report 12522-S-BA-RL-01-GE), the safety factors obtained from the stability analysis exceed those recommended by Brazilian standards and regulations.

Technical Data of existing Tailings Dam:

- Crest Elevation: 640.00 masl
- Crest length: 1,230 m
- Crest width: 14.0 to 16.0 m
- Maximum Height: 21.30 m
- Berms width: 3.6 m to 5.0 m
- Berms Height: 7.5 m to 8.0 m
- General Slope Angles: 2.0H:1V to 2.3H:1V
- Estimated earth embankment volume (All phases): ~420,000 m^3
- Normal reservoir water level (spillway crest): 635.00 m
- Total volume of the reservoir (El. 640.00 m): 12.65 Mm^3
- Total volume of the reservoir (El. 635.00 m): 3.97 Mm^3
- Total tailings volume in the reservoir in Nov/2023 (El. 635.00 m): 2.28 Mm^3
- Remaining volume of the reservoir in Nov/2023 (El. 635.00 m):1.69 Mm^3
- Flood control storage in Nov/2023 (El. 635.00 m): 7.54 Mm^3
- Maximum Water Level (1,000-year flood): 638.68 m
- Freeboard for 1,000-year flood: 1.32 m
- Required freeboard for 1 m height wave: 1.06 m
- Actual area of the reservoir (El. 635.00 m): 0.71 km^2
- Maximum Water Level (10,000-year flood): 639.23 m
- Freeboard for 10,000-year flood: 0.77 m

The original design of the existing tailings dam considered 2006 version of Brazilian Technical Standard NBR 13.028. This version of the Technical Standards requires that spillways be designed and sized for a 1,000-year flood without freeboard during operation and Probable Maximum Precipitation (PMP) without freeboard for closure. The most recent version of NBR 13.028 from November 2024 requires that spillways be designed and sized for the more restrictive rainfall between 10,000 years flood and PMP for operation or closure. This version of NBR 13.028 also requires an additional 1.0 m minimum freeboard in cases where there are existing communities in the Self Rescue Zone defined by Dam Break Studies (10 km or 30 min downstream in the inundation zone) which is the case for this tailings dam.

Actual regulation Res. 95/2022 of Brazilian Mining Agency (ANM) require using the more restrictive rainfall between 10,000 years flood and PMP with a minimum of 1.0 m freeboard for high consequences dam (High DPA).

The actual freeboard (10,000 years flood) of the existing dam is insufficient according to Brazilian regulations and technical standards because it is less than 1.0 m. Therefore, it is recommended to carry out updated studies to define characteristics of PMP. Adjustments are required to ensure compliance and safety of the existing spillway regarding minimum freeboard.

Studies performed by Terracota in June of 2022 (Report 13722-V-BA-RL-01-GE), provided three alternatives for adjusting the hydrological and hydraulic safety of existing spillway, using the 10,000-year flood as a reference:

1. Lowering spillway crest by 0.50 m to elevation 634.50 masl
   - Tailings Dam Crest Elevation: 640.00 masl
   - Spillway crest elevation: 634.50 masl
   - Freeboard for 10,000-year flood: 1.17 m
   - Volume of excavation:13,315 m^3
   - Volume of rockfill: 500 m^3
2. Widening Spillway channel by 2.0 m
   - Tailings Dam Crest Elevation: 640.00 masl
   - Spillway crest elevation: 635.00 masl
   - Freeboard for 10,000-year flood:1.00 m
   - Volume of excavation: 6,767 m^3
   - Volume of rockfill: 3,044 m^3
3. Raise Tailings Dam crest 0.5 m to elevation 640.50 masl
   - Tailings Dam Crest Elevation:.640.50 masl
   - Spillway crest elevation: 635.00 masl
   - Freeboard for 10,000-year flood:1.27 m
   - Volume of controlled earth fill: 8,900 m^3

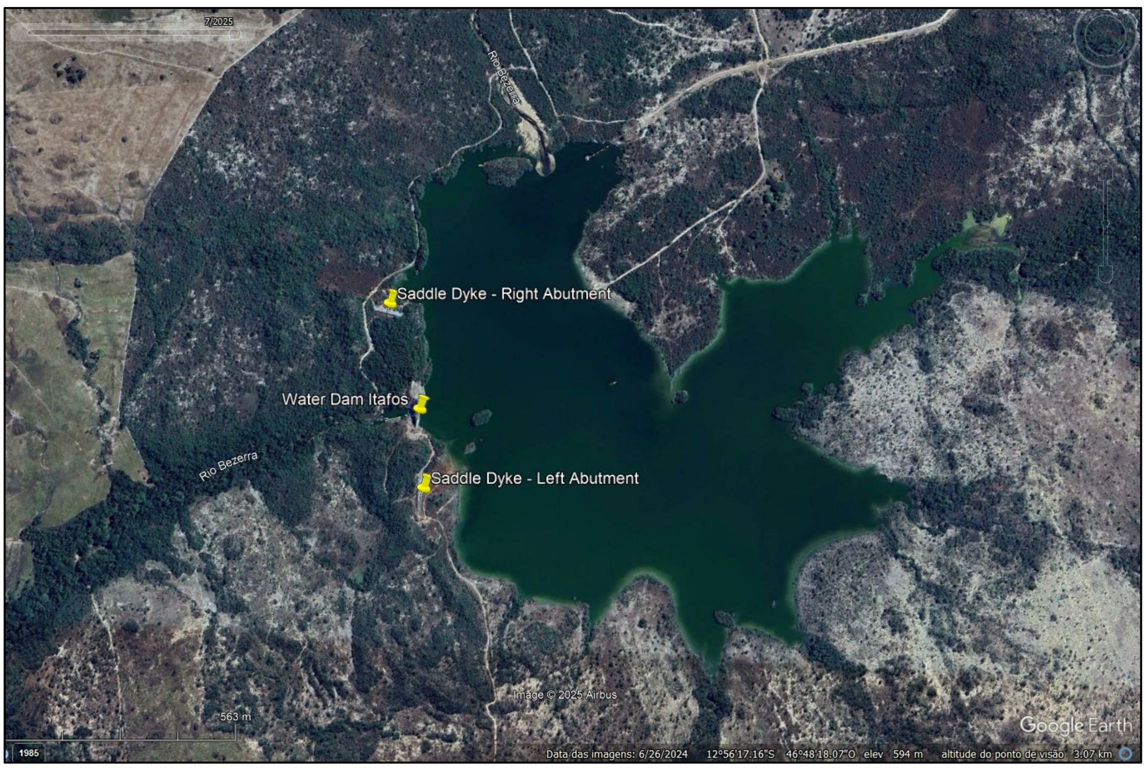
In addition to the adjustment of the spillway described above, Brazilian regulation (Res.95/ANM) also requires the implementation of a Geotechnical Monitoring Center to continuously monitor and evaluate the performance of the structure.

18.2 Freshwater Reservoir

The freshwater reservoir is of the gravity type, built between November 2011 and January 2013 by Construtora Quebec Ltda in a single phase. It features a central section made of RCC – Roller-Compacted Concrete, and mixed sections of compacted clay soil and rockfill on the abutments. The dam crest is at elevation 599.70 masl, with a height of 28.7 m. It was built for processing plant water storage and supply, sediment retention, and for flood control during rainy seasons.

The reservoir basin also includes two saddle dykes located on the left and right abutments of the main dam, at distances of approximately 100 m and 180 m, respectively as shown in Figure 18.3. These are conventional dams with mixed sections including a compacted clay core, granular transition zones, and rockfill on upstream and downstream faces.

Figure 18.3: Aerial View of Freshwater Reservoir



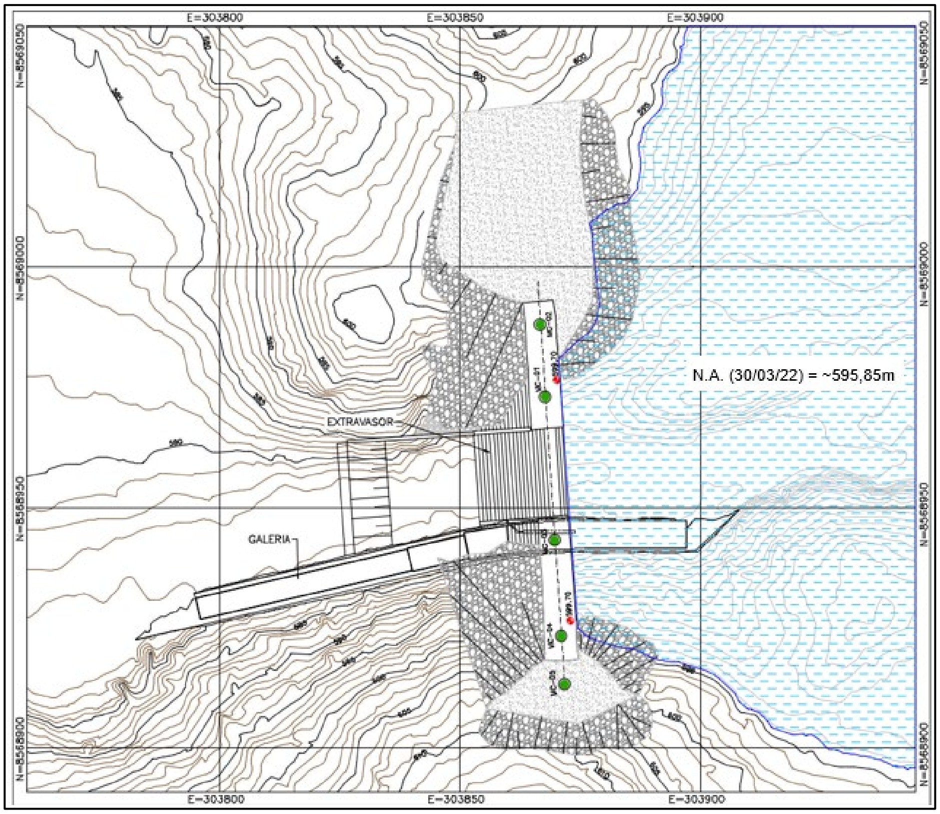
Note: Google Earth Image – June 2024

The reservoir basin covers an area of approximately 1.48 km² (148 ha), with a usable storage capacity of 4,666,000 m³ between elevations 578.0 masl and 595.7 masl. The spillway system has a crest elevation of 595.70 masl, ensuring a maximum freeboard of 4.00 m. The monitoring system is composed of five survey control points installed on the crest of the concrete dam, labeled MC-01B through MC-05B

(Figure 18.4). A cross section of the dam is provided in Figure 18.5, and the technical data of the dam is summarized below.

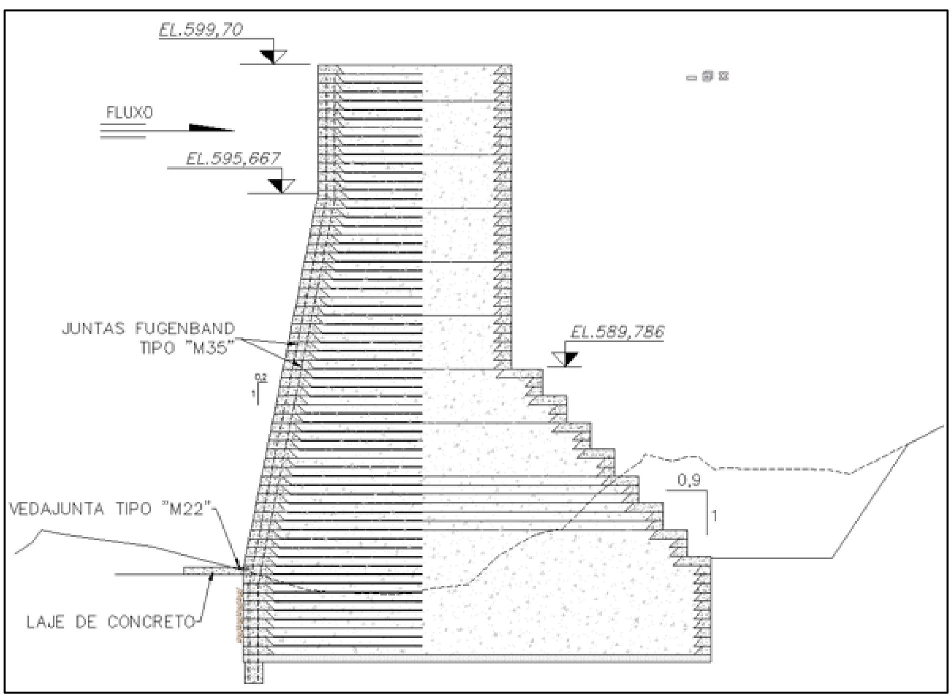
- Crest Elevation: 599.70 masl
- Crest length: 123 m
- Crest width (Roller-Compacted Concrete section): 6.5 m
- Maximum Height: 28.70 m
- Upstream and Downstream Slope Angles: 1.4H:1V
- Actual area of the reservoir (El. 595.70 masl): 0.92 km^2
- Normal reservoir water level (spillway crest): 595.70 masl
- Total volume of the reservoir in February 2023 (El. 599.70 masl): 9.428 Mm^3
- Total volume of the reservoir in February 2023 (El. 595.70 masl): 4.666 Mm^3
- Volume filled by sediments in October 2023: 0.876 Mm^3
- Flood control storage in October 2023 (El. 635.00 masl): 4.368 Mm^3
- Maximum Water Level (1,000-year flood): 599.19 masl
- Freeboard for 1,000-year flood: 0.51 m
- Maximum Water Level (10,000-year flood): Overboard

Figure 18.4: General Arrangement of Water Dam



Source: Terracota 2024

Figure 18.5: General Cross-Section of Water Dam



Source: Terracota 2024

According to field inspections and dam safety reviews performed by Terracota in December of 2023 (Report 20123-S-BA-RL-01-GE) and November of 2024 (Report 23924-A-BA-RL-01-GE), it can be stated that no critical pathologies were observed that would compromise the structural stability of the dam's concrete structures or the spillway system of the main dam. The associated saddle dikes are also in stable condition regarding global stability without any serious anomalies that could compromise structural safety of these structures.

The dam is currently operating at ATTENTION level, as defined in Article 12 of ANA Resolution 121/2022; this condition was verified through visual field inspections. This status indicates that the combined effect of the current anomalies does not immediately compromise the safety of the dam. However, if the anomalies become more serious, they may pose a risk to the integrity of the dam. Therefore, any anomalies present must be monitored, controlled, or repaired.

According to Article 27 of ANA Resolution 121/2022, the current condition can be classified as Response Level 1 (yellow), meaning that the situation found or the action of external events does not compromise the safety of the dam in the short term (hydraulic risk rh = 0.1%).

However, based on the results of hydrological-hydraulic studies, for a rainfall event of 1,000-year return period, the remaining freeboard of 0.51 m is insufficient to accommodate calculated wind waves of 0.90 m height. Overtopping was identified for three durations (2, 3, and 5 days) for 10,000-year flood and for PMP, overtopping was observed for durations starting at 3 h. Therefore, the actual spillway does not comply with Brazilian Technical Standards (NBR 13028). Adjustments are required to ensure compliance and safety of existing spillway regarding overtopping and minimum freeboard.

18.3 Overburden Storage Area

The design parameters of the existing overburden storage area (OSA) are as follows:

- Bench Height: 3 m
- Berm Width: 6 m, every 4 benches
- Batter Angle: 37°
- Global Angle 28.7°

Additional OSAs will be required for Cana Brava, Coité, and Near Mine to store overburden until in-pit backfilling can begin.

18.4 Other Infrastructure

Other existing infrastructure supporting operational activities includes:

- Mine haul and service roads,
- Maintenance and warehousing facilities,
- Electrical power via a 16 km, 60 kV transmission line onto the project.

- Truck Scale
- Itafos internal laboratory
- Plant and administrative service buildings, including offices, fire and ambulance services, locker facilities, and restaurant

19. Market Studies and Contracts

19.1 Overview

Market conditions and global trade dynamics relevant to phosphate fertilizers have been reviewed to support the pricing assumptions applied in the Project economic analysis. The global phosphate market is characterized by relatively limited supply growth and steadily increasing demand, which has supported phosphate fertilizer prices in recent years.

Phosphate supply growth has been constrained by declining production from certain mature deposits and the capital intensity, permitting requirements, and development timelines associated with new projects. Global demand for phosphate fertilizers is influenced primarily by population growth, food consumption trends, and agricultural practices. Maintaining or increasing crop yields requires the application of fertilizers to replace nutrients removed from soils through harvesting.

Phosphate supply from the United States has declined in recent years, and exports from China have been reduced as domestic demand priorities and changes in export policies have limited availability to international markets. These factors have increased the importance of alternative sources of phosphate supply, including production from Brazil. The Arraias Phosphate Project (APO) is positioned within this market context.

19.2 Supply and Demand

The global phosphate fertilizer market experienced significant price volatility and elevated pricing levels during 2024 and 2025. Market conditions during this period were influenced primarily by supply disruptions and policy-related export restrictions, particularly in China, where limitations on exports of diammonium phosphate (DAP) and monoammonium phosphate (MAP) reduced availability to international markets. In the United States, changes in tariff and trade policies also affected both domestic and export market dynamics.

Phosphorus is an essential macronutrient for plant growth. Phosphate concentrate is the principal feedstock used in the manufacture of most phosphate fertilizers and is also utilized in animal feed supplements and certain industrial and food applications. Fertilizer-grade phosphates account for more than 80% of global phosphate consumption and represent the dominant end-use market.

The global phosphate fertilizer market was estimated to have a value of approximately $54.6 Bil USD in 2023 and is forecast by third-party sources to grow at a compound annual growth rate (CAGR) of approximately 5.3% through 2030, reaching an estimated value of approximately $78.4 Bil USD. These projections are subject to uncertainty related to agricultural demand, government policies, input costs, and global trade conditions.

Brazil is a major global agricultural producer and one of the world's largest importers of phosphate fertilizers. The country currently imports more than 85% of its total fertilizer requirements. In 2022, Brazil introduced the National Fertilizer Plan, a long-term strategy extending to 2050 aimed at reducing import dependence through increased domestic production, investment in new mining projects and technologies, development of alternative fertilizers, and improvements to logistics infrastructure. The plan includes initiatives related to phosphate and potash supply as well as broader sustainability objectives.

Phosphate fertilizer production typically involves reacting phosphate concentrate with sulfuric acid to produce phosphoric acid or single superphosphate, which may be sold directly or used as intermediate products in the manufacture of higher-analysis fertilizers.

Pricing assumptions used in the Project economic analysis are based on historical average realized prices achieved by Itafos for comparable products, adjusted where appropriate to reflect product type, prevailing market conditions, and transportation considerations. No reliance has been placed on forecast spot prices beyond that required for economic evaluation.

19.3 Contracts

At the effective date of this Technical Report, the Arraias Phosphate Project does not have any long-term external offtake agreements in place. Sales of finished fertilizer products, where applicable, are conducted under standard commercial contracts consistent with prevailing market practices.

Mining operations for the Project are planned to be carried out by third-party contractors under industry-standard contractual terms and rates considered reasonable for comparable operations in the region of Brazil. No material deviations from standard contracting practices are anticipated.

20. Environmental Studies, Permitting, and Social or Community Impact

This Item contains forward-looking information related to applications, permits, approvals and consents required, and time to approvals for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts or projections in the forward-looking information include any significant differences from one or more of the following material factors or assumptions that were applied in drawing the conclusions or making the estimates, designs, forecasts or projections set forth in this Item: regulatory framework is unchanged for Study period; no unforeseen environmental, social or community events disrupt timely approvals.

20.1 Environmental Permits and Licenses

The current Brazilian legislation generally includes the following steps in the environmental permitting process:

- Preliminary License (*Licença Previa* – LP): authorizes the permitting process based on the assessment of the environmental feasibility of an activity. In the case of mining operations, this usually requires the presentation of an ESIA.
- Installation License (*Licença de Instalação* – LI): authorizes the installation of the structures that will be used for the activity.
- Operation License (*Licença de Operação* - LO: authorizes the operation of the activity.

An ESIA for the Site was prepared in 2010 (Prominer Projetos Ltda, 2010) and submitted to the environmental agency of the state of Tocantins (Naturatins) as part of the environmental permitting process to obtain the Preliminary License. The Site currently holds the licenses required for operating at the current configuration, as presented in Table 20.1. All permits were still valid at the time this TR was prepared or had their renewal applications filed in the Environmental Agency within the legal deadline; according to the Brazilian legislation, in the latter case the permits are still valid until a final decision of the Environmental Agency is provided. The legal deadline for requesting the renewal of operating license in Tocantins is a minimum of 120 days before the expiration date.

Table 20.1: Environmental Permits Held by the Site

Agency	Type	Process #	Permit #	Description	Issued	Expiration date
Naturatins	Operating license	2010/4031 1/002661	LO_2/2021	Operation Permit for Phosphate Mineral exploration - Areas: DNPM Nº 864.113/2003 & 864. 176/2004 & 864. 175/2004	06/05/2021	06/05/2025[a]
Naturatins	Operating license	2010/4031 1/002661	LO_7/2021	Operating License for the Operation of the Industrial Plant, Fertilizers, Chemical Plant, Processing and Tailings and Raw Water Dam (Sulfuric and SSP production)	06/05/2021	06/05/2025[b]
Naturatins	Operating license	2012/4031 1/002410	LO_2/2022	Operation Permit for tailing and water pipeline	23/05/2022	22/05/2032
Naturatins	Operating license	2012/4031 1/002410	LO_1/2022	Operation Permit for power line	23/05/2022	22/05/2032
Naturatins	Wildlife License	2011/4031 1/014503	AMAS_90/2024	Wild Animal Management Authorization - AMAS_34/2022	18/12/2024	18/12/2025
Naturatins	Grant	2023/4031 9/078279	ORH_404/2024	Tilapia management authorization in the dam	20/12/2024	20/12/2029
Naturatins	Deforestation License	2024/4031 9/100213	AEF - OCL_330/2024		05/05/2024	05/05/2026
ANA	Water grant	02501.004 914/2020	Nº 1389	Grant the right to install and operate a water dam in the Bezerra River, with the following characteristics: § Maximum storage volume: 4.53 hm³ § Flooded area: 1.10 km². § Maximum height from the riverbed: 28.70 m. Conditions include a residual flow rate of water downstream the reservoir of 90 L/s to be maintained of the time.	27/07/2021	27/07/2056
ANA	Water grant	02501.004 913/2020	Nº 1388	Grant the right to install and operate a tailings dam in the Bezerra River, with the following characteristics: § Maximum storage volume: 53.10 hm³ § Flooded area: 5.75 km². § Maximum height from the riverbed: 30.00 m. Conditions include a residual flow rate of water downstream the reservoir of 40 L/s to be maintained of the time.	27/07/2021	27/07/2056
ANA	Water grant	02501.004 673/2020	615/2022	Grant the right to abstract water from the water dam: 700 m³/h 24 h/day.	26/04/2022	26/04/2032
ANA	Water grant	02501.004 670/2020	614/2022	Grant the right to abstract water from the tailings dam: 1.607 m³/h 24 h/day.	26/04/2022	26/04/2032
Federal Police	Certificate of Operation	2.01E+09	Nº: 2020-00544258	Certificate of Functioning for Control of Chemicals	01/03/2025	22/03/2026
IBAMA	Federal Technical Registry	558685	558685	Federal Technical Register of Potentially Polluting Activities and Users of Environmental Resources – CTF/APP	14/02/2025	14/05/2025
Arraias City Hall	Prefectural Functioning License	394	5002811489	Municipal Operating Permit of the City Hall of Arraias - TO.	27/01/2025	31/12/2025

Notes: Naturatins; Tocantins state environmental agency. ANA: National Water Agency. IBAMA: Federal environmental agency.

a) Renewal required on February 3, 2025, 92 days prior to the expiration date.

b) Renewal required on February 4, 2025, 91 days prior to the expiration date.

According to the document “1 - Condicionante LO.xlsx” provided by Itafos in November 2025, the environmental permits at the Site included a total of 33 conditions, and all conditions were met or are in progress of compliance.

20.2 Community Related Requirements and Agreements

According to the Itafos representatives, there are only two formal environmental claims related to the APO, as presented below.

Civil Action (2014)

In 2014 the Federal Public Prosecutor Office issued a civil action against Itafos under the allegation of environmental damages caused by supposed discharge of effluents into the Bezerra River. In this action, the Federal Public Prosecutor Office requested: (i) the cancellation of the Operation License (issued in 2013 and valid until 2017), (ii) that Itafos present new studies to avoid the discharge of effluents into the Bezerra River; (iii) payment of indemnity for the supposed environmental damage; and (iv) suspension of the site operations.

According to an inspection report issued by Naturatins (state environmental regulator), water quality monitoring results from locations downstream the tailings dam presented phosphorus concentrations exceeding the water quality standard; however, this condition was also verified before the Site started its operations, according to the ESIA prepared for the preliminary license. Itafos ceased the discharge of tailings into the tailings dam in December 2024.

As result of this claim, Itafos signed an Adjustment Term with the Federal Public Prosecutor Office in March 2017 which defined conditions that included a revision of the water quality monitoring plan, including additional monitoring points.

Criminal Action (2016)

In 2016, the Federal Public Prosecutor Office issued a criminal action against Itafos under the allegation of supposed environmental crimes in the mining operation in the town of Gurupi. The supposed crimes were fish death, environmental pollution, and deforestation. The Federal Public Prosecutor Office also indicated that Itafos did not comply with the conditions defined in the water grants.

On December 18, 2025, the Federal Civil and Criminal Court of Gurupi-TO issued a ruling recognizing the extinction of Itafos' criminal liability with respect to the environmental crime of pollution, noting that, with respect to the other alleged offenses, the statute of limitations had already been previously recognized.

According to the presiding Judge, considering the period between the date of the criminal action (December 5, 2016) and date of the decision, exceeding nine years, the criminal prosecution was approaching the full implementation of the applicable 12-year statute of limitations, with no concrete prospect of a meaningful judicial decision being issued prior to its expiration. In his decision the Judge indicates that the prolongation of the criminal action proves to be devoid of practical utility, what constitutes an absence of interest on the part of the State to act.

Notably, the Court did not address the merits of the defense arguments presented by Itafos, limiting its analysis to the recognition of a so-called "virtual statute of limitations" and, consequently, acquitting the company.

Although there is still the possibility that the Public Prosecutor's Office may appeal the decision, the ruling issued in December 2025 is a positive indication that the matter is likely to be resolved through the extinction of the Company's criminal liability.

20.3 Environmental Monitoring

Brazilian environmental monitoring standards include monitoring of the following:

- Soil quality.
- Groundwater quality.
- Wastewater quality.
- Surface water quality.
- Air emissions (point sources).
- Air quality.
- Noise.

The Environmental Control Plan (PCA) of the Site, prepared as part of the documentation for obtaining the environmental permits, includes a water quality monitoring program, that was revised to comply with the demands specified in the Adjustment Term related to civil action issued in 2014. This program defines surface and groundwater quality monitoring campaigns to be executed on a quarterly basis, with 39 campaigns carried out by November 2024. The results from the most recent monitoring campaigns were available for review. The text below presents information from the report issued in January 2025, including results from September and November 2024 (38th and 39th monitoring campaigns).

The Environmental Control Plan (PCA) of the Site also includes a Fauna Monitoring Plan, with annual / biannual monitoring campaigns (depending on the fauna groups) and 21 campaigns carried out by the first semester of 2025. Results from the most recent monitoring campaigns were available for review.

Additionally, Itafos monitors air emissions from stacks, with biannual monitoring campaigns. Results from the most recent monitoring campaigns were available for review. The text below presents information from the monitoring campaigns of August and December 2024.

Air quality and noise are not included in the existing monitoring programs, as there are no formal requirements to monitor these items. Soil quality is not part of monitoring programs and usually is verified in site investigation works. No site investigation works focusing on soil quality were carried out at the Site to date.

20.3.1 Surface Water Quality

Two surface water monitoring campaigns were carried out in March (rainy season) and June (dry season) 2010 for the preparation of the EIA issued in the process to obtain the preliminary license (Prominer Projetos Ltda, 2010), including physicochemical and bacteriological analyses. The sampling points were strategically distributed in the potentially impacted watersheds, with emphasis on the Poção and Tiúba streams, and the Bezerra River.

The surface water samples presented, in general, quality in compliance with the standards of Class 2 of CONAMA Resolution No. 357/2005, with occasional exceedances of dissolved oxygen, biochemical oxygen demand (BOD), pH, iron, manganese, phosphorus, and thermotolerant coliforms. Such variations were predominantly associated with the natural characteristics of the region, with no evidence of significant anthropogenic pollution.

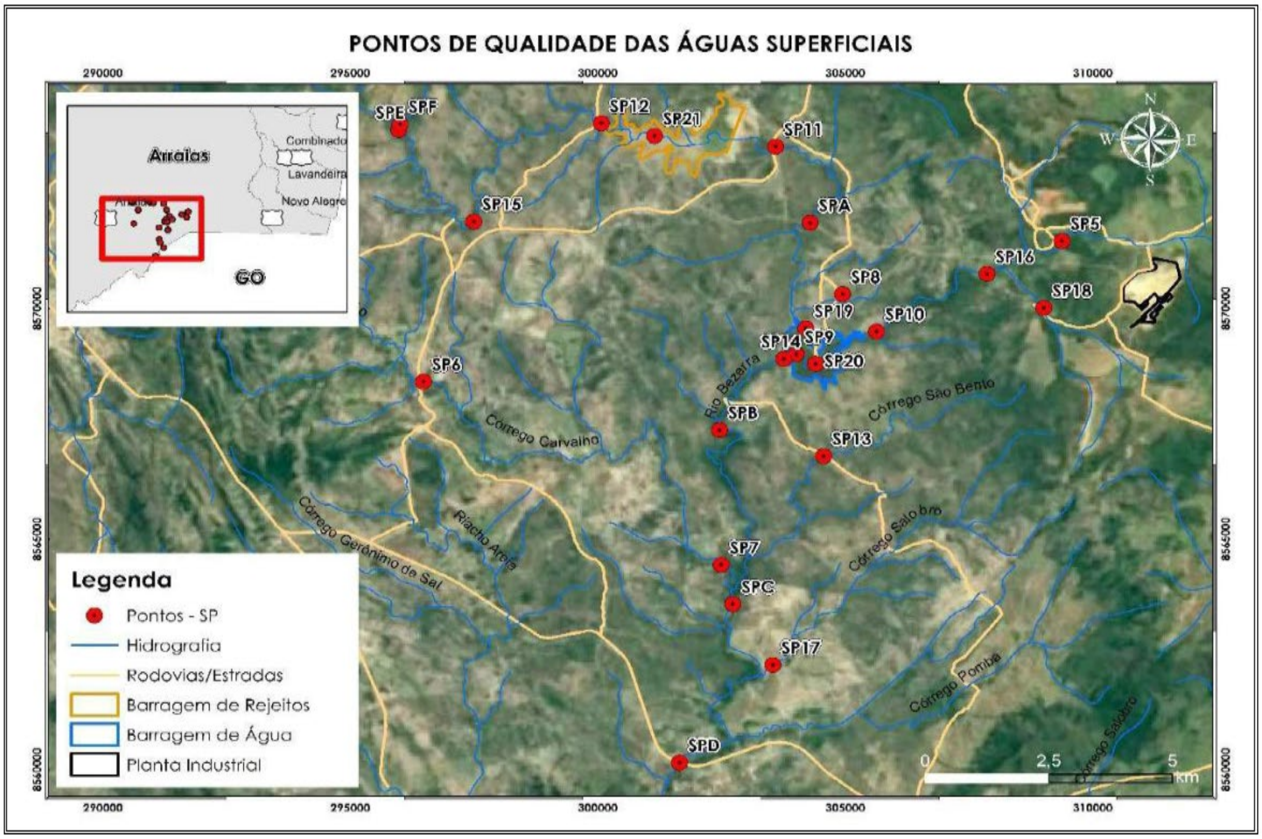
The Site currently monitor surface water quality in 27 points (Figure 20.1), including water streams surrounding the mine and 2 points at the São Domingos pit. A total of 34 water quality parameters are monitored, including physicochemical and bacteriological parameters. The monitoring program also includes aquatic communities: phytoplankton, zooplankton, and zoobenthos. Water quality monitoring results are used to calculate a water quality index with the following classification: very bad, bad, average, good, and excellent.

Results from September and November 2024 were available for review and indicated that most of the monitoring points presented water quality classified as “good” or “excellent”, with only one point in September 2024 and 2 points in November 2024 classified as “average” water quality.

Total phosphorus concentrations were in general complying with the water quality standards in September 2024 (dry season) and exceeding these standards in November 2024 (wet season), which can be associated with runoff reaching surface water. The highest phosphorus concentration in November 2024 was obtained in the monitoring point SP-10 (1.4 mg/L; standard: 0.1 mg/L), located upstream of the water dam, which is unlikely to be influenced by the Site operations. While monitoring points located in areas potentially under the influence of the Site operations also presented elevated values (e.g., SP11, downstream of the tailings dam, presented phosphorus concentration of 0.4 mg/L in November 2024), the geological background is likely to influence these results, which makes it difficult to identify the actual contribution from the Site operations. As discussed above, elevated phosphorus concentrations were observed prior to the operation of the Site, according to the ESIA.

To reduce the uncertainties related to the assessment of potential contribution of the Site operations on the phosphorus concentrations in surface waters surrounding the mine, it is recommended to conduct a study to determine background phosphorus concentration and eventual influence of the Site operations on the water quality results.

Figure 20.1: Surface Water Monitoring Locations



Source: Ambiental Consultoria, Estudos e Projetos, 2025

20.3.2 Groundwater Quality

Two groundwater monitoring campaigns were carried out in March (rainy season) and June 2010 (dry season) for the preparation of the EIA issued in the process to obtain the preliminary license, including physicochemical and bacteriological analyses. The sampling was more limited, since most of the properties in the area used surface sources or reservoirs. Even so, it was possible to sample one well in the project area and three others in the surroundings.

The presence of thermotolerant coliforms was observed in three of the sampled points, likely due to domestic use and inadequate disposal of waste in the vicinity. Based on these results, the implementation of a continuous program for monitoring water quality, associated with environmental education actions and incentive to basic sanitation in the communities in the area of influence was recommended.

Groundwater quality is monitored in five locations near the Site (Figure 20.2) with water sampled from artesian wells. A total of 30 water quality parameters are monitored, including physic-chemical and bacteriological parameters. Results from September and November 2024 were available for review and indicated that most of the parameters were in compliance with the applicable Brazilian standards, with the exception of manganese in three wells in September 2024 and 1 well in November 2024, and Fecal and Total Coliforms in three wells in November 2024. Manganese is usually associated with local background, while the coliforms may be related to unproper sewage management conditions (e.g., poor condition of septic tanks) near the monitoring locations, likely with no relationship with the site operations.

Figure 20.2: Groundwater Monitoring Locations

Source: Ambiental Consultoria, Estudos e Projetos, 2025

20.3.3 Air Emissions

The Site monitors air emissions from three stacks (Auxiliary Boiler, Final Absorption Tower and Acidulation) on a biannual basis, with determination of concentrations of particulate matter, NOx, S0x, CO, Ammonia, and Total Fluoride.

All results from August and December 2024 were in compliance with the applicable standards.

20.3.4 Fauna

The Site monitors fauna in its area of influence as part of the Environmental Basic Plan. The following groups monitored:

- Annual: small mammals, large mammals, Chiropter fauna (bats),
- Biannual: herpetofauna (reptiles), Avifauna (birds), Ichthyofauna (fish), Entomofauna (insects), Malacofauna (mollusks).

The most recent reports available for review, corresponding to the monitoring campaigns executed in the second semester of 2023 and first semester of 2024, do not indicate potential impacts of the Site operation on the local fauna.

20.4 Tailings Dam Safety and Waste Management

Projects involving tailings dams are subject to the National Dam Safety Policy (Law No. 12,334/2010) and specific mining regulations (ANM Resolution No. 95/2022). Obligations include:

- Continuous monitoring of dam stability.
- Development and implementation of Emergency Action Plans for Mining Dams (PAEBM).
- Periodic independent safety audits.
- Public disclosure of risks to nearby communities.

Itafos complies with all applicable requirements under Brazilian legislation regarding tailings dam management.

20.5 Mine Closure

According to the ANM (Agência Nacional de Mineração – National Mining Agency) Resolution 68/2021, all mining operations must file a closure plan in ANM and update this closure plan every five years or when the Economic Development Plan (PEA - Plano de Aproveitamento Econômico) is updated. Although closure financial assurance is not yet implemented in Brazil, ANM has already prepared a draft resolution specifying the requirements for financial assurance, and it will likely be implemented in the near future.

Two Asset Retirement Obligation (ARO) reports from 2023 were available for review, corresponding to different scenarios, one with mining plan extending to 2028 (Scenario 1) and another with the mining plan extending to 2041 (Scenario 2). Both reports defined closure activities including:

- Industrial plant, transmission line and water and tailings pipelines: dismantling, demolition, soil decompression and revegetation.
- Pits (Scenario 1: Domingos and Near Mine; Scenario 2: Domingos, Near Mine and Cana Brava): topographic adjustments, soil preparation, revegetation.
- Waste piles (Scenario 1: Domingos and Near Mine; Scenario 2: Domingos, Near Mine and Cana Brava): topographic adjustments, soil preparation, revegetation.
- Tailings dam:
  - Scenario 1: resettling people living in 4 farms located downstream the dam, lowering the overflow control system’s level, and widening the embankment.
  - Scenario 2: landfilling the reservoir, vegetal coverage, adjustments in the main channel.

- Water dam: the documents are not clear about the closure activities in this structure.
- The ARO costs (undiscounted) presented in these reports were respectively:
  - Scenario 1: R$ 151 million.
  - Scenario 2: R$ 511 million.

Although the reports indicate costs for ARO, it is not clear whether the closure costs presented in these reports were prepared according to references for ARO estimates, including the use of the current configuration of the mine, or the costs correspond to Life of Mine (LOM) closure costs, corresponding to configuration of the mine at the end of the mine plan. Some references in the text suggest that the costs refer to the final configurations.

With regards to the closure solution for the tailings dam considered in Scenario 1, currently in Brazil the regulators are tending to be more restrictive with regards to maintaining the tailings dam with no cover (wet closure) as opposed to dry closure. Additionally, the assumption of relocating people downstream as part of the closure solution is likely to be questioned by the regulators. Therefore, it is possible that the proposed closure solution for the tailings dam in Scenario 1 would not be adequate. The information in the ARO report does not provide a sufficient amount of information to evaluate whether the proposed closure solution for the tailings dam in Scenario 2 would be adequate.

According to Itafos, a closure plan is being prepared considering the current life of mining plan.

21. Capital and Operating Costs

This Item contains forward-looking information related to capital and operating cost estimates for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information include any significant differences from one or more of the material factors or assumptions that we set forth in this Item: future economic conditions vary from estimates and projections contained in the TR which may increase or decrease cost estimates, as estimated in constant (or real) dollar terms such as projected labor and equipment productivity levels, costs of labor and materials, and development costs.

21.1 Operating Costs

The QP estimated the annual production costs of the fertilizer products in the life of mine plan described in Item 16.3. Currently, mining at the Domingos pit is performed under a mining contract and these contract mining costs represent the bulk of the mine operating costs. Cash operating costs include operating and maintenance labor, supplies, repair parts, power, overheads and administration, government levies, and miscellaneous costs. The operating costs are summarized in Table 21.1.

Table 21.1: Summary of Operating Cost Assumptions

Description	Value	Unit
Variable		
Phosphate Rock Mining (Contract Miner)	1.68	$/tonne mined
Phosphate Rock Mining (Owners' Cost)	0.19	$/tonne mined
Overburden Mining (Contract Miner)	0.43	$/tonne mined
Rehandle (Contract Miner)	0.19	$/tonne rehandled
Processing Cost		
DAPR	36.22	$/tonne product
PAPR	74.42	$/tonne product
SSP	118.28	$/tonne product
Fixed		
Mining	510,000	$/year
Processing Cost	2,560,000	$/year
Other	4,340,000	$/year

21.2 Capital Costs

The capital cost for the Project is primarily related to beneficiation and tailings disposal. The existing beneficiation plant was designed to process the arenoso and argiloso siltstones and requires retrofitting to process the breccia and produce concentrate for SSP production. The Arraias project is also implementing a dry stack tailings system to eliminate the need to expand the existing tailings storage facility. The overall cost of the beneficiation plant retrofit and dry stack tailings system is approximately $8.0 Mil USD. This includes new or refurbished mechanical equipment, piping, values, structural steel, earthwork, electrical upgrades, freight, labor, and an allowance for contingency. A summary is provided in Table 21.2.

Table 21.2: Estimated Capital Cost for Beneficiation Retrofit and Dry Stack Tailings System

Item	Cost (USD)
Preparation and Feasibility	$19,736
Site Investigation	$37,789
Earthworks and Basic Infrastructure	$90,200
Engineering	$728,245
Construction and Assembly Services	$2,732,437
New Equipment Installation (Industrialization)	$2,000,029
Primary Grinding	$791,292
Foundation and Civil Works	$492,279
HP Reinstallation	$278,947
Maintenance and Commissioning	$442,261
Commissioning and Start-Up	$240,000
Subtotal	**$7,853,219**

A nominal amount of $3.5 Mil USD per year was included in the budget beginning in Year 0. This allocation is intended to cover the ongoing costs associated with replacements and rebuilds of both plant and Itafos-owned equipment. As the Project advances beyond the PEA stage, it will be necessary to develop a more detailed sustaining capital schedule and budget through evaluation of equipment lifecycles, anticipated replacement intervals, and specific rebuild requirements for plant and mine assets.

22. Economic Analysis

This Item contains forward-looking information related to economic analysis for the Arraias Project. The factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information include any significant differences from one or more of the material factors or assumptions that were set forth in this sub-section including: estimated capital and operating costs, project schedule and approvals timing, availability of funding, projected commodities markets, and commodity prices.

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. The estimate of Mineral Resources may be materially affected by geology, environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

22.1 Principal Assumptions

The following principal assumptions were used for the economic analysis.

- Sales Price
  - DAPR: $50/tonne
  - PAPR: $126/tonne
  - SSP: $226/tonne for 2026-2027, $250/tonne for 2028+
  - Sulfuric Acid (Margin): Average of $20/tonne over LOM
- Production
  - DAPR: 45,000 tonnes per year (tpy)
  - PAPR: 30,000 tpy for 2026, 55,000 tpy for 2027, 60,000 tpy for 2028 and beyond
  - SSP: 170,000 tpy
  - Sulfuric Acid: 115,000 tpy for 2026, 90,000 tpy for 2027, 30,000 tpy for 2028 and beyond
- Exchange Rate: 5.28 Reais per 1 USD
- Inflation: All prices are in real (constant) dollars
- Discount Rate: 8%
- Collective tax rate: 10.5%

22.2 Cashflow Forecast

The results of the discounted cashflow analysis are shown in Table 22.1. The preliminary economic assessment is preliminary in nature and includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the results of the preliminary economic assessment will be realized.

The following parameters were calculated or generated as a result of the discounted cashflow analysis:

- Sales Revenue: $701.6 Mil USD
- Mining and Beneficiation Costs: $425.0 Mil USD
- Other Operating Costs: $60.7 Mil USD
- Royalties and other government levies or interests: There are no royalties for mining operations at the Arraias Project. CFEM (2%) is calculated based on the costs of rock production.
- Cash cost of production: $435.5 Mil USD
- Other costs: $50.2 Mil USD
- Taxes: $21.7 Mil USD
- Reclamation and closure: Reclamation and closure costs were not included in the discounted cashflow analysis as it was assumed operations would continue as the resource base expands and final reclamation would be postponed.
- Capital Expenditures: $49.0 Mil USD
- Net change in working capital: The working capital is calculated by using total annual days, accounts receivable, accounts payable, and inventory. It is assumed that the remaining working capital is recovered in the final year which makes the sum of all calculated working capital equal to zero.
- Cashflow: The cashflow is calculated by subtracting all operating costs, taxes, and capital costs from the total revenue.
- Net Present Value (after-tax): $70.7 Mil USD

Table 22.1: APO DCF

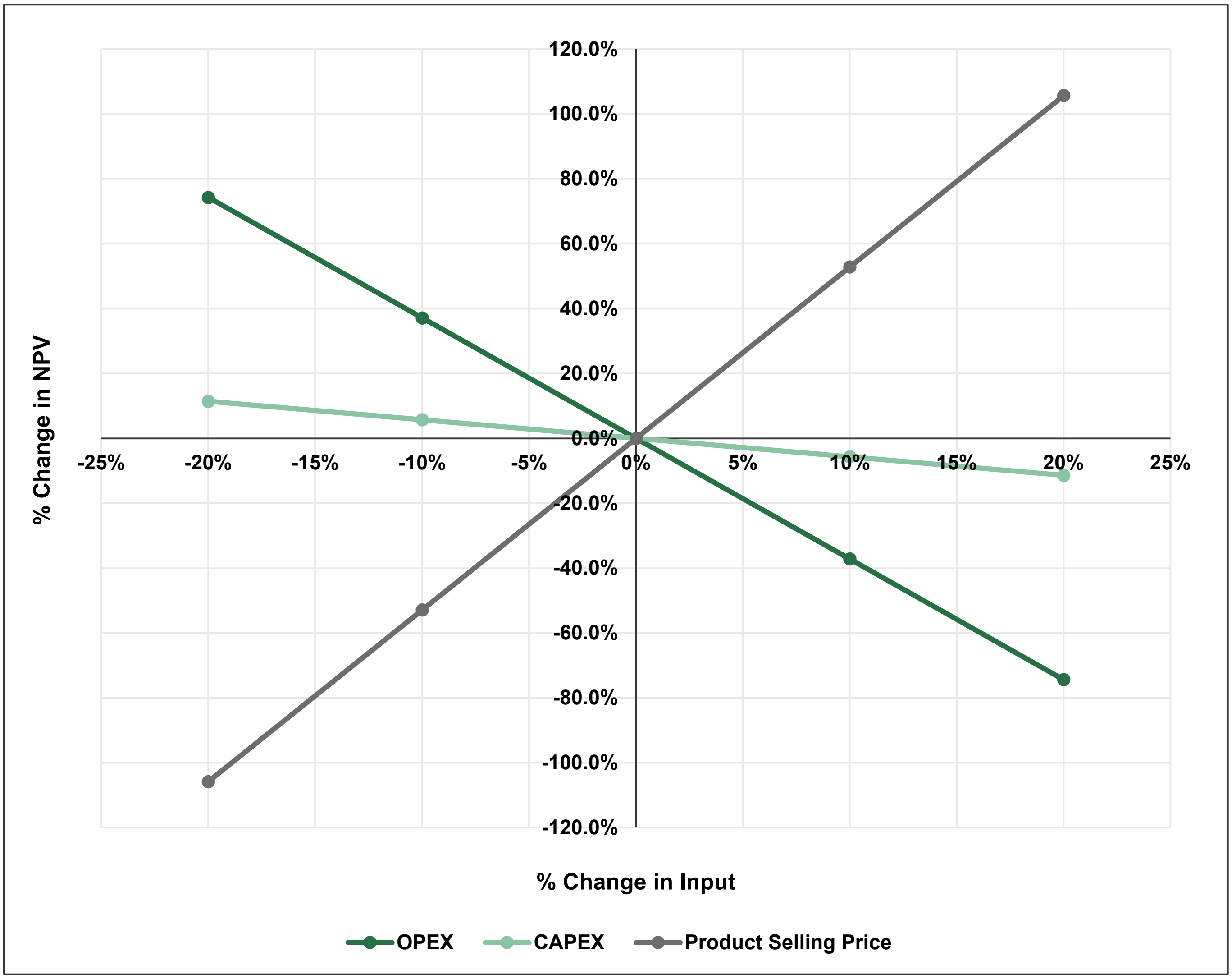
	Parameter	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Assumptions	DAPR Sales Price ($/tonne)		$50	$50	$50	$50	$50	$50	$50
	DAPR Production (000s tonnes)		45	45	45	45	45	45	45
	PAPR Sales Price ($/tonne)		$126	$126	$126	$126	$126	$126	$126
	PAPR Production (000s tonnes)		30	55	60	60	60	60	60
	SSP Sales Price ($/tonne)		$226	$226	$226	$250	$250	$250	$250
	SSP Production (000s tonnes)		170	170	170	170	170	170	170
	Discount Rate		8%	8%	8%	8%	8%	8%	8%
Revenue	Concentrate ($000s)		$44,445	$47,600	$52,311	$52,311	$52,311	$52,310	$52,310
	Other Revenue ($000s)		$8,050	$6,660	$690	$300	$300	$300	$300
Costs of Production	Mining ($000s)		$5,010	$3,308	$3,741	$2,023	$4,412	$2,527	$3,934
	Processing ($000s)		$26,530	$28,394	$28,766	$28,766	$28,766	$28,766	$28,766
	Other Operating Costs ($000s)		$751	$751	$751	$751	$751	$751	$751
	Roylaties and Other Government Levies ($000s)		$718	$721	$737	$702	$750	$713	$741
	Cash Cost of Production (Excluding Taxes) ($000s)		$32,291	$32,453	$33,258	$31,540	$33,929	$32,044	$33,451
Allocated Costs	Other Costs ($000s)		$3,585	$3,585	$3,585	$3,585	$3,585	$3,585	$3,585
Income Taxes	Income Tax ($000s)		$1,671	$1,839	$1,620	$1,763	$1,507	$1,709	$1,559
Capital Expenditures	Capital Expenditures ($000s)	$11,500	$3,500	$3,500	$3,500	$3,500	$3,500	$3,500	$3,500
Working Capital	Net Change in Working Capital ($000s)		-$2,614	-$263	$349	-$231	$401	-$316	$243
Cash Flow	Annual Net Cash Flow (After Tax) ($000s)	-$11,500	$8,117	$11,900	$10,650	$11,289	$9,740	$10,744	$10,018

	Parameter	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Total
Assumptions	DAPR Sales Price ($/tonne)	$50	$50	$50	$50	$50	$50	$50	$50
	DAPR Production (000s tonnes)	45	45	45	45	45	45	45	630
	PAPR Sales Price ($/tonne)	$126	$126	$126	$126	$126	$126	$126	$126
	PAPR Production (000s tonnes)	60	60	60	60	60	60	15	760
	SSP Sales Price ($/tonne)	$250	$250	$250	$250	$250	$250	$250	$245
	SSP Production (000s tonnes)	170	170	170	170	170	170	45	2,255
	Discount Rate	8%	8%	8%	8%	8%	8%	8%	8%
Revenue	Concentrate ($000s)	$52,311	$52,311	$52,310	$52,311	$52,310	$52,311	$15,471	$682,930
	Other Revenue ($000s)	$300	$300	$300	$300	$300	$300	$300	$18,700
Costs of Production	Mining ($000s)	$2,125	$4,131	$2,988	$1,921	$3,955	$1,803	$1,062	$42,939
	Processing ($000s)	$28,766	$28,766	$28,766	$28,766	$28,766	$28,766	$10,673	$382,026
	Other Operating Costs ($000s)	$751	$751	$751	$751	$751	$751	$751	$10,512
	Roylaties and Other Government Levies ($000s)	$705	$745	$722	$700	$741	$698	$321	$9,713
	Cash Cost of Production (Excluding Taxes) ($000s)	$31,642	$33,648	$32,505	$31,438	$33,472	$31,320	$12,486	$435,477
Allocated Costs	Other Costs ($000s)	$3,585	$3,585	$3,585	$3,585	$3,585	$3,585	$3,585	$50,184
Income Taxes	Income Tax ($000s)	$1,752	$1,537	$1,660	$1,774	$1,556	$1,787	$0	$0
Capital Expenditures	Capital Expenditures ($000s)	$3,500	$3,500	$3,500	$3,500	$3,500	$3,500	$3,500	$60,500
Working Capital	Net Change in Working Capital ($000s)	-$310	$336	-$192	-$171	$333	-$361	$2,796	$0
Cash Flow	Annual Net Cash Flow (After Tax) ($000s)	$11,117	$9,932	$10,447	$11,442	$10,090	$11,360	-$1,324	$124,019

22.3 Sensitivity Analysis

A sensitivity analysis was conducted on the discounted cashflow model using variants in commodity price, capital, and operating costs with the following results. The Project is most sensitive to variations in product selling price, with a 20% variation in product selling price resulting in a 100% variation to the NPV. The Project is also very sensitive to variations in OPEX with a 20% variation in OPEX resulting in a change of approximately 70% in the NPV. The CAPEX for the Project is minimal and therefore deviations from the amounts estimated for the discounted cashflow do not have a correspondingly significant effect on the NPV.

Figure 22.1: Sensitivity Analysis



23. Adjacent Properties

The sources of the information in this Item are identified in Item 27.

The QP has been unable to independently verify the information presented in this Item and the information is not necessarily indicative of the mineralization on the Property that is the subject of this report.

In the Arraias region, there is only one other operational phosphate mine in the area near the APO. The mine is located approximately 10 km northwest of the APO, close to the Cana Brava deposit area. The mine owner, Gefoscal, produces approximately 500,000 tpy of DAPR Fertilizer ranging from 8-10% P_2O_5 from a 30 ha property. The QP was unable to verify whether the product is produced from siltstones or a higher-grade unit.

24. Other Relevant Data and Information

It is the opinion of the QPs that all relevant information has been stated in the above Items of the TR.

25. Interpretation and Conclusions

This Item contains forward-looking information related to Mineral Resources, mineral processing, and the life of mine plan for the Project. The material factors that could cause actual results to differ materially from the conclusions, estimates, designs, forecasts, or projections in the forward-looking information include any significant differences from one or more of the material factors or assumptions including: geological and grade interpretation and controls, assumptions and forecasts associated with establishing prospects for economic extraction, grade continuity analysis, and assumptions, mineral resource model tonnes and grade, mine design parameters, actual plant feed characteristics, plant operational performance, mine strategy and production rates, mining unit dimensions, prevailing economic conditions, commodity demand and prices as forecasted over the life of mine period, regulatory framework, and unforeseen environmental, social, or community events

This Item presents the interpretations and conclusions of the TR authors

25.1 Geology and Mineral Resource Estimates

Regarding geology and Mineral Resource estimation, the WSP QP has the following interpretations and conclusions presented in this TR:

- WSP's review of data collection methods and independent data verification process has confirmed the following:
  - Data were collected under the supervision of senior Itafos geologists and engineers who are appropriately qualified to oversee on the basis of their education and relevant experience.
  - The data appear to have been obtained using appropriate industry standards.
  - The data compiled in digital tabular format appears to be free of errors or omissions relative to original source files (descriptive logs, laboratory certificates, wireline logs, and so forth).
- The data appears to be reliable and representative of the geology and grade data for each of the projects and are suitable for the development of geological models and preparation of Mineral Resource estimates.
- The development of resource pits for the Arraias Project using reasonable cost and pricing parameters and assumptions, support reasonable prospects for future economic extraction for each of the deposits.
- WSP has estimated categorized Mineral Resources, in accordance with the definitions presented in NI 43-101 for each of the projects addressed in this TR. A summary of the Mineral Resource estimate is presented in Item 14 of this TR.

- Opportunities exist to further upgrade the current categorization of Mineral Resources (i.e., potential to upgrade Inferred to Indicated, Indicated to Measured) as well as to add additional resource tonnes currently not included in the estimates. The opportunities for additional future resources include but are not limited to the following:
  - Further closely spaced drilling to delineate high-grade intercepts identified during the geological modeling in all deposit areas.
  - Further exploration drilling to delineate the high-grade breccia discovered in the previously undrilled area to the southeast of the Domingos resource pit during the 2025 drilling.

WSP has identified the following risks and opportunities relating to geological modeling and Mineral Resource estimation for the Project presented in this TR:

- Risk relating to the assignment of average densities obtained from one deposit to the other deposits from a limited number of samples introduces risk to the geological model and Mineral Resource estimation process as it assumes that there will be minimal variability in density within each of the units across their spatial extents within the individual deposits.
- Opportunities to revisit minimum P_2O_5 grade requirements pending evaluation of alternative processing methods at APO.

25.2 Mining

The following is a summary of the key conclusions and recommendations relating to the mine plan components and economic analysis. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. The estimate of Mineral Resources may be materially affected by geology, environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The operational and technical knowledge gained through experience with mining at APO has been appropriately used in the development of the LOM plan.

- Mining at APO relies on typical open-pit type of unit operations to remove, transport, and store overburden and transport the phosphate rock to the beneficiation plant. APO has equipment for open-pit mining of the appropriate fleet size and capacity, and adequate labor staffing to support the life of mine production plan.
- Sufficient infrastructure is in place to support the APO mining operation including:
  - Project road access;
  - Water supply and pipelines;
  - Power supply and local electric distribution lines; and,
  - Mine and beneficiation maintenance and support facilities.

25.3 Processing

The following is a summary of the key conclusions relating to metallurgical testing and mineral processing.

- Process recovery relies on standardized metallurgical and analytical testing. The metallurgical and analytical testing and historical data is adequate for the PEA-level estimation of mass and metallurgical recovery factors for Mineral Resources.
- The beneficiation process is similar to other processes treating Brazilian phosphate rock. The capacity of the beneficiation plant is sufficient to support the life of mine production plan.

25.4 Environmental

The information available for review indicates that Itafos applies good practices related to environmental management, including operating with all required environmental permits, applying environmental controls and executing monitoring programs for surface and groundwater, air emissions, and fauna.

The monitoring results available for review, in general indicate compliance with the applicable standards, with the most notable exception being phosphorus in surface water, which is likely to be influenced by the local geochemical background.

Itafos has received a public civil action (in 2014) and a criminal action (in 2016) from the Federal Public Prosecutor Office. The public civil action was closed with Term of Adjustment, that included additional monitoring requirements. A ruling issued on December 18, 2025 by the Federal Civil and Criminal Court of Gurupi-TO extinguished Itafos' criminal action. According to Itafos, no other formal claims was issued related to the site operation.

No site investigation works have been conducted to date to assess potential soil and groundwater contamination at the Site.

Two ARO reports from 2023 with closure costs were available for review. The closure costs presented in these documents are likely to be outdated and Itafos is currently preparing an updated closure plan.

26. Recommendations

26.1 Geology and Mineral Resource Estimates

Regarding geology and Mineral Resource estimation, the QP's recommendations include the following:

- Exploration focused on upgrading known Resources, expansion of existing Resource areas, or infilling gaps between past mining areas. Consideration towards additional quality control/verification purposes for areas reliant on older vintage drilling such as Coité, Cana Brava, and the Near Mine deposits. Exploration and infill drilling and assaying is estimated at $6,000,000, split annually between the deposits.
- Evaluation of new potential exploration areas is estimated at approximately $1,500,000 annually.
- Additional external assay umpire testing, estimated at $35,000 per deposit.
- Density values should be collected for each deposit area, by domain, and spaced regularly across the deposit extent, estimated at $5,000 total.

26.2 Mining

With respect to mining and economic analysis, recommendations include the following:

- Mine planning should be advanced to a Pre-feasibility (PFS) level to ensure sufficient technical detail and economic analysis for converting Mineral Resources into Mineral Reserves. This includes refining designs and schedules, as well as reconciling mining production against geological model to develop appropriate modifying factors to meet the standards required under NI 43-101. (Estimated at $250,000 for APO)
- Blending plans should be developed to maximize Resource utilization while maintaining the desired plant feed grade. (Estimated at $50,000)
- More detailed economic analysis should be conducted (Estimated at $60,000) to reduce uncertainty and support future reserve estimates, including:
  - Developing more granular estimates for mining, processing, and capital estimates to capture all economic drivers accurately.
  - Apply probabilistic analysis to quantify risk and variability in key inputs such as grade, recovery, operating cost, and commodity price.
  - Compare key parameters against historical performance to ensure economic assumptions remain realistic.

26.3 Processing

With respect to metallurgy and processing, recommendations include the following:

- Itafos is actively carrying out follow-up metallurgical test work to better define processing pathways based on updated mine planning and the initial P_2O_5 grades observed in breccia. Recent geological assessments have also identified a secondary rock type (conglomerate) with potential to upgrade to a 28% P_2O_5 concentrate. Should this material prove unfeasible to process to that grade, preliminary results suggest it may still be suitable for use in an alternative fertilizer product. (Estimated at $194,000)
- As mine development expands into other deposits, the average breccia grade has been found to decrease. Floatation testing for this lower-grade breccia is recommended. If the flotation testing does not yield a 28% P_2O_5 concentrate, additional beneficiation steps should be explored. (Estimated at $54,000)
- Additional flotation trials are recommended for the conglomerate, which has an average P_2O_5 grade of 12% to be able to produce a concentrate with 28% P_2O_5 for use in single superphosphate (SSP) production or a 20–22% P_2O_5 concentrate for partially acidulated fertilizer production. If successful, these trials could increase the Project's Mineral Resource estimates. (Estimated at $194,000)
- Recent mining activity has revealed that the breccia from the Domingos Mine is displaying increased hardness and a higher degree of apatite crystallization, particularly in the southern extent of the deposit. Comparative flotation testing is recommended to assess whether this harder material will perform similarly to the materials tested in 2024. (Estimated at $67,000)

26.4 Environmental

Regarding environmental and permitting, the QP's recommendations include the following:

- Conclude the preparation of the mine closure plan following the ICMM guidelines and with estimation of life of mine closure costs, estimated at $150,000.
- Prepare an ARO estimate following the International Financial Reporting Standards (IFRS): International Accounting Standard (IAS) 37 - Provisions, Contingent Liabilities and Contingent Assets estimated at $40,000.
- Prepare a study to define background concentrations of phosphorus in surface water at the mine area and assess the potential influence of the Site operations on these surface water qualities estimated at $80,000.
- Undertake a Phase 1 preliminary site assessment, focusing on the industrial area and, in case potential contamination is identified, undertake an intrusive site investigation work, with soil and groundwater sampling estimated at $30,000.

- Prepare a hydrogeological study, including the preparation of potentiometric maps at the mine area and assessment of influence of the site operations, including pit dewatering, on the groundwater levels and dynamic estimated at $100,000.

26.5 Budget for Recommended Work

Table 26.1 is a reproduction of Table 1.5 and provides an estimated budget for recommended work. These estimated costs would be finalized once work packages are tendered.

Table 26.1: Budget for Recommended Work

Category	Estimated Cost (US$)
Geology and Mineral Resources	$7,540,000
Mining	$360,000
Mineral Processing	$509,000
Environmental	$400,000
Total	**$8,809,000**

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