Supply Chain Study on Child Labor in the Fluorspar Industry in Mongolia

Report

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This study was prepared by the ICF and the Independent Research Institute of Mongolia (IRIM) study team.

ICF
Suteera Nagavajara, Team Lead
Bart Robertson, Global Research Lead: International Labor and Migration
Thomas Dutcher, Assistant Manager, Labor and Migration Research
Daniel Scribner, International Trade Specialist
Holly Koogler, Lead Research Specialist
Megan Spellacy, Manager, International Trade
Melissa Romero, CAPI Specialist

IRIM
Byambajav Dalaibuyan, Project Team leader, Mining and Supply Chain Expert
Boldmaa Naran, Senior Researcher, Labor Expert
Byambasuren Dorjnyambuu, Senior Researcher, Supply Chain Expert
Elberel Tumenjargal, Senior Researcher
Amarjargal Gunsenchoimbol, Lawyer, Child Labor Expert
Javkhlan Jargalsaikhan, Project Coordinator
Davaa Ganbaatar, Assistant Researcher
16-person data collection and management team in Mongolia

Contents

Abbreviations

ASM	artisanal and small-scale mining
CBO	community-based organization
FDI	foreign direct investment
GDP	gross domestic product
ILO	International Labour Organization
IRIM	Independent Research Institute of Mongolia
KII	key informant interview
LSM	large-scale mining
NGO	non-governmental organization

Terms

aimag – administrative sub-division equivalent to a province

focal child – a child under age 18 reportedly working at the site of the adult respondent and whose work activities were well known by the adult respondent

soum – the transliteration of the Mongolian Cyrillic word for town

tugruk – official currency of Mongolia

Executive Summary

Purpose of Study

This mixed-methods study aimed to identify the presence of child labor within the supply chain of fluorspar in Mongolia. In addition, the study sought to contextualize the impact of child labor on the fluorspar supply chain, including on its downstream uses. The study pays particular attention to the domestic supply chain of artisanal and small-scale mining (ASM) operations that supply large-scale mining (LSM) companies capable of processing fluorspar for export. Child labor has previously been deemed most present or prevalent in the ASM sector of Mongolia, so the study focused on labor conditions, particularly the presence of working children who meet the definition of child labor, at ASM fluorspar mines.

Methodology and Data Collection

Mining site selection for survey and interview respondents was informed by a mapping exercise that analyzed the location and distribution of fluorspar extraction licenses across the country. Aimags (an administrative sub-division equivalent to a province) were purposefully selected because they had either a high number of ASM licenses or a combination of ASM and LSM licenses. Convenience and purposeful sampling were used to select workers for the quantitative survey and qualitative interviews. Restricted access to certain mining sites as well as the widespread closure of ASM sites prevented the use of a more systematic sampling method. Primary data collection took place from June until mid-August 2023. Secondary data collection of existing documents, policies, and trade data occurred from March through August 2023. The survey of 144 adult workers was conducted in Dornogobi, Dundgobi, Gobisumber, and Khentii Aimags. Survey respondents were adults who were asked about their perceptions of the presence of children in the fluorspar mining sector of Mongolia. In addition, 59 semi-structured qualitative interviews were conducted with 27 workers who completed the quantitative survey and 32 key informants. The study findings are not representative of workers at the selected mining sites, the selected aimags, or the sector as a whole. This study also mapped the domestic supply chain of fluorspar until export. International shipping and trade data were used to identify export methods, destination markets, and potential end-use products. Supply chain tracing was supplemented with key informant interviews (KIIs), which shed light on the ability to trace fluorspar throughout the domestic supply chain and into the international supply chain.

Key Findings

Survey respondents were adults who were asked first about their own working conditions and then about their perceptions of the presence of children in the fluorspar mining sector of Mongolia. Of the 144 adult workers interviewed, 26 (18%) indicated knowledge of the presence of children working in the sector. When asked about the presence of children at their worksite, however, 100% indicated that there were no children between ages 5 and 14, and very few (5.6%) indicated that there were children between ages 15 and 17 at their site. Respondents who indicated knowledge of the presence of children in the sector perceived the main risk factors for child work in the sector to be poverty (76.9%) and the need to pay school fees (46.2%).[1] Adult workers were then asked to provide in-depth information about

[1] Subset of 26 respondents

the labor status and conditions of a "focal child."[2] Of the 144 respondents, only 6 (4.2%) indicated knowledge of a focal child working in the fluorspar industry. All focal children were boys between ages 14 and 17. Four of the focal children were from LSM sites and two were from ASM sites. According to respondents, most worked well beyond the legally allowed working hours (n=4) and worked in multi-hazardous environments (n=4). No child worked less than 30 hours per week, and the mean hours worked among the 4 children was 79.5. The most common hazards reported were working late at night or very early in the morning (n=4); carrying or pushing heavy loads (n=3); and exposure to dust, sand, smoke, or fumes (n=3). In total, five focal children, four of whom were from LSM sites, met the definition for child labor. One child was above the legal working age, and the adult worker discussing that child did not provide any information about their working environment or conditions. In addition, observations at 13 sites identified 2 working children[3] at 1 ASM site.

The analysis of qualitative interview data showed that most respondents perceived that child labor was no longer an issue in the fluorspar mining industry and that any children under age 18 working in the sector were doing so legally through internships, tri-party agreements, and vocational schools. KII respondents noted that there could be cases in which legally hired workers could meet the definition for child labor. Recent graduates of technical and vocational schools may go straight into employment in the mining industry, where they are treated the same as adult workers. However, many of these children are age 17 and, if they are working the same hours as adult workers, they would qualify as cases of child labor. This led to an additional analysis of respondents' perceptions of the efforts to address child labor, limitations of those efforts, and perceptions on what led to the perceived decline in the use of child labor in the fluorspar sector. This analysis produced three themes that encompassed factors that positively and negatively affect child labor. The first of these themes was legislative efforts to address child labor, which included positive steps such as the strengthening of laws and negative impacts on child labor such as gaps in the enforcement of new legislative efforts. The second theme, inspection practices, indicates ongoing risk factors for child labor such as gaps in inspection practices and the closure of the Professional Inspection Agency. This theme also encompasses the perceived strengths of decentralized inspections in addressing child labor in the sector. Finally, the third theme, the formalization and decline of the ASM sector, contextualizes the findings of this study within the overall state of the ASM fluorspar industry of Mongolia.

Research and data collection findings indicated that the majority of Mongolian fluorspar is exported out of the country, with little domestic use and no domestic production of fluorspar into end-use products. This is, in part, due to the Mongolian fluorspar sector lacking the capabilities to process acid-grade fluorspar into hydrofluoric acid and associated downstream end uses. Despite these limitations, data collection revealed that a limited number of Mongolia LSM operations possess the ability to concentrate fluorspar ore into higher concentration metallurgical-grade and acid-grade fluorspar. Furthermore, KII data indicated that domestic consumption of fluorspar is limited to the use of metallurgical-grade fluorspar in metallurgy and smelting facilities, particularly facilities producing steel and iron. After it is exported, Mongolian fluorspar is used as a component in various end-use products, including cement, ceramics, steel, glass, high-octane gasoline, and fluorine. The research found limited evidence that the supply chain of fluorspar in Mongolia contains fluorspar obtained with child labor. In addition, the study

[2] A child under age 18 working at the site of the adult respondent and whose work activities were well known by the adult respondent

[3] The research team was unable to determine whether these children were cases of child labor because they appeared to be above the legal working age and were not engaged in hazardous work.

did not find specific cases of downstream goods produced in Mongolia with fluorspar obtained with child labor.

Conclusion and Key Recommendations

Of the 144 adult respondents, only 5 (3.5%) identified and described the working conditions of a child under age 18 who met the definition of child labor. Four of these children were between ages 14 and 17 and thus either above the legal light work age or the legal working age in Mongolia, but the work they performed met the definition of hazardous labor by national and international standards. These 4 children worked well over the legally allowed hours per week (mean of 79.5) and worked at times of the day that were not allowed by Mongolian law. Although the research uncovered several cases of child labor, the broader findings suggest that child labor was not widespread in the sample. Furthermore, the analysis of qualitative data revealed that workers and key stakeholders perceive that the use of child labor in the fluorspar industry has been declining over the last several years.

Recommendations are as follows:

Government of Mongolia

- The Government of Mongolia, through the Ministries of Mining and Labor and other relevant agencies, should continue to enhance the enforcement of applicable laws, including the minimum age for employment and acceptable hours of work for children. As noted by KII respondents, the Government of Mongolia has taken significant legislative steps to address child labor practices. However, this research suggests that some gaps remain in the enforcement of these laws, particularly regarding children's working hours.
- The Government of Mongolia should also work to harmonize conflicting laws related to the prevention of child labor. For example, according to KII respondents, although the newly amended Labor Law allows for inspections of workplaces without advanced notice, the Law on State Inspection describes advanced notice inspections. The Labor Law would supersede the Law on State in this context, but KII respondents suggested that this is still preventing inspections without advanced notice from being implemented.
- The Government of Mongolia should increase labor inspection efforts across the entire fluorspar industry to ensure decent working conditions and ensure that all children working are doing so legally. For example, inspection efforts should prioritize ensuring that child workers are not working for more than the legally permissible hours based on their age and that child workers are performing age-appropriate tasks.
- The government should develop structures for streamlining and unifying inspection entities, especially those tasked with child labor inspections, after the decentralization of inspections following the closure of the Professional Inspection Agency. This is based on the finding of mixed perceptions on the current effectiveness of child labor inspections in Mongolia.
- The government, in partnership with the fluorspar industry, should increase efforts to create awareness of child labor and hazardous child labor, targeting families as well as ASM community-based organizations and LSM companies. Qualitative respondents, including industry KII respondents, commonly expressed that they were unaware of any ongoing awareness or prevention efforts.
- LSM companies and fluorspar buyers with export licenses, as part of their supply chain due diligence programs, should establish a system through which fluorspar proven to be made without child labor can be certified as such. For example, LSM companies could implement a certification process that specifically identifies fluorspar produced by their mines and separates

it from fluorspar purchased from ASM sites. As domestic traceability methods improve, such certifications could be extended to ASM community-based organizations, thereby expanding certification to the wider industry.

- The Government of Mongolia, in conjunction with the fluorspar industry, should implement a system to enable domestic supply chain tracing to facilitate the tracing of fluorspar at downstream processing facilities back to specific mining sites of origin. With such a system in place, both domestic and foreign buyers of Mongolian fluorspar could trace purchased fluorspar upstream to ensure that it was produced in compliance with labor standards and regulations. This could distinguish fluorspar procured from sites with confirmed cases of child labor from legally obtained fluorspar, which, as seen in other sectors in other countries, can be used to hold those that process Mongolian fluorspar into downstream goods accountable for the labor conditions within their supply chains.

Future Research

- Future research should use a representative sampling design to examine whether the decline and formalization of the ASM fluorspar industry is a leading cause of the decline in child labor practices. Understanding the causes of the decline in child labor would allow the Government of Mongolia and fluorspar industry stakeholders to shape future policies, including the continued formalization of ASM mines, to prevent child labor in the fluorspar industry. This research should also examine legislative and monitoring efforts in relation to their effect on child labor.
- Future research should, through an evaluative design, examine the effect of the changes in child labor inspection responsibilities on child labor rates in Mongolia. This research can be made specific to an individual good or a specific sector, or it can broadly examine child labor rates country-wide. A significant finding of this research was the recent changes to inspection practices following the closure of the Professional Inspection Agency. Although reports of child labor were low in this study, improved inspections are a vital part of a sustained approach to preventing child labor.
- In the mining industry, 12-hour workdays are common among employees. Recent technical school graduates are at risk of working the same hours as adult employees, which would meet the definition of child labor. Future research should focus specifically on this risk factor for child labor, which was not previously discussed in any of the available literature.
- Qualitative findings suggest that child labor may be more common in other industries in Mongolia, such as gold mining, coal mining, and herding. Future research should examine the involvement of child workers in these sectors.

1. Purpose and Context

The objective of this mixed-methods study was to explore the supply chain of fluorspar potentially obtained through child labor in fluorspar mines in Mongolia, with a focus on the artisanal and small-scale mining (ASM) sector. Child labor has previously been deemed most present or prevalent in the ASM sector of Mongolia. The study sought to identify the presence of child labor throughout the supply chain, including the mining and processing of fluorspar, as well as socio-demographic characteristics associated with workers and the working conditions of children under age 18. Both quantitative and qualitative methods were used to develop a clearer picture of the conditions of children working in the fluorspar industry of Mongolia. The focus on the nature of the work allowed for an examination of the nuances of light work, legally permissible work of minors, and child labor within the sample.

The study examined the processing of fluorspar ore into downstream goods such as metallurgical- and acid-grade fluorspar concentrate sold to consumers domestically and internationally. The study traced the value chain of fluorspar as it moves from mines, through domestic processing, and into domestic and export markets. The study aimed to shed light on the flow and traceability of fluorspar within the domestic supply chain to better understand points at which fluorspar obtained using child labor becomes mixed with legally obtained fluorspar. The original data collection took place in June 2023 and from late July until mid-August 2023. Secondary data collection of existing documents, policies, and trade data occurred from March through August 2023. Adult workers from Dornogobi (n=25), Dundgobi (n=18), Gobisumber (n=28), and Khentii (n=73) Aimags made up the sample. In addition, 59 semi-structured qualitative interviews were conducted with workers as well as key stakeholders. Interviews occurred in the same aimags as the survey, as well as in the capital, Ulaanbaatar. The study was carried out by ICF and the Independent Research Institute of Mongolia (IRIM), a leading research firm with experience conducting studies on labor conditions in Mongolia, located in Ulaanbaatar, Mongolia.

2. Literature Review

2.1 Evidence of Child Labor

International research examining the presence of child labor in Mongolia largely begins after the late 1990s. Most referenced is a 2008/2009 study, which found that upwards of 56,000 children were engaged in child labor in all sectors of the national workforce (UNICEF, 2014). This number has been cited by subsequent research on identifying risk factors for child labor in Mongolia (ILO, 2016; UNICEF, 2014). This research classified the work performed by children in the mining sector as hazardous labor indicative of meeting the national and international definitions of the "worst forms of child labor." A national survey on child labor conducted in 2012 found that about 16% (n=93,968) of its sample had, at some time, been involved in child labor (Save the Children, 2018). According to the most recent national survey, released in 2023, 138,500 children in Mongolia are involved in child labor; however, the mining industry was not mentioned as an industry in which child labor is prevalent (National Statistics Office of Mongolia, 2023).

Due to the absence of extant literature examining the presence or prevalence of child labor in fluorspar mining in Mongolia, this report used general findings on the mining sector to inform this research. Prior to 2010, reports indicated that child labor found at artisanal mining sites was commonly attributed to the illegality of the sector and the prevalence of poverty among ASM workers (Appel, 2005; Grayson et al., 2004; ILO, 2005, 2007). Despite the formalization of ASM sectors across Mongolia, ASM industries

are still considered to be the primary location for child laborers (Daley et al., 2018). The Sustainable Artisanal Mining project, surveying nearly 12,000 persons in 2016, found 188 instances of child labor across all forms of ASM but did not disaggregate the data by type of mining[4] (National Statistics Office of Mongolia & Swiss Agency for Development and Cooperation, 2017). A total of 62% of these children reportedly engaged in mining during holidays from school (National Statistics Office of Mongolia & Swiss Agency for Development and Cooperation, 2017).

In response to international concerns, the Government of Mongolia has previously addressed child labor through legislative reform and continues to do so. For example, the government amended the Labor law of Mongolia to better align national labor laws with international standards. Most relevant to this discussion are the amendments that set the minimum working age to age 15 and define the forms of hazardous labor (Government of Mongolia, 2021). Initially in 2016 and again in 2022, the Government of Mongolia developed a list of jobs in various sectors that could not be performed by minors due to their hazardous nature. In the mining industry, this includes the mining of metal ore and other minerals, which includes fluorspar, as well as activities considered to be auxiliary to mining operations. Additional efforts to address child labor, including child labor in the mining sector, include the National Programme for the Elimination of the Worst Forms of Child Labor, the Child Protection Compact between the United States of America and Mongolia, and the Sustaining GSP-Plus Status by Strengthened National Capacities to Improve ILS Compliance and Reporting-Mongolia, a comprehensive project focusing on a systemic response to labor rights, particularly in the context of child and forced labor (ILO, 2017, 2020; Save the Children, 2018; U.S. Department of State, 2019). Despite ongoing efforts, both the U.S. Department of State and the U.S. Department of Labor in the most recent Worst Forms of Child Labor reports indicate the presence of child labor in the fluorspar mining industry of Mongolia (U.S. Department of Labor, 2021; U.S. Department of State, 2022).

2.2 Economic Overview of Country

Mongolia is a lower middle-income country with a gross domestic product (GDP) of $15.29 billion USD and a GDP per capita of $4,566 USD in 2021 (World Bank Group, 2023e, 2023a, 2023c). The economy of Mongolia is based on services (44.8% of GDP), mining (26% of GDP), and agriculture (12% of GDP), and is heavily dependent on exports. Mongolia's top three export partners are China (83%), Switzerland (13%), and Russia (0.5%), with exports primarily consisting of minerals, mineral fuels, machinery, transportation, and electrical equipment (UN Comtrade, 2021; World Trade Organization, 2021). The country's economy was negatively impacted by the COVID-19 pandemic, but it has begun to recover, with a 1.6% growth of GDP in 2021 (World Bank Group, 2023b; World Trade Organization, 2021).

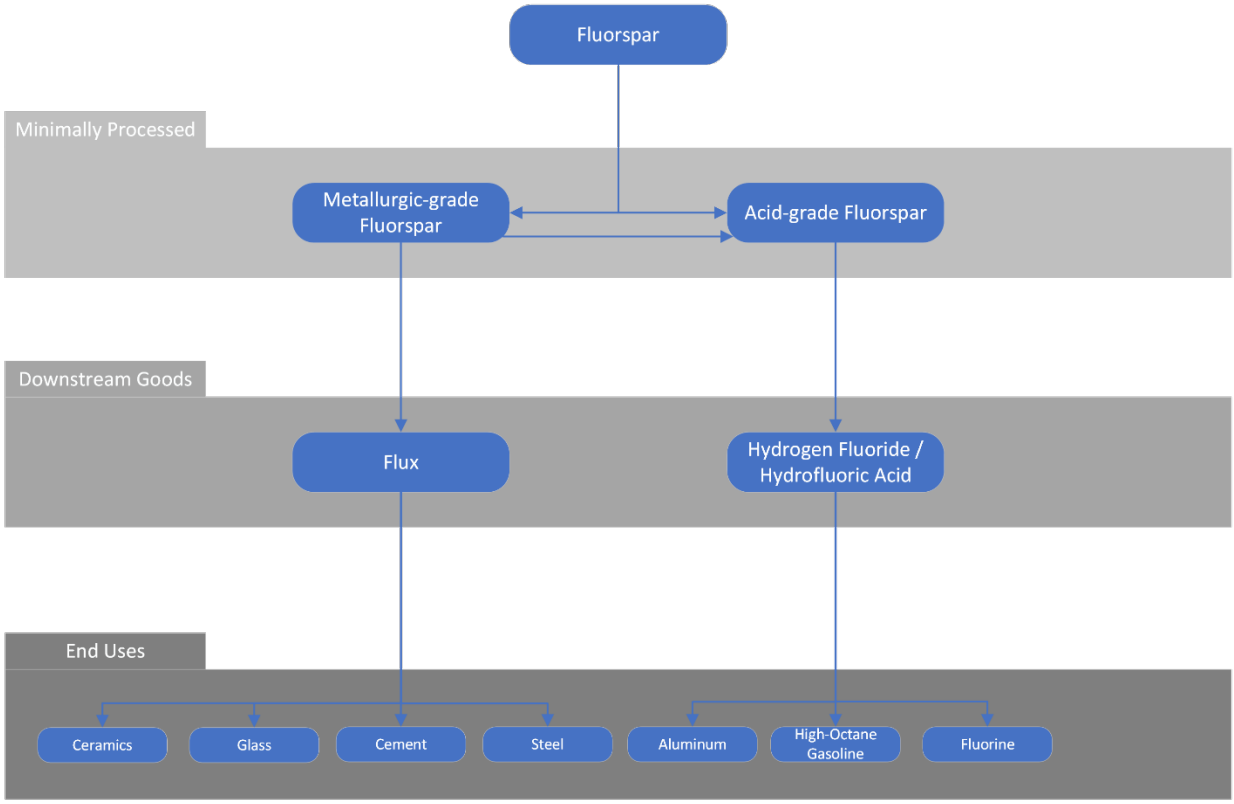
Since 2014, the mining sector has experienced continuous growth (WTO, 2021). A wide variety of minerals are mined, including gold, copper, coal, and fluorspar. Mongolia's mineral resources attract most of its foreign direct investment (FDI) (WTO, 2021). China is the leading provider of FDI to Mongolia, accounting for $108 million USD in 2019 out of a total of $2.2 billion USD. In 2019, 68% of China's FDI to Mongolia was provided to Mongolia's mining sector (Ankhtuya, 2019). Fluorspar in Mongolia is mined through large-scale mining (LSM) and ASM operations. Reports indicate that approximately 20% of Mongolia's rural workforce, both formal and informal, engages in small-scale artisanal mining of minerals, including fluorspar (National Statistics Office of Mongolia, 2021).

[4] The reports of child labor were not broken down by ASM sector, but is it important to note that historically the ASM gold sector is the largest in Mongolia. In addition, the report mentioned the following types of ASM mining in Mongolia: gold, coal, fluorspar, wolfram, limestone, sand/gravel, and other.

2.3 Description of Fluorspar

Fluorspar is the commercial industry name for the mineral fluorite, which contains fluorine. Fluorspar is classified and mined for its concentration of calcium fluoride and is the only major mineral mined for fluorine and calcium fluoride. The most common grades of fluorspar are metallurgical-grade or "metspar," which contains between roughly 75–93% calcium fluoride, and acid-grade or "acidspar," which contains 97% calcium fluoride or higher. Metallurgical-grade fluorspar is used primarily as a flux (defined below) in the production of steel, glass, ceramics, and cement. Acid-grade fluorspar is used primarily in the production of hydrogen fluoride and hydrofluoric acid. Figure 1 outlines the processing, byproducts, and downstream products for fluorspar.

Figure 1. Overview of fluorspar processing steps and resulting byproducts, downstream goods, and end uses



Source: ICF

2.4 Fluorspar Minimally Processed Goods, Byproducts, Downstream Products, and End Uses

This section first outlines minimally processed goods, followed by an overview of the downstream goods and their end uses.

Minimally Processed Good

Metallurgical-Grade Fluorspar: Metallurgical-grade fluorspar is derived through the mining of fluorspar ore, which is then crushed and sorted by its concentration of calcium fluoride. Metallurgical-grade fluorspar contains 75–93% calcium fluoride concentration. It can be processed into numerous downstream goods, including acid-grade fluorspar, through chemical processing and concentration of calcium fluoride (Michaud, 2021).

Metallurgical-grade fluorspar may also be obtained through the beneficiation of low-concentration fluorspar ore containing a concentration of less than 75% calcium fluoride. This beneficiation process begins with the grinding of fluorspar into powder (Forte Machinery, 2023). The ground minerals are then put through a floatation process, during which they are mixed with water and acids to separate the fluorite from other particles (Forte Machinery, 2023; Michaud, 2021). Air is pumped into the solution and a fatty acid, such as oleic acid, is added to act as a collector for floating fluorspar particles (Forte Machinery, 2023). Once coagulated at the surface of the solution, the concentrated fluorite powder is then collected and dried to obtain metallurgical-grade fluorspar (Forte Machinery, 2023).

Acid-Grade Fluorspar: Acid-grade fluorspar can be derived from crushing and sorting fluorspar ore that contains a calcium fluoride concentration of 97% or higher. Alternatively, it can be created through processing metallurgical-grade fluorspar. First, fluorspar is crushed into a fine powder to increase surface area and improve the facilitation of chemical reactions. The powdered fluorspar is then mixed with water and chemicals while air is pumped into the solution to float fluorspar particles (froth flotation). The floating fluorspar particles are purified through processes such as filtration, centrifugation, and drying. Once purified, the collected fluorspar concentrate is treated with sulfuric acid at a high temperature, creating acid-grade fluorspar (Michaud, 2021).

Metallurgic-Grade Downstream Goods

Flux: Flux is a substance that is added to a material, notably metal or ore, during processing, smelting, or refining processes to facilitate the removal of impurities and improve production efficiency. Metallurgical-grade fluorspar is commonly used as a flux in metallurgy through the forming of a liquid slag during smelting. Fluorspar is an effective flux; it promotes the fluidity of molten metal due to its low melting point, reduces melting, enhances the efficiency of metal extraction, and minimizes slag viscosity (King, 2021).

Metallurgic-Grade End Uses

Cement: Metallurgical-grade fluorspar is used as an input in the production of cement as a fluxing agent or mineralizer. Fluorspar acts as a fluxing agent in cement production by lowering the bonding temperature of raw materials (Ibrahimi et al., 2016). As a mineralizer, fluorspar aids in the formation of the clinker, or binding material (Ibrahimi et al., 2016). In cement production, fluorspar makes up approximately 0.25–1% of the materials used (Ibrahimi et al., 2016).

Ceramics: Metallurgical-grade fluorspar acts as a fluxing agent in ceramic glazes to promote the melting of other ingredients, resulting in a smoother glazed surface (King, 2021). Commercial usage of glazes containing fluorspar include non-stick glazes such as Teflon (King, 2021). In addition, fluorspar glazes can be used to coat any ceramic goods for commercial sale.

Glass: Metallurgical-grade fluorspar can be used as a fluxing agent in glass manufacturing. Like its use in ceramics, fluorspar lowers the melting point of compounds used in glassmaking. This aids in the fusion of raw materials in the glass melting process, promoting the homogeneity of molten glass (King, 2021). Commercial uses include optical glass such as lenses, microscopes, and telescopes (King, 2021).

Steel: Metallurgical-grade fluorspar can be used as a fluxing agent in the production of steel, iron, and other metals, removing impurities, such as sulfur and phosphorus biproduct, from molten metal. Fluorspar also improves the fluidity of slag. For every ton of steel, between 20 and 60 pounds of fluorspar is used (King, 2021). Commercial usage of steel includes its use in the production of construction materials, automotives, ships, machinery, electronics, tools, and weapons.

Acid-Grade Downstream Goods

Hydrogen Fluoride/Hydrofluoric Acid: Crushed, powdered, acid-grade fluorspar is combined with concentrated sulfuric acid in a reactor vessel. The reactor vessel is heated to promote a chemical reaction to produce hydrogen fluoride. The gaseous hydrogen fluoride is then separated from the vessel and purified. The purified hydrogen fluoride then goes through further distillation and dehydration. To produce hydrofluoric acid, hydrogen fluoride is dissolved in water. The concentration of hydrofluoric acid is dependent on the amount of hydrogen fluoride dissolved in water and can vary, depending on the desired end-use application (Christe & Schneider, 2023).

Acid-Grade End Uses

Fluorine: During the processing of hydrofluoric acid, powdered fluorspar is combined with sulfuric acid and heated to produce hydrogen fluoride gas. Once the hydrogen fluoride gas is collected, it is subjected to electrolysis and broken down into hydrogen gas and fluorine gas. The fluorine gas is collected and stored in pressurized stainless steel cylinders. Fluorine is used in the preparation of inorganic and organic fluoride compounds. Inorganic fluorides include sodium fluoride and calcium fluoride, which are often used in water fluoridation, electrical insulation, nuclear energy, and dental care products. Organic fluorides have a variety of applications, including the production of pharmaceuticals, agrochemicals, plastics, polymers, lubricants, and refrigerants (Christe & Schneider, 2023). Consumer goods that may contain fluorine include fluorochemicals, toothpaste, refrigerants, electronics, rocket fuels, drinking water, and plastic.

High-Octane Gasoline: The process of alkylation adds high-octane hydrocarbons to motor and aviation gasoline. Hydrofluoric acid can be used as the catalyst for the alkynyl reaction, with the subsequent creation of alkylate, which is high in octane and low in volatility, being added to motor and aviation gasoline to increase octane and meet stringent volatility specifications (American Fuel & Petrochemical Manufacturers, 2021; U.S. Energy Information Administration, 2013).

Steel: Hydrofluoric acid is used in the production of steel and stainless steel. Hydrofluoric acid's main function is to remove impurities, scale, and oxides from the surface of finished steel and stainless steel sheets (British Stainless Steel Association, 2023; European Chemical Industry Council, 2023). Commercial usage of steel includes construction materials, cars, ships, machinery, electronics, tools, and weapons .

Aluminum: Acid-grade fluorspar is used in the production of aluminum through the production of aluminum fluoride (ALF3) (Critical Raw Materials Alliance, n.d.). Aluminum fluoride can be produced

through treating alumina with hydrogen fluoride or hydrofluoric acid at high temperatures (Siahooei & Bordbari, 2019). Aluminum fluoride then acts as a flux to lower the bath temperature in the manufacturing process of aluminum, additionally reducing electricity use in its production (Critical Raw Materials Alliance, n.d.). Commercially, aluminum is used in the production of kitchenware, airplanes, automotive components, foil, and beverage containers.

3. Methodology and Study Implementation

3.1 Study Objective and Research Questions

The study was guided by the following research questions:

- Is child labor present in the fluorspar industry of Mongolia?
    - What are the paths of recruitment or entry into work?
    - What are the demographics of children working in fluorspar supply chains?
    - What are the job characteristics of children working in fluorspar supply chains?
    - If child labor is present, what industry and government initiatives, including inspections, exist to address child labor in the fluorspar mining sector?
    - In what phases of Mongolia's fluorspar supply chain does child labor occur
- Who are the main stakeholders in Mongolia involved in the sale and processing of fluorspar obtained through child labor?
- Is there evidence of child labor in the domestic downstream production of fluorspar?
    - What domestic manufacturing processes occur within Mongolia to produce downstream goods from fluorspar or minimally processed forms of fluorspar obtained through child labor?
    - Where does ASM fluorspar extracted with child labor enter the larger national supply chain?
- What role do fluorspar and downstream fluorspar products exported from Mongolia play in international markets?
    - How is fluorspar processed in China and Russia, and into what goods? What are the potential connections to goods in further downstream supply chains to fluorspar mined with child labor in Mongolia?
    - What factors influence the growing Chinese and Russian imports of Mongolian fluorspar?

3.2 Research Methodology

The research design and methodology were shaped by ICF's experience with similar studies and by desk research and mapping conducted by ICF and IRIM. ICF's global research instruments informed the development of data collection tools. Data were collected through primary and secondary sources using six research activities:

- Collection of background research and materials
- Research instrument development
- Training and data collection preparation
- Worksite visits, worker surveys, and interviews and observations
- Key informant interviews (KIIs)
- Supply chain tracing

3.2.1 Collection of Background Research and Materials

Secondary review of data and reports was guided by the thematic areas of focus, including child labor, the fluorspar supply chain, and working conditions. Reports and data available on child labor and the fluorspar supply chain were sourced from the Internet and from organizations that work on relevant areas in the industry.

3.2.2 Research Instrument Development

Three research instruments were developed to guide primary data collection: workers' survey, workers' interview guide, and KII guide. The instruments were adapted from the ICF global version of the research instruments. With input from IRIM, the instruments were adjusted to contextualize them to the realities of the fluorspar industry in Mongolia. All instruments were translated into Mongolian to standardize the administering of questions. The instruments were piloted among workers and stakeholders who were not targeted for the study, and adjustments were made, as necessary, based on piloting.

3.2.2.1 Defining Child Labor

Child Labor: "Child labor is defined by [International Labour Organization] ILO Conventions 138 on the Minimum Age for Admission to Employment and 182 on the Worst Forms of Child Labor. It includes employment below the minimum age as established in national legislation, hazardous unpaid household services, and the worst forms of child labor: all forms of slavery or practices similar to slavery, such as the sale or trafficking of children, debt bondage and serfdom, or forced or compulsory labor; the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic purposes; the use, procuring or offering of a child for illicit activities; and work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children." (U.S. Department of Labor, n.d.)

This definition does not apply to work specifically authorized by national laws, including work done by children in schools for general, vocational, or technical education or in other training institutions, in which such work is carried out in accordance with international standards under conditions prescribed by the competent authority, and does not prejudice children's attendance in school or their capacity to benefit from the instruction received (ILO, 1999b). More information on the application of the definition of child labor in the Mongolian context can be found in Appendix 5.

3.2.3 Workers' Survey

The survey consisted of four sections that captured information about the adult respondents, their perceptions of child labor, and their knowledge of a focal child working at their site. Children were not interviewed directly due to legal, ethical, and feasibility considerations. For the purposes of this research, a focal child was defined as a child under age 18 working at the site of the adult respondent and whose work activities were well known by the adult respondent. A focal child could be the child of a worker; however, in this study, no adult workers identified their own child as a focal child working in the fluorspar industry. The survey was administered in Mongolian using a computer-assisted personal interviewing program (SurveyCTO). Interviewers entered survey data using hand-held tablets.

3.2.4 Workers' Interview Guide and KII Guide

A workers' interview guide was developed in both English and Mongolian Cyrillic to aid in the collection of qualitative data from workers. The guide was intended to gather additional insights on the topics

covered in the survey. The guide was split into two interview guides, one for adults with children working in the fluorspar industry and one for adult workers without children working in the fluorspar industry.

A KII guide was developed in both English and Mongolian Cyrillic to facilitate discussions with local fluorspar supply chain experts and child labor experts, including representatives from community-based organizations (CBOs), transportation officials, government officers, and civil society representatives. The tool aimed at eliciting the knowledge, views, opinions, and perspectives of local experts in the sector.

3.2.5 Observational Tool

To complement the collected data and assist in contextualizing them, an observation checklist was developed. The field research team used this tool to record observations in a selection of farms visited. Observations included plantation type, labor conditions, fluorspar transportation methods, transportation networks, and trading activities.

3.2.6 Supply Chain Tracing

All research instruments were designed to collect data that would enable the tracing of fluorspar from the mining sites to the processing facilities and to domestic use or export. The instruments sought to explore the supply chain linkages between ASM sites without the ability to concentrate fluorspar for export and LSM sites with the ability to concentrate fluorspar into higher grades, including those that used intermediary buyers, as well as modes of transportation, the existence of processing facilities, and whether there were any final products processed in Mongolia. Research also sought to examine the possibilities and limitations of tracing fluorspar exported to China and Russia. Supply chain tracing efforts were heavily facilitated through international trade and shipping data gathered from numerous sources, including UN Comtrade, Panjiva, and government and industry databases.

3.2.7 Site Selection, Recruitment, and Final Sample

A virtual mapping exercise, using government databases on active fluorspar mine licenses, was undertaken as part of the participant recruitment process. The mapping sought to identify three aimags with sufficient LSM and ASM license holding operations. Nine soums in Dundgobi, Dornogobi, and Khentii Aimags were selected because they had the highest numbers of LSM and ASM licenses. After piloting, an additional soum in a fourth aimag, Gobisumber, was added.

Adults aged 18 or older who work in the fluorspar industry were eligible to participate in the study. Eligible participants included LSM, ASM, transportation, and processing workers. A limited number of auxiliary workers at mining sites were also included. All participants were current workers; researchers recruited workers who were present at the selected sites on the day they visited. A subset of the surveyed workers was recruited for qualitative interviews. Adult workers provided information about the work of children. Children were not interviewed directly due to legal, ethical, and feasibility considerations. Before entering a mining site, the research team gained permission from management staff, and surveys were conducted on site. The research team ensured that participants were out of hearing distance from others. Worker participants were provided phone credits worth 25,000 tugruks (roughly $7) in appreciation of their time.

A total of 59 qualitative interviews were completed with 25 workers and 34 key informants. Observations took place at 13 mining sites. Of these 13 observation sites, 2 were in Dornogobi, 4 were in Dundgobi, 1 was in Gobisumber, and 6 were in Khentii. Key informants were purposefully selected based

on their role, experience, and knowledge of the fluorspar supply chain or child labor practices Although the planned sample was 25 KIIs, additional interviews were conducted with industry experts and transporters to address the limits of supply chain data. Interviews were conducted in person, usually at the workplace of the individual. KIIs included representatives from the following stakeholders: Ministry of Mining and Heavy Machinery, Mineral Resource and Petroleum Authority, Ministry of Labour and Social Protection, National Statistics Office, ILO Mongolia, LSM and ASM entities, transport entities, regional government offices, inspection authorities, local civil society organizations and non-governmental organizations (NGOs), and trade associations and unions.

3.2.8 Data Analysis

Quantitative analysis used Stata SE18 to conduct bivariate analyses of the worker survey data. Prior to qualitative analysis, worker interviews and KIIs were transcribed and translated from Mongolian. Once translated, interview transcriptions were thematically coded using a codebook developed for the study. Codes were initially developed based on research questions, previous literature, and scoping findings. Additional codes were developed as they emerged during the analysis of transcripts. Qualitative coding used Dedoose version 9.

3.3 Training and Preparation

Research team members attended a three-day training in Ulaanbaatar from June 5 through June 7, 2023, led by ICF and IRIM staff. The training covered a variety of topics, including the study design, definitions of child labor and supply chain tracing, data collection roles and ethics, and a full review of the qualitative and quantitative research instruments. At the end of each day, mock surveys and interviews were conducted. All enumerators participated in a pilot, closely guided by the trainers, on June 9, 2023. The following day was spent debriefing and adjusting the instruments and overall approach. During the pilot, it became clear that many ASM mines were non-operational, leading to the inclusion of additional sites identified by IRIM during the mapping phase.

Training of data collectors in Ulaanbator, Mongolia

3.4 Data Collection

All research designs and instruments were reviewed and approved by ICF's independent Institutional Review Board (Registration number: FWA00002349). Researchers were trained on and required to strictly adhere to ethical guidelines, including informed consent, confidentiality, and data security. The research was performed in compliance with 45 Code of Federal Regulations Part 46 on the Protection of Human Subjects. At the beginning of each survey, the enumerator read the consent statement to the participant in Mongolian, and survey participant provided verbal consent, which the enumerator marked on the tablet. The tablets were programed to end the interview if consent was not given. Verbal informed consent was also obtained before each qualitative interview, and respondents had the option to consent or not consent to audio recordings. All interviewed workers were provided with a resource sheet with details of agencies and offices that offer additional support and information about labor

rights and psychosocial support. All personally identifiable information of respondents was redacted from the data before analysis.

Data collection began on June 10, 2023. Data were collected in Dornogobi, Dundgobi, and Khentii Aimags. After two days of data collection, the study was temporarily paused at the request of the Mongolian government. Data collection resumed, with the approval of the government, on July 19, 2023, in the three aforementioned aimags, as well as the addition of Gobisumber Aimag and the capital, Ulaanbaatar. Data collection was completed on August 12, 2023. A total of 144 worker surveys and 59 qualitative interviews were completed with 27 workers and 32 key informants. Worker surveys took from 25 to 30 minutes to administer, and interviews took from 30 to 40 minutes to administer, depending on the participant's responses. KIIs averaged 70 minutes. To ensure the collection of high-quality data, IRIM monitored the teams in the field and provided daily spot-checks and feedback. Quality control officers conducted back-checks of surveys. In addition, data quality analyses were performed routinely for the uploaded surveys.

Table 1. Planned and achieved samples

Respondents	Target sample	Actual sample
Quantitative worker survey[a]	**125**	**144**
LSM site workers	65–75	72
ASM site workers	50–60	65
Other (transporter/unknown site)	0	7
Qualitative sample	**45–50**	**59**
Worker interviews	20–25	27
Key informant interviews	20–25	32

[a] Included a total of 30 auxiliary workers and 14 concentration/processing workers at ASM and LSM sites

3.5 Limitations and Lessons Learned

3.5.1 Sampling Method

The study did not use probability sampling to select survey respondents. Instead, efforts were made to select a diverse range of respondents, primarily based on the mining site type, using purposeful and convenience sampling methods. These methods were selected because there is no known population of ASM and LSM fluorspar miners in Mongolia from which to draw statistical sampling. In addition, these techniques allowed the research team to ensure that ASM miners were specifically included in the sample due to the risk for child labor in ASM mining. As such, the results from this study are not representative of the fluorspar industry of Mongolia as a whole, of child laborers working in fluorspar extraction and concentration in Mongolia, or of workers at the mining sites visited during data collection.

Adult workers provided information about the work of children. Children were not interviewed directly due to legal, ethical, and feasibility considerations. Interview participants often referred to younger individuals, including those over age 18, with whom they work as "children," even if they did not know the individual's age. Therefore, this study provides only perspectives of adults on child labor in the sector, and these perspectives may not fully represent the experiences, perspectives, and vulnerabilities of child laborers.

3.5.2 ASM Site Closures

An initial mapping exercise revealed data on active mining licenses in the target sample areas, but many mining sites, especially ASM sites, were found to be inactive when visited. This was, in part, due to dwindling fluorspar resources at the visited ASM sites. To adapt to this reality, additional sites and aimags that were identified in the site selection stage were included to complete the sample, including Gobisumber Aimag and additional sites in Khentii Aimag. As such, approximately 50% of the surveyed workers were from Khentii Aimag. The study team learned that future mapping should include site visits or other methods for verifying active sites rather than relying solely on mining license database information.

3.5.3 Key Informant Availability

Data collection extended into the national summer holiday of Naadam. It is common for government officials to have their annual leave after the Naadam holiday (July 11) until the end of August. Due to holiday leave, certain government officials and fluorspar mining company representatives were unable to participate in the qualitative interviews. Such individuals could have added to the depth of information regarding the domestic supply chain of fluorspar, including traceability policies and efforts. To address this issue, IRIM used the snowball sampling method to recruit other potential and available stakeholders recommended by KII respondents. Although this research factored national holidays into the data collection schedule, future research can benefit by building in more time between data collection periods and national holidays when possible.

3.5.4 Potential Response Bias

The employment of minors is now highly regulated across the mining industry of Mongolia, so respondents may have been reluctant to honestly answer all the questions related to child labor practices. Previous research has indicated that familial child labor is the most common form of child labor in the fluorspar industry, and adult workers may not have wanted to reveal child labor, especially because of potential legal consequences. Researchers attempted to foster an environment of trust and understanding, and interviews took place out of hearing distance of employers, but it might not have been possible to fully mitigate respondent concerns.

3.5.6 Supply Chain Tracing

Downstream supply chain tracing of Mongolian fluorspar experienced limitations due to available shipping data, specifically regarding shipments of Mongolian fluorspar either purchased by, or transported through, China and Russia. Both China and Russia have ceased accurate reporting of national shipping data and information in recent years. This means that most shipping data were unavailable for analysis. Furthermore, because Mongolian fluorspar is generally shipped to alternative foreign buyers through Chinese ports, shipping data on Mongolian fluorspar exports to countries other than China and Russia were unavailable. Qualitative interviews helped supplement the shortcomings in the data, but the perceptions of respondents cannot be interpreted with the same degree of confidence as trade data.

4. Findings

4.1 Child Labor

This section first presents the characteristics of adult respondents and their working conditions, as well as their perceptions on the involvement of children in the fluorspar industry. The report then presents findings on the questions asked of adult respondents about a focal child who works in the fluorspar industry. The focal child data were used to determine the number of cases of child labor reported by the sample. Child labor determinations were made using national child labor laws, including the minimum age for work, national laws on light work, and specific laws around hazardous work for children (Government of Mongolia, 2021, 2022a, 2022b; ICLS, 2008; ILO, 1973, 1999b). The findings from this final section show that instances of child labor (n=5) in the sample were rare.

4.1.1 Characteristics of Respondents

In total, 144 adult fluorspar workers from Dornogobi (n=25), Dundgobi (n=18), Gobisumber (n=28), and Khentii (n=73) Aimags were surveyed. The closure of ASM sites, despite having active exploitation licenses, across aimags contributed to roughly 50% of the sample being surveyed from Khentii Aimag. A total of 50% of the sample were between ages 40 and 54, and 75% of the sample were male workers (n=108), whose primary duties were operating heavy machinery (25.6%), extracting (23.3%), and processing (16.7%).

Table 2. Respondent background characteristics

	%	N
Age (years)		
18–24	11.1	16
25–39	30.6	44
40–54	50.0	72
55+	8.3	12
Gender		
Male	75.0	108
Female	25.0	36
Parent		
Yes	56.9	82
No	43.1	62
Education		
No formal schooling/pre-school only	2.1	3
Some primary	4.9	7
Completed primary	4.9	7
Some secondary	14.6	21
Completed secondary or higher	73.6	106
Worksite		
Artisanal mine	45.1	65
Large scale mine	50.0	72
Unsure	4.9	7

	%	N
Aimag		
Dornogobi	17.4	25
Dundgobi	12.5	18
Gobisumber	19.4	28
Khentii	50.7	73

The most common primary duties of female workers (25%) were extracting (21.2%), excavating (15.1%), and concentrating (18.2%). A total of 56.9% of the sample were parents; however, no surveyed parents reported that their child was involved in work activities in the fluorspar industry. Considering the extant literature on labor exploitation and specifically child labor risks in the fluorspar mining sector of Mongolia, the research was designed to prioritize artisanal workers, despite the diminished nature of the sector, as mentioned previously. The sample consisted of 65 (45.1%) ASM miners, 72 (50%) LSM miners, and 7 individuals who were unsure of their worksite type. The distinction between site types was used to examine the working conditions of the adult respondents.

Table 3. Adult worker respondent working conditions by artisanal and large-scale mining sites

	ASM		LSM		Unknown		Total	
	%	N	%	N	%	N	%	N
In debt to employer or recruiter	9.2	6	9.7	7	0.0	0	9.0	13
Changes made to repay debt[a]	66.7	4	42.9	3	0.0	0	53.9	7
Respondent working additional job	0.0		66.7		0.0		28.6	
Adult family members begin working/do extra work	75.0		66.7		0.0		71.4	
Child family members begin working/do extra work	0.0		0.0		0.0		0.0	
Earns less than minimum wage	33.9	22	9.7	7	42.9	3	22.2	32
Typical earnings not enough to meet family's basic needs	33.9	22	23.6	17	71.4		30.6	44
Means of meeting basic needs[a]								
Respondent working additional days/hours	27.3		29.4		40.0		29.6	
Respondent working additional job	54.6		35.3		60.0		47.7	
Adult family members begin working/do extra work	45.5		41.2		60.0		45.5	
Child family members begin working/do extra work	0.0		0.0		0.0		0.0	
Takes on debt or goes without	9.1		11.8		0.0		9.1	
Employer imposes production quota	20.8	10	50.0	35	50.0	3	38.7	48
Respondent feels quota is unreasonable for single worker	0.0	0	11.4	4	33.3	1	10.4	5

[a] Multiple responses possible

A total of 22.2% of the sample indicated that their wages were below the national minimum wage of 550,000 tugruks (approximately $160 USD) per month; 22 of the 32 individuals who reported that they made less than the minimum wage were from ASM sites. A total of 30.6% of the sample indicated that

their wages were not enough to meet their basic needs. ASM workers were more likely than LSM workers to report that they could not meet their basic needs (33.9% compared to 23.6%). Earning less than minimum wage is especially salient for ASM workers, who are among the most financially vulnerable, according to a CBO representative, *"It is commonly said that the primary workforce of artisanal miners is unemployed people."* Reports of debts to employers, recruiters, or CBOs were uncommon in the sample (9%). No respondents indicated that they relied on help from their children to repay debts, meet their families' basic needs, or manage their work quotas.

4.1.2 Working Children in the Fluorspar Industry

This section focuses on risk factors and reports of children observed at worksites. Of the 144-person sample, 26 fluorspar industry workers indicated knowledge of children working in the fluorspar industry.

Table 4. Respondent's opinion regarding why children work in fluorspar mining[a]

	ASM	LSM	Total
	%	%	%
Poverty/hunger	100.0	66.7	76.9
To pay school fees	12.5	61.1	46.2
School isn't accessible/available	0.0	5.6	3.9
To learn skills	0.0	5.6	3.9
Child labor needed to meet quota	0.0	5.6	3.9
Number of respondents (N)	8	18	26

[a] Multiple responses possible

All ASM workers and 66.7% of LSM workers with knowledge of children working in the fluorspar industry expressed that poverty is a major risk factor leading to the presence of children in the fluorspar industry. KII respondents supported this finding, as seen in the words of a female NGO representative: *"It is often the dire financial circumstances that drive children to seek employment in the fluorspar industry."* The inability to pay school fees was mentioned by 61.1% of LSM workers and 12.5% of ASM workers. Regarding school fees, qualitative participants referred to college-aged persons who work during the summer to help pay tuition as "children." According to a male processing worker, *"Many children whether they are of legal age or not work in the fluorspar industry during the summer to pay for their university tuition."* And according to a male ASM worker speaking about a legally working child, "*I think he is going to be in 12th grade so maybe he needs to earn some money to prepare for school."* No ASM workers listed any other risk factors; 5.6% of LSM workers indicated that school accessibility, the need for children to learn skills, and work quotas were risk factors leading to children working in the fluorspar industry.

Table 5. Distribution of the percentage of child workers at a respondent's worksite

	Respondent indicates at least one child works at worksite	Distribution of percentage of workers at respondent's worksite who are children		
		0%	1–10%	11–30%
		%	%	%
Ages 5 to 11	0.0	100.0	0.0	0.0
Ages 12 to 14	0.0	100.0	0.0	0.0
Ages 15 to 17	5.6	94.4	4.86	0.7
Total (ages 5 to 17)	5.6	94.4	4.86	0.7

Although respondents indicated the presence of risk factors for the involvement of child workers in the fluorspar industry, only 5.6% of workers indicated that there were children at their worksite in the past week (Table 5). In the past week, 100.0% of respondents reported seeing no children ages 5 to 14 at their worksite, and 94.4% reported seeing no children ages 15 to 17 at their worksite. In other words, of the 5.6% of workers in the sample who identified children working at their site, all identified children over the legal working age. One worker (0.7%) reported that children ages 15 to 17 represented 20% of the total workers at their worksite. In addition, 7 workers (4.86%) indicated that children ages 15 to 17 represented 1–10% of the total workers at their site. In other words, eight workers identified child workers at their site over the past week. This is in line with the qualitative findings, which produced the themes of "no child labor" and "significant changes over time." According to respondents:

> *"In the past, there were instances of underage individuals working in the fluorspar industry. However, at present, there is no child labor observed in the fluorspar industry. During my transportation of fluorspar freights, I did not come across any children working at the fluorspar mining sites."*
>
> *—Male processing worker*

> *"No, I have no idea. I do not think there is any children who works around here. There are no children here in general. No, not with me and I have been working here for a long time."*
>
> *—Male transporter*

> *"I've never heard of a child working in the fluorspar industry. I believe that the fluorspar industry here is responsible…I myself go inspect these places."*
>
> *—Female LSM worker*

A government official with intimate knowledge of mining industry statistics, although not speaking directly about the fluorspar industry, shared that since 2016, *"Child labor within the mining industry has decreased from 2 percent to 0.4 percent. This accomplishment was achieved through stringent legislation and active inspections of artisanal mining operations."* And according to an ASM worker, *"In those times, children did work. Now everything is run according to the law, and it became stricter. So, we don't hear anything about child labor."*

4.1.3 Characteristics of Focal Children and Their Work

Respondents who indicated that children are employed in the production of fluorspar were asked if they could provide information about the working conditions of one of their own working children, if relevant, or any individual child at their worksite. This report refers to these children as focal children, and questions about these children were asked with reference to the previous week. A total of six adult respondents provided information about a focal child. Of these focal children identified by the adult respondents, none were children of the participants. Although familial child labor is seen as the most common form of child labor in Mongolia (National Statistics Office of Mongolia, 2023), the qualitative analysis helps shed light on why this was not the case for the study sample. All 82 parent participants indicated that their children did not help them. According to one ASM parent, *"It's heavy labor they won't be able to do it."* And according to a female ASM worker parent, "*No, they did not work with me. We didn't allow them to be with us. They used to take care of the livestock."* This second quote underscores that other sectors may be more at risk for child labor. In addition, respondents were given the choice to talk about their own child or a child they know well, so they may have felt more comfortable talking about the working activities of a child who was not their own. Workers with

knowledge about the illegality of child labor may have been unwilling to discuss the work of their own child out of fear of legal repercussions.

All focal children were boys who combined work and school during the year. The ages of the focal children were 11, 14, 15, 17, 17, and 17.[5] Only the 11-year-old child was below the minimum age for light work and automatically qualified as a case of child labor (Government of Mongolia, 2021, 2022a, 2022b). Data were obtained on the work activities of four of the six children in the sample; two of the children had not worked in the past week. One of those two children who had not worked in the past week was the 11-year-old child and the other was age 17. The two children who had not worked in the past week were focal children identified by ASM workers. The state of the ASM industry, gleaned from the qualitative analysis, sheds light on why those children may not have been working. According to two male government representatives in different locations, *"Despite the presence of 40 mining licenses, only three or four of them are active on a yearly basis."* And *"In our soum's current situation, there are no ongoing operations of artisanal mining."* Respondents indicated that the fluorspar mining sector has faced significant challenges, including dwindling resources, trade restrictions during the COVID-19 pandemic, and the formalization and regulation of the ASM industry:

> *"Moreover, the majority of mining sites (artisanal) remain inactive due to the scarcity of fluorspar mineral resources."*
>
> *—Male government official (regional)*

> *"In general, there has been a decline in the total number of artisanal mining operations compared to 2016, primarily due to the implementation of the government's 151th regulation issued in 2017."*
>
> *—Female government official (national)*

> *"During the pandemic, borders were closed. Because of this…organizations can't continue their operation."*
>
> *—Male government official (regional)*

The four focal children who worked in the last week were all from LSM sites. However, qualitative respondents were more likely to expect child labor at ASM sites, as seen in the words of a male government official: *"I believe community-based organizations and artisanal mining operations use child labor."* This disconnect in the data could be due to the non-representative design, as other ASM sites, if included, could have had higher numbers of child laborers. Alternatively, public perceptions on the ASM industry may be rooted in the historical reliance on child labor rather than current realities after the formalization of the sector. The primary duties for the four focal children were crushing stone (n=1), packing fluorspar for transport (n=2), and non-mining work (n=1). Packing was most often mentioned by qualitative respondents. According to a male ASM worker, *"I have never worked with a child. But I have seen them working. They do pack or something simple and easy things like that."* A female government representative familiar with child labor reported, *"Once the fluorspar minerals are extracted… I observed that children would then gather the minerals and assist their parents by putting them into buckets."* Respondents were asked if they could estimate the number of hours worked by the focal child in the past week. The mean number of hours reported across the 4 respondents was 79.5 hours per week. Qualitative interviews added context to the hours reportedly worked by focal children. Respondents indicated that the children were performing full-time work for the summer, and although the Labor Law

[5] Despite no participants identifying children under age 15 at their worksite during the survey, 2 adult workers during the focal child portion of the research discussed children under age 15 working at their worksite.

of Mongolia does allow for work shifts to be extended to 12 hours as long as certain conditions are followed, the maximum hours of work for minors is no more than 30 hours per week (Government of Mongolia, 2021).

Adult workers were asked to identify if the focal child was exposed to workplace hazards (Table 6). All four focal children were reported by the adult respondents to have worked at night or very early in the morning. This is in violation of Mongolian laws on employing children (Government of Mongolia, 2021). Most focal children were also exposed to dust, sand, smoke, or fumes (n=3), carried or pushed heavy loads (n=3), and performed repetitive tasks (n=3). No children were involved in underground mining.

Table 6. Focal child exposure to hazards and personal protective equipment access by artisanal and large-scale mining sites [a]sites[a]

	N
Carrying or pushing heavy loads	3
Using power tools	1
Working in a very noisy place	2
Exposed to dust, sand, smoke, or fumes	3
Exposed to very cold or wet conditions	2
Working long hours in the sun without a break	2
Working below ground in mining wells or tunnels	0
Working with other chemicals or with explosives	1
Working at night or very early in the morning	4
Doing repetitive tasks	3
Access to protective gear when working[b]	6

[a] Multiple responses possible
[b] Focal child access to personal protective equipment was asked of all six adult workers, not only those who had identified a focal child who worked in the past week

KII respondents acknowledged that the fluorspar mining industry is wrought with hazards for all workers involved. According to a male government official, *"Another concern is the production of a large amount of fluorspar dust during the process of crumbling the mineral. This dust poses a significant health risk."* According to a female ASM industry representative, "*We don't permit underage individuals to work in fluorspar mines due to the potential dangers involved."* There were no reports of focal children being hurt or sick due to their work in the fluorspar industry, and all children had access to personal protective equipment. All six focal children had access to protective shoes, and five had access to protective eyewear, helmets, gloves, and other protective clothing. There was one reported instance of an adult worker observing their employer doing something to make the focal child work harder or faster. There were no reported instances of punishment for mistakes.

Table 7. Focal child labor status by artisanal and large-scale mining sites

	ASM n	LSM n	Total n
Child labor (n)	1	4	5
Number of respondents (N)	2	4	6

Considering the focal children and their primary duties, hazards encountered, age, and hours worked, all in the context of the operationalization of child labor (see Section 3.2.2.1), the number of focal children who met the definition of child labor was tabulated. As shown in Table 7, 5 of the 6 (83.3%) focal children met the definition of child labor. This includes all four LSM focal children and one of the ASM

focal children. Considering hazards and hours was especially important because only one child met the definition of child labor by age alone. The possibility that children at mining sites were there legally through trilateral agreements was well known by stakeholders. According to a male NGO representative, *"It is important to note that there may be certain exceptions when a child reaches a specific age and obtains parental consent, allowing them to work in mining under a formal contractual agreement."* All four LSM focal children worked in multi-hazardous environments for excessive hours, which is in violation of international standards and laws around acceptable work for minors in Mongolia. For the children who did not work in the past week, one of those two children met the definition of child labor. That child was reported to be age 11 and was below the age for light work (Government of Mongolia, 2021, 2022b). It is possible that this child is no longer in a situation of child labor. The research team was unable to determine the status of the final focal child. This child was age 17 and thus legally allowed to work at the time of data collection. There were no data on the primary work activities performed by that child, their hours worked, or hazards encountered because those survey items were based on work performed in the past week (see Annex 6).

Of the entire sample (n=144), 26 workers (18.0%) indicated that children can be found working in the fluorspar mining sector, and 5 workers (3.5%) identified a focal child who met the definition of child labor. The analysis of qualitative data yielded similarly scarce reports of working children. When working children were discussed, it was commonly in the past tense and used to underscore how the industry has changed. In addition, respondents often discussed persons they labeled "children," despite those individuals being age 18. In total, only five transcript excerpts were coded as "current child labor," as seen in the following quote:

> *"Usually, children distinguish fluorspar from rock by hand, at the crushing plant while people examine specimens usually children carry them or move them around."*
>
> —Male LSM worker

Respondents were more likely to believe that child labor is not common and that any children working are doing so legally due to legislative and industry efforts. As seen in the words of a male ASM worker: "*From what I've heard around 10 years ago when Bor-Undur first started to mine fluorspar, children did work because of poor livelihood. Now there is no such case."* An ASM CBO representative attributed the decline to the current state of the industry: *"Children used to work when fluorspar was more available."* Stakeholder KIIs expressed that child labor was uncommon in the fluorspar sector of Mongolia, largely due to the closure of fluorspar mining sites, as seen in the words of a female regional government representative: *"However, currently, I believe no children are working in the fluorspar mines as most of the operations have ceased."* The qualitative analysis revealed that, of the excerpts coded to indicate child labor, nearly all were of the sub-theme "other industries." According to the stakeholder KIIs, gold mining, animal husbandry (herding), and the entertainment industry (horse jockeys and performers such as contortionists) are sectors in which child labor is common in Mongolia. Of these three, herding was perceived to be the most susceptible to child labor:

> *"Child labor is observed in livestock and farming activities, where children assist their parents. While these cases might not be perceived as child labor by local communities, if children are aiding with livestock and farming duties instead of attending school, it falls under the definition of child labor."*
>
> *—Female government representative (national)*

4.2 Addressing Child Labor

There have been significant steps to improve labor conditions in the fluorspar mining sector of Mongolia. This section provides a thematic analysis of perceptions on changes in the fluorspar industry. Three main themes emerged: legislation, inspections, and ASM industry changes.

Notable legislative improvements include amendments to the Labor Law of Mongolia and the Law on Occupational Safety and Health. In 2022, the Minister of Labor and Social Security produced legislation on light work and a list of workplaces in which minors cannot be employed, and the government passed Regulation No. 296, which provides sweeping regulations to the ASM sector for all minerals. Respondents expressed that recent changes have already had significant impacts on the fluorspar industry. According to an NGO representative, *"Recognizing this issue, the government has introduced new laws and regulations to address the situation…all mining operations are now required to operate in strict compliance."* Respondents indicated that the ratification of ILO Convention 176, the Safety and Health in Mines Convention, in 2015, has also reduced child labor practices. The qualitative findings analysis also presented perceptions of implementation gaps. According to a male regional government official, *"Labor standards are being implemented according to the new Law on Occupational Safety and Health; however, they are not being implemented fully."*

Respondents who were knowledgeable about labor inspections mentioned that the agency formerly in charge, the Professional Inspection Agency, was no longer operational. Many felt that this has not had a significant impact on inspections, as seen in the words of a government worker: *"There were only a few labor inspections conducted in the fluorspar industry. During that time, the responsibility for inspections in mining rested with the Professional Inspection Agency."* The analysis of qualitative interviews revealed that multiple entities are now responsible for inspections. According to respondents, the Ministry of Mining and Heavy Industry, the Ministry of Labor and Social Protection, the Mineral Resources and Petroleum Authority, local governments, environmental inspectors, police, and CBO entities all share inspection duties. A decentralized approach can mitigate budgetary constraints, but respondents indicated that the decentralization of inspections has created difficulties in preventing child labor.

> *"In the regulation of artisanal mining, it states that labor inspections have to be conducted by the local governor and administration. In our Mineral Laws, there is a different law on the occupational safety and health of labor. Therefore, it has different laws and will be inspected by different entities, making it difficult for us to tell whether artisanal mining has good or bad working conditions."*
>
> *—Male regulatory official (government)*

According to a specialist who trains labor inspectors*, "It is my understanding that, despite encountering instances of underage labor, child labor inspectors find their options limited, as their primary recourse is to alert the regular labor inspectors."* In addition, KII respondents expressed that although recent legislative changes permit inspections to occur without prior notice, this cannot be actualized due to conflicting statues from other government bodies.[6] Doubts about inspections can be summed up in the words of a government representative: *"Data and statistics reveal that our existing labor inspectors are only performing a mere 2% of the mandated inspections."* Those with more intimate knowledge of regional government practices expressed more positive sentiments, such as: "*At the local level, we have a dedicated team responsible for safeguarding children's rights."* According to a female fluorspar packer,

[6] See Hatayama et al. (2023) for more information.

"*There were around 11 underage children who worked here. They left recently because of inspectors catching them."*

In conjunction with inspection practices, there have been significant efforts to increase the formalization of the ASM sector. According to respondents, the most significant of these efforts in addressing child labor practices are Regulation 296, which, among other things, created systems for monitoring ASM entities, and Regulation 151, which created the system whereby ASM miners must organize into CBOs to obtain a license. It was common for experts to mention these pieces of legislation broadly, as seen in the quotes by two different CBO representatives: "*Since 2017, there have been new regulations and adjustments at all levels of the organization, and child labor has been considerably reduced." "However, after the introduction of new regulations, the incidence of child labor in the fluorspar industry has decreased."* This formalization has led to the creation of the ASM National Federation, also known as the "Umbrella Association," which, among many other duties, provides training to ASM workers, including on child labor prevention. Fluorspar industry experts often cited the efforts of the ASM National Federation to prevent the use of child labor. Formalization has also created inspection roles in CBOs. According to a CBO representative, *"Unlike before, most community-based organizations now have dedicated experts who specialize in occupational safety and the health of labor.*" Data analysis did not uncover additional insights into CBO inspection practices.

Gate at a currently abandoned ASM site

The decline of the ASM fluorspar sector was the final piece of the thematic analysis, as underscored by the words of an ASM CBO representative when asked if his children work in the industry: *"No, it's a declining industry so I don't let them into the sector."* In addition to formalization, respondents indicated that the COVID-19 pandemic and the dwindling of fluorspar reserves in ASM mining areas have negatively impacted the industry:

> *"In our current situation, the resources available for open-pit mining are becoming increasingly limited, and the resources of small-scale mining operations have been depleted."*
>
> *—Female industry NGO representative*

> *"There are certain events, such as the COVID-19 pandemic, that are beyond our control and can lead to the temporary suspension of operations in the fluorspar industry. Currently, a significant portion of fluorspar mines are not operational."*
>
> *—Male government representative*

4.3 The Supply Chain

4.3.1 Location of Child Labor in the Domestic Supply Chain

As seen in Sections 4.1 and 4.2, reports of child labor are limited to the first stage of the domestic supply chain. The qualitative analysis also indicated that children primarily work at mining sites. According to one government expert, *"Based on my observations, I have noticed that parents often bring their children with them when they work in artisanal mining."* And according to an industry representative,

"To my knowledge, children are often engaged in the sorting and loading processes of fluorspar." Two workers also indicated that children can be found working in initial concentration facilities. According to one worker, *"Yes. I know of an 8th grader in our soum works in a plant."* And according to the other, "*In the plant? They fire the boilers or assist repairmen. Those seem to be the things they do."* Initial concentration of fluorspar also falls within the first stage of the domestic supply chain. However, respondents were more likely to indicate that child labor is not found anywhere in the domestic supply chain of fluorspar in Mongolia.

4.3.2 Fluorspar Production, Processing, and Consumption in Mongolia

Mongolia has 2.2 million metric tons of fluorspar reserves, totaling 8% of the world's reserves (Chung, 2022). Mongolia's annual production of fluorspar in 2020 reached 800 thousand metric tons, accounting for 8.7% of global production, of which 644.7 thousand metric tons (80.6%) was exported (Extractive Industries Transparency Initiative et al., 2022; U.S. Geological Survey, 2022). This increase in fluorspar production in Mongolia is likely the result of a number of contributing factors. As is covered in greater detail later in the report, a likely major driver for the increase of Mongolian fluorspar production would be the steadily increasing demand for fluorspar imports by China.

Table 8. Domestic production of fluorspar, 2020–2021

Year	Production estimate (*thousand metric tons*)
2021	685
2022	800

Source: U.S. Geological Survey, 2022

Fluorspar mining is concentrated in the Gobi Desert and central regions of the country, in Dundgobi, Dornogobi, Gobisumber, and Khentii Aimags (Gobi Shoo LLC, 2018). Both metallurgical-grade and acid-grade fluorspar are produced in Mongolia from fluorspar ore. Fluorspar mining in Mongolia typically occurs in open pit mines in both LSM and ASM operations. The two largest LSM fluorspar companies in Mongolia are Gobishoo LLC and Mongolrostvetment state-owned enterprise. Gobishoo LLC mines and processes metallurgical-grade and acid-grade fluorspar primarily at its Shine Us mine located in Dundgobi Aimag (Gobi Shoo LLC, 2018). Mongolrostvetment state-owned enterprise mines and processes fluorspar at its Bor-Under mine and processing plant located in Khentii Aimag (Mongolrostvetment state-owned enterprise, 2018). After deposits containing fluorspar have been mined, the fluorspar ore is extracted from the mine using machinery such as hydraulic excavators and front-end loaders, and it is then loaded onto trucks for transportation to storage and processing facilities.

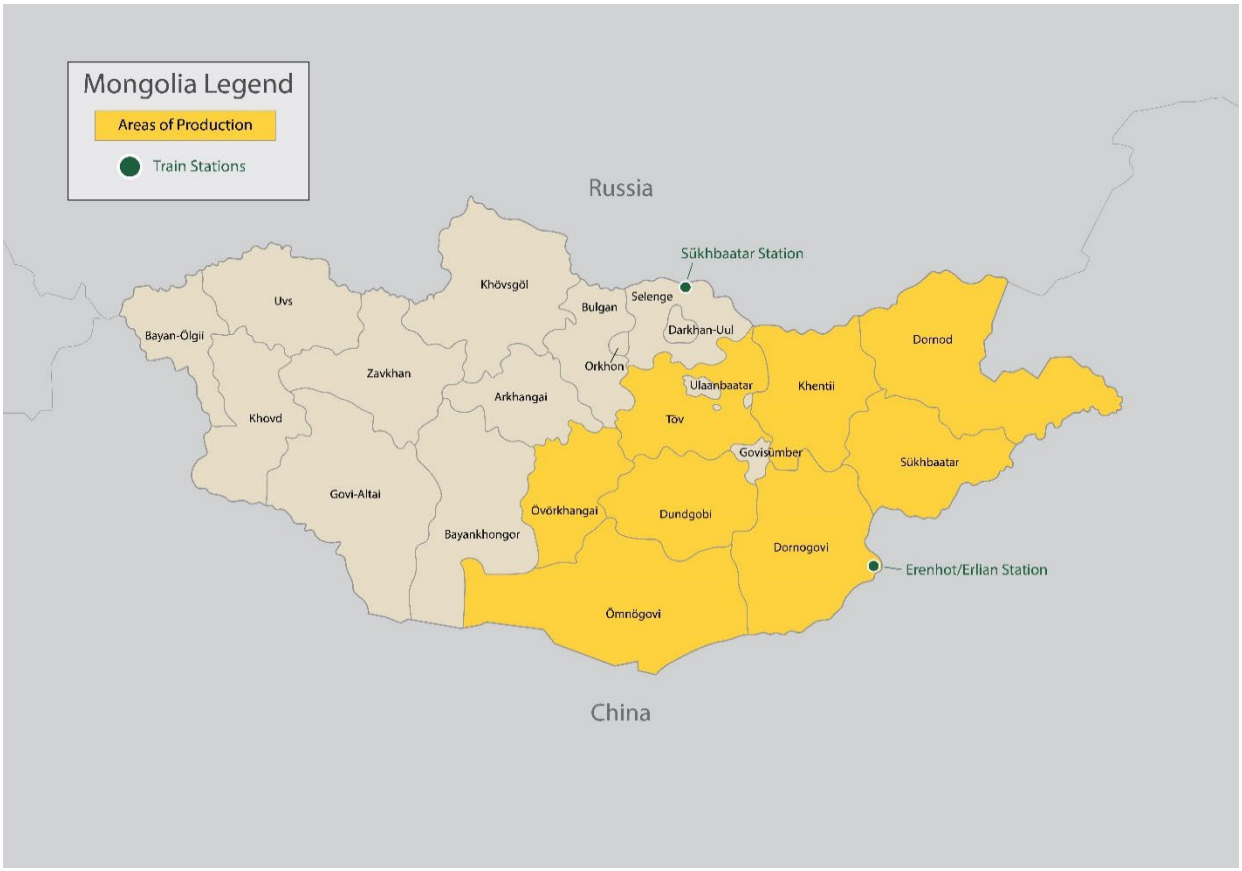
Broadly, the formalized mining sector of Mongolia employs 4% of the national workforce[7] (World Bank Group, 2023d). At the time of this report, there were no statistical datasets or national estimates available on the number of LSM fluorspar workers in Mongolia. In addition to LSM operations, there are numerous ASM sites throughout Mongolia; however, recent information regarding the current scale and status of ASM activities is limited. In 2021, the Artisanal and Small-Scale Miners Survey Report indicated that 9,558 people work at CBOs in the ASM mining sector (National Statistics Office, 2021). Of those individuals, 8% (roughly 765 people) were engaged in fluorspar mining (National Statistics Office, 2021). There are no estimates for any employees of non-licensed ASM mines. The Mongolian government

[7] The entire workforce is approximately 1,363,210 persons according to the World Bank.

officially recognized ASM operations in 2010 through an amendment, ASM Regulation 308, which paved the way for the formalization of domestic ASM operations (planetGOLD, 2022).

> *"From 2004 to 2016, there were numerous individuals engaged in illegal fluorspar mining, with approximately 1,000 individuals mining illegally during the summer and 500 in the winter … As of now, there are no individuals involved in illegal fluorspar mining in our soum."*
>
> *—Male government representative*

Figure 2. Map of domestic production



Source: ICF

According to the Mining National Federation of Mongolia, there were 844 ASM partnerships with 9,178 registered miners in 2020 (Mineral Resources and Petroleum Authority of Mongolia, n.d.). In 2021, the Mongolian government issued 202 mining licenses for ASM fluorspar operations (Mineral Resources and Petroleum Authority of Mongolia, n.d.). Using geospatial data and issued permits for ASM activity, Dornogobi, Dundgobi, and Khentii Aimags have been identified as the main regions for ASM operations. KIIs with industry representatives revealed that many ASM operations engage in the mining of fluorspar at smaller deposits or remaining deposits of LSM operations. Some ASM operations that lack the capacity to mine instead engage in the sorting of pre-mined fluorspar.

At LSM operations, after the fluorspar has been mined and sorted according to concentration, companies are responsible for transporting it to destinations for sale, usually using domestic railways.[8] As stated by a male industry representative, "*Based on what I know, companies bear the responsibility for arranging their transportation, predominantly relying on railways as their primary mode of conveyance."* Data analysis revealed that ASM operations are often not involved in the direct sale of fluorspar to international buyers. As outlined by a male government representative, "*In the case of artisanal mining operations, they sell their extracted fluorspar to traders, who in turn sell it to China."*

Loading of fluorspar for initial transport

4.3.3 Domestic Processing

Fluorspar ore is mined, processed, and sorted into metallurgical-grade and acid-grade fluorspar. From there, both metallurgical-grade and acid-grade fluorspar, in its minimally processed form, are predominantly sent for export and transported by railway through either Russia or China. According to information gathered throughout data collection, Mongolia lacks the facilities to process acid-grade fluorspar into hydrofluoric acid and associated end-use products. According to a government representative, *"To my knowledge, there is no domestic processing taking place within Mongolia for fluorspar minerals."* And according to a male NGO representative, *"Apart from this particular use [metallurgy], there are no other downstream goods or final products associated with fluorspar minerals within Mongolia."* As a result, domestic processing of fluorspar is limited to the minimal processing and sorting of fluorspar ore into metallurgical-grade and acid-grade fluorspar, as well as the processing and use of metallurgical-grade fluorspar.

However, the thematic analysis of KIIs revealed that Mongolia does have the ability to domestically concentrate mined fluorspar of lower concentrations into metallurgical-grade and acid-grade fluorspar. As outlined by a male industry representative, organizations such as Mongolrostvetment and facilities in the cities of Erdenet and Darkhan have established the capacity to concentrate low-concentration deposits into metallurgical-grade and acid-grade fluorspar using flotation methods outlined previously. It is important to note that the expansion of such facilities has been met with difficulties. According to KII respondents, there have been attempts to construct operational concentration facilities, but many of these facilities closed due to their failure to meet national standards and regulations. At the time of this report, it was not clear as to how widespread domestic concentration facilities were throughout the country.

> "*Upon inspection, it became evident that the concentrator facility did not meet required standards… I decided not to approve any further proposals for concentrator construction."*
>
> *—Male government representative*

4.3.4 Domestic Consumption

Domestic use of mined fluorspar is minimal when compared to the amount exported out of the country. As described in the previous section, Mongolia's capacity to process acid-grade fluorspar domestically is

[8] Some KII respondents indicated that trucks are used for transporting fluorspar to buyers when not accessible by train; however, the use of trains was indicated as the primary mode of transportation.

essentially nonexistent, with minimal domestic applications likely restricted to use in steel production. As a result, the majority of fluorspar consumed domestically is metallurgical-grade. Based on information gathered throughout data collection, domestic purchasers of metallurgical-grade fluorspar use it as a flux, often in metallurgical operations and in the construction sector. Despite the use of metallurgical-grade fluorspar by domestic industry, industry respondents indicated that the actual amount of fluorspar used is minimal, with only small amounts being purchased. As indicated by a male industry representative speaking about domestic buyers of fluorspar, *"But they purchase a small amount … they buy 2 wagons a season. Only Erdenet and Darkhan's metallurgy manufacturers buy."*

4.3.5 Exports

4.3.5.1 Global Market for Fluorspar

In 2021, Mexico and South Africa accounted for 44.4% of global exports of fluorspar (29.1% and 15.3%, respectively) (Panjiva, 2021). Mongolia ranked as the third largest global exporter of fluorspar in 2021, accounting for 13.3% of global exports (Panjiva, 2021).[9] Other major exporters of fluorspar include China (11%), Vietnam (7.6%), and Canada (4.7%) (Panjiva, 2021). In 2022, Mongolia became a participant in the U.S. State Department's Mineral Security Partnership (U.S. Department of State, 2022). The partnership aims at ensuring that critical minerals, such as fluorspar, are produced, processed, and recycled in a manner that supports the development of mineral-rich countries, as well as the alignment of critical mineral supply chains with environmental, social, and governance standards and regulations (U.S. Department of State, 2022). The United States imports a limited amount of fluorspar from Mongolia. The United States is the fifth largest importer of Mongolian fluorspar, accounting for 1.1% of Mongolia's fluorspar exports in 2021 (UN Comtrade, 2021).

4.3.5.2 Mongolia's Role in Global Exports

Mongolia exports approximately 85% of its mined fluorspar as metallurgical-grade or acid-grade fluorspar (IndexBox, Inc., 2022). Both metallurgical-grade and acid-grade fluorspar are transported from mining and processing sites for export to China or Russia by railcar using the state-owned Trans-Mongolian railway. The railway is used to deliver fluorspar to China through the Erenhot/Erlian (Inner Mongolia) Station at the border with Zamyn-Üüd train station in Zamyn-Üüd, Dornogobi, Mongolia, as well as to Russia at the Nasushki Station in the Buryatia Republic of Russia on the border with the train station in Sukhbaatar, Selenge, Mongolia (Gobishoo LLC, 2018). According to industry key informants, the government is not involved in transportation. Instead, transportation of fluorspar is conducted by private organizations that facilitate transportation from production and storage sites to end destinations.

> "*It appears government organizations are not involved in the transportation aspect. Instead, it seems to be primarily facilitated by individuals, small companies, and CBOs. These entities are likely responsible for transporting the extracted minerals to their designated destinations."*
>
> *—Female industry representative*

As noted by one male industry expert, there are situations in which foreign buyers obtain fluorspar from the interior of the country instead of the borders. KII respondents indicated that this is the case with

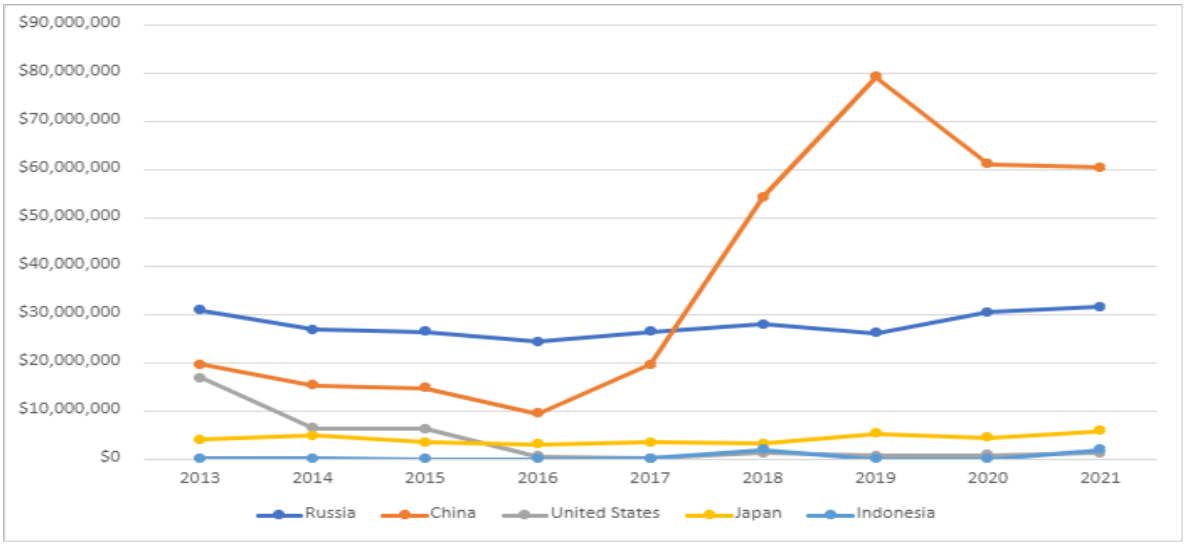
[9] Trade data on Mongolian fluorspar exports are limited to 2021. As per UN Comtrade, Mongolian trade data on HS Codes 2529.21 and 2529.22 are limited due to delays in the report of 2022 trade data by Russia. Due to this delay in national reporting, in current 2022 data provided by UN Comtrade, assuming that Russian imports of fluorspar remained similar to 2021 trends, data would be missing 30% of the Mongolian fluorspar export value.

Magnittogorsk Iron and Steel Works, one of the largest metallurgical companies in Russia. Trains are sent to stations in the interior of Mongolia, often on their return from China, onto which fluorspar is loaded and shipped back to Russia. Mongolian sellers of fluorspar are responsible for the transportation and loading of fluorspar onto the trains; once loaded, the responsibility for the transportation of fluorspar out of Mongolia is placed on the importing enterprise.

> "*That company send their trains to Ulaanbaatar, Bor Undur and Choir station according to the contract. 20 trains at each station … On their way back they'll pick up fluorspar from here and go back to Russia... I'll load the fluorspar, note how many tons it was and that's it. After loading whether they take it or leave it is not my concern.*"
>
> —*Male industry representative*

Mongolian exports of fluorspar have grown by 73% since 2013, with 88% of fluorspar exports flowing to China (58.1%) and Russia (30.3%) (UN Comtrade, 2021). Smaller export partners are Japan (5.5%), Indonesia (1.9%), and the United States (1.1%) (UN Comtrade, 2021). Out of Mongolia's fluorspar exports, the majority of fluorspar exported is metallurgical-grade, with metallurgical-grade and acid-grade fluorspar accounting for 96.9% and 3.1% of total fluorspar exports in 2021, respectively (UN Comtrade, 2021). Given that Mongolia is a landlocked country and must ship through either China or Russia to reach ports for export, it is unsurprising that China and Russia dominate the importation of Mongolian fluorspar due to the logistical difficulties involved in exporting to other potential markets. This is compounded by Mongolia's economic reliance on Chinese imports of Mongolian goods and political relations between Mongolia and its neighbors. In addition, the increase in production can be attributed to increased demand from China. In 2018, China replaced Russia as the leading importer of Mongolian fluorspar (Figure 3).

Figure 3. Importers of Mongolian fluorspar over time

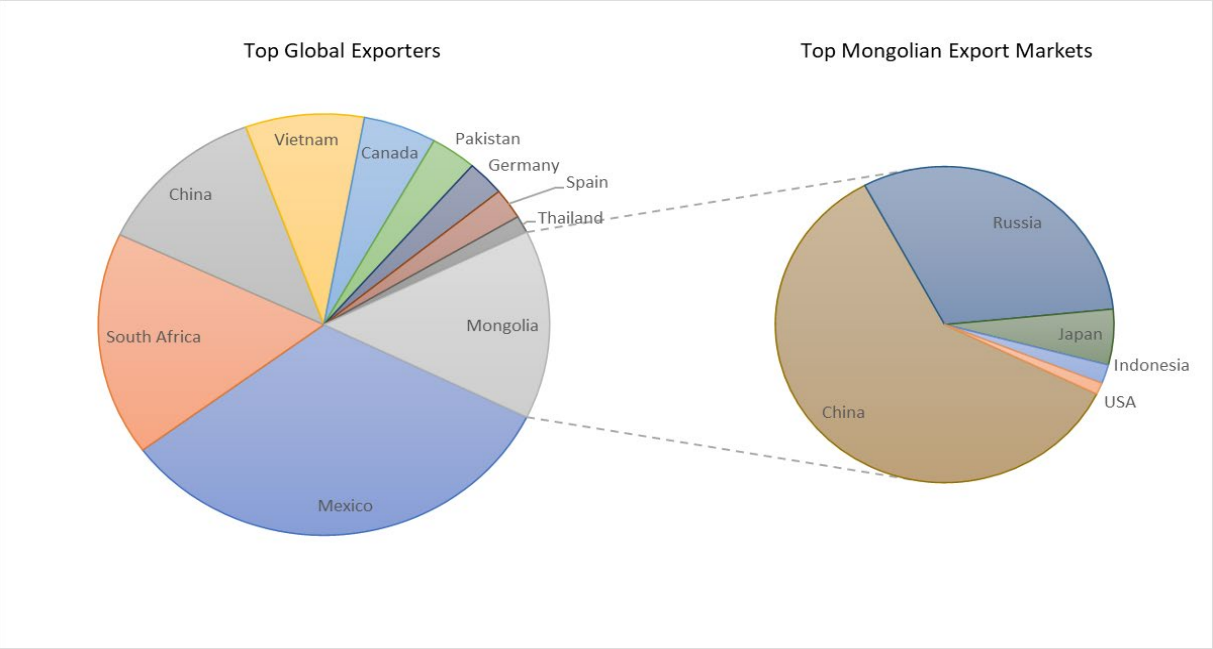


Source: UNCOMTRADE, 2021; HS Codes:2529.21, 2529.22

This shift to China as the leading importer of Mongolian fluorspar paralleled China's increased contribution of FDI to Mongolia, specifically in the mining sector. China contributed $73.44 million USD in FDI to Mongolia's mining sector in 2019 (Ankhtuya, 2019; Chuluundorj et al., 2022). In addition, China has provided more than 50% of Mongolian companies with foreign equity, much of which is focused on companies in the mining sector (Chuluundorj et al., 2022).

Data indicate that in 2021, China only imported metallurgical-grade fluorspar, and Russia imported both metallurgical-grade and acid-grade fluorspar (UN Comtrade, 2021).[10] This coincides with the thematic analysis of the KIIs. Industry representatives indicated that the downstream uses of Mongolian fluorspar in China are solely in metallurgy; in Russia, fluorspar is used in both metallurgy and chemical production. According to one industry representative, "*China, the main buyers of fluorspar are primarily iron factories. Meanwhile, in Russia, aluminum and chemical factories... ."* This reinforces the information obtained through available trade data. Iron factories in China would only require imports of metallurgical-grade fluorspar, but Russia requires both metallurgical-grade and acid-grade fluorspar to fuel domestic industries.

Figure 4. Top export markets



Source: UN Comtrade, 2021

4.3.6 International Downstream Supply Chain Tracing

Available export data on Mongolian fluorspar are extremely limited due to limited national and business disclosures. Given the extent of shipping information limitations, it is not possible to accurately assess the consistency of shipping data. Available shipping data records indicate two shipments of Mongolian fluorspar out of the country. Shipping data records indicate that the sole Mongolian supplier involved in the export of fluorspar is Erenhot Tian Shuo Minerals Imp. & Exp. Co., Ltd. (Panjiva, 2023). Shipping records of Mongolian fluorspar buyers are also limited. Shipping records indicate one buyer of Mongolian fluorspar, Synergy Earth Resources Private Limited (Panjiva, 2023). The shipment record of buyers of Mongolian fluorspar is consistent with data collection and research findings indicating that fluorspar is used in both metallurgy and chemical production.[11]

[10] For details on the breakdown of exports by HS Code, see Appendix 5.

[11] Available shipping data records indicate that Synergy Earth Resources Private Limited acts as a multi-commodity trader of agri products, minerals and ores, and chemicals (Panjiva, 2023; Synergy Group, n.d.).

5. Examining the Impact of Policy and Other Factors Affecting Fluorspar Production in Mongolia

In the early 2000s, more than 100,000 individuals were involved in informal ASM operations throughout Mongolia (planetGOLD, 2022). Throughout the 2000s, ASM operations continued without proper government regulation and oversight (planetGOLD, 2022). To address this, the Mongolian government formally recognized ASM operations through an amendment of its Minerals Law and the approval of ASM Regulation No.308 in 2010, paving the way for formalization, and as a result, increased oversight and support for facilities and workers (planetGOLD, 2022).

Since the implementation of ASM Regulation No.308, the ASM National Federation has sought to create additional regulations to manage country-wide ASM operations. In 2017, the Mongolian government passed ASM regulation No.151, which facilitated the operation of ASMs in accordance with new legal frameworks, requiring them to operate under CBOs and mining associations (OECD, 2022). According to a female government representative, "*This regulation stipulates that individual operation of artisanal mining is no long permitted; such operations must be conducted through community-based organizations or as a part of associations."*

Despite this progress, ASM operations were dramatically changed by Regulation No.355 in 2019. This regulation suspended regulation No.151, leading to a freeze on the issuing of new land permits and discontinuing mining contacts for many ASM operations throughout the country (Bayarsaikhan et al., 2022; OECD, 2022). Although regulation No. 355 was intended to prevent illegal mining and environmental degradation, it had the opposite effect, as thousands of former ASM miners were left without income sources, leading to increased illegal mining operations (Mongolian Mining Journal, 2022; OECD, 2022). While regulation No. 355 was in place, it was estimated that illegal mining increased, from 3,000 to 4,000 individuals to more than 40,000 individuals, with ecological police reporting a 300% increase in land-use crimes since 2019 (Mongolian Mining Journal, 2022). In response, a new ASM regulation was approved by the Mongolian government in August 2022, removing the ban on ASM permits and transferring authority for the approval of ASM land permits and mining contracts to Mongolia's ASM National Federation (Mongolian Mining Journal, 2022).

In addition, policies related to the COVID-19 pandemic had a sizable impact on Mongolia's fluorspar industry, namely policies that closed borders with China and Russia. During the pandemic, Mongolia, China, and Russia implemented stringent border closures, thereby hindering not only the passage of individuals into and out of the countries, but also the trade and movement of goods across borders. Mongolia was among the first countries to implement border closures, with borders between Mongolia and China closing as early as January 2020 (Ankhtuya, 2021). In March 2020, China enacted its Zero-COVID policy, closing the country's borders to non-essential international trade and travel to address the spread of COVID-19 (Gan, 2021; Radford & Yip, 2023). Russia closed its borders in March 2020, restricting non-essential international trade and travel to contain and prevent the spread of the disease (Radio Free Europe/Radio Liberty, 2020). The closure of borders with China and Russia had a devastating effect on the Mongolian fluorspar mining industry. When asked about the impact of COVID--19 on the fluorspar industry, respondents outlined how the industry came to a halt, as expressed by a male industry representative: "*... the fluorspar industry of Mongolia experienced a period of stagnation due to the closure of borders."* China's prolonged border closure had the most noticeable impact, negatively impacting its productivity and profitability. According to a female NGO representative, *"The dependence of our mining industry on China, with Chinese investors and buyers, posed significant challenges when China's borders were closed."*

Further compounding the effects of border closures, 2021 saw the beginning of Russia's conflict with Ukraine, which negatively affected the Mongolian fluorspar industry. With Mongolian mining heavily reliant on the importation of production materials, such as explosives and chemicals, the conflict between Russia and Ukraine limited the availability of essential materials for Mongolian mining industries. According to a male industry representative, *"Similarly, the conflict between Russia and Ukraine reverberated through the fluorspar industry, given our reliance on China and Russia for essential production materials like explosives and chemical substances."*

6. Conclusion and Recommendations

This study helps address the gap in recent research on the presence of working children and child labor in the fluorspar supply chain of Mongolia. Broadly, the study found few reported cases of child labor at fluorspar worksites in Mongolia. In the sample of 144 adult workers, 3.5% identified a focal child who met the definition of being in child labor, for a total of 5 cases of child labor. In other words, in the study sample, there is a limited but non-zero presence of fluorspar obtained with child labor in the supply chain of Mongolia fluorspar. In addition, this study did not find any evidence of the processing of fluorspar obtained with child labor into downstream goods within the domestic supply chain. Juxtaposing these findings within the extant literature, this study suggests a decrease in the reliance of child labor in fluorspar mining. Future research is needed to determine whether these findings can be generalized to the industry as a whole.

In total, 94.4% of workers indicated that no children under age 18 work at their worksite. Of the 8 workers (5.6%) who reported working children at their site, all indicated that the children were aged 15 to 17. No workers reported children aged 5 to 14 working at their site. In other words, at the sites in the sample, reports of children working were infrequent and limited to children above the legal working age. Adult workers were asked to provide in-depth information about a focal child at their worksite. This report analyzed their responses to determine cases of child labor. From the entire sample of 144 adult workers, 6 workers identified a focal child who works in the fluorspar industry. Of the six focal children, five were determined to be cases of child labor. Of those five cases, only one child was automatically considered a case of child labor due to their age.[12] All other focal children were of legal working age. Thus, the working conditions led to the classification of child labor. Working at night or very early in the morning was present in all 4 cases of child labor, and none of these children worked within the acceptable number of hours a week for a child under age 18. KII respondents provided insights into situations in which legally hired workers under age 18 could become cases of child labor. Recent graduates from technical and vocational schools can directly enter the mining industry workforce, where they are treated the same as adult employees. Many of these children are age 17, however, and, if working the same hours as adult workers, they would qualify as cases of child labor. These findings are important because they suggest that stricter adherence to local legislation around acceptable working hours (time of day and number of hours worked) for children under age 18 could have drastically reduced the number of reported cases of child labor in the sample.

Although there were few cases of child labor, the analysis of worker and KII respondent data revealed that certain risk factors for child labor are still present, especially poverty. Overall, 9% of workers reported owing debts to their employer or recruiter, 22.2% indicated they earned less than minimum wage, and 30.6% indicated that their wages do not allow them to meet their families' basic needs. In addition, poverty (100.0% of ASM worker sub-sample and 66.7% of LSM worker sub-sample) and the

[12] Despite no adult workers indicating children under 15 worked at their site, one worker identified a focal child aged 11.

inability to pay school fees (12.5% of ASM worker sub-sample and 61.6% of LSM worker sub-sample) were the most commonly perceived risk factors for child work by the workers in the sample.[13] No respondents reported that they relied on help from their children to repay debts, meet their families' basic needs, or manage their work quotas. Moreover, the data do not suggest a correlation between the economic status of an individual worker, their perception of the risk factors for working children, or the working status of their own child in the fluorspar industry. Taken together, these data points suggest that although poverty was not directly linked with child labor in the sample, it remains as a potential root cause for child labor in the industry.

Regarding perceptions on the presence of child labor, the qualitative analysis yielded the theme that child labor is a past problem. Respondents attributed this to significant legislative actions to address child labor, inspection system changes to increase local stakeholder involvement, and the formalization and decline of the ASM industry. Workers and key informants alike believed that child labor is no longer common and that children, if found at fluorspar sites, are there legally through vocational school programs, internships, or triparty agreements.[14] Respondents commonly indicated that the gold and coal sectors of the mining industry are more likely to rely on child labor.

The investigation into the Mongolian fluorspar supply chain revealed that few instances of child labor occur at the procuring stage in LSM and ASM operations. In addition, there were no reported cases of child labor at any other stage of the supply chain. This indicates that, within the study sample, the impact of fluorspar obtained through child labor on the national supply chain of fluorspar is minimal. This is significant because the Mongolian fluorspar industry is export oriented, largely because ASM and LSM operations lack the ability to process fluorspar into downstream goods. Some LSM operations do possess the capability to concentrate low-purity fluorspar ore into higher concentration metallurgical-grade and acid-grade fluorspar. Given the absence of domestic processing facilities, fluorspar is used minimally domestically, and domestic use is generally limited to the use of metallurgical-grade fluorspar in metallurgical operations. LSM operations often sell directly to domestic and foreign buyers using Mongolian railways, either transporting the product themselves or hiring a transportation company.ASM operations generally sell to domestic traders due to limited means of transportation, with traders subsequently selling to larger domestic producers or directly to buyers. The majority of metallurgical-grade and acid-grade fluorspar is exported to foreign buyers in China and Russia. The exportation of fluorspar across Chinese and Russian borders was revealed to differ from general export practices, because foreign buyers are responsible for transportation across the border. After export, Mongolian fluorspar is predominantly used in metallurgical operations and chemical production.

Based on the study findings, recommendations are as follows:

Government of Mongolia

- The Government of Mongolia, through the Ministries of Mining and Labor and other relevant agencies, should continue to enhance the enforcement of applicable laws, including the minimum age for employment and acceptable hours of work for children. As noted by KII respondents, the Government of Mongolia has taken significant legislative steps to address child labor practices. However, this research suggests that some gaps remain in the enforcement of these laws, particularly regarding to children's working hours.

[13] Data are from a subset of 26 workers with knowledge of child labor out of the sample as a whole.
[14] Respondents did not address the potentially hazardous nature when describing children as "legally" working in fluorspar mining, and their perception that all children, if present, are there legally does not necessarily reflect local legislation.

- The Government of Mongolia should also work to harmonize conflicting laws related to the prevention of child labor. For example, according to KII respondents, although the newly amended Labor Law allows for inspections of workplaces without advanced notice, the Law on State describes advanced notice inspections. Although the Labor Law would supersede the Law on State Inspections in this context, KII respondents suggested that this is still preventing inspections without advanced notice from being implemented.
- The Government of Mongolia should increase labor inspection efforts across the entire fluorspar industry to ensure decent working conditions and ensure that all children working are doing so legally. For example, inspection efforts should prioritize ensuring that child workers are not working for more than the legally permissible hours based on their age and that child workers are performing age-appropriate tasks.
- The government should develop structures for streamlining and unifying inspection entities, especially those tasked with child labor inspections, after the decentralization of inspections following the closure of the Professional Inspection Agency. This is based on the finding of mixed perceptions on the current effectiveness of child labor inspections in Mongolia.
- The government, in partnership with the fluorspar industry, should increase efforts to create awareness of child labor and hazardous child labor, targeting families as well as ASM CBOs and LSM companies. Qualitative respondents, including industry KII respondents, commonly expressed that they were unaware of any ongoing awareness or prevention efforts.
- LSM companies and fluorspar buyers with export licenses, as part of their supply chain due diligence programs, should establish a system through which fluorspar proven to be made without child labor can be certified as such. For example, LSM companies could implement a certification process that specifically identifies fluorspar produced by their mines and separates it from fluorspar purchased from ASM sites. As domestic traceability methods improve, such certifications could be extended to ASM CBOs, thereby expanding certification to the wider industry.
- The Government of Mongolia, in conjunction with the fluorspar industry, should implement a system to enable domestic supply chain tracing to facilitate the tracing of fluorspar at downstream processing facilities back to specific mining sites of origin. With such a system in place, both domestic and foreign buyers of Mongolian fluorspar could trace purchased fluorspar upstream to ensure that it was produced in compliance with labor standards and regulations. This could distinguish fluorspar procured from sites with confirmed cases of child labor from legally obtained fluorspar, which, as seen in other sectors in other countries, can be used to hold those that process Mongolian fluorspar into downstream goods accountable for the labor conditions within their supply chains.

Future Research

- Future research should use a representative sampling design to examine whether the decline and formalization of the ASM fluorspar industry is a leading cause of the decline in child labor practices. Understanding the causes of the decline in child labor would allow the Government of Mongolia and fluorspar industry stakeholders to shape future policies, including the continued formalization of the ASM mines, to prevent child labor in the fluorspar industry. This research should also examine legislative and monitoring efforts in relation to their effect on child labor.
- Future research should, through an evaluative design, examine the effect of the changes in child labor inspection responsibilities on child labor rates in Mongolia. This research can be made specific to an individual good or a specific sector, or it can broadly examine child labor rates country-wide. A significant finding of this research was the recent changes to inspection

practices following the closure of the Professional Inspection Agency. Although while reports of child labor were low in this study, improved inspections are a vital part of a sustained approach to preventing child labor.

- According to KII respondents, graduates of technical and vocational schools who are age 17 tend to be legally employed in mining companies, and these workers may be treated as adults regarding the number of hours they are asked to work and the duties they perform. Future research should focus specifically on this risk factor for child labor, which was not previously discussed in the extant literature.
- The qualitative findings suggest that child labor may be more common in other industries in Mongolia, both listed and not listed as goods produced with child labor by the U.S. Government. This includes gold mining, coal mining, and herding. Future research should examine the involvement of child workers in herding to determine the presence or prevalence of child labor within the cashmere supply chain.

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Appendix 2: Maps

Figure A1. Top five downstream markets for the Mongolian fluorspar supply chain

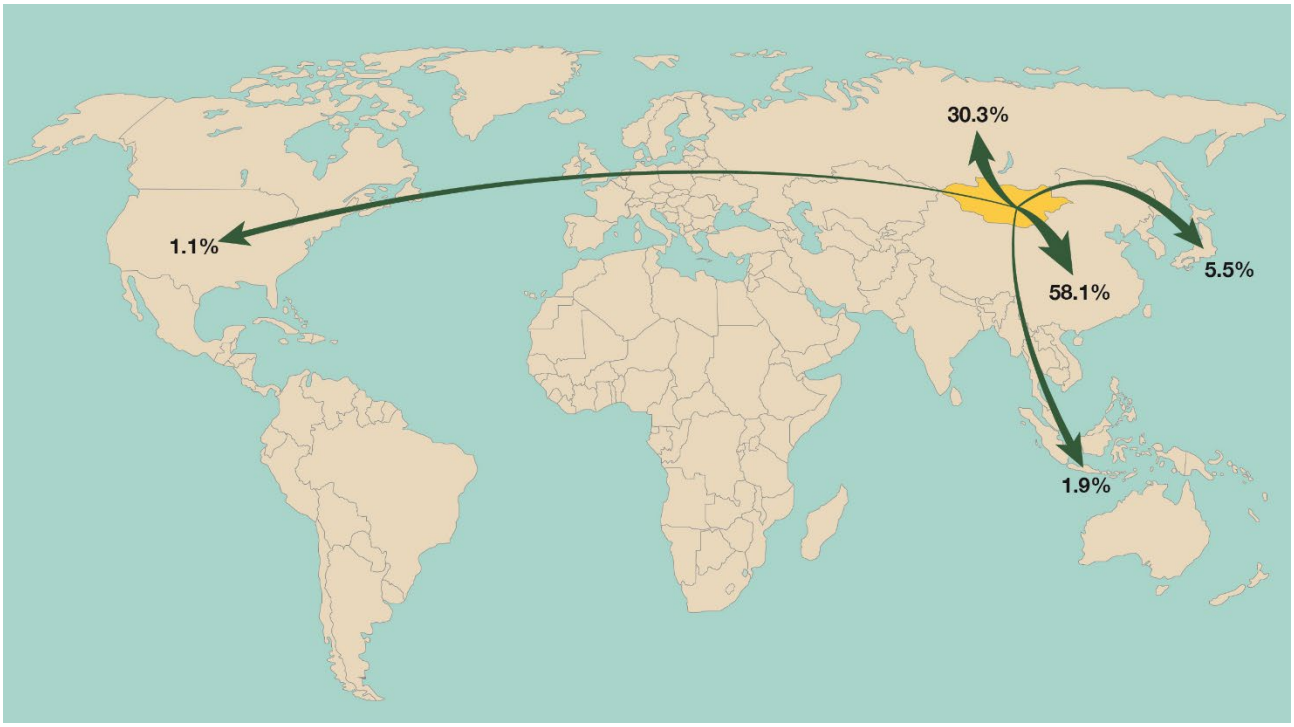

Figure A2. Major downstream markets for fluorspar and end uses, by country

Downstream market	End uses
China	Cement, ceramics, steel, glass
Russia	Cement, steel, glass, high-octane gasoline, fluorine
Japan	Cement, ceramics, steel, fluorine, high-octane gasoline
Indonesia	Cement, ceramics, steel, glass, high-octane gasoline
USA	Cement, ceramics, steel, glass, high-octane gasoline, fluorine

Appendix 3: HS Codes

HS Glossary

Product	HS Code	HS definition
Minimally processed goods		
Fluorspar (metallurgical grade)/ metspar	2529.21	Fluorspar, containing by weight 97% or less of calcium fluoride
Fluorspar (acid grade)/acidspar	2529.22	Fluorspar, containing by weight 97% or less of calcium fluoride

Appendix 4: Export Values

Top Five Importers of Fluorspar from Mongolia, 2021

Destination country	Trade value (USD)	% of total fluorspar export value from Mongolia
1. China	$60,410,785	58.1%
2. Russia	$31,498,069	30.3%
3. Japan	$5,725,127	5.5%
4. Indonesia	$1,955,542	1.9%
5. USA	$1,188,971	1.1%

Source: UNCOMTRADE, 2021. HS Codes: 2529.21, 2529.22

Top Global Exporters of Fluorspar, 2021

Country	Trade value (USD)	Percent of total global exports of fluorspar
1. Mexico	$227,112,594	29.1%
2. South Africa	$119,618,995	15.3%
3. Mongolia	$103,965,496	13.3%
4. China	$85,954,427	11%
5. Vietnam	$59,243,935	7.6%
6. Canada	$36,442,245	4.7%
7. Pakistan	$22,901,927	2.9%
8. Germany	$18,910,446	2.4%
9. Spain	$16,243,543	2.1%
10. Thailand	$9,151,649	1.2%

Source: UNCOMTRADE sourced through Panjiva, 2021. HS Codes: 2529.21, 2529.22

Exports by HS Code, 2017–2021

Good	HS Code	Export value 2017	2018	2019	2020	2021	Top destination market for 2021 (percentage)
Metallurgical -grade fluorspar	2529.21	$51,516,140	$87,972,082	$112,005,844	$97,419,999	$100,705,304	2021: China (60%)
Acid-grade fluorspar	2529.22	$2,934,718	$5,275,014	$9,614,327	$3,631,751	$3,196,504	2021: Poland (35%)

Source: UNCOMTRADE, 2021. HS Codes: 2529.21, 2529.22

Mongolian Destination Markets' Top 5 Sources of Imported Fluorspar, 2021

Destination market for Mongolian fluorspar	Destination markets' sources of fluorspar imports	Trade value (USD)	Percent of total fluorspar import value by destination market
China	Mongolia	$60,410,785	54.7%
	South Africa	$16,795,854	15.2%
	Mexico	$12,311,879	11.2%
	Nigeria	$6,780,565	6.1%
	Vietnam	$6,490,747	5.9%
Russia	Mongolia	$31,498,070	81.8%
	Kazakhstan	$6,224,844	16.2%
	Germany	$306,338	0.8%
	Vietnam	$161,280	0.4%
	Czech Republic	$113,993	0.3%
Japan	China	$18,421,080	52.1%
	Vietnam	$10,202,814	28.9%
	Mongolia	$5,725,127	16.2%
	Canada	$499,233	1.4%
	Morocco	$499,233	1.4%
Indonesia	China	$21,955,280	59.5%
	Mexico	$10,442,583	28.3%
	Mongolia	$1,955,542	5.3%
	Pakistan	$985,230	2.7%
	Zambia	$876,823	2.4%
USA	Mexico	$94,355,891	79.4%
	Canada	$11,296,226	9.5%
	South Africa	$9,954,917	8.4%
	Japan	$1,383,662	1.2%
	Mongolia	$1,188,971	1.0%

Source: UNCOMTRADE, 2021. HS Codes: 2529.21, 2529.22

Appendix 5: Forced Labor/Child Labor Definitions

Child Labor: "Child labor is defined by ILO Conventions 138 on the Minimum Age for Admission to Employment and 182 on the Worst Forms of Child Labor. It includes employment below the minimum age as established in national legislation, hazardous unpaid household services, and the worst forms of child labor: all forms of slavery or practices similar to slavery, such as the sale or trafficking of children, debt bondage and serfdom, or forced or compulsory labor; the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic purposes; the use, procuring or offering of a child for illicit activities; and work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children." (ILO, 1973; United States Department of Labor, n.d.)

Child Labor Conventions: The ILO Convention on Child Labor, 1973 (No. 138) aims to abolish child labor by requiring countries to establish a minimum age for work as well as employment (typically 14-15 years) of age while also allowing for light work for children under that age (ILO, 1973). The convention also requires nations to establish policies to eliminate child labor. In Article 3, the convention defines the "minimum age for admission to any type of employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardize the health, safety or morals of young person" to be 18 years old. The ILO Worst Forms of Child Labour Convention, 1999 (No. 182) (ILO, 1999b) defines the worst forms of child labor as:

- all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict;
- the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances;
- the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties;
- work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children (hazardous child labor)

Hazardous child labor is then further defined in Article 3 of the ILO Worst Forms of Child Labour Recommendations, 1999 (No 190) (ILO, 1999a) as:

- work which exposes children to physical, psychological or sexual abuse;
- work underground, under water, at dangerous heights or in confined spaces;
- work with dangerous machinery, equipment and tools, or which involves the manual handling or transport of heavy loads;
- work in an unhealthy environment which may, for example, expose children to hazardous substances, agents or processes, or to temperatures, noise levels, or vibrations damaging to their health;
- work under particularly difficult conditions such as working for long hours or during the night or work where the child is unreasonably confined to the premises of the employer.

Labor Law of Mongolia: The Labor Law of Mongolia sets regulations on the employment of persons under the age of 18 in Chapter 6 and Chapter 10. Article 142 contains the bulk of legislation specific to the employment of minors. (Government of Mongolia, 2021). It is within article 142 that the labor law

prohibits the employment of children in the worst forms of child labor. Key regulations are presented in the following table:

Child labor standards according to ILO Convention No. 138 and Mongolian regulations

	Minimum age at which children can start work	Possible exceptions for developing countries	Mongolian regulations
Hazardous work: Any work which is likely to harm children's health, safety, or morals should not be done by anyone under the age of 18.	18 years (16 years under strict conditions)	18 years (16 years under strict conditions)	18 years
Basic minimum age: The minimum age for work should not be below the age for finishing compulsory schooling, which is generally 15.	15 years	14 years	15 years
Light work: Children between the ages of 13 and 15 years old may do light work, as long as it does not threaten their health, development, or hinder their access to education.	13–15 years	12–14 years	Mongolia maintains a list of activities categorized as light and healthy work for persons not yet 15 but at least 13 years of age

Order No. 122: In 2022, the Government of Mongolia ratified an amendment to Order No. 122 of the Ministry of Labor and Social Security. This amendment provides regulations on the general labor conditions prohibited for minors as well as specific occupations prohibited for minors. According to this legislation the following types of work are prohibited (Government of Mongolia, 2022a):

- Work that negatively affects children's moral's and education
- Work likely to expose children to violence
- Work with the risk of child poisoning by toxic substance
- Work that endangers the safety of children
- Work with the risk of exposure to physical factors that have a negative effect on children's health
- Work with a risk of exposure to biological hazards that are harmful to children's health
- Work that creates ergonomic hazards for children
- Involuntary work through coercion and use of force

In the mining industry, the following occupations are prohibited for minors:

- Underground mining for extraction of coal, mineral and metallurgical ores, uranium, gold, and precious metals
- Extraction of mining products from the surface
- Digging and extraction of stones, sand, and salt
- Transportation of extracted mining products
- Extraction of oil, natural gas, and crude oil
- Manual extraction of all kinds of precious metals

Order No. 123: In 2022, the Government of Mongolia amended Order No. 123 of the Ministry of Labor and Social Protection. This amendment provides the legal framework for light work for

children between ages 13 and 15. The key stipulations used in the study's analysis are as follows: (Government of Mongolia, 2022b):

- During school terms, no more than 15 hours a week, or 2 hours a day a week, 10 hours in total; 1 hour per day for household work, up to 5 hours per week in total.
- During the vacation of the school term, no more than 20 hours a week, or 2 hours a day from Monday to Friday, or 2 hours on weekends; can work up to 8 hours a week for household work
- Irrespective of school and semester holidays, people aged 13-15 will not be employed between 6:00 p.m. and 6:00 a.m.
- A person aged 13-15 can be employed up to 5 days a week
- Persons aged 13-15 shall not be employed under the following conditions:
    - to operate without the constant and direct supervision of an adult;
    - did not undergo appropriate training necessary to perform the work and duties;
    - to be away from the family for more than one day;
    - to work alone or in isolation for many hours;
    - the child's wishes were not taken into account, and the child himself did not agree.

Appendix 6: Final Research Instruments

Consent Forms

Worker Survey Consent on Working Conditions for Individuals under 18

Hello my name is _____.

Before beginning the survey, I would like to read you some information so that you understand what's involved with the study. This study is conducted by The Independent Research Institute of Mongolia and ICF, a private research and consulting company. This survey is part of a study which seeks to better understand the labor experiences among people who work in the fluorspar in Mongolia. The survey will take around 30-45 minutes. If you do not have the time to complete it now, we can return at a time that works better for you.

Everything you say is confidential. None of your coworkers or employers will know what you tell me. Your name will not be used in any report. Data from this study may be shared with other researchers or made available in public databases for the purposes of advancing research on these topics. Prior to doing so, all personally identifying information is removed.

Participation in this study is voluntary, and if you do not participate there will be no consequences. The risk of doing this survey is that some of our questions are personal and might make you feel uncomfortable. You may skip any question, take a break, and end the interview at any time. We know that your time is valuable you will receive phone credits worth 25,000 MNT for your time and participation. Your answers will help inform future programming to help other workers.

I will answer any questions that you have about the study before we begin. Do you have any questions about the study? If you have any questions in the future, or if you later change your mind and do not want us to include the information you provided in our study, you may contact _____ at _____
[IF YES, ANSWER BEFORE CONTINUING]

Do you agree to participate in this survey?

1. YES
2. NO --> END INTERVIEW

[For selected worker survey respondents]

Worker Interview on Working Conditions for Individuals under 18
Introduction and Informed Consent Statement

Thank you very much for answering these questions. If you are willing, we'd like to ask you more about your experiences. This part of the interview will be more of a conversation, so we can learn more about your work and living conditions from your own perspective.

- As we discussed before, your participation in this study is voluntary. If you choose to talk with me, you can choose to not answer some questions or end the interview at any time.
- The interview will take about 30 to 40 more minutes.
- Do you have any questions? [IF YES, ANSWER BEFORE CONTINUING]
- Do you agree to participate in this interview?
- I would like to ask your permission to record this interview. The audio recordings will not be shared with anyone. The recordings will be kept safely in a locked facility until they are transcribed word for word, then they will be destroyed. The transcribed notes will not contain any names or information that will identify you. May I record the interview to facilitate my recollection? (If yes, switch on the recorder).

1. YES → Turn on recorder
2. NO → Do not turn on recorder

KII Consent on Working Conditions for Individuals under 18

READ THE FOLLOWING STATEMENTS TO THE RESPONDENT AND ANSWER ANY QUESTIONS THE INDIVIDUAL MAY HAVE. DO NOT BEGIN THE INTERVIEW UNTIL ALL QUESTIONS HAVE BEEN ADDRESSED AND THE INDIVIDUAL HAS AGREED TO PARTICIPATE IN THE STUDY.

Hello, my name is _____I am a researcher from The Independent Research Institute of Mongolia. I am talking with people about the fluorspar industry and labor conditions in the sector in Mongolia. The information will be incorporated into an analytical report that examines labor in Mongolia's fluorspar industry.

Your participation in this study is voluntary. If you choose to talk with me, you can choose to not answer some questions or end the interview at any time. Your answers to the questions will be kept private and no one will know what you said. Your name will not be used in any reports.

The interview will take about 30-45 minutes.

I will answer any questions that you have about the study before we begin. Do you have any questions about the study? If you have any questions in the future or if you later change your mind and do not want us to include the information you provided in our study, you may contact _____at _____

Do you agree to participate in this interview?

Interviewer Certification of Consent

My signature affirms that I have read the verbal informed assent statement to the respondent. I have answered any questions asked about the study, and the respondent has agreed to be interviewed.

___ Respondent agreed to be interviewed

___ Respondent did not agree to be interviewed

Print Interviewer's Name _____

Interviewer's Signature/thumbprint _____

Date _____

I would like to ask your permission to record this interview. The audio recordings will not be shared with anyone. The recordings will be kept safely in a locked facility until they are transcribed word for word, then they will be destroyed. The transcribed notes will not contain any names or information that will identify you. May I record the interview to facilitate my recollection? (If yes, switch on the recorder).

___YES

___NO

Key Informant Interview Unique ID Number: _____

Fluorspar Worker Qualitative Interview Guide

Fluorspar Worker Interviews

nterviewer:	)ate (DD/MM/YY)
.ocation of interview:	
Name (code not respondent real name):	ex:
Profession (if applicable):	
Position (if applicable):	
Employer/Affiliated Institution/Organization (if applicable):	
Contact information (office address, phone number, email):	
Time interview started:	
Time interview ended:	

Interviewer instructions:

Foster a dynamic conducive to gathering good data. The interview should have the relaxed feel of a conversation. Set the tone by using a slow pace in your speech.

Ask one question at a time. Give the respondent ample time to reflect and fully respond before moving to the next. Try not to interrupt, and don't answer on their behalf.

If the respondent agrees to be recorded, give them your full attention. Make note of any follow-up questions you want to remember to ask, but otherwise focus on the respondent rather than your paper.

Probe for more depth, particularly when responses are brief. Use phrases such as, "Tell me more about that" and "Can you give me an example?" Aim to get specific instances, in considerable detail, whenever possible.

You do not have to ask each question verbatim, but at least broach all the topics covered that are relevant to the worker. If a respondent makes clear they have no knowledge of that topic, move on to the next. Adapt the flow and questions to make them relevant to the respondent.

For each item, ask the general question first, and then probe the sub-items that have not been addressed spontaneously.

Introduction:

	Questions
1	Could you please tell me about your work in the fluorspar industry?

	a. How long have you been doing it? How did you begin this work, and what are your conditions like? b. (PROBE TO SEE IF INDIVIDUAL WORKS AT AN ARTISINAL OR LARGE SCALE MINING SITE WITHOUT ASKING FOR MINE NAME)
2	Do you have any children and if so, how old are they?
3	(IF RESPONDENT HAS CHILDREN, IF NOT SKIP) Do your children work in **fluorspar** production? Why or why not? a. If so, what tasks do they perform? i.Are they assisting you or performing other tasks? b. If so, how often do they accompany you at the worksite?

(NOTE FOR INTERVIEWER: BASED ON INTERVIEWEE RESPONSE TO "QUESTION 1": CHILD STATUS AND "QUESTION 2": CHILD WORK STATUS PLEASE USE THE APPROPRIATE SECTION OF QUESTION. FOR RESPONDENTS WITH A CHILD WHO IS WORKING IN THE INDUSTRY USE THE **"FOR RESPONDENTS WITH CHILDREN IN INDUSTRY"** SET. FOR RESPONDENTS EITHER WITHOUT A CHILD OR WITH A CHILD WHO IS NOT WORKING IN THE INDUSTRY USE THE **"FOR RESPONDENTS WITHOUT CHILDREN WORKING IN INDUSTRY"** SET)

FOR RESPONDENTS WITH CHILDREN IN INDUSTRY:

	Questions
1	How much is your child typically paid for work? a. Are they paid directly, if not how are they paid?
2	How many hours a day does your child work? a. What hours do they work? b. Is this the same each week? c. Are there certain times of the year they work more or less?
3	In addition to your own children, have you observed other children working in in the **(fluorspar industry of Mongolia)?** a. If so, what tasks do they perform / are they similar or different to your own children? b. Do you notice any differences in activities based on the gender of the child?
4	Are there certain tasks that your children do that adult workers do not? a. Please explain b. What activities are more suited to younger children? What about adolescents?
5	**At what age did your children start working** in **fluorspar** production?
6	Who decided that your child would work? a. What led to this decision? b. Has your child ever refused to work? If so, how did you respond?

	c. What would happen if your child wanted to stop working?
7	What changes would need to happen in your household or community for your child to not work in **fluorspar** production activities?
8	Have your children experienced any challenges accessing schooling in your community? If yes, please explain. Does your child attend school currently? a. Do any challenges relate to your children's participation in **(fluorspar sector)** activities? b. If your child works and attends school, do you think this affects their schools? i. If yes how does work affect their schooling?
9	Do you consider any of the work your child does/ has done on **fluorspar mines** to be dangerous? a. Why or why not? b. Have you seen your child(ren) being injured? i.If so, please explain c. Have you seen any children being mistreated? i.If so, by whom? Please explain ii.If so, did you feel that you could speak up about what you witnessed? 1. If so, please explain why? 2. If not, what are/were your main concerns of what would happen if you did?
10	Are your children performing activities on the worksite treated the same as adults such as yourself? If not, what is the difference? a. Who treats them differently?
11	In your perspective how does your child feel about their participation in the industry? Please explain
12	In your opinion, at what age should people start working in **fluorspar** production? a. [IF PEOPLE BEGIN WORKING EARLIER THAN THE RESPONDENT THINKS THEY SHOULD] Why do you think people begin working sooner? Any other reason?
13	How do people in your community feel about children working in **fluorspar** production?

FOR RESPONDENTS WITHOUT CHILDREN WORKING IN INDUSTRY:

	Questions
1	Are you aware of children working in the **fluorspar industry?** a. If so, what tasks do they perform? b. If so, where in Mongolia have you heard it is most common (PROBE LOCATION AND ARTISINAL OR LARGE CORPORATE MINING SITES.) c. IF NO, SKIP TO QUESTION 4

2	In your work within the good industry have you witnessed/observed any children at the worksite? a. If so, what tasks have you seen them perform? b. Are you aware of if they are accompanied by an adult/parent or are they alone?
3	Are there certain tasks that only children do (instead of adults)? Please explain
4	At what age do people typically start working in **fluorspar** production?
5	In your opinion, at what age should people start working in **fluorspar** production? a. [IF PEOPLE BEGIN WORKING EARLIER THAN THE RESPONDENT THINKS THEY SHOULD] Why do you think people begin working sooner? Any other reason?
6	How do people in your community feel about children working in **fluorspar** production?
7	What types of **fluorspar** industry activities do people under 18 typically do? a. What activities are more suited to younger children, which to adolescents? b. Girls versus boys? c. Local or migrant?
8	What groups of children are more likely to work in the fluorspar industry? a. (PROBE: AGE(S), BOYS OR GIRLS, NOMADIC OR NON-NOMADIC CHILDREN, CHILDREN WHOSE PARENTS ARE MINERS, ETC?) b. (PROBE FOR DIFFERENCES BETWEEN ARTISINAL AND SMALL SCALE MINING VERSUS LARGE SCALE MINING)
9	Who decides that a child will work? a. What happens if that child refuses? b. Can a child choose to stop working? Have you ever seen this happen? c. Do you feel that children are forced to work – please explain?
10	What changes would need to happen to prevent people under 18 from working in **fluorspar** production activities?
11	How much are children typically paid for their work? a. How are they paid? How does this differ from adult workers? b. (PROBE FOR DIFFERENCES BETWEEN ARTISINAL AND SMALL SCALE MINING VERSUS LARGE SCALE MINING) c.
12	How many hours in a day do children typically work? a. Does this change in relation to the time of year / season?
13	Are there any challenges to accessing schooling in your community? If yes, please explain.

	a. Does this relate to children's participation in **fluorspar mining/production** activities? b. Do children who do **fluorspar** production activities tend to also attend school? If yes how does work affect their schooling?
14	Do you consider the work children do at **fluorspar mines** to be dangerous? a. Why or why not? b. Have you seen any children being injured? i. If so, did you feel that you could speak up about what you witnessed? 1. If so, please explain why? 2. If not, what are/were your main concerns of what would happen if you did? c. Have you seen any children being mistreated? i. If so, did you feel that you could speak up about what you witnessed? 1. If so, please explain why? 2. If not, what are/were your main concerns of what would happen if you did?
15	Are children performing activities on the worksite treated the same as adults? If not, what is the difference?
16	In your perspective how do children feel about their participation in the industry? Please explain

{INTERVIEWER: THANK THE RESPONDENT FOR THEIR PARTICIPATION AND INSIGHTS SO FAR. INFORM THEM THAT YOU ARE DONE ASKING ABOUT WORKING CONDITIONS AND HAVE TWO FINAL QUESTIONS FOR THEM. INFORM THEM THAT ONE QUESTION WILL BE ABOUT **FLUORSPAR** PRODUCED AT THEIR WORKSITE AND THAT WHILE THEY MIGHT NOT HAVE A COMPETE ANSWER ANY INSIGHTS THEY HAVE FOR US WILL BE VALUABLE.}

SUPPLY CHAIN:

	Questions
1	After the **fluorspar** leaves the mine do you know where it goes? Who buys and sells the **fluorspar**?
2	Could you please describe your worksite? 1. Probe for specifics: a. ASM OR LSM SITE? b. APPROXIMATE NUMBER OF WORKERS? c. ONLY FLUORSPAR MINING OR OTHER MINERALS? d. MINING ONLY OR MINING AND PROCESSING? e. NAME OF EMPLOYER?

CONCLUSION:

	Questions
1	Is there anything else you'd like to add?

Fluorspar KII Qualitative Interview Guide

Interviewer:	Date (DD/MM/YY)
Location of interview:	
Name (Code not respondent real name):	Sex:
Profession (if applicable):	
Position (if applicable):	
Employer/Affiliated Institution/Organization (if applicable):	
Contact information (office address, phone number, email):	
Time interview started:	
Time interview ended:	

Interviewer instructions:

Foster a dynamic conducive to gathering good data. The interview should have the relaxed feel of a conversation. Set the tone by using a slow pace in your speech.

Ask one question at a time. Give the respondent ample time to reflect and fully respond before moving to the next. Try not to interrupt, and don't answer on their behalf.

If the respondent agrees to be recorded, give them your full attention. Make note of any follow-up questions you want to remember to ask, but otherwise focus on the respondent rather than your paper.

Probe for more depth, particularly when responses are brief. Use phrases such as, "Tell me more about that" and "Can you give me an example?" Aim to get specific instances, in considerable detail, whenever possible.

You do not have to ask each question verbatim, but at least broach all the topics covered that are relevant to the key informant. If a respondent makes clear they have no knowledge of that topic, move on to the next. Adapt the flow and questions to make them relevant to the respondent.

For each item, ask the general question first, and then probe the sub-items that have not been addressed spontaneously.

KII Interviews

Introduction Question (KII's):

	Questions
1	Could you please tell me your role and what you focus on?

2	Can you describe your organization's work directly in the mining industry, and anything specifically related to the fluorspar industry? a. (PROBE) What kind of activities in this area do you and your organization undertake? b. (IF THE ORGANIZATION IS NOT DIRECTLY INVOLVED ASK) If your work is not directly related, how are you familiar with issues regarding the fluorspar industry, or mining in Mongolia?

(TO INTERVIEWER: FOR KIIS THAT ARE NOT SUPPLY CHAIN EXPERTS (MEDICAL PROFESSIONALS, EDUCATIONAL PROFESSIONALS, LABOR RIGHTS NGO'S AND CSO'S, ETC.) ASK QUESTIONS 1 AND 2 FROM THE SUPPLY CHAIN THEME GENERAL SECTION TO ASSESS SUPPLY CHAIN KNOWLEDGE. IF THE INDIVIDUAL HAS LIMITED INSIGHTS MOVE TO THE SECTION ENTITLED "CHILD LABOR QUESTIONS GENERAL".
IF YOU HAVE TIME REMAINING AT THE END OF THE INTERVIEW YOU MAY RETURN TO THE SUPPLY CHAIN SECTION
FOR ORGANIZATIONS WORKING DIRECTLY IN THE SUPPLY CHAIN (TRADERS, PROCESSORS, FARMERS, UNIONS AND COLLECTIVES, ETC. PRIORITIZE THE SUPPLY CHAIN SECTION QUESTIONS AND NOT THE CHILD LABOR QUESTIONS)

SUPPLY CHAIN THEME GENERAL:

	Questions
1	How does the fluorspar industry work in Mongolia? a. Can you describe the mining and any further processing? a. Who are the major stakeholders and influencers in the fluorspar industry (e.g.: local and international NGO's, trade associations, informal business networks, owners, buyers, traders, and foreign investors)? b. What laws and regulations are applicable to this industry? i. (PROBE FOR SPECIFIC LABOR LAWS)
2	In your opinion, how important is artisanal mining to the fluorspar industry of Mongolia? a. Please explain. (PROBE FOR RELATIVE IMPORTANCE OF ASM TO LSM NATIONALLY AND TO LOCAL COMMUNITITES) b. Who is primarily employed in artisanal mining (PROBE DEMOGRAPHICS)? Approximately how many individuals does artisanal fluorspar mining employ? c. Why do these individuals mine fluorspar and not another mineral?
3	Please describe the production process of **fluorspar** from the beginning to the end? a. What are the major infrastructure routes and transportation methods between each stage of production? b. Who is responsible for transportation between each stage of production? c. How is mined fluorspar tracked and traced between mining and each stage of production?
4	After **extraction**, what domestic processing occurs within **Mongolia**? a. What other goods, by products, or downstream goods are produced in-country? Are these products used in Mongolia or exported?

	b. What type of products does fluorspar from Mongolia end up in?
5	Are there any sources that provide detailed information about fluorspar mines in Mongolia? If so, how would someone access it? What about processing facilities?
6	How have current or former trade policies impacted the **fluorspar** sector? a. (Probe for both Mongolian policies and Chinese policies)
7	Have there been any socio-political events that have impacted the **fluorspar** supply chain (fluorspar extraction, processing, and sales)? (E.G. ELECTIONS, COVID-19 POLICIES, ETC) What about climate change? – Please explain its effect on the industry.
8	What can you tell us about the labor standards in the fluorspar industry? a. What are the primary concerns across the industry when it comes to labor standards? a. What can you tell us about labor inspections in the fluorspar industry?(PROBE FOR HOW OFTEN, BY WHO, ETC)
9	Are you aware of any ongoing supply chain initiatives in the sector? i. (PROBE FOR SPECIFICS ON WHAT THE INITIATIVES ARE AND WHO IS PROMOTING THEM (E.G. GOVERNMENT, INTERNATIONAL CORPORATIONS, DOMESTIC COMPANIES))
10	Is it possible to trace fluorspar from a specific mine from extraction, through the domestic supply chain, all the way to export? – Why or why not? a. Is there a point in the supply chain where you anticipate tracking would no longer be possible? (PROBE FOR SPECIFICS ON what stakeholder the traceability ends with, ex: intermediary buyer, exporter., When does the mixing of (target good) from different sites occur, how does mixing occur?) b. Who are the major buyers of fluorspar produced in artisanal mines before export? i.If different, can you describe the domestic transportation route(s) of fluorspar originating from artisinal and small scale mines? At what stage(s) does fluorspar produced in artisanal mines enter the larger national supply chain?

SUPPLY CHAIN OUTSIDE OF MONGOLIA:

	Questions
1	How would you describe the role of Mongolian fluorspar exports in the global trade of fluorspar? a. What are some international markets for **fluorspar**? i.Are there any recent changes (emerging/declining) in these markets?

	ii.(PROBE FOR COUNTRIES AND/OR COMPANIES)
2	Are you aware of what industries in Russia / China that **import fluorspar** from **Mongolia)**? a. (PROBE FOR SPECIFICS) b. Who are the major companies involved? (PROBE FOR MONGOLIAN COMPANIES, MAJOR IMPORTERS, ETC)
3	Does Russia/China produce **fluorspar** domestically? a. How have changes in domestic production impacted/changed imports of **fluorspar?**
4	At what stage do fluorspar imports become mixed with domestically produced **fluorspar**?
5	Does the downstream use of fluorspar imported from **Mongolia** differ from the downstream use of domestically produced **fluorspar?**

LABOR CONDITIONS QUESTIONS (GENERAL):

	Questions
1	What is your overall impression of working conditions in the fluorspar industry? a. What are the main issues you are aware of? (Probe for child labor if not stated) b. Are you aware of any industries or occupations in which children are working on an involuntary basis or are otherwise unable to leave their jobs? c. How do these working conditions vary between industrial and artisanal mining?
2	What are the main risk factors for labor exploitation in the **fluorspar** industry? a. What are the main issues you are aware of? b. Are you aware of any issues involving the recruitment of workers? c. Are there any political/economic/social/ cultural situations that drive labor exploitation in the mining industry? Are any specific to fluorspar production?
3	Are children involved in extraction, processing and sales of fluorspar? a. If so, to what extent are children involved in? (PROBE ON ASM AND LSM) a. Who are the main stakeholders in the fluorspar industry of Mongolia involved in the sale and processing of fluorspar extracted using child labor?

(FOR INDUSTRY EXPERT INTERVIEWS SKIP TO THE CONCLUSION SECTION UNLESS REPSPONDANT WAS VERY FORTHCOMING DURING LABOR CONDITIONS (GENERAL) SECTION)

CHILD LABOR QUESTIONS GENERAL:

	Questions

1	(IF NOT ANSWERED PREVIOUSLY) Are you aware of the presence of child labor in the **fluorspar** industry? a. (PROBE FOR PRESENCE IN DIFFERENT TYPES OF MINING (ARTISANAL VS LARGE SCALE) AND PROCESSING) b. IF NO: GO TO QUESTION 3
2	(IF NOT ANSWERED PREVIOUSLY) If you are, in your opinion, how prevalent is the use of child labor in fluorspar production? a. Are certain sites or regions more likely to use child labor – probe for specifics i. In your opinion, is there a difference between artisanal and small-scale versus large-scale and corporate employers? c. **Who are the children most likely to perform work activities in fluorspar production** i. (PROBE ON DEMOGRAPHICS: AGE, MIGRATORY STATUS, ETHNICITY/NATIONALITY (MONGOLIAN ETHNICITIES, KAZAKAH), EDUCATION LEVEL, GENDER, FAMILY INCOME LEVEL/ EMPLOYMENT STATUS, ETC.) d. Have public health crises, such as the COVID-19 pandemic, affected whether children become involved in fluorspar production? Please explain.
3	In your opinion, what are the main drivers/risk factors of child labor in the **fluorspar** industry? a. (PROBE FOR INDUSTRY SPECIFIC ANSWERS) What might incentivize a company to utilize child labor? i. What about in artisanal mining? b. Are there certain tasks that are seen as more suitable for children to perform? i. why (size, etc.)? IF RESPONDANT ANSWERED NO TO QUESTION 1 AND DID NOT PROVIDE ANY RISK FACTORS FOR CHILD LABOR YOU MAY SKIP TO THE COMMUNITY ATTITUDES & EFFORTS SECTION)
4	At what stages of production / of the supply chain of **fluorspar** is child labor present? a. Are certain stages more likely to use child labor than others – please explain b. What types of activities do children engage in at each stage? i. Do activities differ based on a child's age? ii. Do activities differ based on a child's gender?
5	At what point in the supply chain is **fluorspar** produced with child labor mixed with **fluorspar** that is produced without child labor? a. (IF NOT ALREADY ANSWERED) At what point in the supply chain does fluorspar produced with child labor on artisanal and small-scale sites become integrated into the wider supply chain?

	b. (IF NOT ALREADY ANSWERED) Are these artisanal sites a part of the supply chain of corporate employers/producers? i. If yes, are you aware of which large scale producers purchase from artisanal sites? ii. Are production agreements used between large scale and artisanal producers? 1. If so please tell us what you know about those agreements (formal vs informal, contracts or verbal, etc)
6	Are mining license holders aware of child workers at their mining sites? a. Why or why not? b. Who is responsible for monitoring for child labor at mining sites? – In your opinion, how effective are monitoring efforts?
7	In your opinion, are large producers aware of the potential risks for / use of child labor within their supply chains? a. (PROBE) Why or why not? b. (PROBE) What is being done by large scale producers in (target good industry) to increase awareness / monitoring

Recruitment:

	Questions
1	Could you tell me how children become involved in labor activities in the **fluorspar** industry? a. Are the jobs arranged? If so, by whom? b. Is a recruiter involved? - if so, request details and probe about fees
2	Have you heard of children being sold or taken by force to work in the **fluorspar** industry? a. If so, explain
3	Are many child workers and their families in debt? a. If so, to whom and under what terms? b. Can you tell me about the typical source of that debt? (pre-industry/employment or after or as a result of) c. How does debt influence decisions about work for children?

Hours, Schooling, & Wages:

	Questions
1	When are child workers typically engaged in labor activities? a. Number of hours a day/week? Overtime? b. Number of days a week? c. Seasonal or year-round? d. During or after school hours?
2	In your opinion/expertise what percentage of children engaged in child labor are able to attend school?

	a. If able, how often? b. If unable, why? c. In your opinion / expertise at what age do children stop attending school to work?
3	Are children paid for their work? a. If so, in what form? (Hourly or piece-rate, cash, or another means) b. Are you aware of how situations of wage deductions for child laborers i.Please explain c. If not, who benefits financially from the labor activities of children?

Working conditions:

	Questions
1	Are children working in the **fluorspar** industry exposed to any kind of danger or hazards? a. If so what kinds of danger / risks? (Exposure to chemicals, sharp hand tools, etc.) b. Are children provided with protective gear? What kind? c. Are you aware of any reports of children being injured while working? - please explain (PROBE FOR SPECIFICS ON CHILDREN WHO BECOME DISABLED WHILE WORKING IN THE FLUORSPAR INDUSTRY) d. (IF RESPONPANT INDICATED THAT CHILD LABOR IS PRESENT AT LARGE SCALE AND SMALL SCALE MINES) Are there any hazards that are specific to artisanal or large scale mining operations? Please explain.
2	How are children treated by their employers? a. Have you heard of children feeling threatened at work? – please explain b. Have you heard of children working in the **fluorspar** industry/sector being mistreated in any way? - please explain c. (IF RESPONPANT INDICATED THAT CHILD LABOR IS PRESENT AT LARGE SCALE AND SMALL SCALE MINES) Are you aware of any differences in treatment specific to if the child is working on at an artisanal or large scale mine? Please explain.

Community Attitudes & Efforts:

	Questions
1	What is the local attitude towards the use of child labor in the **fluorspar** industry?
2	Are you aware of any efforts by government or non-government entities to prevent or remove children from child labor in the **fluorspar** industry? a. If so, please explain (who and what) b. Are you aware of any rehabilitation or reintegration efforts for former child laborers?

3	What about worker associations or employers / site owners? What can they do to prevent or remove children from child labor in the **fluorspar** industry?
4	What industry initiatives are you aware of to address/prevent the use of child labor in the (target good) industry? a. (PROBE FOR SPECIFICS ON MONITOING POLICY)
5	What are the relevant laws use to safeguard against the use of child labor in the (target good) industry a. (PROBE FOR NATIONAL POLICY AS WELL AS INDUSTRY SPECIFIC POLICY) b. How are these laws enforced? (PROBE FOR INSPECTIONS IF NOT MENTIONED) c. In your opinion, how effect are these laws at preventing/addressing child labor? i.In your opinion, how aware are employers of such legislation?
6	Are you aware of any additional efforts, not already mentioned, by government entities to improve labor conditions in the **fluorspar** industry? a. If so, please explain b. In your opinion, are there key gaps in policy and practice from the government and/or industry in terms of workers' rights and working conditions?

Exiting Child Labor:

	Questions
1	What is the typical life trajectory for children involved in the **fluorspar** sector? (Life-long or how long typically) a. Can children leave their job if they chose to? b. If not, who or what prevents them from leaving?

CONCLUSION:

	Questions
1	What changes would need to happen to prevent people under age 18 from working in **fluorspar** production activities?
2	Could you suggest any organizations or individuals that are well informed about the **fluorspar** industry/sector supply chain or child labor in the industry that we could interview?
3	Is there anything else you'd like to add?

Worker Quantitative Survey

Response Criteria	English	Mongolian
	FIELDCONTROL	
	REGION ID:	REGION ID:
	DORNOGOVI-DALANJARGALAN	DORNOGOVI-DALANJARGALAN
	DORNOGOVI-AIRAG	DORNOGOVI-AIRAG
	KHENTII-BOR-ONDOR	KHENTII-BOR-ONDOR
	DUNDGOBI-ULZIIT	DUNDGOBI-ULZIIT
	DUNDGOBI-BAYANJARGALAN	DUNDGOBI-BAYANJARGALAN
	KHENTII-DARKHAN	KHENTII-DARKHAN
	DORNOGOVI-IKHHET	DORNOGOVI-IKHHET
	KHENTII-GALSHAR	KHENTII-GALSHAR
	KHENTII-BATNOROV	KHENTII-BATNOROV
	KHENTII -BAYAN ADARGA	KHENTII -BAYAN ADARGA
	KHENTII - NOROVLIN	KHENTII - NOROVLIN

GOBISUMBER - CHOIR

RESEARCHER ID:

RESPONDENT NUMBER:

UNIQUE ID: ${regionID}${researcherID}${respondentNum}

CONSENT

Hello my name is _____.

Before beginning the survey, I would like to read you some information so that you understand what's involved with the study. This study is conducted by The Independent Research Institute of Mongolia and ICF, a private research and consulting company. This survey is part of a study which seeks to better understand the labor experiences among people who work in the fluorspar in Mongolia. The survey will take around 30-45 minutes. If you do not have the time to complete it now, we can return at a time that works better for you.

Everything you say is confidential. The confidentiality of all information you provide will be strictly maintained in accordance with the "Law on Statistics" and the "Law on Protection of Personal Information" of Mongolia. None of your coworkers or employers will know what you tell me. Your

GOBISUMBER - CHOIR

СУДЛААЧИЙН НЭР

СУДАЛГААНД ОРОЛЦОГЧ #:

UNIQUE ID: ${regionID}${researcherID}${respondentNum}

Сайн байна уу, миний нэрийг _____гэдэг.

Судалгааг эхлүүлэхийн өмнө би танд энэхүү судалгааны талаар урьдчилсан мэдээлэл өгч, танаас зөвшөөрөл авахыг хүсэж байна. Энэхүү судалгааг Монголын бие даасан судалгааны хүрээлэн болон ICF хувийн судалгаа, зөвлөх компани хамтран хийж байна. Уг судалгаа нь Монголын жоншны салбарт ажил, хөдөлмөр эрхэлж буй хүмүүсийн хөдөлмөрийн нөхцөл байдал, туршлагыг илүү сайн ойлгох зорилготой хийгдэж буй судалгааны нэг хэсэг юм. Судалгаа нь 30-45 минут орчим үргэлжилнэ. Хэрэв та одоо судалгаанд хамрагдах боломжгүй бол бид тантай цаг тохироод боломжтой цагт тань хийж болно.

Таны бидэнд өгсөн бүх мэдээлэл нууцын

name will not be used in any report. Data from this study may be shared with other researchers or made available in public databases for the purposes of advancing research on these topics. Prior to doing so, all personally identifying information is removed.

Participation in this study is voluntary, and if you do not participate there will be no consequences. The risk of doing this survey is that some of our questions are personal and might make you feel uncomfortable. You may skip any question, take a break, and end the interview at any time. We know that your time is valuable you will receive phone credits worth 25,000 MNT for your time and participation. Your answers will help inform future programming to help other workers.

I will answer any questions that you have about the study before we begin. Do you have any questions about the study? If you have any questions in the future, or if you later change your mind and do not want us to include the information you provided in our study, you may contact _____

зэрэглэлтэй байна. Таны өгсөн бүх мэдээллийн нууцлалыг Монгол Улсын “Статистикийн тухай хууль” болон “Хүний хувийн мэдээлэл хамгаалах тухай хууль”-ийн дагуу чандлан хадгалах болно. Таны хамтран ажиллагсад, ажил олгогчдын хэн нь ч таныг надтай юу ярьсныг мэдэхгүй. Таны нэр ямар ч тайланд дурдагдахгүй. Энэхүү судалгааны мэдээллийг бусад судлаачтай хуваалцах эсвэл энэ сэдвийн хүрээнд хийгдэж буй судалгаануудыг сайжруулах зорилгоор олон нийтийн мэдээллийн санд байршуулж болно. Ингэхдээ хувь хүний мэдээллийг агуулсан бүх мэдээллийг устгаж, мэдээллийг байршуулах болно.

Судалгаанд та сайн дурын үндсэн дээр хамрагдах бөгөөд хэрэв та оролцохгүй гэж шийдвэл ямар ч сөрөг үр дагавар гарахгүй. Бидний бэлдсэн зарим асуулт хувийн шинж чанартай бөгөөд танд таагүй мэдрэмж төрүүлж болзошгүйг урьдчилан анхааруулахыг хүсэж байна. Хэрэв шаардлагатай бол та хариулахыг хүсээгүй асуултыг алгасаж, завсарлага авч, ярилцлагаа дуусгаж болно. Та үнэ цэнтэй цагаа бидэнтэй хуваалцаж байгааг бид ойлгож байгаа бөгөөд та өөрийн цаг зав, оролцооныхоо төлөө 25,000 төгрөгийн үнэ бүхий утасны нэгжийг урамшуулалд авах болно.

Таны өгсөн хариултууд ирээдүйн хөтөлбөрийн

	талаар бусад ажилчдад мэдээлэл өгөхөд туслах юм. Ярилцлагаа эхлэхээс өмнө би таны асуултад хариулах болно. Танд судалгааны талаар асуух зүйл байгаа юу? Хэрвээ танд цаашид асуух зүйл гарвал Хараат бус судалгааны хүрээлэнгийн судлаач, зохицуулагч _____ Та энэ судалгаанд хамрагдахыг зөвшөөрч байна уу? [ХЭРЭВ ТИЙМ БОЛ ҮРГЭЛЖЛҮҮЛЭХЭЭСЭЭ ӨМНӨ ОРОЛЦОГЧИЙН АСУУЛТАД ХАРИУЛНА]
YES, RESPONDENT CONSENTS TO INTERVIEW	ТИЙМ, ОРОЛЦОГЧ ЯРИЛЦЛАГА ӨГӨХИЙГ ЗӨВШӨӨРСӨН.
NO, RESPONDENT DECLINES INTERVIEW	ҮГҮЙ, ОРОЛЦОГЧ ЯРИЛЦЛАГАД ОРОЛЦОХЫГ ЗӨВШӨӨРӨӨГҮЙ.
SECTION 1: GENERAL INFORMATION	ХЭСЭГ 1: ЕРӨНХИЙ МЭДЭЭЛЭЛ
INTERVIEWER: DO NOT READ RESPONSE OPTIONS ALOUD UNLESS INDICATED. LISTEN TO THE RESPONSE AND SELECT THE MOST APPROPRIATE RESPONSE OPTION(S). DO NOT READ UPPERCASE TEXT ALOUD.	СУДЛААЧ: ХАРИУЛТЫН СОНГОЛТЫГ УНШИХ ЗААВАР ӨГӨӨГҮЙ ТОХИОЛДОЛД ХАРИУЛТЫН СОНГОЛТУУДЫГ ЧАНГА УНШИЖ ӨГӨХГҮЙ. ОРОЛЦОГЧИЙН ХАРИУЛТЫГ СОНСОЖ БАЙГААД ХАМГИЙН ТОХИРОМЖТОЙ ХАРИУЛТЫГ СОНГОНО УУ. ТОМООР БИЧСЭН ТЕКСТҮҮДИЙГ ЧАНГА УНШИЖ БОЛОХГҮЙ.
S1Q01.	S1Q01.

	We want to know a little bit about you first. How old are you?	Бид эхлээд таны тухай бага зэрэг мэдэхийг хүсэж байна. Та хэдэн настай вэ?
ASK IF AGE IS 18+ or -76 (DON'T KNOW BUT CONFIRMS 18+)	SECTION 1A: GENERAL INFORMATION	S1A
	S1Q02. INTERVIEWER: MARK RESPONDENT'S GENDER. ASK IF UNSURE. 1. MALE 2. FEMALE 3. PREFER NOT TO SAY	S1Q02. СУДЛААЧ: СУДАЛГААНД ОРОЛЦОГЧИЙН ХҮЙСИЙГ ТЭМДЭГЛЭХ. ЭРГЭЛЗЭЖ БАЙВАЛ АСУУХ. 1. ЭРЭГТЭЙ 2. ЭМЭГТЭЙ 3. ХЭЛЭХЭЭС ТАТГАЛЗСАН
ASK IF S1Q02 = 1,2,3	S1Q02B. What is your nationality? 1. MONGOLIAN 2. CHINESE 3. KAZAKHSTANI 4. OTHER	S1Q02B. Та ямар үндэстэн бэ? 1. МОНГОЛ 2. ХЯТАД 3. КАЗАХСТАН 4. БУСАД

	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S1Q02B = 3 (OTHER)	S1Q02B_OTHER.	S1Q02B_БУСАД.
	Please specify	Тодруулна уу
	S1Q03.	S1Q03.
	Have you ever attended school?	Та сургуульд сурч байсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S1Q03 = 1 (EVER ATTENDED SCHOOL)	S1Q03A.	S1Q03A.
	What is the highest class you have completed?	Та хамгийн дээд тал нь хэддүгээр анги төгссөн бэ?
	1. PRESCHOOL/NURSERY SCHOOL	1.СУРГУУЛИЙН ӨМНӨХ БОЛОВСРОЛ/ЦЭЦЭРЛЭГ
	2. SOME PRIMARY	2. БАГА СУРГУУЛИА ТӨГСӨӨГҮЙ
	3. COMPLETED PRIMARY	3. БАГА СУРГУУЛЬ ТӨГССӨН
	4. SOME SECONDARY	4. ДУНД СУРГУУЛИА ТӨГСӨӨГҮЙ

5. COMPLETED SECONDARY OR HIGHER

77. DON'T KNOW

99. REFUSED

S1Q04.

Do you have any children age 5 to 17?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S1Q05.

Now we'd like to learn more about your work.

Have you worked in the fluorspar industry in Mongolia in the past week?

1. YES

2. NO

77. DON'T KNOW

5. ДУНД ЭСВЭЛ АХЛАХ СУРГУУЛЬ ТӨГССӨН

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S1Q04.

Та 5-17 насны хүүхэдтэй юу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S1Q05.

Одоо бид таны ажлын талаар мэдэхийг хүсэж байна.

Та өнгөрсөн долоо хоногт Монгол Улсын жоншны салбарт ажилласан уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S1Q05 = 1 (YES TARGET)	SECTION 1B: GENERAL INFORMATION	SECTION 1B: GENERAL INFORMATION
	READ: For the following questions, please think about your most recent job working in the flourspar industry. If you had more than one job, think about your main job.	УНШИХ: Дараагийн асуултуудад хариулахдаа хайлуур жоншны салбарт та хамгийн сүүлд ажиллаж байсан ажлынхаа талаар бодож хариулна уу. Хэрэв та нэгээс олон ажил хийдэг байсан бол үндсэн ажлаа бодож хариулна уу.
	S1Q06_YEAR.	S1Q06_ОН.
	Approximately when did you start this work?	Та одоо эрхэлж буй ажлаа ойролцоогоор хэзээнээс эхэлж хийж байгаа вэ?
ASK IF S1Q06_YEAR != -77 OR -99	S1Q06.	S1Q06.
	1. JANUARY	1. 1 ДҮГЭЭР САР
	2. FEBRUARY	2. 2 ДУГААР САР
	3. MARCH	3. 3 ДУГААР САР
	4. APRIL	4. 4 ДҮГЭЭР САР
	5. MAY	5. 5 ДУГААР САР
	6. JUNE	6. 6 ДУГААР САР

7. JULY	7. 7 ДУГААР САР
8. AUGUST	8. 8 ДУГААР САР
9. SEPTEMBER	9. 9 ДҮГЭЭР САР
10. OCTOBER	10. 10 ДУГААР САР
11. NOVEMBER	11. 11 ДҮГЭЭР САР
12. DECEMBER	12. 12 ДУГААР САР
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S1Q07.	S1Q07.
Do you work for an employer or for yourself?	Та дээрээ ажил олгогчтой юу эсвэл хувираа хөдөлмөр эрхлэгч үү?
1. RESPONDENT WORKS FOR AN EMPLOYER/BOSS	1.АЖИЛТАН / АЖИЛ ОЛГОГЧТОЙ/
2. RESPONDENT IS SELF-EMPLOYED (NO BOSS)	2. ХУВИАРАА ХӨДӨЛМӨР ЭРХЛЭГЧ /АЖИЛ ОЛГОГЧ БАЙХГҮЙ/
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S1Q07AA. Are you part of a CBO?	S1Q07AA.Та жоншны үүрхайн нөхөрлөлийн гишүүнчлэлтэй юу?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S1Q07A.

Do you work in Large Scale Mining (for a large mining company) or in artisanal and small-scale mining (ASM)?

READ DEFINITION: A large scale mine is a mine owned by a large private company or the government of Mongolia with many workers.

READ DEFINITION: Artisanal and small scale mining are small mines, including informal mines with small numbers of workers, usually less than 20, including just one individual

1. LARGE SCALE MINING

2. ARTISANAL AND SMALL-SCALE MINING

77. DON'T KNOW

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S1Q07A.

Та ТОМ уурхай буюу уул уурхайн компанид ажилладаг уу эсвэл бичил уурхайд ажилладаг уу

УНШИХ: Том уурхай гэдэг нь олон тооны ажилчидтай хувийн хэвшлийн болон төрийн эзэмшлийн уул уурхайн компани

УНШИХ: Гар аргаар болон бичил аргаар ашигт малтмал олборлох буюу бичил уурхай гэдэг нь цөөн тооны /1-20 орчим/ хүмүүс ажилладаг жижиг уурхай бөгөөд үүнд мөн албан бус уурхайнууд хамаарна.

1. ТОМ УУРХАЙ БУЮУ УУЛ УУРХАЙН КОМПАНИД

2. ГАР АРГЫН БУЮУ БИЧИЛ УУРХАЙД

77. МЭДЭХГҮЙ

	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
	S1Q07B.	S1Q07B.
	Which of the following best matches the description of your mining or collection site	Дараах хариултуудын аль нь таны ажиллаж буй ажлын талбартай тохирч байна вэ?
	1. Underground mine	1.далд уурхай
	2. Open pit mine	2.ил уурхай
	3. Informal site next to a pit mine or underground mine	3.дал, ил уурхайн дэргэдэх албан бус уурхай
	4. Something else	4.бусад
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S1Q07B = 4 (OTHER)	S1Q07B_OTHER.	S1Q07B_БУСАД.
	Please specify	Тодруулна уу
	S1Q08.	S1Q08.
	Which of the following best describes your work in the fluorspar industry?	Дараах хариултуудын аль нь жонш олборлох, боловсруулахтай холбоотой таны хийдэг ажлыг хамгийн сайн тодорхойлж байна вэ?
	1. Extractor or picker (your primary job is to remove ore from the rock or ground)	1 олборлогч эсвэл ангилагч (таны үндсэн ажил бол чулуулаг болон хөрснөөс хүдрийг салгах)

	2. Loader (your primary job is to load mined fluorspar into cars and remove fluorspar from the mine)	2 ачигч (таны үндсэн ажил бол олборлосон жоншийг машинд ачиж, уурхайгаас хайлуур жоншийг зөөх)
	3. Digger (your primary job is digging holes)	3 ухагч (таны үндсэн ажил бол нүх ухах)
	4. Operating heavy mining machinery at the mining site	4 уурхайн талбайд үул уурхайн тоног төхөөрөмж ажиллуулах
	5. Processing fluorspar at a processing facility	5. боловсруулах үйлдвэрт жонш боловсруулах
	6. Mineral collecting (collecting loose minerals)	6.цуглуулах ажил /сул ашигт малтмал цуглуулах/
	7. Something else	7. бусад
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S1Q08 = 7 (OTHER)	S1Q08_OTHER.	S1Q08_БУСАД.
	Please specify	Тодруулна уу
	S1Q09.	S1Q09.
	Including yourself, about how many people worked at your worksite over the past week?	Та өөрийгөө оролцуулаад өнгөрсөн долоо хоногт танай ажлын талбарт хэдэн хүн ажилласан бэ?
	S1Q10.	S1Q10.

Does your employer process fluorspar into any other goods such as Flux or Hydrofluoric Acid or something else?	Таны ажилладаг компани буюу уурхай хайлуур жоншийг боловсруулж Флакс эсвэл Фторт Устөрөгчийн хүчил эсвэл өөр ямар нэгэн зүйл үйлдвэрлэдэг үү ?
1. YES	1. ТИЙМ
2. NO	2. ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S1Q10A.	S1Q10A.
What goods does your employer make from Fluorspar?	Таны ажилладаг компани буюу уурхай хайлуур жоншноос ямар бүтээгдэхүүн үйлдвэрлэдэг вэ?
@Nagavajara, Suteera It took me a while to get someone to track this down last time, and I can't remember who actually found it. Should we ask Vernell?	1 ФЛАКС
2. HYDROFLUORIC ACID	2 ФТОРТ УС ТӨРӨГЧИЙН ХҮЧИЛ
3. OTHER	3. БУСАД
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

ASK IF S1Q10A = 3 (OTHER)	S1Q10A_OTHER.	S1Q10A_БУСАД.
	Please specify	Тодруулна уу
	S1Q11.	S1Q11.
	In which of these activities do you engage in your current job?	Та одоогийн ажилдаа эдгээр үйл ажиллагааны алинд нь оролцож байна вэ?
	1. extracting/excavating fluorspar ore	1. Жоншны хүдэр олборлох/малтах
	2. digging	2. Ухах
	3. filling	3. Бүлах
	4. excavating and extracting rock, dirt, and debris from the mine	4. Уурхайн чулуулаг, шороо, хөрс ухах, олборлох
	5. loading and unloading activities	5. Ачих, буулгах үйл ажиллагаа
	6. operating heavy machinery	6. Хүнд машин механизм ажиллуулах
	7. concentrating / processing activities	7. Баяжуулах / Боловсруулах үйл ажиллагаа
	8. non-mining work (cooking, selling goods, cleaning, guarding)	8. үул уурхайн бус ажил (хоол хийх, бараа, бүтээгдэхүүн зарах, цэвэрлэгээ хийх, ХАМГААЛАГЧ)
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ТАТГАЛЗСАН

	S1Q11_OTHER_WORK.	S1Q11_БУСАД_АЖИЛ.
	Do you do any other other work related to fluorspar mining/processing?	Та жонш олборлох, боловсруулахтай холбоотой өөр ажил хийдэг үү?
	YES	1. ТИЙМ
	NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ТАТГАЛЗСАН
IF S1Q11_OTHER_WORK = 1 (YES)	S1Q11_OTHER_WORK_FOLLOW_UP.	S1Q11_OTHER_WORK_FOLLOW_UP.
	S1Q11A.	S1Q11A.
	On which of these activities do (did) you spend the most time?	Та эдгээр үйл ажиллагааны алинд нь хамгийн их цаг зарцуулж байсан/байгаа вэ?
	1. EXTRACTING/EXCAVATING FLUORSPAR ORE	1. ЖОНШНЫ ХҮДЭР ОЛБОРЛОХ/МАЛТАХ
	2. DIGGING	2. УХАХ
	3. FILLING	3. БУЛАХ
	4. EXCAVATING AND EXTRACTING ROCK, DIRT, AND DEBRIS FROM THE MINE	4. УУРХАЙН ЧУЛУУЛАГ, ШОРОО, ХӨРС УХАХ, ОЛБОРЛОХ
	5. LOADING AND UNLOADING ACTIVITIES	5. АЧИХ, БУУЛГАХ ҮЙЛ АЖИЛЛАГАА

6. OPERATING HEAVY MACHINERY	6. ХҮНД МАШИН МЕХАНИЗМ АЖИЛЛУУЛАХ
7. CONCENTRATING / PROCESSING ACTIVITIES	7. БАЯЖУУЛАХ / БОЛОВСРУУЛАХ ҮЙЛ АЖИЛЛАГАА
8. NON-MINING WORK (COOKING, SELLING GOODS, CLEANING, GUARDING)	8. УУЛ УУРХАЙН БУС АЖИЛ (ХООЛ ХИЙХ, БАРАА, БҮТЭЭГДЭХҮҮН ЗАРАХ, ЦЭВЭРЛЭГЭЭ ХИЙХ, GUARDING)
55. OTHER WORK RELATED TO FLUORSPAR MINING/PROCESSING SECTOR: ${S1Q11_OTHER_WORK_FOLLOW_UP}	55. ЖОНШ ОЛБОРЛОХ/БОЛОВСРУУЛАХ САЛБАРТАЙ ХОЛБООТОЙ БУСАД АЖИЛ : ${S1Q11_OTHER_WORK_FOLLOW_UP}
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S1Q11B. In which non-mining activities do you engage in your current job?	S1Q11B.Та уул уурхайн бус ямар чиглэлээр одоо ажиллаж байгаа вэ?
1. COOKING	1. ХООЛ ХИЙХ
2. SELLING GOODS	2. БАРАА, БҮТЭЭГДЭХҮҮН ЗАРАХ
3. CLEANING	3. ЦЭВЭРЛЭГЭЭ ХИЙХ
4. GUARDING	4. ХАМГААЛАГЧ
55. OTHER	55. БУСАД

	SECTION 2: RESPONDENT'S WORKING CONDITIONS	ХЭСЭГ 2: СУДАЛГААНД ОРОЛЦОГЧИЙН АЖЛЫН НӨХЦӨЛ БАЙДАЛ
[ASK IF S1Q07 = 1 (WORKS FOR AN EMPLOYER)]	S2Q01.	S2Q01.
	Sometimes workers are in debt to their employers or recruiters, for example after buying tools or receiving a pay advance. While working in your most recent job, were you ever in debt to your employer or recruiter?	Заримдаа ажилчид ажил олгогч эсвэл ажилд зуучлагчдаа өртэй байдаг, жишээлбэл, багаж хэрэгсэл худалдаж авахад шаардлагатай мөнгө зээлэх эсвэл цалингаа урьдчилж авсны улмаас өр, зээл тавьдаг. Та хамгийн сүүлд ажиллаж байсан эсвэл одоо ажиллаж байгаа ажлынхаа ажил олгогч эсвэл ажилд зуучлагчдаа ямарваа өр зээлтэй байсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

ASK IF SELFEMPLOYED AND PART OF CBO	S2Q01AA.	S2Q01AA.
	Have you ever been in debt to your CBO?	Та өөрийн нөхөрлөлдөө одоо өртэй эсвэл өмнө нь ямар нэгэн хэлбэрийн өртэй байсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S2Q01 = 1 (HAS DEBT)	S2Q01A.	S2Q01A.
	Did you feel that the terms of the debt were reasonable?	Таны бодлоор өр зээлийн нөхцөл нь боломжийн байсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S2Q01 = 1 (HAS DEBT)	S2Q01B.	S2Q01B.
	Have you made any changes to your work or your family's work to repay the debt?	Та өр зээлээ барагдуулахын тулд өөрийн ажил эсвэл гэр бүлийнхээ ажилд ямар нэгэн өөрчлөлт оруулсан уу?

	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S2Q01B = 1 (YES)	S2Q01C.	S2Q01C.
	What changes did you make?	Та ямар өөрчлөлт оруулсан бэ?
	1. WORKING ADDITIONAL DAYS/HOURS	1. ОРОЛЦОГЧ НЭМЭЛТ ӨДӨР/ЦАГААР АЖИЛЛАСАН
	2. WORKING ADDITIONAL JOB	2. ОРОЛЦОГЧ ДАВХАР АЖИЛ ХИЙСЭН
	3. ADULT FAMILY MEMBERS WORKING/ EXTRA WORK	3. ГЭР БҮЛИЙН /НАСАНД ХҮРСЭН/ ГИШҮҮД НЭМЭЛТ АЖИЛ ХИЙСЭН
	4. CHILD FAMILY MEMBERS WORKING/ EXTRA WORK	4. ГЭР БҮЛИЙН НАСАНД ХҮРЭЭГҮЙ ГИШҮҮД/ХҮҮХЭД НЭМЭЛТ АЖИЛ ХИЙСЭН
	5. OTHER	5. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q01C = 5 (OTHER)	S2Q01C_OTHER.	S2Q01C_БУСАД..
	Please specify	Тодруулна уу.

IF S2Q01 = 1 (HAS DEBT)	S2Q01D.	S2Q01D.
	If you were to leave your job before paying off your debt, what might happen?	Хэрэв та өр зээлээ төлж дуусахаасаа өмнө ажлаасаа гарсан болбол юу болох байсан бол?
	1. THREATS OR VIOLENCE AGAINST RESPONDENT OR RESPONDENT'S FAMILY BY EMPLOYER/RECRUITER	1. АЖИЛ ОЛГОГЧ/ЭСВЭЛ ЗУУЧЛАГЧИЙН ЗҮГЭЭС СУДАЛГААНД ОРОЛЦОГЧ ЭСВЭЛ ТҮҮНИЙ ГЭР БҮЛИЙНХНИЙГ ЗАНАЛХИЙЛЭХ ЭСВЭЛ ХҮЧИРХИЙЛЭХ
	2. RESTRICTION ON RESPONDENT'S MOVEMENT	2. СУДАЛГААНД ОРОЛЦОГЧИЙН ХӨДӨЛГӨӨНИЙГ ХЯЗГААРЛАХ
	3. WITHHOLDING OF WAGES OR OTHER PROMISED BENEFITS	3. ЦАЛИН ХӨЛС ЭСВЭЛ АМЛАСАН БУСАД ТЭТГЭМЖЭЭ ОЛГОХГҮЙ БАЙХ
	4. FINE OR DEDUCTION FROM WAGES *BEYOND THE VALUE OF THE DEBT*	4. ТОРГУУЛЬ ЭСВЭЛ ЦАЛИНГААС НЬ *ТӨЛӨХ ЁСТОЙ ӨРИЙН ДҮНГЭЭС ДЭЭШ ДҮНГЭЭР* СУУТГАХ
	5. WITHHOLDING OF VALUABLE DOCUMENTS (SUCH AS IDENTITY DOCUMENTS, SCHOOL CERTIFICATES, OR RESIDENCE PERMITS)	5. ЧУХАЛ БАРИМТ БИЧГҮҮДИЙГ (ТУХАЙЛБАЛ ИРГЭНИЙ БАРИМТ БИЧИГ, СУРГУУЛИЙН ГЭРЧИЛГЭЭ ЭСВЭЛ ОРШИН СУУХ ЗӨВШӨӨРЛИЙН БАРИМТ БИЧИГ) БАРЬЦААЛАХ
	6. DEPORTATION OR THREATS OF DEPORTATION	6. ХИЛЭЭР АЛБАДАН ГАРГАХ ЭСВЭЛ АЛБАДАН ГАРГАНА ГЭЖ ЗАНАЛХИЙЛЭХ
	7. EXCLUSION FROM FUTURE EMPLOYMENT	7. ИРЭЭДҮЙД ХӨДӨЛМӨР ЭРХЛЭХЭД САД БОЛОХ/ БОЛОМЖГҮЙ БОЛГОХ

	8. EMPLOYER WOULD HAVE CAUSED OTHER PEOPLE FROM MY FAMILY TO LOSE THEIR JOBS/LAND/ASSETS	8. АЖИЛ ОЛГОГЧ МИНИЙ ГЭР БҮЛИЙН ГИШҮҮДИЙГ АЖИЛ/ГАЗАР/ ХӨРӨНГӨӨ АЛДАХАД ХҮРГЭЖ МАГАДГҮЙ.
	9. I WOULD BE ARRESTED OR PROSECUTED	9. БИ БАРИВЧЛАГДАХ ЭСВЭЛ ШҮҮХЭД ДУУДАГДАХ
	10. WITHHOLDING OF MATERIAL GOODS AS COLLATERAL	10. МАТЕРИАЛЛАГ БАРАА, ХӨРӨНГӨ БАРЬЦАА БОЛГОХ
	55. OTHER	55. БУСАД
	66. NOTHING	66. АЛЬ НЬ Ч БИШ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q01D = 55 (OTHER)	S2Q01D_OTHER.	S2Q01D_БУСАД.
	Please specify	Тодруулна уу.
IF S2Q01 = 1 (HAS DEBT) & SELF EMPLOYED AND WORKS FOR CBO	S2Q01D_CBO.	S2Q01D_CBO.
	If you were to leave the CBO before paying off your debt, what might happen?	Хэрвээ та жоншны үүрхайн нөхөрлөлөөсөө өрөө төлж дуусахаас өмнө гарахаас болвол юу болох вэ?
	1. THREATS OR VIOLENCE AGAINST RESPONDENT OR RESPONDENT'S FAMILY BY CBO MEMBERS	1. НӨХӨРЛӨЛИЙН ГИШҮҮДЭЭС ОРОЛЦОГЧИЙГ ЭСВЭЛ ОРОЛЦОГЧИЙН ГЭР БҮЛИЙН ЭСЭРГ ЗАНАЛХИЙЛЭЛ ЭСВЭЛ ХҮЧИРХИЙЛЭХ

2. RESTRICTION ON RESPONDENT'S MOVEMENT	2. СУДАЛГААНД ОРОЛЦОГЧИЙН ХӨДӨЛГӨӨНИЙГ ХЯЗГААРЛАХ
3. WITHHOLDING OF EARNINGS OR OTHER PROMISED BENEFITS	3. ОРЛОГО ЭСВЭЛ ӨӨР БУСАД АМЛАСАН АШИГААСАА СУУТГАХ, БАРЬЦААЛАХ
4. FINE OR DEDUCTION FROM EARNINGS *BEYOND THE VALUE OF THE DEBT*	4. ТОРГУУЛЬ ЭСВЭЛ ЦАЛИНГААС НЬ *ТӨЛӨХ ЁСТОЙ ӨРИЙН ДҮНГЭЭС ДЭЭШ ДҮНГЭЭР* СУУТГАХ
5. WITHHOLDING OF VALUABLE DOCUMENTS (SUCH AS IDENTITY DOCUMENTS, SCHOOL CERTIFICATES, OR RESIDENCE PERMITS)	5. ЧУХАЛ БАРИМТ БИЧГҮҮДИЙГ (ТУХАЙЛБАЛ ИРГЭНИЙ БАРИМТ БИЧИГ, СУРГУУЛИЙН ГЭРЧИЛГЭЭ ЭСВЭЛ ОРШИН СУУХ ЗӨВШӨӨРЛИЙН БАРИМТ БИЧИГ) БАРЬЦААЛАХ
6. DEPORTATION OR THREATS OF DEPORTATION	6. ХИЛЭЭР АЛБАДАН ГАРГАХ ЭСВЭЛ АЛБАДАН ГАРГАНА ГЭЖ ЗАНАЛХИЙЛЭХ
7. EXCLUSION FROM FUTURE EMPLOYMENT	7. ИРЭЭДҮЙД ХӨДӨЛМӨР ЭРХЛЭХЭД САД БОЛОХ/ БОЛОМЖГҮЙ БОЛГОХ
8. CBO MEMBERS WOULD HAVE CAUSED OTHER PEOPLE FROM MY FAMILY TO LOSE THEIR JOBS/LAND/ASSETS	8. НӨХӨРЛӨЛИЙН ГИШҮҮД МАНАЙ ГЭР БҮЛИЙН БУСАД ГИШҮҮДИЙГ АЖИЛ/ГАЗАР/ХӨРӨНГӨӨ ОЛДОХОД ХҮРГЭЖ МАГАДГҮЙ.
9. I WOULD BE ARRESTED OR PROSECUTED	9. БИ БАРИВЧЛАГДАХ ЭСВЭЛ ШҮҮХЭД ДУУДАГДАХ
10. WITHHOLDING OF MATERIAL GOODS AS COLLATERAL	10. МАТЕРИАЛЛАГ БАРАА, ХӨРӨНГӨ БАРЬЦАА БОЛГОХ

	55. OTHER	55. БУСАД
	66. NOTHING	66. АЛЬ НЬ Ч БИШ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q01D = 55 (OTHER)	S2Q01D_CBO_OTHER.	S2Q01D_CBO_БУСАД.
	Please specify	Тодруулна уу.
	S2Q02.	S2Q02.
	In a typical month, are your earnings less than 550,000 tugruk?	Таны нэг сарын дундаж орлого 550,000 төгрөгөөс доош байдаг уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
	S2Q02A.	S2Q02A.
	Are your typical earnings enough to meet your basic needs for food and shelter?	Та ердийн үед олдог орлого гэр бүлийнхээ суурь хэрэгцээ болох хоол хүнс, орон байрны хэрэгцээг хангахад хүрдэг үү?

	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q02A = 2 (NO)	S2Q02B.	S2Q02B.
	How do you manage to meet the basic needs for food and shelter?	Та хоол хүнс, орон байр зэрэг наад захын хэрэгцээгээ хэрхэн зохицуулдаг вэ?
	1. WORKING ADDITIONAL DAYS/HOURS	1. ОРОЛЦОГЧ НЭМЭЛТ ӨДӨР/ЦАГААР АЖИЛЛАДАГ
	2. WORKING ADDITIONAL JOB	2. ОРОЛЦОГЧ ДАВХАР АЖИЛ ХИЙДЭГ
	3. ADULT FAMILY MEMBERS WORKING/ EXTRA WORK	3. ГЭР БҮЛИЙН /НАСАНД ХҮРСЭН/ ГИШҮҮД НЬ НЭМЭЛТ АЖИЛ ХИЙДЭГ
	4. CHILD FAMILY MEMBERS WORKING/ EXTRA WORK	4. ГЭР БҮЛИЙН НАСАНД ХҮРЭЭГҮЙ ГИШҮҮД/ХҮҮХЭД НЬ НЭМЭЛТ АЖИЛ ХИЙДЭГ
	5. OTHER	5. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

ASK IF S2Q02B = 5 (OTHER)	S2Q02B_OTHER. Please specify	S2Q02B_БУСАД. Тодруулна уу
[ASK IF S1Q07 = 1 (WORKS FOR AN EMPLOYER)	S2Q03. Does your employer impose a production quota/target? 1. YES 2. NO 77. DON'T KNOW 99. REFUSED	S2Q03. Танай ажил олгогч танд тухайн өдөр заавал хийх ажлын норм, хэмжээ өгдөг үү? 1. ТИЙМ 2. ҮГҮЙ 77. МЭДЭХГҮЙ 99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF SELFEMPLOYED AND PART OF CBO	S2Q03CBO. Does your CBO impose a production quota/target? 1. YES 2. NO 77. DON'T KNOW 99. REFUSED	S2Q03CBO. Танай нөхөрлөл үйлдвэрлэлийн квот эсвэл зорилт тогтоодог уу? 1. ТИЙМ 2. ҮГҮЙ 77. МЭДЭХГҮЙ 99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03 = 1 (QUOTA)	S2Q03A.	S2Q03A.

	Do you consider the quota/target to be a reasonable amount for an individual worker working alone?	Таны бодлоор энэ норм, хэмжээ нь нэг ажилтан дангаараа гүйцэтгэхэд боломжийн уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S2Q03A = 2 (NO)	S2Q03B.	S2Q03B.
	How do you manage the quota?	Та өдөрт хийх ажлынхаа норм, хэмжээг биелүүлэхийн тулд яадаг вэ?
	1. WORK HARDER	1. ШАРГУУ АЖИЛЛАХ
	2. WORK EXTRA HOURS	2. ИЛҮҮ ЦАГААР АЖИЛЛАХ
	3. HELP FROM ADULT FAMILY MEMBERS	3. ГЭР БҮЛИЙН НАСАНД ХҮРСЭН ГИШҮҮДЭЭС ТУСЛАМЖ АВАХ
	4. HELP FROM CHILD FAMILY MEMBERS	4. ГЭР БҮЛИЙН НАСАНД ХҮРЭЭГҮЙ ГИШҮҮД/ХҮҮХДҮҮДЭЭСЭЭ ТУСЛАМЖ АВАХ
	5. HIRE EXTRA HELP - ADULT	5. НЭМЭЛТЭЭР ХҮН ХӨЛСӨЛДӨГ – НАСАНД ХҮРЭГЧ
	6. HIRE EXTRA HELP - CHILD	6. НЭМЭЛТЭЭР ХҮҮХЭД ХӨЛСӨЛЖ АЖИЛЛУУЛДАГ

	7. OTHER	7. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03B = 7 (OTHER)	S2Q03B_OTHER.	S2Q03B_БУСАД.
	Please specify	Тодруулна уу
	S2Q03C.	S2Q03C.
	Could you leave your work place in case of emergency, for example, you were very ill, injured, or had a serious family problem?	Хэрэв та хүнд өвдсөн, бэртсэн, гэр бүлийн хүндэтгэх шалтгаан гарсан гэх мэт онцгой нөхцөл байдлын үед ажлын байраа орхиж чаддаг уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S2Q03C = 2 (CANNOT LEAVE WORK PLACE)	S2Q03D.	S2Q03D.
	Why can't you leave your work place?	Та яагаад ажлын байраасаа гарч явж чаддаггүй вэ?

	1. SUBJECT TO FINES/DEDUCTIONS/DISMISSAL	1. ТОРГУУЛЬ/ЦАЛИНГИЙН СУУТГАЛ/АЖЛААС ХАЛНА
	2. SUBJECT TO VERBAL/PHYSICAL ABUSE	2. ҮГ ХЭЛ БОЛОН БИЕ МАХБОДЫН ХҮЧИРХИЙЛЭЛД ӨРТӨНӨ
	3. PHYSICALLY UNABLE TO LEAVE	3. БИЕЭРЭЭ ЯВАХ БОЛОМЖГҮЙ
	4. REPUTATION/WORK PRODUCT WOULD SUFFER	4. НЭР ХҮНД/АЖЛЫН БҮТЭЭМЖ МУУДНА
	5. OTHER	5. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03D = 5 (OTHER)	S2Q03D_OTHER.	S2Q03D_БУСАД.
	Please specify.	Тодруулна уу.
IF S2Q03D = 3 (PHYSICALLY UNABLE TO LEAVE)	S2Q03E.	S2Q03E.
	How are you prevented from leaving?	Таныг явахаас хэрхэн сэргийлдэг вэ?
	1. WOULD BE STOPPED BY SUPERVISOR	1. ХЯНАГЧ/ АХЛАХ ЗОГСООНО
	2. GUARDS	2. ХАМГААЛАГЧИД
	3. LOCKED DOORS/GATES	3. ЦООЖТОЙ ХААЛГА/ҮҮД
	4. ISOLATED WITHOUT TRANSPORT	4. УНАА, ТЭЭВЭРГҮЙ АЛСЛАГДМАЛ ГАЗАР

	5. OTHER	5. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03E = 5 (OTHER)	S2Q03E_OTHER.	S2Q03E_БУСАД.
	Please specify.	Тодруулна уу
[ASK IF S1Q07 = 1 (WORKS FOR AN EMPLOYER)	S2Q03F.	S2Q03F.
	If you decide (decided) to stop working with this employer, can (could) you leave without negative consequences by your employer?	Хэрэв та энэ ажил олгогчтойгоо цаашид ажиллахаа болихоор шийдсэн бол (шийдвэл) ажил олгогчийн зүгээс ямар нэгэн сөрөг үр дагаваргүйгээр ажлаасаа гарч чадах уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03F = 2 (CAN'T QUIT)	S2Q03G.	S2Q03G.
	Can you tell me in your own words how the employer or recruiter keeps (kept) you from quitting your job?	Ажил олгогч эсвэл зуучлагч таныг ажлаас гаргуулахгүйн тулд хэрхэн тогтоож үлдээдэг/үлдээдэг байсныг өөрийн үгээр тайлбарлаж хэлж чадах уу?

1. THREATS OR VIOLENCE AGAINST RESPONDENT OR RESPONDENT'S FAMILY BY EMPLOYER/RECRUITER	1. АЖИЛ ОЛГОГЧ/ЗУУЧЛАГЧ ОРОЛЦОГЧИД ЭСВЭЛ ТҮҮНИЙ ГЭР БҮЛИЙГ ЗАНАЛХИЙЛЭХ ЭСВЭЛ ХҮЧИРХИЙЛЭЛ ҮЗҮҮЛЭХ
2. RESTRICTION ON RESPONDENT'S MOVEMENT	2. ОРОЛЦОГЧИЙН ХӨДӨЛГӨӨНИЙГ ХЯЗГААРЛАХ
3. DEBT BONDAGE OR MANIPULATION OF DEBT (DEBT TO EMPLOYER/RECRUITER)	3. ӨР ЗӨӨЛӨӨР БАРЬЦААЛАХ ЭСВЭЛ ЗӨӨЛИЙН ДАРАМТ ҮЗҮҮЛЭХ (АЖИЛ ОЛГОГЧ/ЗУУЧЛАГЧИД ӨРТЭЙ ҮЕД)
4. WITHHOLDING OF WAGES OR OTHER PROMISED BENEFITS	4. ЦАЛИН ЭСВЭЛ АМЛАСАН БУСАД ТЭТГЭМЖИЙГ СУУТГАХ
5. WITHHOLDING OF VALUABLE DOCUMENTS (SUCH AS IDENTITY DOCUMENTS, SCHOOL CERTIFICATES, OR RESIDENCE PERMITS)	5. ЧУХАЛ БАРИМТ БИЧГҮҮДИЙГ (ТУХАЙЛБАЛ, ИРГЭНИЙ БАРИМТ БИЧИГ, СУРГУУЛИЙН ГЭРЧИЛГЭЭ, ОРШИН СУУХ ЗӨВШӨӨРЛИЙН БАРИМТ БИЧИГ) БАРЬЦААЛАХ
6. DEPORTATION OR THREATS OF DEPORTATION	6. ХИЛЭЭР АЛБАДАН ГАРГАХ ЭСВЭЛ АЛБАДАН ГАРГАНА ГЭЖ ЗАНАЛХИЙЛЭХ
7. EXCLUSION FROM FUTURE EMPLOYMENT	7. ИРЭЭДҮЙД ХӨДӨЛМӨР ЭРХЛЭХЭД САД БОЛОХ
8. EMPLOYER WOULD HAVE CAUSED OTHER PEOPLE FROM MY FAMILY TO LOSE THEIR JOBS/LAND/ASSETS	8. АЖИЛ ОЛГОГЧ МИНИЙ ГЭР БҮЛИЙН БУСАД ГИШҮҮД АЖИЛ/ГАЗАР/ ХӨРӨНГӨӨ АЛДАХАД ХҮРГЭЖ МАГАДГҮЙ
55. OTHER	9. БУСАД

	66. NO COERCION ("NEEDED JOB, COULDN'T QUIT")	66. АЛБАДААГҮЙ ("АЖИЛ ХЭРЭГТЭЙ УЧРААС ГАРЧ ЧАДДАГГҮЙ")
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03G = 55 (OTHER)	S2Q03G_OTHER.	S2Q03G_БУСАД.
	Please specify	Тодруулна уу
ASK IF SELFEMPLOYED AND PART OF CBO	S2Q03F_CBO.	S2Q03F_CBO.
	If you decide to leave your CBO, could you leave without negative consequences by CBO members and leaders?	Хэрэв та нөхөрлөлөөсөө гарахаар шийдсэн бол нөхөрлөлийн бүсад гишүүд болон ахлагчийн зүгээс танд үзүүлэх ямар нэг сөрөг үр дагаваргүйгээр гарч чадах уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03F = 2 (CAN'T QUIT)	S2Q03G_CBO.	S2Q03G_CBO.
	What negative consequences might you experience?	Танд ямар сөрөг үр дагавар гарч болох вэ?

1. THREATS OR VIOLENCE AGAINST RESPONDENT OR RESPONDENT'S FAMILY BY CBO MEMBERS	1.НӨХӨРЛӨЛИЙН ГИШҮҮДЭЭС ОРОЛЦОГЧИЙГ ЭСВЭЛ ОРОЛЦОГЧИЙН ГЭР БҮЛИЙН ЭСЭРГ ЗАНАЛХИЙЛЭЛ ЭСВЭЛ ХҮЧИРХИЙЛЭХ
2. RESTRICTION ON RESPONDENT'S MOVEMENT	2. ОРОЛЦОГЧИЙН ХӨДӨЛГӨӨНИЙГ ХЯЗГААРЛАХ
3. DEBT BONDAGE OR MANIPULATION OF DEBT (DEBT TO CBO)	3. ӨР ЗӨЭЛЭЭР БАРЬЦААЛАХ ЭСВЭЛ ЗӨЭЛИЙН ДАРАМТ ҮЗҮҮЛЭХ (ЧНӨХӨРЛӨЛД ӨРТЭЙ ТОХИОЛДОЛД)
4. WITHHOLDING OF WAGES OR OTHER PROMISED BENEFITS	4. ЦАЛИН ЭСВЭЛ АМЛАСАН БУСАД ТЭТГЭМЖИЙГ СУУТГАХ
5. WITHHOLDING OF VALUABLE DOCUMENTS (SUCH AS IDENTITY DOCUMENTS, SCHOOL CERTIFICATES, OR RESIDENCE PERMITS)	5. ЧУХАЛ БАРИМТ БИЧГҮҮДИЙГ (ТУХАЙЛБАЛ, ИРГЭНИЙ БАРИМТ БИЧИГ, СУРГУУЛИЙН ГЭРЧИЛГЭЭ, ОРШИН СУУХ ЗӨВШӨӨРЛИЙН БАРИМТ БИЧИГ) БАРЬЦААЛАХ
6. DEPORTATION OR THREATS OF DEPORTATION	6. ХИЛЭЭР АЛБАДАН ГАРГАХ ЭСВЭЛ АЛБАДАН ГАРГАНА ГЭЖ ЗАНАЛХИЙЛЭХ
7. EXCLUSION FROM FUTURE EMPLOYMENT	7. ИРЭЭДҮЙД ХӨДӨЛМӨР ЭРХЛЭХЭД САД БОЛОХ
8. CBO WOULD HAVE CAUSED OTHER PEOPLE FROM MY FAMILY TO LOSE THEIR JOBS/LAND/ASSETS	8. НӨХӨРЛӨЛИЙН ГИШҮҮД МАНАЙ ГЭР БҮЛИЙН БУСАД ГИШҮҮДИЙГ АЖИЛ/ГАЗАР/ХӨРӨНГӨӨ ОЛДОХОД ХҮРГЭЖ МАГАДГҮЙ.
55. OTHER	9. БУСАД

	66. NO COERCION ("NEEDED JOB, COULDN'T QUIT")	66. АЛБАДААГҮЙ ("АЖИЛ ХЭРЭГТЭЙ УЧРААС ГАРЧ ЧАДДАГГҮЙ")
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q03G = 55 (OTHER)	S2Q03G_CBO_OTHER.	S2Q03G_СВО_БУСАД.
	Please specify	Тодруулна уу
	S2Q04.	S2Q04.
	After extraction where does the fluorspar mined at your worksite go next? Does it go to a processing facility, an individual trader, or somewhere else?	Танай ажлын талбараас олборлосон хайлуур жоншийг олборлосны дараагаар хаашаа явуулдаг вэ? Боловсруулах үйлдвэр, ченж эсвэл өөр бусад газар руу юу?
	1. PROCESSING FACILITY	1. БОЛОВСРУУЛАХ ҮЙЛДВЭРТЭЙ ТӨРИЙН ӨМЧИТ КОМПАНИЙН УУРХАЙ РУУ
	2. INDIVIDUAL TRADER	2. ЧЕНЖ (ГАР ДЭЭРЭЭС ХУДАЛДАА ХИЙДЭГ ХУВЬ ХҮН)
	55. OTHER	55. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

S2Q04A.

Is the processing facility in Mongolia or outside of Mongolia?

1. MONGOLIA

2. OUTSIDE OF MONGOLIA

3. BOTH

77. DON'T KNOW

99. REFUSED

S2Q04B.

After sold to the trader, where does the fluorspar go next -- Mongolia or outside of Mongolia?

1. MONGOLIA

2. OUTSIDE OF MONGOLIA

3. BOTH

77. DON'T KNOW

99. REFUSED

S2Q04A.

Боловсруулах үйлдвэр нь Монголд байдаг уу эсвэл гадаадад байдаг уу?

1. МОНГОЛ

2. ГАДААД

3. АЛЬ АЛЬ НЬ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S2Q04B.

Жоншийг ченжид худалдаалсны дараагаар хаашаа явуулдаг вэ?-Монголдоо үлддэг үү эсвэл гадаад руу явуулдаг уу?

1. МОНГОЛ

2. ГАДААД

3. АЛЬ АЛЬ НЬ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S2Q04C.

Which country?

1. CHINA

2. RUSSIA

3. JAPAN

4. INDONESIA

5. USA

55. OTHER

77. DON'T KNOW

99. REFUSED

S2Q04C.

Аль улс руу явуулдаг вэ?

1. ХЯТАД

2. ОРОС

3. ЯПОН

4. ЭНЭТХЭГ

5. АНУ

55. БУСАД

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S2Q04D.

What kind of processing facility?

1. STATE OWNED MINE WITH PROCESSING CAPABILITIES

2. PRIVATELY OWNED MINE WITH PROCESSING CAPABILITIES

S2Q04D.

Ямар төрлийн боловсруулах үйлдвэр вэ?

1. БОЛОВСРУУЛАХ ҮЙЛДВЭРТЭЙ ТӨРИЙН ӨМЧИТ КОМПАНИЙН УУРХАЙ РУУ

2. БОЛОВСРУУЛАХ ҮЙЛДВЭРТЭЙ ХУВИЙН ӨМЧИТ КОМПАНИЙН УУРХАЙ РУУ

	3. INDEPENDENT PROCESSING FACILITY	3. БИЕ ДААСАН БОЛОВСРУУЛАХ ҮЙЛДВЭР РҮҮ
	4. PROCESSING FACILITY OWNED BY YOUR EMPLOYER	4. АЖИЛ ОЛГОГЧИЙН ӨӨРИЙН БОЛОВСРУУЛАХ ҮЙЛДВЭР РҮҮ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S2Q04 = 1 OR 2 OR 3 OR 4	S2Q04E.	S2Q04E.
	Who owns that processing facility?	Боловсруулах үйлдвэрийг хэн эзэмшдэг вэ?
	1. GOBISHOO LLC	1. ГОВЬ ШОО ХХК
	2. MONGOLROSTVETMENT SOE	2. МОНГОЛРОСЦВЕТМЕТ ТӨҮГ
	3. OTHER	3. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S2Q04A = 3 (OTHER)	S2Q04E_OTHER.	S2Q04E_БУСАД.
	Please specify	Тодруулна уу
	SECTION 3: CHILDREN-GENERAL	ХЭСЭГ 3: ХҮҮХЭД- ЕРӨНХИЙ АСУУЛТ

	S3Q01.	S3Q01.
	Thinking about all the fluorspar mines in Mongolia, about how many of them have people under age 18 working there -- would you say all, most, some, few, or none?	Монгол улсын хэмжээнд ажиллаж байгаа хайлуур жоншны уурхайнуудыг нийтэд нь авч үзвэл эдгээрээс хэд нь 18-аас доош насны хүн ажиллуулж байгаа гэж та бодож байна вэ? -- Бүгд, ихэнх нь, зарим нь, цөөхөн хэд нь эсвэл ерөөсөө байхгүй гэсэн сонголт өгвөл та алийг сонгох вэ?
	1. ALL	1. БҮГД
	2. MORE THAN HALF	2. ТАЛААС ДЭЭШ ХУВЬ НЬ
	3. ABOUT HALF	3. ТЭН ХАГАС НЬ (50%)
	4. LESS THAN HALF	4.ТАЛААС ДООШ ХУВЬ НЬ
	5. NONE	5. ОГТ БАЙХГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S3Q01 = 1 OR 2 OR 3 OR 4 (RESPONDENT SAID ALL-FEW)	S3A	S3A
	S3Q02.	S3Q02.
	I will read you a list of work activities. Please tell me how often	Би танд ажлын жагсаалтуудыг одоо уншиж өгөх

people under age 18 do these activities in fluorspar mines -- often, sometimes, or never.

…hauling water, rocks, dirt, and/or gangue (non-valuable material) from mine

болно. Та эдгээр ажлыг 18-аас доош насны хүмүүс [жоншны уурхайд -- байнга, заримдаа, эсвэл хэзээ ч ийм ажил хийдэггүй зэргээр хариулна уу.

… уурхайгаас ус, чулуу, шороо ба/эсвэл хоосон чулуулаг зөөх

1. OFTEN

2. SOMETIMES

3. NEVER

77. DON'T KNOW

99. REFUSED

1. БАЙНГА

2. ЗАРИМДАА

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S3Q02A.

…digging holes

1. OFTEN

2. SOMETIMES

3. NEVER

77. DON'T KNOW

99. REFUSED

S3Q02A.

…нүх ухах

1. БАЙНГА

2. ЗАРИМДАА

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S3Q02B.

…Washing Ore

1. OFTEN

2. SOMETIMES

3. NEVER

77. DON'T KNOW

99. REFUSED

S3Q02C.

…Crushing Stone

1. OFTEN

2. SOMETIMES

3. NEVER

77. DON'T KNOW

99. REFUSED

S3Q02D.

…packaging of fluorspar ore for transportactivity or storage

S3Q02B.

…хүдэр угаах

1. БАЙНГА

2. ЗАРИМДАА

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S3Q02C.

…чулуу бутлах

1. БАЙНГА

2. ЗАРИМДАА

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S3Q02D.

…жоншны хүдрийг зөөх, хадгалахад зориулан савлах

1. OFTEN	1. БАЙНГА
2. SOMETIMES	2. ЗАРИМДАА
3. NEVER	3. ХЭЗЭЭ Ч ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S3Q02E.	S3Q02E.
…extracting fluorspar (by hand or hand-tool)	…жонш олборлох (гараар эсвэл гар багажаар)
1. OFTEN	1. БАЙНГА
2. SOMETIMES	2. ЗАРИМДАА
3. NEVER	3. ХЭЗЭЭ Ч ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S3Q02F.	S3Q02F.
…transporting tools or /equipment using carts or by hand	…багаж хэрэгсэл, тоног төхөөрөмжийг тэргэнцэр эсвэл гараар зөөх
1. OFTEN	1. БАЙНГА
2. SOMETIMES	2. ЗАРИМДАА

3. NEVER

77. DON'T KNOW

99. REFUSED

S3Q02G.

…loading fluorspar onto trucks or /trains

1. OFTEN

2. SOMETIMES

3. NEVER

77. DON'T KNOW

99. REFUSED

S3Q02H.

…unloading fluorspar from trucks or / trains

1. OFTEN

2. SOMETIMES

3. NEVER

77. DON'T KNOW

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S3Q02G.

…жоншийг ачааны машин, галт тэргэнд ачих

1. БАЙНГА

2. ЗАРИМДАА

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S3Q02H.

…ачааны машин, галт тэрэгнээс жонш буулгах

1. БАЙНГА

2. ЗАРИМДАА

3. ХЭЗЭЭ Ч ҮГҮЙ

77. МЭДЭХГҮЙ

99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S3Q02I.	S3Q02I.
…operating heavy machinery	…хүнд машин механизм ажиллуулах
1. OFTEN	1. БАЙНГА
2. SOMETIMES	2. ЗАРИМДАА
3. NEVER	3. ХЭЗЭЭ Ч ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S3Q02J.	S3Q02J.
…collecting and carrying of additional materials related to the mining of fluorspar	…жонш олборлохтой холбоотой нэмэлт материал цуглуулах, зөөх
1. OFTEN	1. БАЙНГА
2. SOMETIMES	2. ЗАРИМДАА
3. NEVER	3. ХЭЗЭЭ Ч ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

	S3Q03.	S3Q03.
	In your opinion, what are the main reasons that children under age 18 work in fluorspar mining and processing?	Таны бодлоор 18-аас доош насны хүүхдүүд жонш олборлох, боловсруулахад ажиллаж байгаа гол шалтгаанууд юу вэ?
	1. POVERTY/HUNGER	1. ЯДУУРАЛ/ӨЛСГӨЛӨН
	2. TO PAY SCHOOL FEES	2. СУРГУУЛИЙН ТӨЛБӨР ТӨЛӨХ
	3. SCHOOL ISN'T ACCESSIBLE/AVAILABLE	3. СУРГУУЛИЙН ХҮРТЭЭМЖ БАЙХГҮЙ/СУРГУУЛЬ БАЙХГҮЙ
	4. CHILDREN CAN'T BE LEFT ALONE/LACK OF CHILDCARE	4. ХҮҮХДИЙГ ГАНЦААРАНГ НЬ ҮЛДЭЭЖ БОЛОХГҮЙ/ ХҮҮХЭД АСРАХ ХҮНГҮЙ
	5. TO LEARN SKILLS	5. УР ЧАДВАР СУРАХ ГЭЖ
	6. CHILD LABOR NEEDED TO MEET QUOTA	6. АЖЛЫН НОРМ, ХЭМЖЭЭГ БИЕЛҮҮЛЭХИЙН ТУЛД ХҮҮХЭД НЭМЖ АЖИЛЛУУЛДАГ
	7. OTHER	7. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S3Q03 = 7 (OTHER)	S3Q03_OTHER.	S3Q03_БУСАД.
	Please specify.	Тодруулна уу.

	S3Q04.	S3Q04.
	Thinking about the mine where you work, about how many people ages 15 to 17 did you observe working there in the past week?	Таны ажилладаг уурхайг авч үзье. Таны ажигласнаар Өнгөрсөн долоо хоногийн хувьд 15-17 насны хэдэн хүн ажиллаж байсан бэ?
ASK IF S3Q04 IS 1+	S3Q04A.	S3Q04A.
	What are the main tasks you saw people ages 15 to 17 perform?	Таны харсан 15-17 насны хүмүүс ихэвчлэн ямар ажлууд гүйцэтгэж байсан бэ?
	1. HAULING WATER, ROCKS, DIRT, AND/OR GANGUE (NON-VALUABLE MATERIAL) FROM MINE	1 УУРХАЙГААС УС, ЧУЛУУ, ШОРОО БА/ЭСВЭЛ ХООСОН ЧУЛУУЛАГ ЗӨӨХ
	2. DIGGING HOLES	2. НҮХ УХАХ
	3. WASHING ORE	3. ХҮДЭР УГААХ
	4. CRUSHING STONE	4. ЧУЛУУ БУТЛАХ
	5. EXTRACTING FLUORSPAR (BY HAND OR HAND-TOOL)	5. ЖОНШ ОЛБОРЛОХ (ГАРААР ЭСВЭЛ ГАР БАГАЖААР)
	6. PACKAGING OF FLUORSPAR ORE FOR TRANSPORT	6. ЖОНШНЫ ХҮДРИЙГ ЗӨӨХ, ХАДГАЛАХАД ЗОРИУЛАН САВЛАХ
	7. TRANSPORTING TOOLS/ EQUIPMENT USING CARTS OR BY HAND	7. БАГАЖ ХЭРЭГСЭЛ, ТОНОГ ТӨХӨӨРӨМЖИЙГ ТЭРГЭНЦЭР ЭСВЭЛ ГАРААР ЗӨӨХ

	8. LOADING FLUORSPAR ONTO TRUCKS/TRAINS	8. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД АЧИХ
	9. UNLOADING FLUORSPAR FROM TRUCKS/ TRAINS	9. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД БУУЛГАХ
	10. OPERATING HEAVY MACHINERY	10. ХҮНД МАШИН МЕХАНИЗМ АЖИЛЛУУЛАХ
	11. CONCENTRATING FLUORSPAR	11. ХАЙЛУУР ЖОНШ БАЯЖУУЛАХ
	12. NON-MINING WORK (COOKING, SELLING GOODS, CLEANING)	12. УУЛ УУРХАЙН БУС АЖИЛ (ХООЛ ХИЙХ, БАРАА, БҮТЭЭГДЭХҮҮН ЗАРАХ, ЦЭВЭРЛЭГЭЭ ХИЙХ)
	14. OTHER WORK RELATED TO FLUORSPAR MINING/PROCESSING	14. ЖОНШ ОЛБОРЛОХ/ БОЛОВСРУУЛАХТАЙ ХОЛБООТОЙ БУСАД АЖИЛ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S3Q04A = 14 (OTHER)	S3Q04A_OTHER.	S3Q04A_БУСАД.
	Please specify other work related to fluorspar mining/processing.	Жонш боловсруулах/олборлохтой холбоотой ажлыг тодруулна уу.
	S3Q05.	S3Q05.
	About how many children ages 12 to 14 did you observe working at your worksite in the past week?	Таны ажигласнаар таны ажилладаг уурхайд өнгөрсөн долоо хоногт 12-14 насны хэдэн хүн ажиллаж байсан бэ?

ASK IF S3Q05 IS 1+	S3Q05A.	S3Q05A.
	What are the main tasks you saw children age 12 to 14 perform?	Таны харсан 12-14 насны хүмүүс ихэвчлэн ямар ажлууд гүйцэтгэж байсан бэ?
	1. HAULING WATER, ROCKS, DIRT, AND/OR GANGUE (NON-VALUABLE MATERIAL) FROM MINE	1 УУРХАЙГААС УС, ЧУЛУУ, ШОРОО БА/ЭСВЭЛ ХООСОН ЧУЛУУЛАГ ЗӨӨХ
	2. DIGGING HOLES	2. НҮХ УХАХ
	3. WASHING ORE	3. ХҮДЭР УГААХ
	4. CRUSHING STONE	4. ЧУЛУУ БУТЛАХ
	5. EXTRACTING FLUORSPAR (BY HAND OR HAND-TOOL)	5. ЖОНШ ОЛБОРЛОХ (ГАРААР ЭСВЭЛ ГАР БАГАЖААР)
	6. PACKAGING OF FLUORSPAR ORE FOR TRANSPORT	6. ЖОНШНЫ ХҮДРИЙГ ЗӨӨХ, ХАДГАЛАХАД ЗОРИУЛАН САВЛАХ
	7. TRANSPORTING TOOLS/ EQUIPMENT USING CARTS OR BY HAND	7. БАГАЖ ХЭРЭГСЭЛ, ТОНОГ ТӨХӨӨРӨМЖИЙГ ТЭРГЭНЦЭР ЭСВЭЛ ГАРААР ЗӨӨХ
	8. LOADING FLUORSPAR ONTO TRUCKS/TRAINS	8. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД АЧИХ
	9. UNLOADING FLUORSPAR FROM TRUCKS/ TRAINS	9. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД БУУЛГАХ
	10. OPERATING HEAVY MACHINERY	10. ХҮНД МАШИН МЕХАНИЗМ АЖИЛЛУУЛАХ

	11. CONCENTRATING FLUORSPAR	11. ХАЙЛУУР ЖОНШ БАЯЖУУЛАХ
	12. NON-MINING WORK (COOKING, SELLING GOODS, CLEANING)	12. УУЛ УУРХАЙН БУС АЖИЛ (ХООЛ ХИЙХ, БАРАА, БҮТЭЭГДЭХҮҮН ЗАРАХ, ЦЭВЭРЛЭГЭЭ ХИЙХ)
	14. OTHER WORK RELATED TO FLUORSPAR MINING/PROCESSING	14. ЖОНШ ОЛБОРЛОХ/ БОЛОВСРУУЛАХТАЙ ХОЛБООТОЙ БУСАД АЖИЛ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S3Q05A = 14 (OTHER)	S3Q05A_OTHER.	S3Q05A_БУСАД.
	Please specify other work related to fluorspar mining/processing.	Жонш боловсруулах/олборлохтой холбоотой ажлыг тодруулна уу.
	S3Q06.	S3Q06.
	About how many children ages 11 or under did you observe working at your worksite in the past week?	Таны ажигласнаар таны ажилладаг уурхайд өнгөрсөн долоо хоногт 11 болон түүнээс доош насны хэдэн хүн ажиллаж байсныг та анзаарсан бэ?Таны ажилладаг уурхайд өнгөрсөн долоо хоногт 11 болон түүнээс доош насны хэдэн хүн ажиллаж байхыг та анзаарсан бэ?

	!ERROR!	!АЛДАА!
	RESPONDENT REPORTED ${S1Q09} PEOPLE TOTAL WORK AT WORKSITE (S1Q09)	СУДАЛГААНД ОРОЛЦОГЧ НЬ ${S1Q09} АЖЛЫН ТАЛБАРТ НИЙТ (S1Q09) ХҮН АЖИЛЛАДАГ ГЭЖ ХАРИУЛСАН
	RESPONDENT REPORTED ${numkids} CHILDREN WORK AT WORKSITE (S3Q04 (${S3Q04}) + S3Q05 (${S3Q05}) + S3Q06 (${S3Q06}))	СУДАЛГААНД ОРОЛЦОГЧ НЬ ${numkids} АЖЛЫН ТАЛБАРТ (S3Q04 (${S3Q04}) + S3Q05 (${S3Q05}) + S3Q06 (${S3Q06}))
	NUMBER OF CHILDREN SHOULD BE LESS THAN TOTAL NUMBER OF WORKERS. GO BACK AND CORRECT NUMBERS.	ХҮҮХДҮҮД АЖИЛЛАДАГ ГЭЖ ХАРИУЛСАН ХҮҮХДИЙН ТОО АЖИЛЧДЫН ТООНООС БАГА БАЙХ ЁСТОЙ. БУЦААД, ЗӨВ ТООГ ОРУУЛАХ.
ASK IF S3Q06 IS 1+	S3Q06A.	S3Q06A.
	What are the main tasks you saw children age 11 or under perform?	Таны харсан 11 болон түүнээс доош насны хүмүүс ихэвчлэн ямар ажлууд гүйцэтгэж байсан бэ?
	1. HAULING WATER, ROCKS, DIRT, AND/OR GANGUE (NON-VALUABLE MATERIAL) FROM MINE	1 УУРХАЙГААС УС, ЧУЛУУ, ШОРОО БА/ЭСВЭЛ ХООСОН ЧУЛУУЛАГ ЗӨӨХ
	2. DIGGING HOLES	2. НҮХ УХАХ
	3. WASHING ORE	3. ХҮДЭР УГААХ
	4. CRUSHING STONE	4. ЧУЛУУ БУТЛАХ

5. EXTRACTING FLUORSPAR (BY HAND OR HAND-TOOL)	5. ЖОНШ ОЛБОРЛОХ (ГАРААР ЭСВЭЛ ГАР БАГАЖААР)
6. PACKAGING OF FLUORSPAR ORE FOR TRANSPORT	6. ЖОНШНЫ ХҮДРИЙГ ЗӨӨХ, ХАДГАЛАХАД ЗОРИУЛАН САВЛАХ
7. TRANSPORTING TOOLS/ EQUIPMENT USING CARTS OR BY HAND	7. БАГАЖ ХЭРЭГСЭЛ, ТОНОГ ТӨХӨӨРӨМЖИЙГ ТЭРГЭНЦЭР ЭСВЭЛ ГАРААР ЗӨӨХ
8. LOADING FLUORSPAR ONTO TRUCKS/TRAINS	8. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД АЧИХ
9. UNLOADING FLUORSPAR FROM TRUCKS/ TRAINS	9. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД БУУЛГАХ
10. OPERATING HEAVY MACHINERY	10. ХҮНД МАШИН МЕХАНИЗМ АЖИЛЛУУЛАХ
11. CONCENTRATING FLUORSPAR	11. ХАЙЛУУР ЖОНШ БАЯЖУУЛАХ
12. NON-MINING WORK (COOKING, SELLING GOODS, CLEANING)	12. УУЛ УУРХАЙН БУС АЖИЛ (ХООЛ ХИЙХ, БАРАА, БҮТЭЭГДЭХҮҮН ЗАРАХ, ЦЭВЭРЛЭГЭЭ ХИЙХ)
14. OTHER WORK RELATED TO FLUORSPAR MINING/PROCESSING	14. ЖОНШ ОЛБОРЛОХ/ БОЛОВСРУУЛАХТАЙ ХОЛБООТОЙ БУСАД АЖИЛ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

ASK IF S3Q06A = 14 (OTHER)	S3Q06A_OTHER. Please specify other work related to fluorspar mining/processing.	S3Q06A_БУСАД. Жонш боловсруулах/олборлохтой холбоотой ажлыг тодруулна уу.
	SECTION 4: FOCAL CHILD	ХЭСЭГ #: ЗОРИЛТОТ ХҮҮХЭД
IF R S1Q04 = 1 (HAS CHILDREN 5-17)	S4Q01. Some children help their families by working, and others don't work. How about for you -- Do any of your children help by working in the fluorspar mining sector?	S4Q01. Зарим хүүхдүүд ажил хийж гэр бүлдээ тусалдаг байхад зарим нь ажил хийдэггүй. Харин таны хувьд ямар бэ? – Таны хүүхдүүдийн дунд хайлуур жонштой холбоотой ажил хийж танд тус дэм болдог хүүхдүүд бий юу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q01 = 1 (PARENT OF A WORKER)	We'd like to hear more about how they help. Please pick one of your children age 5 to 17 who works in the fluorspar mining sector.	Таны хүүхдүүд танд хэрхэн тусалдаг талаар асууя Та хайлуур жоншны салбарт ажилладаг 5-17

		насны нэг хүүхдээ сонгож дараах асуултад хариулаарай.
IF S3Q04 = 1+ OR S3Q05 = 1+ OR S3Q06 = 1+ AND S4Q01 <> 1 (NOT PARENT OF A WORKER BUT DOES REPORT CHILDREN AT WORKSITE)	S4Q02. You mentioned there are some people under age 18 at your worksite. Please pick one child whose activities you are most familiar with. Can we ask you some questions about his or her work?	S4Q02. Танай ажлын талбарт 18-аас доош насны хүмүүс ажилдаг гэж та өмнө нь дурдсан. Та хамгийн сайн мэддэг ажилладаг нэг хүүхдийг сонгоно уу. Бид танаас тэр хүүхдийн ажлын талаар хэдэн асуулт асууж болох уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q01 = 1 OR S4Q02 = 1 (THERE'S A FOCAL CHILD)	S4A	S4A
	S4Q03. What is his or her initial or nickname?	S4Q03. Түүний нэрийг эсвэл хочийг нь хэн гэдэг вэ?
	S4Q04. Is ${S4Q03} a boy or a girl?	S4Q04. ${S4Q03} эрэгтэй юу эмэгтэй юу?
	1. MALE	1. ЭРЭГТЭЙ

2. FEMALE	2. ЭМЭГТЭЙ
3. PREFER NOT TO SAY	3. ХЭЛЭХЭЭС ТАТГАЛЗСАН
S4Q05.	S4Q05.
How old is ${S4Q03}?	${S4Q03} хэдэн настай вэ?
S4Q05A.	S4Q05A.
In your estimation, is ${S4Q03} age 11 or under, age 12 to 14, or age 15 to 17?	Таны бодлоор ${S4Q03} 11-ээс доош насны хүүхэд үү? Эсвэл 12-14 эсвэл 15-17 насны хүүхэд үү?
1. AGE 11 OR UNDER	1. 11 ЭСВЭЛ ТҮҮНЭЭС ДООШ
2. AGE 12 TO 14	2. 12-ООС 14 НАСНЫХ
3. AGE 15 TO 17	3. 15-ААС 17 НАСНЫХ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S4Q06.	S4Q06.
Has ${S4Q03} ever attended school?	${S4Q03} сургуульд сурч байсан уу?
1. YES	1. YES
2. NO	2. NO

	77. DON'T KNOW	77. DON'T KNOW
	99. REFUSED	99. REFUSED
IF S4Q06 = 1 (CHILD ATTENDED SCHOOL)	S4Q07A. What is the highest level of education that ${S4Q03} has completed?	S4Q07A. ${S4Q03} хамгийн дээд тал нь ямар түвшний боловсрол эзэмшсэн бэ?
	1. PRESCHOOL/NURSERY SCHOOL	1. СУРГУУЛИЙН ӨМНӨХ/ЦЭЦЭРЛЭГ
	2. SOME PRIMARY	2. БАГА АНГИЙН ЗАРИМ АНГИА Л ТӨГССӨН
	3. COMPLETED PRIMARY	3. БАГА АНГИА ТӨГССӨН
	4. SOME SECONDARY	4. ДУНД АНГИЙН ЗАРИМ АНГИА Л ТӨГССӨН
	5. COMPLETED SECONDARY OR HIGHER	5. ДУНД АНГИ ЭСВЭЛ АХЛАХ СУРГУУЛЬ ТӨГССӨН
	77. DON'T KNOW	77. МЭДЭХГҮЙ

	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q06 = 1 (CHILD ATTENDED SCHOOL)	S4Q07B.	S4Q07B.
	Last week, was ${S4Q03} attending at any school?	Өнгөрсөн долоо хоногт ${S4Q03} сургуульдаа явсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q06 <>1 (NOT ATTENDING SCHOOL)	S4Q07C.	S4Q07C.
	Was ${S4Q03} on a school break?	${S4Q03} сургуулийн амралттай байсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
	S4Q07D.	S4Q07D.
	Did ${S4Q03} do any work in fluorospar in the past week?	${S4Q03} өнгөрсөн долоо хоногт жоншны салбарт ямар нэгэн төрлийн ажил хийсэн үү?

	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q07D = 1	S4A.1	S4A.1
	S4Q08.	S4Q08.
	In which of these activities did ${S4Q03} engage in the past week?	Өнгөрсөн долоо хоногт ${S4Q03} дараах ажил/үйл ажиллагаануудын алинд нь оролцсон бэ?
	1. hauling water, rocks, dirt, and/or gangue (non-valuable material) from mine	1 уурхайгаас ус, чулуу, шороо ба/эсвэл хоосон чулуулаг зөөх
	2. digging holes	2. нүх ухах
	3. washing ore	3. хүдэр угаах
	4. crushing stone	4. чулуу бутлах
	5. extracting fluorspar (by hand or hand-tool)	5. жонш олборлох (гараар эсвэл гар багажаар)
	6. packaging of fluorspar ore for transport	6. жоншны хүдрийг зөөх, хадгалахад зориулан савлах
	7. transporting tools/ equipment using carts or by hand	7. багаж хэрэгсэл, тоног төхөөрөмжийг тэргэнцэр эсвэл гараар зөөх

	8. loading fluorspar onto trucks/trains	8. жоншийг ачааны машин/галт тэргэнд ачих
	9. unloading fluorspar from trucks/ trains	9. жоншийг ачааны машин/галт тэргэнд буулгах
	10. operating heavy machinery	10. хүнд машин механизм ажиллуулах
	11. concentrating fluorspar	11. хайлуур жонш баяжуулах
	12. non-mining work (cooking, selling goods, cleaning)	12. үул үурхайн бус ажил (хоол хийх, бараа, бүтээгдэхүүн зарах, цэвэрлэгээ хийх)
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ТАТГАЛЗСАН
	S4Q08_OTHER_WORK. Did ${S4Q03} do any other work related to fluorspar mining/processing?	S4Q08_OTHER_WORK. ${S4Q03} жонш олборлох/боловсруулахтай холбоотой өөр ажил хийсэн үү?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ТАТГАЛЗСАН
IF S4Q08_OTHER_WORK = 1 (YES)	S4Q08_OTHER_WORK_FOLLOW_UP.	S4Q08_OTHER_WORK_FOLLOW_UP.

S4Q08A.	S4Q08A.
On which of these activities did ${S4Q03} spend the most time?	ХҮҮХЭД дараах ажил/үйл ажиллагаануудын алинд нь хамгийн их цаг зарцуулсан бэ?
1. HAULING WATER, ROCKS, DIRT, AND/OR GANGUE (NON-VALUABLE MATERIAL) FROM MINE	1. УУРХАЙГААС УС, ЧУЛУУ, ШОРОО БА/ЭСВЭЛ ХООСОН ЧУЛУУЛАГ ЗӨӨХ
2. DIGGING HOLES	2. НҮХ УХАХ
3. WASHING ORE	3. ХҮДЭР УГААХ
4. CRUSHING STONE	4. ЧУЛУУ БУТЛАХ
5. EXTRACTING FLUORSPAR (BY HAND OR HAND-TOOL)	5. ЖОНШ ОЛБОРЛОХ (ГАРААР ЭСВЭЛ ГАР БАГАЖААР)
6. PACKAGING OF FLUORSPAR ORE FOR TRANSPORT	6. ЖОНШНЫ ХҮДРИЙГ ЗӨӨХ, ХАДГАЛАХАД ЗОРИУЛАН САВЛАХ
7. TRANSPORTING TOOLS/ EQUIPMENT USING CARTS OR BY HAND	7. БАГАЖ ХЭРЭГСЭЛ, ТОНОГ ТӨХӨӨРӨМЖИЙГ ТЭРГЭНЦЭР ЭСВЭЛ ГАРААР ЗӨӨХ
8. LOADING FLUORSPAR ONTO TRUCKS/TRAINS	8. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРГЭНД АЧИХ
9. UNLOADING FLUORSPAR FROM TRUCKS/ TRAINS	9. ЖОНШИЙГ АЧААНЫ МАШИН/ГАЛТ ТЭРЭГНЭЭС БУУЛГАХ
10. OPERATING HEAVY MACHINERY	10. ХҮНД МАШИН МЕХАНИЗМ АЖИЛЛУУЛАХ

	11. CONCENTRATING FLUORSPAR	11. ХАЙЛУУР ЖОНШ БАЯЖУУЛАХ
	12. NON-MINING WORK (COOKING, SELLING GOODS, CLEANING)	12. УУЛ УУРХАЙН БУС АЖИЛ (ХООЛ ХИЙХ, БАРАА ЗАРАХ, ЦЭВЭРЛЭГЭЭ ХИЙХ)
	13. OTHER WORK RELATED TO FLUORSPAR MINING / PROCESSING : ${S4Q08_OTHER_WORK_FOLLOW_UP}	13. ЖОНШ ОЛБОРЛОХ/ БОЛОВСРУУЛАХТАЙ ХОЛБООТОЙ бусад АЖИЛ: ${S4Q08_OTHER_WORK_FOLLOW_UP}
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
	S4Q09.	S4Q09.
	In total, about how many hours did ${S4Q03} work in fluorspar mining in the past week?	Өнгөрсөн долоо хоногт ${S4Q03} жоншны уурхайд нийт хэдэн цаг орчим ажилласан бэ?
ASK IF S4Q09 = 77 OR 99 & S4Q05 = 15, 16, OR 17	S4Q09A.	S4Q09A.
	In your estimation, did ${S4Q03} work 43 or more hours in fluorspar mining in the past week?	Таны тооцоолсноор ${S4Q03} өнгөрсөн 7 хоногт жоншны уурхайд 43 ба түүнээс дээш цаг ажилласан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

ASK IF S4Q09 = 77 OR 99 & S4Q05 = 12, 13, OR 14	S4Q09B.	S4Q09B.
	In your estimation, did ${S4Q03} work 14 or more hours in fluorspar mining in the past week?	Таны тооцоолсноор ${S4Q03} өнгөрсөн 7 хоногт жоншны уурхайд 14 ба түүнээс дээш цаг ажилласан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S4Q09 = 77 OR 99 & S4Q05 = 11 OR LESS	S4Q09C.	S4Q09C.
	In your estimation, did ${S4Q03} work at least 1 hour in fluorspar mining in the past week?	Таны тооцоолсноор ${S4Q03} өнгөрсөн 7 хоногт жоншны уурхайд дор хаяж 1 цаг ажилласан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
	S4Q10.	S4Q10.
	Now I want you to think about work that ${S4Q03} has been doing during the past week. Was ${S4Q03}…	Би таныг өнгөрсөн долоо хоногт ${S4Q03} хийсэн ажлынх нь талаар бодоод, хариулахыг хүсэж байна.

Carrying or pushing or pulling heavy loads?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10B.

Using powered tools (electric or gas)?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10C.

Using sharp tools?

1. YES

${S4Q03}....

Хүнд ачаа зөөх, түлхэх эсвэл татаж байсан уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10B.

Цахилгаан хэрэгсэл/төхөөрөмж (цахилгаан эсвэл газ/хий) ашиглаж байна уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10C.

Хурц багаж ашиглаж байна уу?

1. ТИЙМ

2. NO	2. ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S4Q10D.	S4Q10D.
Using big or heavy machines, or driving vehicles?	Том эсвэл хүнд машин ашиглах, тээврийн хэрэгсэл жолоодох уу?
1. YES	1. ТИЙМ
2. NO	2. ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S4Q10E.	S4Q10E.
Working with fire, ovens or very hot machines or tools, or unsafe electric wires/cables, where ${S4Q03} might get burned	${S4Q03} түлэгдэж болзошгүй галладаг зуух, хэт халуун машин, багаж хэрэгсэл, аюултай цахилгаан утас/кабельтай ажиллаж байсан уу?
1. YES	1. ТИЙМ
2. NO	2. ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10F.

Working in very a noisy place, so that ${S4Q03} had to shout to speak?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10G.

Working indoors or outdoors where dust, sand, smoke or fumes make it hard to breathe or see clearly?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10H.

S4Q10F.

${S4Q03} хашхирч ярихаас өөр аргагүй маш чанга, чимээ шуугиантай газар ажиллаж байсан уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10G.

Дотор эсвэл гадаа тоостой, элстэй, утаатай, угаартай зэрэг амьсгалахад хэцүү, харахад хэцүү газарт ажиллаж байсан уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10H.

Хэт хүйтэн газарт эсвэл маш их бороотой,

Working in a place that is very cold, or working outdoors in very rainy or wet weather?	чийгтэй цаг агаартай байхад гадаа ажиллаж байсан уу?
1. YES	1. ТИЙМ
2. NO	2. ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S4Q10I.	S4Q10I.
Working long hours in the hot sun without a break?	Халуун наранд олон цагаар завсарлагагүй ажиллаж байсан уу?
1. YES	1. ТИЙМ
2. NO	2. ҮГҮЙ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
S4Q10J.	S4Q10J.
Working below the ground in mining wells or tunnels or other very small spaces?	Газар доор уурхайн худаг, хонгил эсвэл бусад маш жижиг зайд, ажиллаж байсан уу?
1. YES	1. ТИЙМ
2. NO	2. ҮГҮЙ

77. DON'T KNOW

99. REFUSED

S4Q10M.

Working with liquids or powders that irritate your skin, burn easily, give off vapours that smell bad or can explode?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10N.

Working during the night-time or very early in the morning, when it is dark, including going to or from work when it is dark?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10M.

Арьсыг цочроох, түлэх, муухай үнэртэй үүр ялгаруулдаг, тэсэрч дэлбэрэх шингэн эсвэл нунтагтай ажиллаж байсан уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10N.

Шөнийн цагаар эсвэл өглөө эрт үүрээр, харанхуй үед ажилдаг уу? Мөн харанхуй үед ажилдаа явах, ажлаасаа тардаг?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10O.

Working in contact with large domestic animals (e.g., camels, cattle, goats, sheep), wild animals (e.g., snakes, bears, marmots) or around animal manure (e.g., manure pits, cleaning stalls)?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10P.

Doing the same task over and over again at a fast pace for long hours?

1. YES

2. NO

77. DON'T KNOW

99. REFUSED

S4Q10O.

Таван хошуу мал (жишээлбэл, тэмээ, үхэр, ямаа, хонь), зэрлэг ан амьтад (жишээлбэл, могой, баавгай, тарвага) эсвэл малын бууц (жишээ нь, малын саравч, бууц цэвэрлэх) зэрэгтэй холбоотой ажил хийдэг үү уу?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

S4Q10P.

Нэг ажлыг олон цагаар хурдтайгаар, давтаж хийдэг үү?

1. ТИЙМ

2. ҮГҮЙ

77. МЭДЭХГҮЙ

99. ХАРИУЛАХААС ТАТГАЛЗСАН

	S4Q11.	S4Q11.
	Does ${S4Q03} usually wear any protective gear while working?	ХҮҮХЭД ажлаа хийхдээ хамгаалалтын хэрэгсэл ашигладаг үү?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q11 = 1 (WEARS PROTECTIVE GEAR)	S4Q11A.	S4Q11A.
	What does ${S4Q03} wear?	ХҮҮХЭД ямар хамгаалалтын хэрэгсэл ашигладаг вэ?
	1. PROTECTIVE GOGGLES	1. ХАМГААЛАЛТЫН НҮДНИЙ ШИЛ
	2. HELMET	2. ДУУЛГА
	3. EAR-PLUGS	3. ЧИХНИЙ БӨГЛӨӨ
	4. FACE SHIELD	4. НҮҮРНИЙ ХАМГААЛАЛТ
	5. RESPIRATOR OR DUST MASK	5. ТООСНООС ХАМГААЛАХ АМЬСГАЛЫН МАСК
	6. PROTECTIVE CLOTHING (EX: COVERALLS, HEADLAMP)	6. ХАМГААЛАЛТЫН ХУВЦАС (ЖИШЭЭ НЬ: АЖЛЫН ХУВЦАС, ТОЛГОЙН ГЭРЭЛ)
	7. GLOVES	7. БЭЭЛИЙ

	8. SHOES	8. ГУТАЛ
	9. OTHER	9. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S4Q11A = 9 (OTHER)	S4Q11A_OTHER.	S4Q11A_БУСАД.
	Please specify.	БУСАД ХАРИУЛТЫГ БИЧИХ
	S4Q12.	S4Q12.
	Has ${S4Q03} ever gotten hurt or sick because of their work in this job?	${S4Q03} энэ ажлынхаа улмаас гэмтэж, бэртэх эсвэл өвдөж байсан тохиолдол байгаа уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF EVER S4Q12 = 1 (HURT/SICK)	S4Q12A.	S4Q12A.
	What types of injury or sickness has ${S4Q03} had?	${S4Q03} ямар төрлийн өвчин, бэртэл эсвэл гэмтэл авч байсан бэ?
	1. HEAD INJURY	1. ТОЛГОЙН ГЭМТЭЛ

2. INJURY TO OR DEAFNESS IN EARS	2. ЧИХ ГЭМТЭХ ЭСВЭЛ СОНСГОЛГҮЙ БОЛОХ
3. EYE INJURY	3. НҮДНИЙ ГЭМТЭЛ
4. INJURY TO SHOULDER	4. МӨРНИЙ ГЭМТЭЛ
5. INJURY TO OR SWELLING IN HANDS	5. ГАР ГЭМТЭХ, ХАВАГНАХ
6. SMOKE, DUST, OR CHEMICAL DAMAGE TO LUNGS	6. УТАА, ТООС, ХИМИЙН ГАРАЛТАЙ БОДИСООС УЛБААЛСАН УУШГИНЫ ГЭМТЭЛ
7. INJURY TO ABDOMEN	7. ХЭВЛИЙН ГЭМТЭЛ
8. BACK STRAIN/ PAIN IN BACK	8. НУРУУ ЯНГИНАХ/НУРУУНЫ ӨВДӨЛТ
9. INJURY TO KNEES OR LEGS	9. ӨВДӨГ, ХӨЛИЙН ГЭМТЭЛ
10. TWISTED ANKLE	10. ШАГАЙГАА МУЛТЛАХ, ГЭМТЭЭХ
11. INJURY TO FEET	11. ТАВХАЙГАА ГЭМТЭЭХ
12. HEAT STROKE / DEHYDRATION	12. НАРШИХ/ ШИНГЭНИЙ ДУТАГДАЛ
13. SKIN IRRITATION / INFECTION	13. АРЬС ЦОЧРОХ/ХАЛДВАР АВАХ
14. FROSTBITE / COLD RELATED INJURIES	14. ХӨЛДӨХ / ХҮЙТНИЙ УЛМААС ГЭМТЭХ
15. CUTS/WOUNDS	15. ЭСГЭХ, ЗҮСЭХ/ШАРХ АВАХ
16. OTHER	16. БУСАД
77. DON’T KNOW	77. МЭДЭХГҮЙ

	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S4Q12A = 16 (OTHER)	S4Q12A_OTHER.	S4Q12A_БУСАД.
	Please specify.	БУСАД ХАРИУЛТЫГ БИЧИХ
IF EVER S4Q12 = 1 (HURT/SICK)	S4Q12B.	S4Q12B.
	How did ${S4Q03} get hurt or sick?	${S4Q03} яаж байгаад бэртсэн/өвдсөн бэ?
	1. FALLING ROCK	1. ЧУЛУУ УНАСАН
	2. TOOL ACCIDENT	2. БАГАЖ ХЭРЭГСЭЛТЭЙ АЖИЛЛАЖ БАЙГААД ОСОЛ ГАРСАН
	3. MACHINERY ACCIDENT	3. ТОНОГ ТӨХӨӨРӨМЖИЙН ОСОЛ
	4. INSUFFICENT VENTILATION / INHALING DUST OR PARTICLES	4. АГААРГҮЙДЭХ/ ТООС, ТООСОНЦОР ИХТЭЙ АГААРААР АМЬСГАЛАХ
	5. VIOLENCE BY COWORKER/EMPLOYER	5. ХАМТРАН АЖИЛЛАГЧ/ АЖИЛ ОЛГОГЧИЙН ЗҮГЭЭС ХҮЧИРХИЙЛСЭН
	6. EXPOSURE TO EXTREME WEATHER	6. ЦАГ АГААРЫН ОНЦ НОЦТОЙ БАЙДАЛД АЖИЛЛАСНЫ УЛМААС
	7. TUNNEL/ MINE COLLAPSE	7. ХОНГИЛ/ УУРХАЙ НУРСАН
	8. EXPLOSIONS	8. ДЭЛБЭРЭЛТ
	9. CARRYING HEAVY LOADS	9. ХҮНД АЧАА ӨРГӨСӨН

	10. OTHER	10. БУСАД
	77. DON’T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S4Q12B = 10 (OTHER)	S4Q12B_OTHER.	S4Q12B_БУСАД.
	Please specify.	БУСАД ХАРИУЛТЫГ БИЧИХ
	S4Q13.	S4Q13.
	Does the employer ever do anything to make ${S4Q03} work harder or faster?	Ажил олгогчоос ${S4Q03} их ажиллуулах эсвэл хурдан ажиллуулахын тулд ямар нэгэн зүйл хийдэг үү?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q13 = 1 (YES)	S4Q13A.	S4Q13A.
	What does the employer do to make the ${S4Q03} work harder or faster?	Ажил олгогчоос ${S4Q03} илүү шаргуу эсвэл хурдан ажиллуулахын тулд юу хийдэг вэ?

1. THREATS OR VIOLENCE AGAINST ${S4Q03} OR ${S4Q03}'S FAMILY BY EMPLOYER/RECRUITER	1. АЖИЛ ОЛГОГЧ/ЗУУЧЛАГЧИЙН ЗҮГЭЭС ХҮҮХЭД ЭСВЭЛ ${S4Q03} ГЭР БҮЛИЙГ ЗАНАЛХИЙЛЭХ ЭСВЭЛ ХҮЧИРХИЙЛЭХ
2. RESTRICTION ON ${S4Q03}'S MOVEMENT	2. ${S4Q03} ХӨДӨЛГӨӨНИЙГ ХЯЗГААРЛАХ
3. DEBT BONDAGE OR MANIPULATION OF DEBT (DEBT TO EMPLOYER/RECRUITER)	3.ӨР ЗЭЭЛЭЭР БАРЬЦААЛАХ ЭСВЭЛ ЗЭЭЛИЙН ДАРАМТ ҮЗҮҮЛЭХ (АЖИЛ ОЛГОГЧ/ЗУУЧЛАГЧААС АВСАН ӨРТЭЙ БАЙВАЛ)
4. WITHHOLDING OF WAGES OR OTHER PROMISED BENEFITS	4. ЦАЛИН ЭСВЭЛ БУСАД АМЛАСАН ШАН ХАРАМЖААСАА СУУТГАХ
5. FINE OR DEDUCTION FROM WAGES	5. ЦАЛИНГААС ТОРГУУЛЬ, ХАСАЛТ ХИЙХ
6. WITHHOLDING OF VALUABLE DOCUMENTS (SUCH AS IDENTITY DOCUMENTS, SCHOOL CERTIFICATES, OR RESIDENCE PERMITS)	6. ЧУХАЛ БАРИМТ БИЧГҮҮДИЙГ (ИРГЭНИЙ БАРИМТ БИЧИГ, СУРГУУЛИЙН ГЭРЧИЛГЭЭ, ОРШИН СУУХ ЗӨВШӨӨРЛИЙН БАРИМТ БИЧИГ) БАРЬЦААЛАХ
7. DEPORTATION OR THREATS OF DEPORTATION (FOR CHINESE/ KAZAKH MINING FAMILIES)	7. АЛБАДАН ГАРГАХ ЭСВЭЛ АЛБАДАН ГАРГАНА ГЭЖ СҮРДҮҮЛЭХ, ЗАНАЛХИЙЛЭХ (ХЯТАД, КАЗАК ЭСВЭЛ ГАДААДЫН ИРГЭН,ГЭР БҮЛ БАЙВАЛ)
8. EXCLUSION FROM FUTURE EMPLOYMENT	8. ИРЭЭДҮЙД ХӨДӨЛМӨР ЭРХЛЭХЭД НЬ САД БОЛОХ
9. EMPLOYER WOULD HAVE CAUSED OTHER PEOPLE FROM ${S4Q03}'S FAMILY TO LOSE THEIR JOBS/LAND/ASSETS	9. АЖИЛ ОЛГОГЧ ОРОЛЦОГЧИЙН ГЭР БҮЛИЙН БУСАД ГИШҮҮД АЖИЛ/ГАЗАР/ ХӨРӨНГӨӨ АЛДАХАД ХҮРГЭХ

	10. DENIAL OF RIGHTS OR PRIVILEGES	10. ЭРХ, ДАВУУ ЭРХИЙГ ҮГҮЙСГЭХ
	11. DISMISSAL OR THREATS OF DISMISSAL	11. АЖЛААС ХАЛАХ ЭСВЭЛ ХАЛНА ГЭЖ СҮРДҮҮЛЭХ, ЗАНАЛХИЙЛЭХ
	55. OTHER	55. БУСАД
	66. NOTHING / EARN LESS MONEY / REPUTATION WOULD SUFFER	66. ЮУ Ч ХИЙДЭГГҮЙ/ БАГА МӨНГӨ ОЛОХ/ АЖЛЫН БАЙРАН ДЭЭРЭЭ НЭР ХҮНДЭЭ АЛДАХ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S4Q13A = 10 (DENIAL OF RIGHTS OR PRIVILIGES)	S4Q13A_OTHER_RP. Which rights or privileges would be denied?	S4Q13A_БУСАД_ЭРХ. Ямар эрх, давуу эрхийг үгүйсгэдэг вэ?
ASK IF S4Q13A = 55	S4Q13A_OTHER. Please specify.	S4Q13A_БУСАД. Тодруулна уу.
	S4Q14. Has ${S4Q03} even been punished for mistakes at work?	S4Q14. ${S4Q03} ажил дээрээ алдаа гаргасныхаа төлөө шитгүүлж байсан уу?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ

	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q14 = 1 (YES)	S4Q14A.	S4Q14A.
	How has ${S4Q03} been punished at work?	${S4Q03} яаж шийтгүүлж байсан бэ?
	1. VERBAL ABUSE	1. ҮГ, ХЭЛ АМААР ДАРАМТЛАХ, ХҮЧИРХИЙЛЭХ
	2. PHYSICAL VIOLENCE	2. БИЕ МАХБОДЫН ХҮЧИРХИЙЛЭЛ
	3. DEDUCTIONS FROM WAGES	3. ЦАЛИНГИЙН СУУТГАЛ
	4. DISAGREEABLE WORK ASSIGNMENTS	4. САНАЛ НИЙЛЭХ БОЛОМЖГҮЙ/ САНАЛ НИЙЛЭХЭД ХЭЦҮҮ АЖЛЫН ДААЛГАВРУУД
	5. ADDITIONAL WORK ASSIGNMENTS	5. НЭМЭЛТ АЖЛЫН ДААЛГАВРУУД
	6. ADDITIONAL WORK HOURS	6. НЭМЭЛТ АЖЛЫН ЦАГ
	7. OTHER	7. БУСАД
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
ASK IF S4Q14A = 7 (OTHER)	S4Q14A_OTHER.	S4Q14A_БУСАД.
	Please specify.	БУСАД ХАРИУЛТЫГ БИЧИХ.

	S4Q15.	S4Q15.
	Would ${S4Q03} be allowed to leave the workplace if ${S4Q03} were very ill, injured, had a serious family problem or wanted to quit?	Хэрвээ ${S4Q03} хүнд өвчтэй, бэртэж гэмтсэн, гэр бүлийн ноцтой асуудал гарсан эсвэл ажлаас гарахыг хүссэн үедээ ажлын байраа орхихыг зөвшөөрдөг үү?
	1. YES	1. ТИЙМ
	2. NO	2. ҮГҮЙ
	77. DON'T KNOW	77. МЭДЭХГҮЙ
	99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН
IF S4Q15 = 2 (NO)	S4Q15A.	S4Q15A.
	Why not?	Яагаад үгүй гэж?
	1. THREATS OR VIOLENCE AGAINST ${S4Q03} OR ${S4Q03}'S FAMILY BY EMPLOYER/RECRUITER	1. АЖИЛ ОЛГОГЧ/ЗУУЧЛАГЧИЙН ЗҮГЭЭС ХҮҮХЭД ЭСВЭЛ ${S4Q03} ГЭР БҮЛИЙГ ЗАНАЛХИЙЛЭХ ЭСВЭЛ ХҮЧИРХИЙЛЭХ
	2. RESTRICTION ON ${S4Q03}'S MOVEMENT	2. ${S4Q03} ХӨДӨЛГӨӨНИЙГ ХЯЗГААРЛАХ
	3. DEBT BONDAGE OR MANIPULATION OF DEBT (DEBT TO EMPLOYER/RECRUITER)	3.ӨР ЗӘЭЛЭЭР БАРЬЦААЛАХ ЭСВЭЛ ЗӘЭЛИЙН ДАРАМТ ҮЗҮҮЛЭХ (АЖИЛ ОЛГОГЧ/ЗУУЧЛАГЧААС АВСАН ӨРТЭЙ БАЙВАЛ)
	4. WITHHOLDING OF WAGES OR OTHER PROMISED BENEFITS	4. ЦАЛИН ЭСВЭЛ БУСАД АМЛАСАН ШАН ХАРАМЖААСАА СУУТГАХ

5. FINE OR DEDUCTION FROM WAGES	5. ЦАЛИНГААС ТОРГУУЛЬ, ХАСАЛТ ХИЙХ
6. WITHHOLDING OF VALUABLE DOCUMENTS (SUCH AS IDENTITY DOCUMENTS, SCHOOL CERTIFICATES, OR RESIDENCE PERMITS)	6. ЧУХАЛ БАРИМТ БИЧГҮҮДИЙГ (ИРГЭНИЙ БАРИМТ БИЧИГ, СУРГУУЛИЙН ГЭРЧИЛГЭЭ, ОРШИН СУУХ ЗӨВШӨӨРЛИЙН БАРИМТ БИЧИГ) БАРЬЦААЛАХ
7. DEPORTATION OR THREATS OF DEPORTATION (FOR CHINESE/ KAZAKH MINING FAMILIES)	7. АЛБАДАН ГАРГАХ ЭСВЭЛ АЛБАДАН ГАРГАНА ГЭЖ СҮРДҮҮЛЭХ, ЗАНАЛХИЙЛЭХ
8. EXCLUSION FROM FUTURE EMPLOYMENT	8. ИРЭЭДҮЙД ХӨДӨЛМӨР ЭРХЛЭХЭД НЬ САД БОЛОХ
9. EMPLOYER WOULD HAVE CAUSED OTHER PEOPLE FROM ${S4Q03}'S FAMILY TO LOSE THEIR JOBS/LAND/ASSETS	9. АЖИЛ ОЛГОГЧ ОРОЛЦОГЧИЙН ГЭР БҮЛИЙН БУСАД ГИШҮҮД АЖИЛ/ГАЗАР/ ХӨРӨНГӨӨ АЛДАХАД ХҮРГЭХ
10. DENIAL OF RIGHTS OR PRIVILEGES	10. ЭРХ, ДАВУУ ЭРХИЙГ ҮГҮЙСГЭХ
11. DISMISSAL OR THREATS OF DISMISSAL	11. АЖЛААС ХАЛАХ ЭСВЭЛ ХАЛНА ГЭЖ СҮРДҮҮЛЭХ, ЗАНАЛХИЙЛЭХ
55. OTHER	55. БУСАД
66. NOTHING / EARN LESS MONEY / REPUTATION WOULD SUFFER	66. АЛЬ НЬ Ч БИШ/ БАГА МӨНГӨ ОЛОХ/ НЭР ХҮНДЭЭ АЛДАХ
77. DON'T KNOW	77. МЭДЭХГҮЙ
99. REFUSED	99. ХАРИУЛАХААС ТАТГАЛЗСАН

ASK IF S4Q15A = 10 (DENIAL OF RIGHTS OR PRIVILIGES)	S4Q15A_OTHER_RP.	S4Q15A_БУСАД_ЭРХ.
	Which rights or privileges would be denied?	Ямар эрх, давуу эрхийг үгүйсгэдэг вэ?
ASK IF S4Q15A = 55	S4Q15A_OTHER.	S4Q15A_БУСАД.
	Please specify.	Тодруулна уу.
	S4Q16.	S4Q16.
	What is the name of the place where you work (worked) for the job we've been talking about?	Бидний саяны ярилцсан буюу таны одоо ажиллаж буй эсвэл өмнө нь ажиллаж байсан газрын нэр юу вэ?
	S4Q16A.	S4Q16A.
	Where is your workplace located?	Танай ажлын газар хаана байдаг вэ?
	END INTERVIEW	СУДАЛГААГ ДУУСГАХ
	Thank you very much for sharing your experience.	Туршлагаасаа хуваалцсан танд баярлалаа.
	INTERVIEWER NOTES:	СУДЛААЧИЙН ТЭМДЭГЛЭЛ:

RESPONDENT ID: UNIQUE ID: ${regionID}${researcherID}${respondentNum}

UNIQUE ID: ${regionID}${researcherID}${respondentNum}