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منظمة الأمم المتحدة
للتربية والعلم والثقافة

联合国教育、
科学及文化组织

Culture Sector World Heritage Centre

H.E. Ms Anna Brandt
Ambassador
Permanent Delegate of the
Kingdom of Sweden to
UNESCO
UNESCO House

Ref.: CLT/WHC/EUR/21/13301

2 June 2021

Subject: **State of conservation of the World Heritage property 'Laponian Area'**

Dear Ambassador,

I have the pleasure to transmit to you the joint ICOMOS and IUCN Technical Review on the documentation related to the proposed mining activity at the Kallak iron ore deposit by Jokkmokk Iron Mines AB (JIMAB), in proximity to the World Heritage property 'Laponian Area'.

In particular, the Technical Review focuses on the assessment of the impacts of the proposed development on the Outstanding Universal Value (OUV), the attributes that convey OUV, the conditions of integrity and/or authenticity, and the wider setting of the World Heritage property 'Laponian Area'.

In conclusion of the analysis of the Technical Review, ICOMOS' assessment of the scale and severity of the impact of the proposed development project at the Kallak mine is that it would appear at a minimum be moderate adverse and hence the potential significance of effect or overall impact could be considered to be Large/very Large, as set out in the ICOMOS Guidance on Heritage Impact Assessments (HIA) for Cultural World Heritage Properties (2011). In terms of natural values, recalling that no revised Environmental Impact Assessment (EIA) has been submitted as requested by the Advisory Bodies in their 2016 Technical Review, it is noted that the In-Depth Impact Assessment (April 2017) does not refer to the IUCN Advice Note on Environmental Assessment and does not fully assess potential impacts on the natural OUV of the property in line with the Principles of the IUCN Advice Note (such as potential direct, indirect and cumulative impacts from transportation), nor does it address potential impacts of water, energy and land use demands. Moreover, there appears to be significant gaps in the In-Depth Impact Assessment when compared with the ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011). IUCN and ICOMOS conclude that it appears necessary and appropriate for the State Party to consider seeking a revised and extended In-Depth Impact Assessment which provides a more secure basis for assessing the impact of the proposed development on the World Heritage property and which is also carried out in line with the principles of the [IUCN World Heritage Advice Note on Environmental Assessment](#) and based on updated information, prior to any decision being taken to approve mining exploitation.

Moreover, recalling **Decision 37 COM 7** of the World Heritage Committee which urges all States Parties to the *World Heritage Convention* and leading industry stakeholders to respect the International Council on Mining and Metals' (ICMM) "No-go" commitment by not permitting extractive activities within World Heritage properties and by making every effort to ensure that extractive companies located in their territory cause no damage to World Heritage properties, in line with Article 6 of the *World Heritage Convention*, the State Party needs to very carefully consider the potential large/very large scale of overall adverse impact on attributes that convey the OUV of the World Heritage property 'Laponian Area' and on its integrity and authenticity.

Furthermore, It would be helpful if all relevant documentation from the Saami Parliament (and any other relevant documentation) could be submitted to the World Heritage Centre with any revised request for advice since the role of the Saami Parliament is clearly relevant to the assessment of the impact of the proposed development on the World Heritage property.

Finally, recognizing the importance of reindeer husbandry to the integrity and authenticity of the World Heritage property 'Laponian Area' and the attributes that underpin criteria (iii) and (v), the State Party should consider how the practice of reindeer husbandry outside the boundaries of the property and directly related to reindeer husbandry within the property will be protected.

We would appreciate if you would share the enclosed Technical Review (see **Annex**) with your relevant authorities and keep the World Heritage Centre informed of the ways by which these recommendations are being taken into account.

The World Heritage Centre, ICOMOS and IUCN remain at the disposal of the State Party for further clarification or assistance.

Thanking you for your support and cooperation in the implementation of the *World Heritage Convention*, I remain,

Yours sincerely,



Mechtild Rössler
Director

Enc.

cc: Swedish National Commission for UNESCO
National Focal Points for World Heritage
ICOMOS International
IUCN

ICOMOS and IUCN Technical Review on the 'Proposed mining activity at the Kallak iron ore deposit by Jokkmokk Iron Mines AB (JIMAB)', in proximity to the World Heritage property 'Laponian Area', received by the World Heritage Centre on 31 May 2021.

ICOMOS and IUCN Technical Review

Property	Laponian Area
State Party	Sweden
Property ID	774
Date of inscription	1996
Criteria	(iii)(v)(vii)(viii)(ix)
Project	Proposed mining activity at the Kallak iron ore deposit by Jokkmokk Iron Mines AB (JIMAB)

1. Background

On 5 November 2020, ICOMOS and IUCN received information from the State Party, via the World Heritage Centre, comprising updates on the Kallak Mine project including a letter (undated) to the World Heritage Centre from Mr Per Stagnell, Deputy Head of Division for Sectors and Industry at the Swedish Ministry of Enterprise and Innovation, and a document entitled In-depth Impact Assessment, dated April 2017.

Further information provided by the State Party to the World Heritage Centre was received in January 2021, consisting of a second letter from Mr Stagnell to the World Heritage Centre (dated 17 December 2020) that mentioned four annexes, and a letter from Mr Kurt Budge, CEO of Beowulf Mining plc, written on behalf of Jokkmokk Iron Mines AB (JIMAB), addressed to Mr Stagnell (dated 15 December 2020).

The four annexes to Mr Stagnell's letter were received by the Advisory Bodies on 26 January 2021.

On 9 February 2021, a further letter from Mr Budge (dated 29 January 2021) was received, addressed to the World Heritage Centre.

1.1 Management of the Laponian Area World Heritage property

In 2011, the management system led by the organisation Laponiatjuottjudus was established under a specific government regulation known as the Laponia Regulation. Laponiatjuottjudus took over the management of the World Heritage property from the County Administrative Board of Norbotten in 2013. The stakeholders are the nine Saami villages in Laponia (Mija Ednam is the Saami organisation for all the involved Saami villages), two municipalities (Gällivare and Jokkmokk), Norbotten County Administrative Board and the Swedish Environmental Agency (for discussion see Stjernström et al. 2020).

1.2 Summary of project under evaluation

The Kallak mineralization deposit is located between Randijaur and Björkholmen in the Municipality of Jokkmokk, county of Norbotten, to the south of the Laponian Area World Heritage property. The deposit was already known of by the 1940s, and in the 1970s, the Geological Survey of Sweden (SGU) carried out extensive explorations in the area. Jokkmokk Iron Mines AB (JIMAB) has undertaken prospecting in the area since 2006. The company holds exploration permits granted by the Mining Inspectorate of Sweden: Kallak No. 1 (id 2006:197) and Kallak No. 2 (id 2011:97).

Under an SGU decision dated 19 February 2013, the Kallak Deposit was designated as an area of national interest for deposits of valuable substances or materials that are of great significance for the country's supply preparedness. JIMAB carried out trial mining at Kallak in the summer of 2013. The mined ore (around 500 tonnes) was transported to a plant in Finland for trial treatment. After trial mining was completed, the area was remediated (cleaned up, levelled and planted) according to a plan

approved by the supervisory authority. The authority approved the remediation measures after inspection. At the company's request, the county administrative board revoked the trial mining permit in a decision dated 15 October 2014. Trial treatment showed favourable results, i.e. that the Kallak ore could be treated to produce iron ore concentrate using simple and proven methods.

In 2013, the company applied for an exploitation concession for the northern part of the deposit, Kallak North or Kallak No. 1. The concession area applied for covers around 103 ha. When the associated installations are included, the area would cover around 1,360 ha. Based on the results from the estimation of mineral resources carried out, the significant tonnage and iron content of the deposit, there is sufficient probability that it can be utilised economically. The mine activity at Kallak described in the application for an exploitation concession mainly comprised the following: open-cast mining of ore, treatment of up to 10 Mtonnes of ore per year, disposal of up to 80 Mtonnes (approx. 60 Mm³) of residual material from the treatment process (tailings) mining, and disposal of up to 100 Mtonnes (approx. 60 Mm³) of waste rock; construction and operation of installations for water management, including clarification pond and ditches and construction of an industrial area with buildings, surfaces and roads for operations. There will be outward transport of up to 4.2 Mtonnes of product per year.

An Environmental Impact Assessment (EIA) was attached to the application to enable the Chief Mine Inspector's examination of the application for an exploitation concession under the Minerals Act, and whether the proposed land use could be regarded as environmentally acceptable. The assessment also covered a balancing of the planned land use against national interest under Chapters 3 and 4 of the national Environmental Code. A conceptual design of the mining activity and localisation of installations formed the basis for a description of impacts in the EIA, while a more detailed design would be submitted in a mining permit application [NOTE: World Heritage interests are protected under Swedish law, *inter alia* through Chapter 3 of the Environmental Code (Swedish *miljöbalken* or MB)].

The EIA attached to the application was examined by the County Administrative Board (CAB) of Norbotten and other parties. In consultation, the Swedish National Heritage Board (RAÄ) and the Swedish Environmental Protection Agency (NV) expressed the view that the EIA did not fully assess the impact of the proposed activity on the criteria underpinning the Outstanding Universal Value (OUV) of the Laponian Area World Heritage property, particularly criteria (iii) and (v), those specifically related to Saami way of life and reindeer husbandry. In their 2016 Technical Review, ICOMOS and IUCN advised the State Party to conduct a Heritage Impact Assessment (HIA) of the proposed development on the World Heritage property and to submit the HIA and a revised EIA with a specific assessment of the potential impacts of the proposed mining on OUV, including its conditions of integrity, to the World Heritage Centre for review by the Advisory Bodies, and if necessary presented to the World Heritage Committee, before any irreversible decisions are made.

In response, JIMAB carried out the *Kallak and the Laponian Area World Heritage Site In-Depth Impact Assessment* (April 2017). This is based on the method for HIAs established by ICOMOS, as detailed in the ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (2011). Regarding the assessment of natural values, IUCN notes that no revised EIA was submitted, and that the In-Depth Impact Assessment considers natural values but makes no reference to the IUCN World Heritage Advice Note on Environmental Assessment (IUCN Advice Note)¹.

The In-Depth Impact Assessment (In-Depth IA) is organized into two sections:

- The assessment of potential impacts from the mine area;

¹<https://www.iucn.org/theme/world-heritage/resources/iucn-policies-world-heritage/environmental-assessment>

- The transport of ore from the mine.

While noting that the mine area is outside the World Heritage property, the proposed transport link (road/railway) for the transportation of ore from the mine crosses the southeast sector of the property.

This Technical Review focuses on the assessment of the impact of the proposed development on the OUV of the Laponian Area World Heritage property.

1.3 Location of issues in relation to the World Heritage property

1.3.1 Relationship between Kallak and the World Heritage property's attributes of OUV

Kallak is situated 34km to the southwest of nearest boundary of the World Heritage property and 45km southeast of the nearest boundary. Despite what appears to be a significant distance from the property, there is a clear relationship between Kallak and the attributes of the World Heritage property that underpin criteria (iii), (v), (vii), (viii) and (ix) and its OUV.

The retrospective Statement of Outstanding Universal Value (SOUV) for the Laponian Area was adopted in 2016 (Decision 40 COM 8E) and is annexed to this Technical Review.

In relation to integrity, the SOUV states that:

"In some respects the on-going practice of reindeer herding has adjusted to modern techniques, but it is still the main source of livelihood in this area. The crucial factor in terms of the area's integrity is the impact of reindeer husbandry..."

In relation to authenticity, the SOUV states that:

"The authenticity of the property is expressed by and maintained through the continuing Saami practice of reindeer herding and the seasonal movement of the herds to the mountain grazing pastures in summer. The existence and development of reindeer herding is a fundamental condition for the survival of the Saami culture."

As explained in the In-Depth IA (p. 9), nine of the 51 Saami villages in Sweden have lands within the World Heritage property, namely the mountain Saami villages Baste čearru, Unna tjerusj, Sirges, Jåhkågaska Tjiellde, Tuorpon and Luokta-Mávas, and the forest Saami villages Udtja, Slakka and Gällivare. There are around 300 reindeer herders in these communities and a total of some 50,000 reindeer. The herders gather together and move their reindeer between different grazing grounds and most of these Saami communities only spend part of the year (summer) in the World Heritage property. The World Heritage property makes up only 11% of the area that the Saami villages live in and depend on. Hence the reindeer husbandry undertaken in the property is dependent on widespread grazing (especially winter grazing) land outside the property. Appendix 2 to the Nomination Dossier (1995; see also In-Depth IA p. 19) states that:

"It is the availability of winter food, lichens growing on the ground or in trees, that usually determines the number of reindeer that a village can have."

1.3.2 Reindeer husbandry

The concession applied for at Kallak has a direct impact on the reindeer husbandry of the Saami village of Jåhkågaska Tjiellde, and thereby on the OUV of the World Heritage property. The reindeer husbandry analysis carried out as part of the original EIA (see RAÄ/NV Opinion November 2017, p. 5) stated the following:

“The mine and its facilities take up relatively small areas of Jåhkågasska tjiellde’s reindeer grazing land. However, the mine is located in such a manner that in the east part of the Sami village’s year-round land, it will cut off the Sami village’s northern migration routes. Furthermore, the project will mean that the Sami village will miss out two important grazing areas and that an additional grazing area will be affected. Thus, migration from the area will be rendered more difficult and this particularly problematic with respect to the spring migration to the fells [NOTE – the fells are in the World Heritage property], since the cows are pregnant and sensitive to storms and since, e.g. it can be particularly difficult to carry out transportation by truck. The autumn migration is also made more difficult since reindeer normally pass the area and stay there to graze and rest. The mine in itself constitutes an impediment to free wandering and therefore can have the consequence of reindeer being prevented from passing through the area. For example, reindeer may remain in the winter land during the spring and possibly then create indirect problems on the verdant acres of agricultural properties.”

In February 2017, a new national interest in reindeer husbandry was designated by the Saami Parliament. This new national interest strengthens the area around Björkholmberget, between the villages of Randijaur and Björkholmen, as a key area within Jåhkågasska Tjiellde year-round land. Through this decision, the national interest in reindeer husbandry has become geographically greater in the area close to the planned mine.

1.3.3 Transport of ore

The part of the planned project that directly affects the World Heritage property is the transport link for the movement of ore from the Kallak area. Whilst noting that the exact transportation routes are reported as still to be decided, the planned approach is to use existing infrastructure which crosses the eastern part of the property where both a railway line (Inlandsbanan) and a European/national Route (E45) are routed. It would appear from the In-Depth IA that transport to this national transport infrastructure will be via regional roads (Väg 807 and 805). The In-Depth IA (p. 6, 15) asserts that under Swedish legislation, detailed discussion of possible transport routes and their impacts are not examined until the later application for permit process under the Environmental Code. It is the opinion of the RAÄ/NV (November 2017, p. 7) that assessment of suitable land use, including the direct and indirect impact of transport of materials from the proposed mine *“must take place in the concession assessment in accordance with the Minerals Act. According to the Environmental Code this cannot be done later in the matter regarding assessment of the licence application”*. The RAÄ/NV cite the legal precedent of the judgement of the Supreme Administrative Court, 22 February 2016, case 2017-14 [Norra Karr] in support of this view. This opinion is shared by the County Administrative Board (CAB), Norbotten County (p. 2) and the Jåhkågasska Tjiellde Saami village (March 2018, pp. 2-4).

This divergence of opinion may have had an impact on the level of detail of transport routes and options presented in the In-Depth IA.

2. Analysis of issues in relation to impacts on the OUV of the property

2.1 The mine area

The In-Depth IA (pp. 18-20) outlines the impacts that the proposed development would signify and then discusses how great the impact would be.

In relation to the cultural values of the World Heritage property, the In-Depth IA states that the positive indirect impacts of the mine project are that it would boost the local and regional economy and provide more people and better resources in the Municipality of Jokkmokk. These would benefit the local population, reindeer husbandry and Saami culture. The potential positive impacts have not been assessed.

The In-Depth IA (p. 18) recognises the following negative impacts:

- *“The land to be claimed by mining is located on the year-round lands of the Sami village of Jåhkågasska, which means that the grazing land of the Sami village will diminish, particularly in terms of winter grazing.*
- *The mine area is located close to the resting pastures of the Sami village, in addition to which the mine area may intrude on one of the migration routes of the Sami village.*
- *Indirect impact from the mining activity in the form of noise, vibration, light and dust generation may occur principally in the immediate surroundings of the mine, which may have an impact on reindeer husbandry. Reindeer husbandry is undertaken over large and contiguous areas, and if an impact arises in one area (e.g. Kallak), it might lead to some consequential impact on other areas (e.g. in Lapponia).*
- *The Municipality of Jokkmokk’s trademark as a ‘wilderness municipality’ may be impacted by establishment of a mine.”*

In assessing how great the negative impacts would be on the cultural values of the World Heritage property, the In-Depth IA (p. 19) states that provided damage mitigation measures are taken the impact on reindeer husbandry is assessed as moderate in the immediate surroundings of the mine. The In-Depth IA goes on to detail the scale of impacts as follows:

- The grazing that will be impacted on is winter grazing. Up to a maximum of around 1,500ha of the year-round lands of Jåhkågasska Tjiellde will be obstructed or impacted on during the time that the mine is active.
- Increased activity may mean that the reindeer of Jåhkågasska Tjiellde will be disturbed. Along with the increase in the volume of traffic and the construction of new service roads, this will lead to an increased risk of collisions with reindeer.
- Loss of winter grazing in the area around the mine and disturbance to the reindeer also create an increased risk of dispersal and the mixing of reindeer herds of neighbouring villages. This creates additional work to separate reindeer herds and can have effects on the reindeer grazing cycle for the rest of the year.
- The In-Depth IA states that the Jåhkågasska Tjiellde reindeer herd, with a winter herd of some 4,500 reindeer, accounts for less than 10% of the total number of reindeer using the World Heritage property as grazing ground and that the mining activity *“may directly affect a small proportion of the affected Sami village”*. Transport related to the mining *“may indirectly affect the whole Sami village and the adjoin Sami villages of Sirges and Tuorpon.”*
- Most of the reindeer and reindeer companies that use the World Heritage property are neither directly nor indirectly affected by the mine area. When mining activity ceases *“the area will be remediated and will again to a significant degree be made available for reindeer husbandry.”*

After a broad discussion of disturbance effects caused by mines and other factors, the In-Depth IA concludes that *“the impact of the mine area on the cultural values of Lapponia, due to the protective measures and precautions that will also be taken to limit the impact is assessed as minor.”*

In relation to the natural values of the World Heritage property, the only positive impact of the mine project listed is that it creates the possibility of ‘technical tourism’ and a general increase in visitor numbers, which is also assessed as a negative impact together with light pollution (p.18). The potential positive impacts have not been assessed and the In-Depth IA does not go into any detail when assessing how great the negative impacts would be on the natural values of the World Heritage property. The In-Depth IA (p. 18-19) states that *“the mining activity at the Kallak Deposit will probably not affect Lapponia’s natural heritage site criteria”*. Light pollution is assessed as *“marginal due to distance and*

topography” and the impact of increased tourism is assessed as minor, although the In-Depth IA notes that the *“project is still at an early stage, and its scope is difficult to determine”*.

2.2 Transport

The In-Depth IA (pp.21-25) outlines the impacts that the proposed development would signify and then discusses how great the impact would be.

In relation to the cultural values of the World Heritage property, the In-Depth IA states that the positive indirect impacts of the mine project and associated transport are that it would boost the local and regional economy and provide more people and better resources to the Municipality of Jokkmokk. These would benefit the local population, reindeer husbandry and long-term protection of the Laponian Area. Improved access would make it easier for reindeer herders to access the area and also may result an increase in visitor numbers and knowledge about the property. The potential positive impacts have not been assessed.

The In-Depth IA (p. 23-4) recognises the following negative impacts:

- *“Transport from Kallak to the E45 may take place along Road 805, which is a reindeer husbandry area in particular for the Sami villages of Jåhkågasska Tjiellde and Sirges but also for the Sami village of Tuorpon. The Sami villages that may be affected by transport between Kallak and Gällivare along the Inlandsbanan railway line and the E45 are Jåhkågasska tjielldes, Sirges, Tuorpon, Slakka (formerly Sierrri) and Udtja, as these transport runs will pass their reindeer husbandry areas.*
- *Increased transport may cause disturbance to reindeer husbandry in the form of noise, vibration and dust generation, as well as increasing the risk of collisions.*
- *Increased transport may also represent a barrier effect in making crossings of the road and railway line more difficult. This complicates traditional reindeer husbandry with migration between winter and summer grazing. It also makes it more difficult for the reindeer to range freely, which happens in the area.*
- *Road 805 is an access road to Kvikkjokk and the southern parts of Lapponia. The traffic from the mine area may also increase the risk of traffic disruption.”*

In assessing how great the negative impacts would be on the cultural values of the World Heritage property, the In-Depth IA (p. 24-25) begins by stating that the final transport solution from the mine area to the European Route E45 has not yet been established. It is mentioned that *“a pump pipeline, which would reduce the risk of traffic disruption, and other options may be considered,”* but these are not discussed.

In terms of road-based traffic, the number of truck transport runs from the mine area would be 150-180 per day, meaning that there would be a substantial increase in heavy goods transport along Road 805 between Björkholmen and east to Vaikijaur, close to the E45. This section of Road 805 is set in the reindeer husbandry areas for the Saami villages of Jåhkågasska Tjiellde, Sirges and, to some extent, Tuorpon. The In-Depth IA states that wildlife crossings could be established at strategic points to reduce the barrier effect that the increased traffic may give rise to.

The In-Depth IA also points out that as a consequence of the increased traffic there would be a need to reinforce and possibly widen Road 805 to improve traffic safety and to move the road through the village of Vaikijaur.

It is stated in the In-Depth IA that transport along Road 805 affects a minor proportion of reindeer husbandry in the World Heritage property. Provided that the proposed protective measures are taken, the impact on the cultural values of the Laponian Area is assessed as moderate/minor.

The number of rail transport runs that would be associated with the transport of ore from the proposed mine on the Inlandsbanan line along the Jokkmokk to Gällivare section is estimated as 3-4 per day, one way, hence with return journeys this would be 6-8 train runs per day. Wildlife crossings may be appropriate to reduce the barrier effect as well as fences to minimize the risk of collisions.

The In-Depth IA (p. 25) concludes that *“the impact of transport on the cultural values of Lapponia is assessed as minor, provided that runs in the south-to-north direction are made by rail and that measures are taken along transport routes to reduce the barrier effect and the risk of collisions.”*

In relation to the natural values of the World Heritage property, the In-Depth IA states that there may be positive impacts associated with improved roads and railway services, such as increasing accessibility and visitor numbers. However, the potential positive impacts have not been assessed.

The In-Depth IA (p. 23-4) recognises the following negative impacts on natural values:

- *“Future transport of ore from the mine will lead to increased traffic on the existing road and/or existing railway that today cross Lapponia (the Inlandsbanan railway line or the European route E45). Road traffic leads to dust generation, noise, emissions and vibrations that may affect flora and fauna close to the road. Railway transport leads to similar disturbance.*
- *Direct impact of transport arises principally if new land is claimed for new sections of road or railway line.*
- *A negative impact of transport could take the form of an increased barrier effect, as the railway and road would be used more frequently than is the case at present. This might affect ecological and biological processes (criterion (viii)). Furthermore, it can be argued whether increased traffic may have a negative aesthetic impact (criterion (vii)).”*

IUCN acknowledges that the In-Depth IA (p. 24) states that although there is not yet any final transport solution established, the mining company has *“clarified that it will not choose any transport option that extends along a new northern/northeastern route through the Jelka-Rimakåbbå Natura 2000 site”*.

Providing that transport from Jokkmokk to Gällivare takes place on the existing railway line, the In-Depth IA (p. 24) assesses this impact on the natural values of the World Heritage property as marginal if *“measures are taken along transport routes to reduce the barrier effect”*. However, the negative impacts of road traffic, dust generation, noise, emissions, vibrations, as well as direct impacts of land claims and negative aesthetic impacts, have not been assessed.

3. Assessment: impacts on attributes that convey OUV, on the conditions of integrity and/or authenticity, and on the wider setting

3.1 Introduction

In assessing the impacts of the proposed development on the attributes that convey the OUV of the Laponian Area and on its integrity and authenticity, it is important to bear in mind the key role of reindeer husbandry and the Saami way of life in underpinning criteria (iii) and (v) and the OUV of the property. The SOUV states that the crucial factor in terms of the property’s integrity is the impact of reindeer husbandry, and that the authenticity of the property is expressed by and maintained through the continuing Saami practice of reindeer herding and the seasonal movement of the herds to the mountain pastures in summer.

The *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* produced by ICOMOS (2011) recognises that the significance of effect, or overall impact (adverse or beneficial), has to be assessed in term of the value of the heritage asset. As the impact of the proposed development

on a World Heritage property (Laponian Area) is being considered, the value of the heritage asset would be considered as being “Very High”; a site of acknowledged international importance inscribed as a World Heritage property with attributes that convey its Outstanding Universal Value (see ICOMOS *Guidance* 2011, pp. 8-10 and Appendix 3A).

Regarding the assessment of impacts on natural values, it is noted that no revised EIA has been submitted as requested by the Advisory Bodies in their 2016 Technical Review, and whilst the In-Depth IA considers the natural criteria as noted elsewhere, it does not refer to the IUCN Advice Note. Specific Principles of the IUCN Advice Note that are not incorporated include, for example, the assessment of indirect or cumulative effects of identified impacts, identification of alternatives and mitigation measures for impacts on natural values. The In-Depth Impact Assessment can therefore not be considered to have fully and appropriately assessed impacts on the property’s OUV and the attributes that underpin criteria (vii), (viii) and (ix).

3.2 Mine area

As pointed out by the RAÄ and NV in their opinion (November 2017, p. 6), citing the Administration Plan for the World Heritage property, the reindeer husbandry operations that are conducted close to the planned mine area are directly and functionally connected to the reindeer husbandry conducted within the property. The Saami village of Jåhkågasska Tjiellde is assessed as being of great importance for reindeer husbandry in the property. As pointed out in the reindeer husbandry analysis carried out for the original EIA and quoted above, while the mine and its facilities take up relatively small areas of Jåhkågasska Tjiellde’s reindeer grazing areas, it is clear that the mine will have a negative impact on the Saami village’s reindeer herding and grazing, including a severe impact on the migration routes northwards towards the World Heritage property. Thus, there will be an impact on this Saami village’s potential to continue nomadic reindeer herding in and out of the property, which is recognised as crucial to the integrity and authenticity of the property (for the perspective of Laponiajuottjudus, see Stjernström et al. 2020, 7).

In February 2017, the Saami Parliament designated a new national interest in reindeer husbandry, emphasizing the importance of the area around Björkholmsberget, between the villages of Randijaure and Björkholmen, as a key area of Jåhkågasska Tjiellde’s year-round land. Through this decision, the national interest in reindeer husbandry has become geographically greater in the area close to the planned mine. In its assessment, the In-Depth IA (see p. 10) appears not to place any added significance to this national interest designation in terms of the potential impact of the development. However, in the opinion of the RAÄ and the NV (November 2017), this national interest designation is of “*major importance for the world heritage site’s OUV*”. The RAÄ and NV recommend that the County Administration Board “*regard the impact on the Laponia world heritage site as greater than concluded [in the In-Depth IA]*” (RAÄ/NV, November 2017, p. 6).

In its submission, the County Administrative Board (November 2017, pp. 9-11) makes the assessment that, irrespective of the direct or indirect impact of the proposed development on the values of the World Heritage property, the national interest in reindeer husbandry must take precedence over the national interest in valuable substances and materials. In relation to the property, the County Administrative Board notes that the proposed mine may result in “*a risk of Laponia’s cultural values being adversely affected to an extent which may be of significance for the integrity and authenticity of the world heritage site*”.

As detailed above, the conclusion in the In-Depth IA (p. 19) is that, provided damage mitigation measures are taken, the impact on reindeer husbandry in the immediate surroundings of the mine would be moderate (negative). With protective measures and precautions to limit the impact on the cultural values of the Laponian Area, the impact on the World Heritage property is assessed as minor (negative) (In-Depth IA, p. 20).

In section 3.3.1 (p. 12), the In-Depth IA states a number of “*Environmental impacts and other impacts*”, which are not discussed when assessing potential impacts from the mine area and the transport of ore from the mine (pp. 18-20). These include lowering of groundwater levels, damming surface water (including construction of tailing dams) and energy generation. The In-Depth IA (p.12) states that the “*impact locally may become relatively major, as watercourses and smaller lakes in the immediate surroundings are put to use, including for a tailings dam and storage pond*”. It is further declared that tailing dams will not be removed after the mining operation has ended and the affected watercourses therefore not restored. The potential impact on hydrology, aquatic connectivity and water stress is not discussed. Noting also the County Administrative Board’s comment (p.12) that the mine “*will result in irrevocable intrusion in nature and an enduring impact on ongoing land use*”, it is important that this is appropriately assessed.

In his letter to the World Heritage Centre (dated 15 January 2021), Mr Kurt Budge, CEO of Beowulf Mining plc, mentioned that the vision of the mining company is to build “*a mining operation powered by renewable electricity*”. However, the In-Depth IA does not address how energy for the mining operation would be generated or what potential impacts this might have on the property’s OUV. Attention is drawn to the statements in the SOUV regarding considerations of renewable energy generation impacts on the property, in terms of potential (wind power) and past impacts (hydropower).

The In-Depth IA assessment does not adequately address the direct functional and landscape link between reindeer husbandry in the proposed mining area and in the property as detailed above. Nor does it adequately address potential direct, indirect and cumulative impacts on natural values such as ecological processes and connectivity of the landscape and the hydrological system. Recognising the opinion of the RAÄ and NV regarding the quality of the assessment in the In-Depth IA, it would seem appropriate to regard the impact on the World Heritage property at a minimum as resulting in a moderate (negative) change. In accordance with the ICOMOS *Guidance on HIAs for World Heritage Properties* (2011, 9-10) in terms of significance of effect or overall impact on the World Heritage property, this would be large/very large.

3.3 Transport of ore from mine area

In assessing the impact of the transport of ore from the mine area, it is important to recognise that this concerns transport to the south of the property, along the 807 and 805 regional roads, the European Route E45 and the Inlandsbanan railway, and within and to the north of the property on the two latter routes (Inlandsbanan/E45).

The submission from Jåhkågasska Tjiellde (March 2018) points out that existing mines (the Aitik and LKAB’s mines in Kiruna and Gällivare) affect reindeer husbandry and the World Heritage property, through conflicts about land between the competing industries (mining and reindeer husbandry), the financial impact on affected Saami villages and difficulties in recruiting young people for reindeer husbandry. The submission points out that these mines had commenced operation before the Laponian Area was inscribed on the World Heritage List and that none of them transport their ore through the World Heritage property.

As noted above, the In-Depth IA does not fully consider transport options, asserting that under Swedish legislation detailed discussion of possible transport routes and their impacts are not examined until the later application for permit process under the Environmental Code. It is the opinion of the RAÄ/NV (p. 7) that assessment of suitable land use, including the direct and indirect impact of transport of materials from the proposed mine “*must take place in the concession assessment in accordance with the Minerals Act. According to the Environmental Code this cannot be done later in the matter regarding assessment of the licence application.*” The RAÄ/NV state that they have difficulty in

assessing how the transport issue will affect reindeer husbandry since there is *“no transport alternative appointed by the company”*.

However, there does appear to be some confusion on this point as the submission from the County Administrative Board (November 2017, p. 7) makes reference to six different transport alternatives which *“the company submitted in its original submission for a mining concession and in the in-depth consequences analysis that the company submitted on 28 April 2017 ... two investigation alternatives remain.”* These alternatives are not fully discussed in the In-Depth IA, where it is mentioned that other transport options may be considered.

As detailed above, the conclusion in the In-Depth IA (p. 25) is that, provided damage mitigation measures are taken, the impact on reindeer husbandry in the immediate surroundings of the mine and south of the property would be moderate/minor (negative). With protective measures being taken along transport routes to reduce the barrier effect and risk of collisions, and provided that the transport is by rail, the impact on the cultural values of the World Heritage property is assessed as minor (negative).

This assessment, however, does not adequately address the direct functional and landscape link between reindeer husbandry in and around the proposed mining area, extending east to Jokkmokk and the property as detailed above. Nor does it adequately address potential direct, indirect and cumulative impacts from potential substantial increase in heavy goods transport along Road 805, dust generation, noise, emissions and vibrations from both increased road and railway traffic, as well as direct impacts of land claims for infrastructure, on vegetation and movements of wildlife that are part of the natural values.

Recognising the opinion of the RAÄ and NV regarding the quality of the assessment in the In-Depth IA, and their opinion in relation to the impact from transport through the Laponian Area on the World Heritage property that there is a *“need to assess the impact on Laponia in accordance with the alternative which has the greatest impact on reindeer husbandry”* (RAÄ/NV November 2017, p. 7), it would seem appropriate to regard the impact on the World Heritage property at a minimum as resulting in a moderate (negative) change. In accordance with the ICOMOS *Guidance on HIAs for World Heritage Properties* (2011, 9-10) in terms of significance of effect or overall impact on the World Heritage property this would be large/very large.

Overall, ICOMOS and IUCN consider that transport infrastructure associated with the proposed mine is a core component of the project proposal and ongoing operation of the mine, and all proposed options must therefore be fully considered in the impact assessment process before any decision is taken to approve mining exploitation.

4. Conclusions

4.1 Results of the analysis

The overall conclusion of the In-Depth IA is that there would be a moderate negative impact in the mine area and a minor negative impact on the culture-based criteria for the Laponian Area World Heritage property. Using the ICOMOS *Guidance on HIAs for World Heritage Properties* (2011, 9-10) to assess the significance of the effect or overall impact of the adverse change explicitly recognised in the In-Depth IA, this would mean that there would be a Moderate/Large adverse impact on the World Heritage property.

However, based on the detailed analysis set out above in Section 3, ICOMOS considers that this conclusion significantly underestimates the adverse impact of the proposal for the following reasons:

- The In-Depth IA does not recognise the direct functional and landscape relationship between reindeer husbandry in the proposed mine area and in the World Heritage property and the need to assess the impacts of the proposed development on the attributes of the World Heritage property in this context;
- The In-Depth IA does not recognise the requirement to consider the impact of the proposed development in relation to the very high heritage value of the World Heritage property and on its attributes, which convey the Outstanding Universal Value of the property, i.e. the significance of effect or overall impact.

Against this background, ICOMOS' assessment of the scale and severity of the impact of the proposed development is that it would appear at a minimum be moderate adverse and hence the potential significance of effect or overall impact could be considered to be Large/very Large, as set out in the ICOMOS *Guidance on HIAs for Cultural World Heritage Properties* (2011).

In terms of natural values, the In-Depth IA concludes that there would be no impact from the mining activities on the natural criteria of the property. Recalling that no revised EIA has been submitted as requested, it is noted that the In-Depth IA does not refer to the IUCN Advice Note and does not fully assess potential impacts on the natural OUV of the property in line with the Principles of the IUCN Advice Note (such as potential direct, indirect and cumulative impacts from transportation), nor does it address potential impacts of water, energy and land use demands. An appropriate assessment of the potential impacts on the natural values of the property should be completed in line with the Principles of the IUCN Advice Note, based on updated information, prior to any decision being taken to approve mining exploitation.

4.2 Recommendations

4.2.1 No-go Commitment

Decision 37 COM 7 of the World Heritage Committee, (Part III) urges all States Parties to the *World Heritage Convention* and leading industry stakeholders to respect the International Council on Mining and Metals' (ICMM) "No-go" commitment by not permitting extractive activities within World Heritage properties and by making every effort to ensure that extractive companies located in their territory cause no damage to World Heritage properties, in line with Article 6 of the *Convention*.

Recommendation:

1. The potential large/very large scale of overall adverse impact on attributes that convey the OUV of the Laponian Area World Heritage property and on its integrity and authenticity, as per the ICOMOS assessment, need to be very carefully considered by the State Party in the context of Decision 37 COM 7 of the World Heritage Committee.

4.2.2 ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties

The RAÄ and NV (November 2017) state that they are "*unable to fully assess whether the assessment documentation [i.e. the In-Depth IA] in its entirety sufficiently describes the impact on the conditions for conducting reindeer husbandry in Lapponia*".

The In-Depth IA (p. 6) itself states that "*the analysis of possible impact on Lapponia is largely based on information and analyses the company has produced in previous application documents*".

There appear to be significant gaps in the In-Depth IA when compared with the ICOMOS *Guidance on HIAs for Cultural World Heritage Properties* (2011).

For example:

- The Jåhkågasska Tjiellde Saami village submission (February 2018) states that there is no agreement or ongoing dialogue with the mining company in relation to precautionary and protective measures. This appears to run counter to the advice in the ICOMOS Guidance (2011, p. 5) that “*early consultation with relevant parties, including any affected community, is important.*”
- For World Heritage properties, the ICOMOS *Guidance* (2011, p. 6) describes the core documentation as the SOUV and the identification of attributes that convey OUV. In the case of the Laponian Area, while a Retrospective SOUV was adopted in 2016, it would appear that there is no direct reference to the SOUV in the In-Depth IA.
- The ICOMOS *Guidance* (2011, p. 7) states that the production of location or themed maps or plan views are almost always needed to demonstrate the findings and issues raised. In the In-Depth IA, there are three general location maps, but no detailed or large-scale maps or plans to illustrate key points and issues.
- The issues with the discussion of options for the transport of ore from the proposed mine site have been detailed above.

Recommendation:

2. Against this background, it appears necessary and appropriate for the State Party to consider seeking a revised and extended In-Depth Impact Assessment which provides a more secure basis for assessing the impact of the proposed development on the World Heritage property and which is also carried out in line with the principles of the IUCN World Heritage Advice Note on Environmental Assessment.

4.2.3 Assessment of the Saami Parliament

The Jåhkågasska Tjiellde Saami village submission (February 2018) in section 3.3 states the following:

“The Sami Parliament, which is an authority with great knowledge of reindeer husbandry as such and the relevant reindeer husbandry in the area, and among other things is charged with ensuring that the public interest in reindeer husbandry is protected for the future, has made the assessment that the mining concession cannot be granted. The Sami Parliament, similarly to the County Administrative Board, believes that mine establishment in the area will tangibly make reindeer husbandry more difficult and that the national interests are not compatible and that reindeer husbandry is to be given priority. The Sami Parliament has made the assessment that mine establishment will result in reindeer husbandry and the Sami economies disappearing in the long term from Jokkmokk Municipality, which is not compatible with applicable legislation.”

The role of the Saami Parliament is clearly relevant to the assessment of the impact of the proposed development on the World Heritage property. However, while the role and views of the Saami Parliament are frequently referred to in the documentation (as above) submitted by the State Party, no direct communication from the Saami Parliament itself has been submitted.

Recommendation:

3. It would be helpful if all relevant documentation from the Saami Parliament (and any other relevant documentation) could be submitted to the World Heritage Centre with any revised request for advice.

4.2.4 Reindeer Husbandry

The National Heritage Board has recently published a *National Strategy for World Heritage work* (2019). This includes a commitment to ensure the protection of World Heritage properties. It mentions that under national legislation, specific provisions apply to the Laponian Area World Heritage property;

the Laponia Regulation. The Reindeer Husbandry Act (1971) and the Reindeer Husbandry Ordinance (1993) ensures the legal protection of reindeer husbandry in Laponia.

Recommendation:

4. Recognising the importance of reindeer husbandry to the integrity and authenticity of the Laponian Area World Heritage property and the attributes that underpin criteria (iii) and (v), the State Party should consider how the practice of reindeer husbandry outside the boundaries of the property and directly related to reindeer husbandry within the property will be protected.

ICOMOS and IUCN remain at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont, France
IUCN, Gland, Switzerland
May 2021

Annexes: 1. Statement of Outstanding Universal Value
2. Bibliography

Annexe 1: Retrospective Statement of Outstanding Universal Value (Decision 40 COM 8E)

The Laponian Area, located in northernmost Sweden, is a magnificent wilderness of high mountains, primeval forests, vast marshes, beautiful lakes and well-preserved river systems. It contains areas of exceptional beauty such as the snow-covered mountains of Sarek, the large alpine lakes of Padjelanta/Badjelánnda, and the extensive river delta in the Rapa Valley. On-going geological, biological and ecological processes have formed a variety of habitats conserving a rich biodiversity, including many species of fauna and flora typical of the northern Fennoscandian region.

The indigenous Saami people inhabit northern parts of Norway, Sweden, Finland and Russia, close to the Arctic Circle. Within the Laponian Area, every summer, the Saami lead their herds of reindeer towards the mountains through this landscape. Pastoral transhumance landscapes of this kind were at one time common throughout the northern hemisphere. However, these ancestral ways of life, based on the seasonal movement of livestock, have been rendered obsolete or been abandoned in many parts of the world, making the property one of the last and among the largest and best preserved of those few that survive.

Archaeological remains attest to the arrival of early inhabitants to the Laponian area 6,000-7,000 years ago. The area was probably occupied towards the end of the last Ice Age, about 10,000 years BP, but no evidence of this has been found. The settlers were nomadic hunter-gatherers, subsisting principally on wild reindeer, and traces of their occupation are found in the form of hearths and house-foundations. The domestication of reindeer began about two thousand years ago. It evolved gradually and in the 16th and 17th century the Saami migration with reindeer herds in an annual cycle, was fully established.

Today, the Saami live in the mountains during the summer, especially in the western part of the property near the large lakes. Family groups occupy cabins, which have replaced the traditional dwellings. There are no summer camps in the eastern part of the property; the Saami reindeer owners there live in the neighbouring villages and municipalities.

Criterion (iii): *The Laponian Area bears exceptional testimony to the tradition of reindeer herding, and is one of the last and unquestionably the largest and best preserved examples of an area of transhumance, a practice once widespread in northern Europe and which dates back to an early stage in human economic and social development.*

Criterion (v): *The Laponian Area is an outstanding example of traditional land-use, a cultural landscape reflecting the ancestral way of life of the Saami people, based around the seasonal herding of reindeer.*

Criterion (vii): *The property exhibits a great variety of natural phenomena of outstanding beauty. The snow-covered mountains in Sarek and Sulidälbmá are not only magnificent to see but are a textbook of glacial-related geomorphology. The large alpine lakes in Padjelanta, with the mountain backdrop on the Swedish/Norwegian border are of exceptional beauty. The extensive Rapa Valley provides a total contrast with the alpine areas. Particularly noteworthy is its very active delta area, surrounding cliffs and rocky outliers with sheer faces plunging into the delta. The existence of the Saami culture ranging from the traditional birch and turf kata to contemporary cabins adds to the aesthetic value of the property.*

Criterion (viii): *The nominated area contains all the processes associated with glacial activity such as U-shaped valleys, moraines, talus slopes, drumlins, presence of large erratics and rapidly flowing glacial streams. It has excellent examples of ice and frost action in a tundra setting including formation of polygons and an area of spectacularly collapsing and growing palsa mounds. Glacial rivers originating in the snowfields continue to cut through bedrock. Large unvegetated areas illustrate the phenomenon*

of weathering. The property also contains a record of humans being part of these ecosystems for seven thousand years.

Criterion (ix): The vast mire complex of Sjävnja/Sjaunja is the largest in Europe outside Russia. This area is virtually impenetrable by human beings except during winter. The Laponian area has primeval coniferous forest with dating indicating ages as old as 700 years. Natural succession continues here unimpaired.

Integrity

The property, almost entirely state-owned and legally protected, forms a coherent entity apart from a narrow strip which has excised a river and lake system from the Stora Sjöfallet National Park for hydro-electric development and the creation of the Stora Lulevatten artificial lake. This hydro-electric system (outside the property) is not proposed for expansion and is not considered a threat to the integrity of the property. The only hydro-electric development inside the property is a much smaller-scale one with a single control structure and controlled lake near Vietas in the eastern sector of Stora Sjöfallet. This small-scale unit is not proposed for expansion. On the other hand, there is an on-going discussion about windmills just outside the Laponian area which could be a possible threat to the visual integrity of the property.

In some respects, the on-going practice of reindeer herding has adjusted to modern techniques, but it is still the main source of livelihood in this area. The crucial factor in terms of the area's integrity is the impact of reindeer husbandry, which, by Swedish law, is a right, guaranteed to the Saami people. The Saami retain their traditional rights relating to pasturage, felling, fishing, and hunting and to the introduction of dogs into the protected areas.

The possibility of creating a transboundary property with addition of the adjoining Tysfjord/Hellemo fjord landscape in Norway (thus adding marine connection and significant lower elevation features) has been discussed. Norwegian conservation authorities have been studying the possibility of forming a national park of the region in question.

Authenticity

The authenticity of the property is expressed by and maintained through the continuing Saami practice of reindeer herding and the seasonal movement of the herds to the mountain grazing pastures in summer. The existence and development of reindeer herding is a fundamental condition for the survival of the Saami culture.

The authenticity of the landscape itself and the overall economic process of transhumance and seasonal reindeer grazing is largely maintained. The use of motorized transport by Saami herders is, however, a more recent phenomenon. It can be argued that this is no more than an application of technological developments for a traditional purpose but it does have a potentially deleterious and irreversible impact on the natural environment and needs to be addressed through management actions.

The buildings of the Saami culture are visible evidence of the continuing presence of reindeer herding activities in the area. They range from the traditional birch and turf dwellings, called goahte, to contemporary cabins.

The archaeological remains in the property attest to human use of the landscape around 6,000-7,000 years ago and evidence of the move from reindeer hunting to reindeer herding are spread throughout the area. Overall, they are in good condition, however only one third of the property has been the subject of systematic archaeological survey, with only 300 remains having been documented that can

be monitored regarding status and damage. It is essential that the remaining areas be surveyed to assess the extent of preservation of other archaeological remains and identify appropriate conservation and management measures.

Protection and management requirements

The property is 99% state-owned and composed of four national parks and two nature reserves. The legal status of the protected areas and management regimes aim toward a strict level of wilderness protection, while at the same time guaranteeing the rights of native people. Other areas are partly protected by the Environmental Code and the Historic Environment Act (1988:950). Archaeological remains and cultural sites connected with the Saami are strictly protected under the provisions of the Historic Environment Act (1988:950). The importance of the mire complex of Sjávnja has been recognized by its Ramsar site designation. Customary law and the Reindeer Husbandry Act protect the right of the Saami people to practise reindeer herding in the property and their traditional rights relating to pasturage, felling, fishing, and hunting.

The Swedish National Heritage Board has overall responsibility for World Heritage implementation, and the Swedish Environmental Protection Agency (SEPA) is responsible for natural heritage. Since 2011 the "Laponiatjuottjudus Association", including representatives from all concerned parties (which have an agreed common statement of the values of the Laponian Area) is legally responsible for joint management of the property. This non-profit, locally based association with a Saami majority includes two municipalities, nine Saami communities (through Mijà Ednam, which in Saami means "our land"), the Norrbotten County Administrative Board (CAB) and the SEPA. Created to ensure that the Saami are involved in decision making at all stages in management planning and implementation, consensus must be reached in all major decisions. A regulatory framework that takes into consideration local development and a management plan for the entire area has been established. As part of the process, the parties agreed upon new regulations that no longer limit reindeer herding rights. Infrastructure, including a visitor centre at Stora Sjöfallet/Stuor Muorkke to support presentation of the property, is in place.

Biodiversity conservation in the property has included studies on high-profile species such as a population study of the threatened Gyrfalcon in the mountain regions of Laponia, and annual surveys of breeding Peregrine Falcons and White-tailed Sea Eagles. Inventories of large predators (such as Brown Bear, Wolverine, Lynx and Golden Eagle) are conducted in cooperation with the local Saami villages and the CAB. Population densities of small mammals in parts of Laponia are monitored on a biannual basis, and an environmental monitoring programme for rare alpine plants in the Padjelanta/Badjelánnda part of Laponia has been initiated.

Annexe 2: Bibliography

Documentation consulted for review

- Heritage Impact Assessment: The Kallak project and the Laponian Area World Heritage Site: In Depth Impact Assessment (April 2017).
- Submission from the County Administration Board, Norrbotten County concerning an application for mining concession in respect of Kallak K no.1, Jokkmokk Municipality (30 November 2017).
- Opinion concerning mining concession Kallak K. no. 1, Jokkmokk Municipality from the Swedish National Heritage Board (RAÄ) and the Swedish Environmental Protection Agency (NV) (13 November 2017).
- Submissions from Jåhkågasska Tjiellde Saami village regarding the application for a mining concession Kallak no. 1, Jokkmokk Municipality (2 February 2018, 19 March 2018).
- WHC/16/40.COM/8E Adoption of Retrospective Statement of Outstanding Universal Value for Laponian Area (2016).
- Nomination Dossier: The Laponian Area, Sweden (April 1995).
- ICOMOS Evaluation: The Laponian Area, Sweden (September 1995).
- IUCN Technical Evaluation: The Laponian Area, Sweden (October 1996).
- WHCOM Periodic State of Conservation of World Heritage Properties in Europe, The Laponian Area, Sweden (2006).
- ICOMOS Technical Review (February 2014).
- ICOMOS/IUCN Technical Review (February 2016).
- Letters from Mr Per Stagnell, Deputy Director, Division for Sectors and Industry, Ministry of Enterprise and Industry, Sweden to the UNESCO World Heritage Centre (3 November and 17 December 2020), attaching In-Depth IA and related submissions.
- Letters from Mr Kurt Budge, CEO, Beowulf Mining (JIMAB is a wholly owned subsidiary of Beowulf Mining), to Mr Stagnell (15 December 2020) and to the UNESCO World Heritage Centre (17 December 2020, 29 January 2021).
- Stjernström, O., Pashkevich, A. and Avango, D. 2020. Contrasting views on co-management of indigenous natural and cultural heritage – Case of Laponia World Heritage site, Sweden. *Polar Record* 56 (e4), 1-11.

Documentation referred to directly or indirectly in the In-Depth IA or other relevant documents but not available for the technical review

- The opinion of the Saami Parliament, as sent to the County Administrative Board (CAB), Norrbotten and submitted as an appendix to the CAB submission dated 30/11/17.
- The RAÄ/NV assessment provided to the Mining Inspectorate of Sweden on 27/3/17.
- Maps showing the winter grazing areas, spring migration routes, summer grazing areas and autumnal migration routes (also showing road and rail lines) for the reindeer herds as they move to and from the Laponian Area World Heritage property.
- Maps showing the reindeer year-round and winter grazing land for Jåhkågasska Tjiellde Sami village and adjoining Saami villages.
- Maps showing the new national interest in reindeer husbandry around Bjorkholmenberget that was designated by the Saami Parliament in February 2017.
- Maps showing the area of the Kallak Deposit that was designated as an area of national interest for deposits of valuable substances or materials by the Geological Survey of Sweden in February 2013.
- Maps showing the area for which the mining company applied for an exploitation concession in 2013, with relevant details and related transport routes.

- The current Administration and Management Plan/system for the Laponia Area World Heritage property (see discussion in Stjernström et al. 2020).
- Other relevant regional and national submissions relating to the Heritage Impact Assessment.
- Details of the EIA which accompanied the application for a concession in 2013, elements of which are summarised in the In-Depth IA.