

**Appendix J Surface Water and Groundwater Survey
Report**

Metagro project site

Water Survey Report

Kherlen soum, Khentii province

June & October 2023



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Acronyms and Abbreviations

BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
ISO	International Standardization Organization
DO	Dissolved Oxygen
LLC	Limited Liability Company
MNS	Mongolian National Standard
SW	Surface Water
TVC	Total Viable Count

1 Introduction

The report presents the results of surface water and groundwater surveys that were carried out from 29th June to 3rd July and from 2nd October to 6th October 2023 respectively in the Metagro Project site located in Kherlen soum, Khentii province.

2 Survey Aim and Objectives

There are 72 community water wells, 10 ponds / surface water bodies and 9 springs listed in the local Ulziit Community Database in proximity to the Metagro site, see figures below.

The aim of the water survey was to check and collect information on surface water quality and community wells within or in the vicinity of MetAgro project site. The objectives of these tasks included:

- To establish good baseline data of water quality of the nearby Murun River watercourse; and
- To establish good baseline data or existing condition of community water wells within or in vicinity of MetAgro Project site.

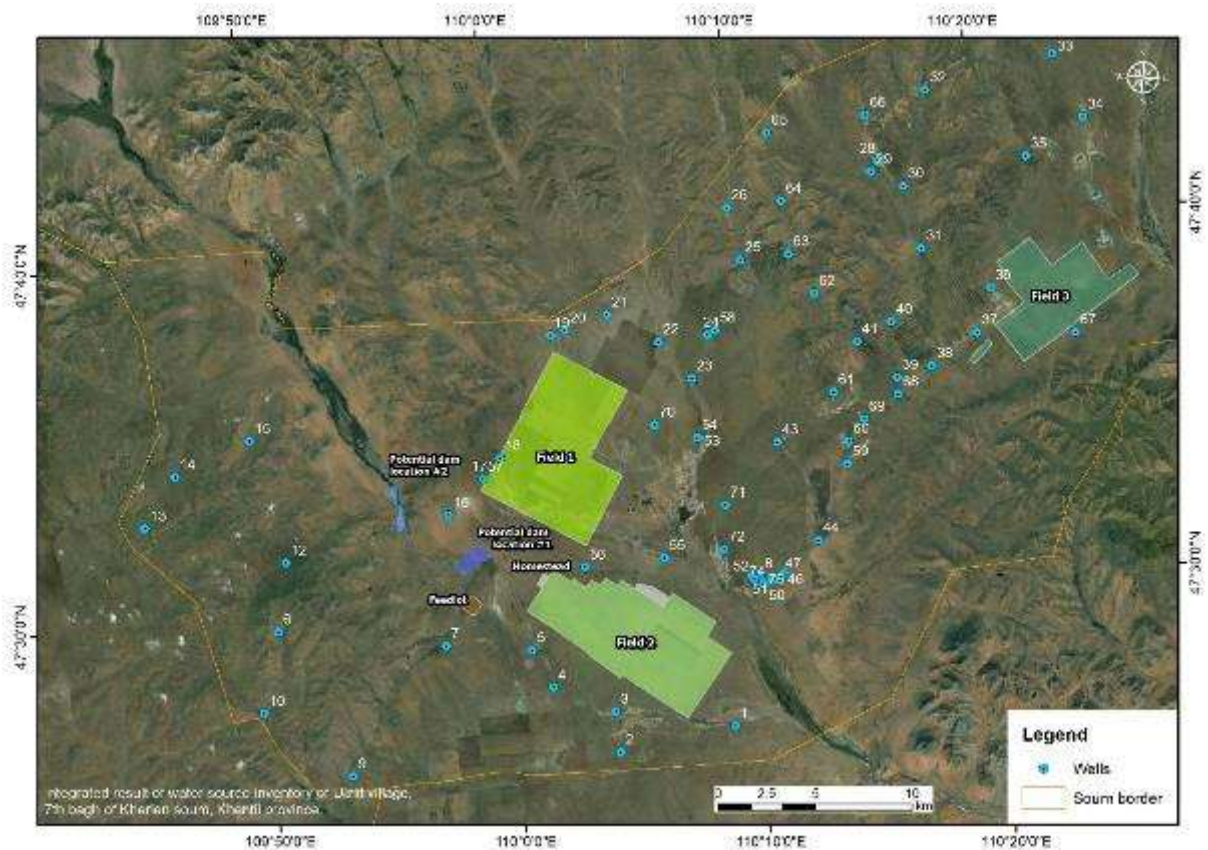


Figure 2-1 - Location of Water Wells in Ulziit Community Database

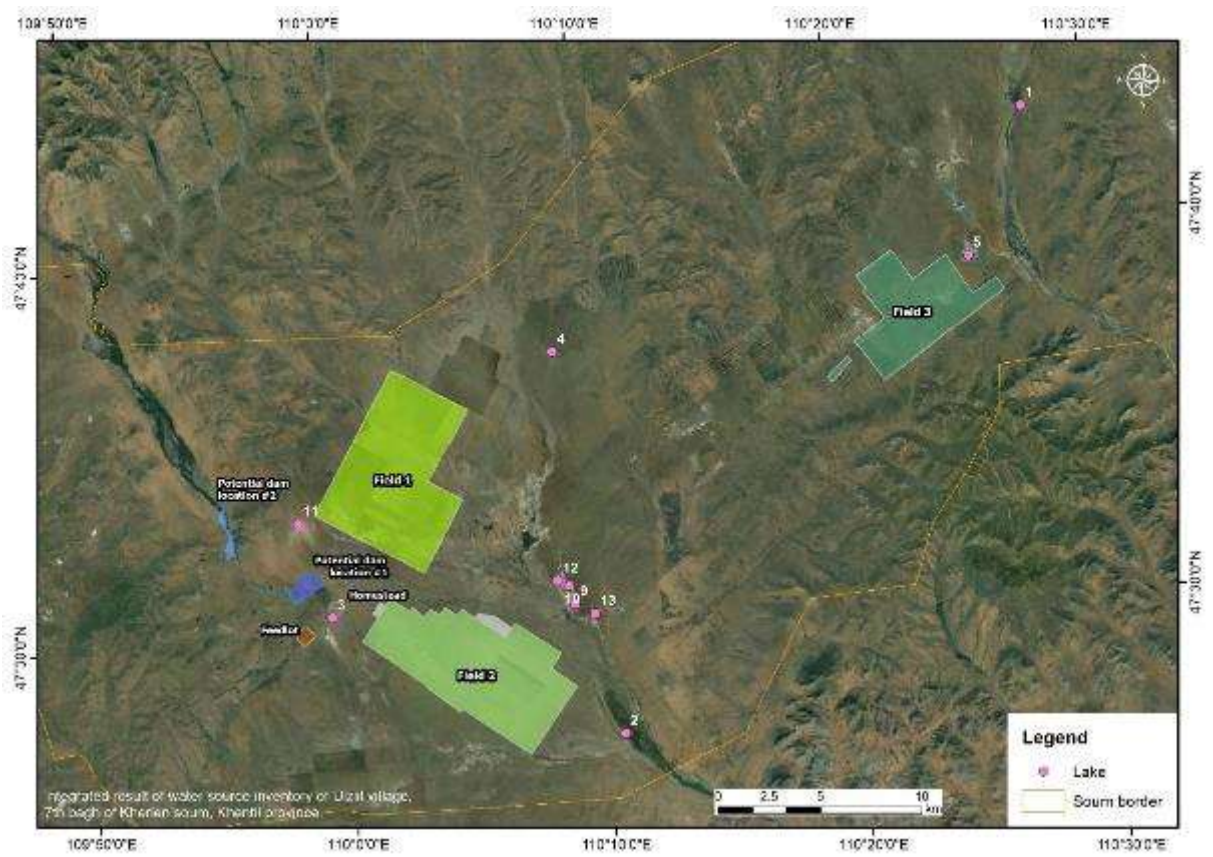


Figure 2-2 - Location of Ponds / Lakes in Ulziit Community Database

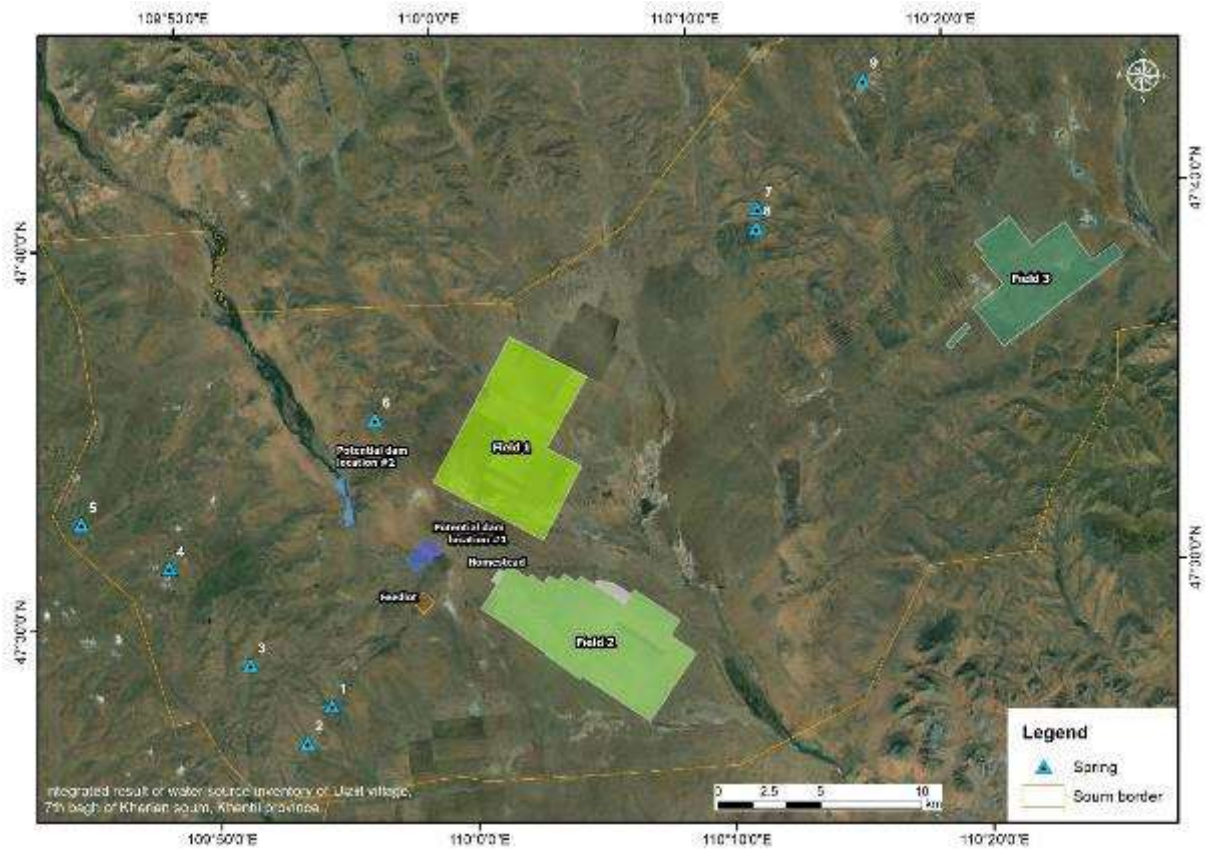


Figure 2-3 - Location of Springs in Ulziit Community Database

3 Survey Methodology

Surface water quality sampling at selected points along the nearby Murun River Water Course

- To do water quality sampling at selected points along the nearby Murun River watercourse;
- Compare results to MNS 0900:2018 (Environmental. Health protection. Safety. Drinking water. Hygienically requirements, assessment of the quality and safety) and MNS 4586:1998 (Water quality. General requirements)

Community well survey

- To obtain information of nearby community wells from local administration /Ulziit village/
- To visit local wells and take photos for documentation of the existing condition
- To measure accessible wells for their depth and diameter
- To describe construction of wells e.g. engineered or hand dug etc.

Survey period: Between 29th June to 3rd July and from 2nd October to 6th October 2023.



Figure 3-1 - Measuring process of wells water level /Ariin well/

4 Survey Results – Surface Water

In July and October 2023, water samples were repeatedly taken from 4 surface water sampling points (Figure 4-1). The coordinates, locations and photographs of the sampling points are shown below.

Table 4-1 - Coordinates of surface water sampling points

Sampling points	Location			Altitude /meter/
		E	N	
SW01	Upper stream of the potential dam location#2	109° 55' 17.6"	47° 33' 43.97"	1173
SW02	Downstream of the potential dam location#1	109° 59' 16.7"	47° 31' 31.08'	1153
SW03	Southeast of the Metagro project site	110° 11' 21.9"	47° 26' 57.88"	1109
SW04	Upper stream of the Murun soum center	110° 17' 56.3"	47° 23' 35.05"	1094

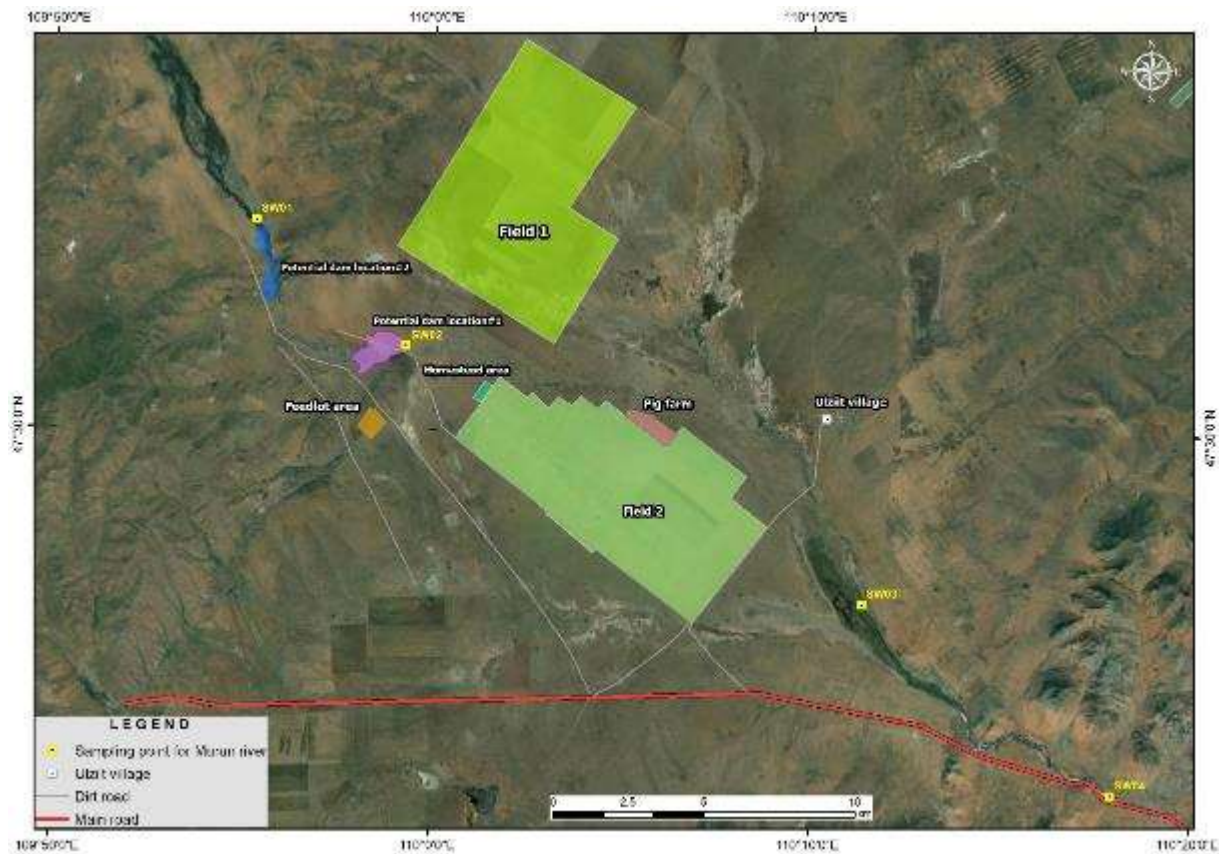
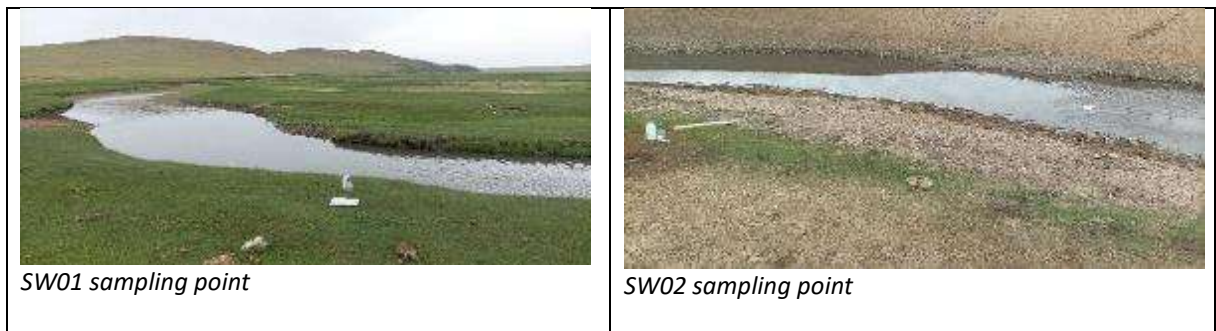
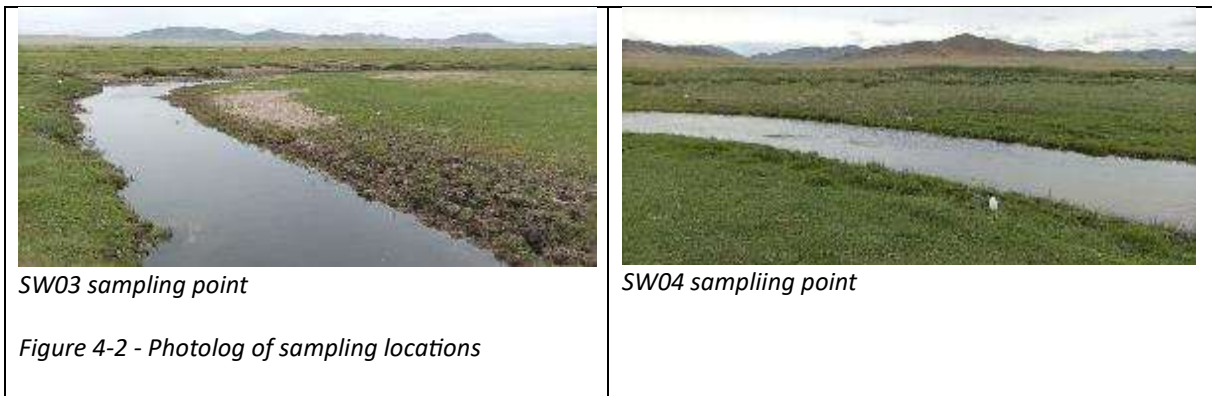


Figure 4-1 - Location of surface water sampling points



SW01 sampling point

SW02 sampling point



Water samples were collected for general water analysis and bacteriological analysis (2 samples from each point). The MNS ISO 5667-6:2001, Environment. Water quality. Part 6: Guidance on sampling of rivers and streams, standard was followed for taking and transporting samples.

4.1 Laboratory test results

The water samples were subjected to General water analysis and Bacteriological analysis in the Khanlab LLC accredited laboratory.

The analysis result is compared with the MNS 0900:2018 (Environmental. Health protection. Safety. Drinking water. Hygienically requirements, assessment of the quality and safety) and MNS 4586:1998 standards and results are shown in the following table.

4.2 General water quality test results

According to the results of laboratory analysis, the concentration of the substances in the water samples did not exceed the permissible level of MNS 0900:2018 and MNS 4586:1998 standards. In other words, the surface water near the project site has no significant harm for herders' domestic consumption and watering their animals.

Table 4-2 - Laboratory analysis result of water general elements

No.	Determination	Units	SW01		SW02		SW03		SW04		MNS	MNS
			July 2023	Oct 2023	July 2023	Oct 2023	July 2023	Oct 2023	July 2023	Oct 2023	0900:2018	4586:1998
1	pH	-	8.01	8.27	8.36	8.35	7.95	8.15	8.26	8.37	6.5-8.5	6.5-8.5
2	Potassium (K ⁺)	mg/l	2.11	1.77	2.29	1.80	1.65	3.35	1.87	1.76		
3	Sodium (Na ⁺)	mg/l	16.54	13.71	18.76	13.54	18.34	28.42	24.62	22.42	200.0	
4	Calcium (Ca ²⁺)	mg/l	44.82	40.09	51.52	38.50	47.65	76.98	58.3	48.56	100.0	
5	Magnesium (Mg ²⁺)	mg/l	7.62	7.98	10.51	7.91	9.84	19.29	15.12	14.86	30.0	
6	Ammonium (NH ₄ ⁺)	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.40	1.5	
7	Chloride (Cl ⁻)	mg/l	5.1	5.10	<3.0	5.10	3.4	4.91	3.4	11.91	350.0	300
8	Sulfate (SO ₄ ²⁻)	mg/l	13.08	<5.0	59.51	<5.0	5.15	<5.0	62.81	27.17	500.0	100
9	Nitrite (NO ₂)	mg/l	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.0	
10	Nitrate (NO ₃)	mg/l	0.55	0.15	0.64	0.15	0.67	0.18	0.61	0.37	50.0	
11	Carbonate (CO ₃ ²⁻)	mg/l	1.5	9.00	9	6.00	<1.50	12.00	9	15.00		
12	Bicarbonate (HCO ₃ ²⁻)	mg/l	198.3	164.8	170.8	177.0	247.1	372.2	219.6	213.6		
13	Total Hardness	mg-equ/l	2.86	2.66	3.44	2.57	3.19	5.43	4.15	3.65	7.0	
14	Total dissolved solid. TDS	mg/l	218	168	262	164	238	340	316	258		
15	Conductivity, EC	µS/cm	340	276.6	432.8	263.2	412.5	607.0	521.4	421.5	1000	
16	Oxidation KMnO ₄	mgO ₂ /l	5.6	3.68	17.12	4.40	3.36	9.76	14.8	2.40		
17	Total suspended solids, TSS	mg/l	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0		
18	Phosphate, PO ₄ ³⁻	mg/l	0.47	<0.05	0.35	<0.05	0.25	<0.05	0.11	<0.05	3.5	
19	Fluoride, F	mg/l	0.56	0.62	0.52	0.54	0.6	0.60	0.56	0.52		1.5
20	Hydrogen sulfide, H ₂ S	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	
21	Chlor _{free} (Cl ⁻)	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.2-0.3	
22	Turbidity, NTU	mg/l	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	5.0	
23	COD	mgO ₂ /l	<20.0	<20.0	<20.0	<70.0	<20.0	<20.0	<20.0	<20.0		10
24	BOD	mgO ₂ /l	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0		3
25	Chromium, Cr (VI)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		0.01
26	DO	mgO ₂ /l	0.2	0.16	4.1	3.64	0.3	0.26	0.2	0.32		Not lower than 6&4
27	Total alkaline /as CaCO ₃ /	mg/l	165	150.0	155	155.0	202.5	325.0	195	200.0		
28	Bromide, Br	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		

Source: Khanlab laboratory analysis result, 2023 July 21, and 2023 October 24
 Comment: MNS 0900:2018 Environmental. Health protection. Safety. Drinking water. Hygienically requirements, assessment of the quality and safety
 MNS 4586:1998 Water quality. General requirements

4.3 Bacteriological test results of water

Bacteriological analysis results of water samples are summarized and compared with the permissible level of the MNS 0900:2018 Environment. Health protection. Safety. Drinking water. Hygienically requirements, assessment of the quality and safety standard and shown as below.

According to the result analysis of the lab, none of the relevant bacteria has detected from the water samples. Therefore, surface water near the project site can be used for herders' domestic consumption and watering their animals.

Table 4-3 - Surface water samples were taken bacteriological test results

No.	SAMPLE ID	Sampling months in 2023	TVC in 1 ml	Total coliform	Total termotolerant coliform and presumptive Escherichia coli FC-faecal coliform	Pathogenic bacteria (Salmonella)	Clostridium perfringens
1	SW01	July	18	not detected	not detected	not detected	not detected
		October	36	not detected	not detected	not detected	not detected
2	SW02	July	11	not detected	not detected	not detected	not detected
		October	26	not detected	not detected	not detected	not detected
3	SW03	July	27	not detected	not detected	not detected	not detected
		October	11	not detected	not detected	not detected	not detected
4	SW04	July	34	not detected	not detected	not detected	not detected
		October	31	not detected	not detected	not detected	not detected
Maximum permissible level /MNS 0900:2018/			100	not detect in 100ml	not detect in 100ml	not detect in 25ml	not detect in 100ml
Source: Khanlab laboratory analysis result, 2023 July 21, and 2023 October 19 Comment: MNS 0900:2018 Environment. Health protection. Safety. Drinking water. Hygienically requirements, assessment of the quality and safety							

5 Survey Results – Community Wells

Most of the community wells near the Metagro project site are used by herders for domestic consumption and watering their animals.

During the field survey, a total of 29 wells in closest proximity to Metagro Farm were reviewed, see figure below.

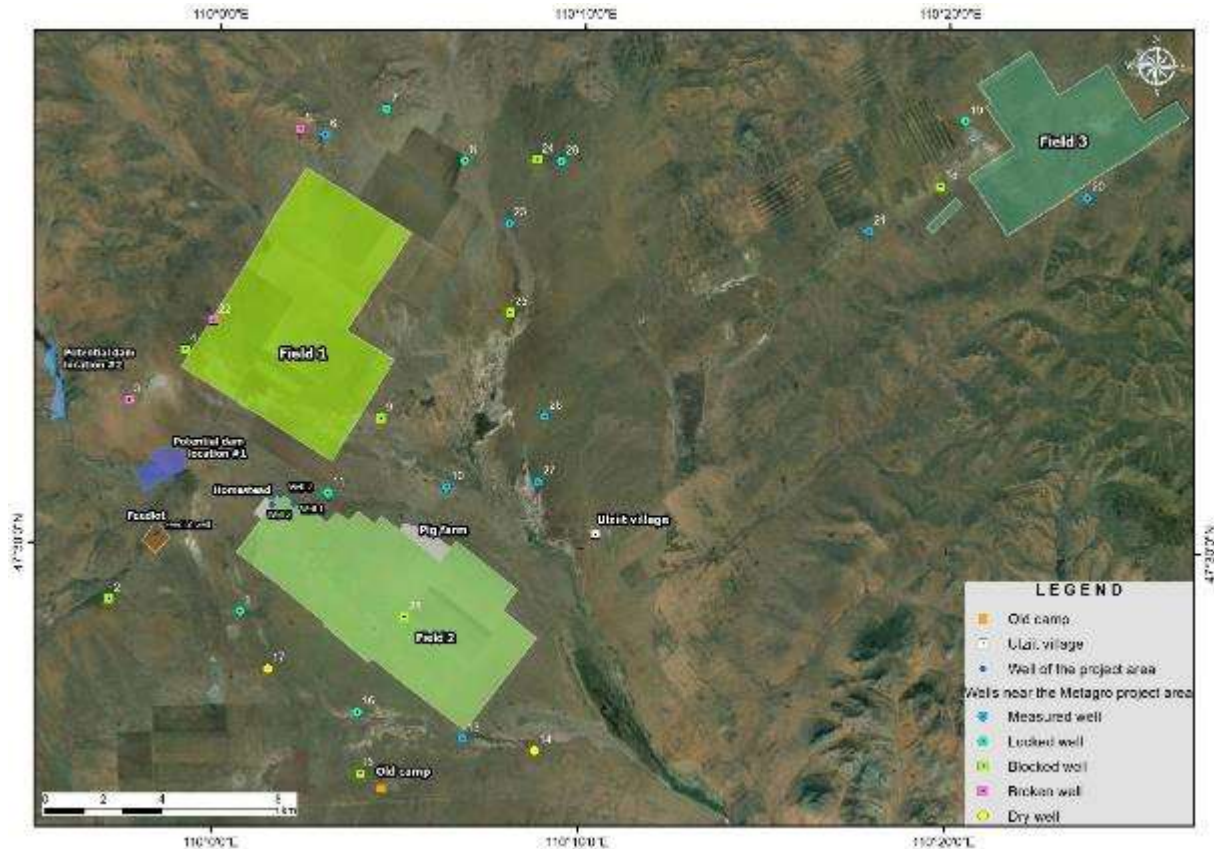


Figure 5-1 Well's locations marked by field survey

- 8 wells' water levels were measured since measurement activity could be done due to constraint and accessibility issues.
- 21 wells are locked, blocked, damaged, dried up or covered with objects, see figure below
 - 12 wells are closed and covered with objects
 - 2 wells (Bulan ders and Khar nuur) are dried up and
 - 3 wells (Ikh Ulziit, Baruun chandgana baruun door and Third brigade) are in a damaged condition.

We need to have consent from the owners of locked and covered with object wells in order to measure their water level. The photos of 29 wells and water level measurement data from the field survey can be found in "Appendix 1 - Recorded wells near the Metagro project site".



Figure 5-2 - Locked (Left - Khar nuur well) and damaged (Right - Baruun chandgana baruun door) well photos that were taken during the field study

Regarding the types of wells, 5 of them are hand wells and the remaining 24 wells are engineered, as summarized below.

Table 5-1 - Well types for marked by field survey

#	Well ID	WGS1984		Well type
		N	E	
1	Khar nuur-2	47° 28' 47.30"	110° 0' 42.80"	Protected and engineered well
2	Mushgui	47° 28' 58.80"	109° 57' 7.90"	Protected engineered well with pipe
3	Ikh Ulziit	47° 32' 39.80"	109° 57' 36.80"	Unprotected engineered well with pipe
4	Ikh Ulziit	47° 33' 36.90"	109° 59' 8.40"	Unprotected engineered well with concrete circle
5	Baruun chandgana baruun door	47° 37' 42.80"	110° 2' 12.70"	Not in use
6	Baruun chandgana enger	47° 37' 37.40"	110° 2' 53.90"	Unprotected hand well with wood
7	Zuun chandgana enger	47° 38' 6.60"	110° 4' 34.00"	Protected well
8	Bandangiin eregtseg	47° 37' 10.00"	110° 6' 43.90"	Protected well
9	Tsagaan dalan	47° 32' 22.90"	110° 4' 30.90"	Unprotected engineered well with pipe
10	4th brigade	47° 31' 7.40"	110° 6' 19.80"	Unprotected hand well with concrete circle
11	4th brigade well	47° 30' 59.70"	110° 3' 5.20"	Protected well
12	Unknown well	47° 30' 18.30"	110° 6' 6.50"	Unprotected engineered well with pipe
13	Nogoon well	47° 26' 28.00"	110° 6' 50.60"	Unprotected engineered well with concrete circle
14	Bulan ders	47° 26' 15.50"	110° 8' 48.50"	Unprotected engineered well with concrete circle
15	Nogoon well (South)	47° 25' 48.10"	110° 4' 3.60"	Protected engineered well with pipe
16	Nogoon well (North)	47° 26' 56.30"	110° 3' 57.60"	Protected well
17	Khar nuur	47° 27' 43.00"	110° 1' 29.50"	Unprotected hand well with car tire
18	Khutul lake (South)	47° 36' 46.80"	110° 19' 46.30"	Protected engineered well with pipe
19	Khutul lake (North)	47° 37' 59.10"	110° 20' 26.70"	Protected well
20	Ariin well	47° 36' 35.50"	110° 23' 47.90"	Unprotected engineered well with concrete circle
21	Maanitiin ar	47° 35' 56.20"	110° 17' 49.50"	Protected engineered well with pipe
22	3rd brigade	47° 34' 9.70"	109° 59' 54.10"	Unprotected engineered well
23	Nomgonii ar	47° 36' 1.20"	110° 7' 57.80"	Unprotected engineered well with pipe
24	Airgiin enger	47° 37' 12.30"	110° 8' 42.70"	Unprotected engineered well
25	Sud	47° 34' 22.30"	110° 8' 0.80"	Unprotected engineered well
26	Nomgon khughshchuudiiin khotkhon	47° 32' 27.20"	110° 8' 59.60"	Protected hand well with car tire and pipe
27	Nomgon	47° 31' 14.30"	110° 8' 49.80"	Not well protected hand well with car tire
28	4th brigade	47° 28' 42.00"	110° 5' 12.60"	Protected engineered well with pipe
29	Unknown well-2	47° 37' 10.70"	110° 9' 22.30"	Protected well

6 Appendices

Table 6-1 - Recorded wells near the Metagro project site

No.	Well ID	WGS1984		Well type	Condition	Water level, m	Total depth, m
		E	N				
1	Khar nuur-2 well	110° 0' 42.8"	47° 28' 47.3"	Engineered	In use	-	-
2	Mushgui well	109° 57' 7.9"	47° 28' 58.8"	Engineered	In use	-	-
3	Ikh Ulzii well	109° 57' 36.8"	47° 32' 39.8"	Engineered	Broken	-	-
4	Ikh Ulziit	109° 59' 8.4"	47° 33' 36.9"	Engineered	In use	-	-
5	Baruun chandgana baruun door	110° 2' 12.7"	47° 37' 42.8"	Engineered	Broken	-	-
6	Baruun chandgana enger	110° 2' 53.9"	47° 37' 37.4"	Hand well	In use	1.85	3.53
7	Zuun chandgana enger	110° 4' 34.0"	47° 38' 6.6"	Engineered	In use	-	-
8	Bandangiin eregtseg	110° 6' 43.9"	47° 37' 10.0"	Engineered	In use	-	-
9	Tsagaan dalan	110° 4' 30.9"	47° 32' 22.9"	Engineered	In use	-	-
10	4th bagh	110° 6' 19.8"	47° 31' 7.4"	Engineered	In use	1.95m	4.25m
11	4th bagh well	110° 3' 5.2"	47° 30' 59.7"	Engineered	In use	-	-
12	Unknown well-1	110° 6' 15.3"	47° 30' 12.7"	Engineered	In use	-	-
13	Nogoon well	110° 6' 50.6"	47° 26' 28.0"	Engineered	In use	2.78m	3.95m
14	Bulan ders	110° 8' 48.5"	47° 26' 15.5"	Engineered	Dried	-	-
15	Nogoon well (South)	110° 4' 3.6"	47° 25' 48.1"	Engineered	In use	-	-
16	Nogoon well (North)	110° 3' 57.6"	47° 26' 56.3"	Engineered	In use	-	-
17	Khar nuur	110° 1' 29.5"	47° 27' 43.0"	Engineered	Dried	-	-
18	Khutul lake (South)	110° 17' 49.5"	47° 35' 56.2"	Engineered	In use	-	-
19	Khutul lake (North)	110° 19' 46.3"	47° 36' 46.8"	Engineered	In use	-	-
20	Ariin well	110° 20' 26.7"	47° 37' 59.1"	Engineered	In use	2.47m	3.04m
21	Maanitiin ar	110° 23' 47.9"	47° 36' 35.5"	Engineered	In use	11.4m	22.5m
22	3 rd bagh	109° 59' 4.10"	47° 34' 9.70"	Engineered	Broken	-	-
23	Nomgonii ar	110° 7' 57.80"	47° 36' 1.20"	Engineered	In use	9.1m	10.7m
24	Airgiin enger	110° 8' 42.70"	47° 37' 12.30"	Engineered	In use	-	-
25	Sud	110° 8' 0.80"	47° 34' 22.30"	Engineered	In use	-	-
26	Nomgon khugshchudiin khotkhon	110° 8' 59.60"	47° 32' 27.20"	Hand well	In use	3.8m	4.35m
27	Nomgon	110° 8' 49.80"	47° 31' 14.30"	Hand well	In use	2.68m	5.1m
28	4 th bagh	110° 5' 12.60"	47° 28' 42.00"	Engineered	In use	-	-
29	Unknown well-2	110° 9' 22.30"	47° 37' 10.70"	Engineered	In use	-	-



Figure 6-1 - Khar nuur-2 well



Figure 6-2 - Mushgui well



Figure 6-3 - Ikh Ulzii well



Figure 6-4 - Ikh Ulziit



Figure 6-5 - Baruun chandgana baruun door



Figure 6-6 - Baruun chandgana enger



Figure 6-7 - Zuun chandgana enger



Figure 6-8 - Bandangiin eregtseg

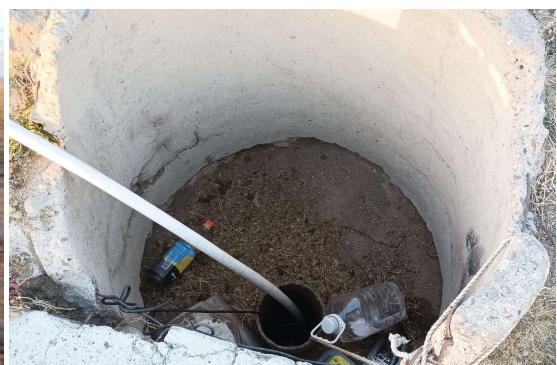


Figure 6-9 - Tsagaan dalan



Figure 6-10 - 4th bagh



Figure 6-11 - 4th bagh well



Figure 6-12 - Unknown well-1



Figure 6-13 - Nogoos well



Figure 6-14 - Bulan ders



Figure 6-15 - Nagoon well (South)



Figure 6-16 - Nagoon well (North)



Figure 6-17 - Khar nuur



Figure 6-18 - Khutul lake (South)



Figure 6-19 - Khutul lake (North)



Figure 6-20 - Ariin well



Figure 6-21 - 3rd brigade



Figure 6-22 - Nomgonii ar



Figure 6-23 - Airgiin enger



Figure 6-24 - Sud



Figure 6-25 - Nomgon khugshchudiin khotkhon



Figure 6-26 - Nomgon



Figure 6-27 - 4th bagh



Figure 6-28 - Unknown well-2

Appendix K Traffic and Road Safety Report

Metagro Project Site

Traffic and Road Safety Report

Kherlen soum, Khentii province

November 2023



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Abbreviations and Acronyms

BNU	Baganuur city
ESIA	Environmental and Social Impact Assessment
EU	European Union
GPS	Global Positioning System
IFC	International Finance Corporation
Km	Kilometer
kph	kilometer per hour
UB	Ulaanbaatar

Executive Summary

Metagro is developing an integrated arable and livestock farming project in the east of Mongolia. The large-scale operation will result in the cultivation of over 10,000 hectares of arable land. The generated crops will be used to feed cattle which will be raised at the site location and then slaughtered nearby before transporting to Ulaanbaatar by road. Future operation at the site will also include intensive pig farming. The deployed farming techniques at the site are technologically advanced therefore there appears to be a low number of workforces employed at the site.

Although the numbers of workers employed at the site appear to be low, there are expected to be numerous vehicle movements to and from the site due to the intensiveness of the operation. This includes local farmers who will bring their livestock to the site and then the subsequent movement of meat produce to Ulaanbaatar. Despite requests, it has not been possible to ascertain the number of vehicle trips which will be generated to and from the site location. It is understood as the operations at the site continue to intensify and include pig farming operations that the number of vehicle-based trips will increase.

To aid the safe operation of vehicle movements within the confines of the farm operations, a vehicle tracking system will be in operation. This will allow the location and speeds of vehicles to be determined as well as knowledge of who is driving the vehicle. These systems typically result in good compliance with driving regulations. A traffic manager is also employed to oversee operations. The deployment of such a system to the external road network is not in place. Therefore, the management of good driver behaviour and subsequent safe operation will be more challenging.

In an effort to ensure that vehicle movements on the public road network are managed to ensure safety and efficiency Metagro have tendered out the haulage services. As part of the tender process, it is understood that requirements for vehicle types, driver experience and vehicle age have been stipulated. To further improve the safe operation of these vehicle movements additional recommendations have been made within this report including the identification of vehicle stops and vehicle check criteria before commencing journeys. It is understood that these tendered services will apply to vehicle movements to and from the farm site to Ulaanbaatar. The movements of vehicles to and from the farm project area by others, for example local farmers transporting livestock to the site, are not thought to be subject to the requirements set out in the tendering process for the safe operation of vehicles. To ensure high standards of operation are maintained by all vehicle users accessing the site it is recommended that drivers sign an agreement stating their adherence to driving practices within the confines of the site location.

A review of current access arrangements to the farm site raises some concerns in terms of road safety. Access and egress are achieved through a 14 km unmetalled track from the eastern highway. Concerns regarding navigation, passing on-coming vehicles, dust and ruts in the road surface, can all lead to an increased risk of vehicle conflicts. In addition, the turning to and from the unmetalled road from the Eastern Highway does not reflect the provision you would expect to serve a high value operation generating a high number of truck movements. To improve the current arrangement, additional recommendations have been made within this report including additional signage, surfacing a 50m section of the unmetalled road to connect to the Eastern Highway. The addition of marker posts to add navigation. Additional measures may be appropriate depending on anticipated vehicle flows and turning movements and therefore this should be reviewed going forward.

Background information provided as part of this project review has indicated that at the project site location where buildings and operations are located, vehicle movements will be managed. A low vehicle speed limit will be posted and designated walkways will be defined around the building locations. These measures have all been outlined within a supporting drawing. These are all positive steps to promote road safety at the site location. To ensure that the proposed measures occur at the site location it is recommended that enforcement takes place. The proposed 10kph speed limit is only likely to be achievable through the introduction of physical traffic calming measures such as road humps and/or enforcement by personnel at the site location with penalties administered.

Overall, the proposed farming project presents an intensive and technologically advanced process that appears to present some failings in the transport operational side. The absence of traffic flow and turning movements to and from the site location makes it difficult to determine what measures are appropriate. This report makes recommendations are some measures that may be adopted based upon the information provided.

1. Project Overview

Metagro is developing an integrated arable and livestock farming project at Ulziit Village, Kherlen Soum, Khentii aimag with a total capacity of 5,000 cattle and a future proposed large scale pig farming process. All deployed farming techniques are based on advanced technologies providing international standard farming and cattle fodder technologies. The scale and complexity of Metagro's operations are pre-eminent in Mongolia and create a model of regenerative agriculture and high-tech meat production to enhance food security and food quality in Mongolia.

The project proposes to introduce advanced global agricultural technologies in farming encompassing the development of arable farming processes to support the development of livestock on site. Arable farming will be undertaken in three separate field sites which provide a total area of 10,200 hectares of arable land. The completion of the crop farming process will include application of various technologies to deliver the focus of feed production for the livestock. Additionally, cash crops will be planted due to crop rotation requirements. By the end of 2023 it has been reported that 37 staff will be employed within the arable farm sector including 25 full time and 12 seasonal staff. The low number of staff employed in this sector includes 10 employed as tractor combine operators and 18 support staff. This suggests the operations are mostly mechanized resulting in an anticipated low number of daily vehicle-based trips to and from the site by those involved in arable farming processes.

The project site will provide some on-site accommodation. This will include staff accommodation for 96, a guesthouse for 8 and an office for 16. Together with support staff this operation is again likely to result in a low number of generated daily vehicle trips to and from the site resulting in minimum impact on the surrounding road network. Additional auxiliary farming processes are also proposed to be conducted at the site location. No indication of the number of staff involved in these processes has been reported, however, the small scale of the work suggested that the operation will not be labour intensive.

The livestock operations at the site for cattle are phased to increase throughout 2023 with full capacity anticipated from September 2023 where 5,000 heads of cattle are reported at the site. At the time of this report this milestone should therefore have been reached. Information supplied by Metagro indicates that cattle will be procured from the eastern provinces of Khentii, Dornod, and Sukhbaatar. It is not clear how many trips to the site operation will be generated to deliver the number of cattle required to operate the site operation at full capacity.

"Metagro" LLC issued the land ownership certificate for enterprises /No. 0000093296/ on the basis of the decision No. A/163 dated June 17, 2022, of the Governor of Kherlen Sum, Khentii

Province, and on the 23rd of June 2022, a 50-hectare plot with unit field number 2311038215 was acquired for the purpose of an agricultural production complex.

The Project is located approximately 330 km east of Ulaanbaatar, the capital of Mongolia, in Ulziit village, Kherlen Soum, Khentii province. The Project is 56 km south of the Khentii province centre, Chinggis city. Chinggis city has a population of about 24,418 people in 2023.

The nearest soum centres are Kherlen and Murun, located 60 km southeast and 35 km to the east, respectively. In 2022, the population of Kherlen soum was 2,668 people, while Murun soum had a population of 2,449 people.

Nomadic pastoral activity is the main industry in Khentii province, with the region previously receiving Government accolades for livestock, meat, and wool production.

2.0 Traffic and Transport

The farm project site will use road transport for delivery of livestock to the site and its subsequent transfer to Ulaanbaatar. As the operations at the farm project site are expected to expand it is important that all efforts are made to ensure that measures are in place to maximize road safety so that the expansion in operations does not result in a negative impact.

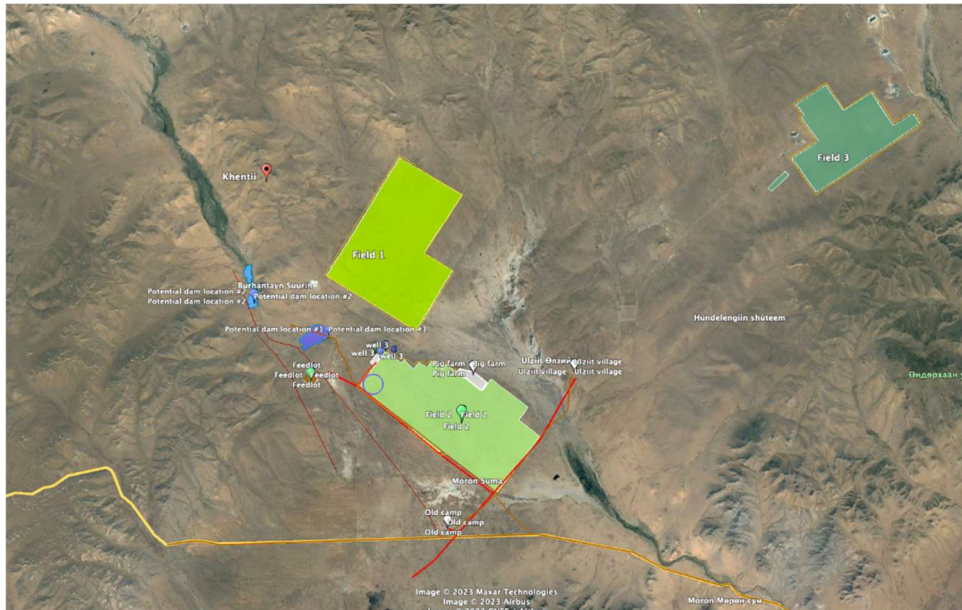
The completion of trips by road in Mongolia is challenging and this is reflected in the high casualty rate in road deaths which the WHO reported as 16.5 deaths per 100,000 population in 2016. This is significantly higher than the best performing countries in Europe which typically have a rate of under three deaths per 100,000 population.

It is therefore important that all measures are put in place to maximize the safety of road movements which are related to the operations. These are likely to include focus on the vehicles, infrastructure and drivers.

2.1 Site Location

The project site is located within the eastern corner of Mongolia close to the town of Öndörkhaan which is east of the project site. The town is 290 km east of Ulaanbaatar and was renamed Chinggis City in 2013. Öndörkhaan/Ghinggis City serves as the capital of the province Khentii Aimag.

The Project area is accessible from the west via sealed road AH-501 (Eastern Highway) from Ulaanbaatar to Khentii (approximately 288 km away). Vehicles will then need to divert to a section of unsealed road which leads to the site location from the UB to Khentii paved road (approximately 16 km) as shown by Figure 1. The highway road speed limit is 80 kph, it is assumed there is no posted speed limit on the dirt track.



¹Figure 1. Farm project site location and Eastern Highway (yellow) unsealed roads (red)

It is further understood that additional vehicle movements will be made to Baganuur (BNU City) where the abattoir and meat processing plant will be undertaken. Overall, 5,000 head cattle and 1,620 calves in / full grown carcasses out per month; 2,650 breeding sow pig farms due to be implemented next year; 85,000 live pigs to be shipped out per year. The Baganuur [BNU] site is located between the Farm and UB and was chosen as it provides better access to employee pool / power / water etc. than the farm itself. (Figure 2).



Figure 2. Location farm site and proposed Abattoir

2.2 Access arrangements to the farm site

As reported above, vehicles travelling to the site will utilise the Eastern Highway which is a paved single carriageway highway in each direction. Vehicles will then transfer to an unsealed road which is owned by Metagro. The unsealed road carries vehicles for 14-16 kms from the Eastern Highway to the various parts of the farm project area.

There are a number of concerns with the quality of the existing unsealed track as follows:

- i. Access to and from the Eastern Highway is not reflective of the quality and standard you would expect to serve a large-scale high value operation. Signing on the approach to the site appears to be minimal therefore there is a danger that approaching vehicles may fail to identify the location resulting in late braking and an increased risk of rear shunt type crashes.
- ii. Figure 3 presents that the edge of carriageway between the paved and unsealed track is likely to become increasingly worn and deteriorated with the passage of turning vehicles, especially heavy trucks. This is likely to result in damage to the edge of the carriageway potentially leading to rutting or a step difference between the two surface types which in turn may result in an increased risk of vehicle rollover.



Figure 3. Unsealed edge of carriageway

- iii. Upon entry to the unsealed road there are various other unsealed tracks leading in different directions. For unfamiliar drivers there is a risk that there will be uncertainty about which track is the appropriate one to select to reach the farm site. It has been reported that signing has been added to the site location, however, photographic evidence only identifies small finger post type signs to guide drivers which appear inadequate. It has been further reported that other tracks will be closed. This is not shown in the photographic evidence, and even if they are closed, it is assumed they serve an existing desire line so therefore there is a risk that the tracks will be re-opened by users.



Figure 4. Limited on-site signing arrangements.

- iv. Upon entering the unsealed road there does not appear to be any guidance in place to advise drivers. As the unsealed track will be carrying two-way traffic drivers should be aware of this, particularly if there are any vertical or horizontal curves along the route. The presence of speed limits is also recommended.
- v. The utilization of an unsealed road is likely to result in its deterioration through continued use. This is likely to occur more quickly with numerous heavy truck movements. This may result in ruts and holes appearing on the surface. There are also other concerns which are related to flooding due to inadequate or non-existent drainage, ice and snow cover and airborne dust. These factors are all likely to result in more challenging driving conditions. These in turn may result in drivers diverting from their own side of the carriageway therefore resulting in an increased likelihood of conflicts with vehicles travelling in the opposite direction.

To address the concerns identified above it is recommended that a number of actions are undertaken as follows:

- i) Additional advanced signing is added on the Eastern Highway. Ideally signs should be located approximately 150 m in advance of the turning so that approaching drivers are able to adjust their speed and then undertake a slow speed turning.
- ii) Ideally it is recommended that the current unsealed track leading to the farm site from the Eastern Highway is paved. The cost of this may, however, be deemed prohibitive. In the absence of completing the complete paving of the 16 km track, it is recommended that as a minimum a 50m section adjoining the highway is paved. This would help to provide an easier transition between the two surface types when turning and would help to reduce the likelihood of damage to the edge of the carriageway and to reduce the likelihood of dirt and debris being drawn onto the main highway from the unsealed section.
- iii) To help guide unfamiliar road users through the network of unsealed tracks it is recommended that the track leading to the farm complex is marked with edge markers. Not only would this provide delineation of the required route, it would also identify the edge of carriageway which is useful if snow cover partially covers the defined route.

iv) In addition to the delineator posts identified above, it is further recommended that the unsealed track includes some road signing. The introduction of a posted speed limit, identification of hazards along the route such as vertical and horizontal curvature as well as any other hazards will all help to better inform drivers and therefore lessen the risk.

v) If the unsealed track remains then it is recommended that efforts are made to continuously maintain the surface to allow the safe passage of vehicles. This includes dust control with water tankers and pot hole and drainage management. Signs and roadside delineators should be inspected regularly and replaced when needed.

2.3 Vehicle Movements to and from the farm site location

According to the on-site inspection, about 17 vehicles including 14 light vehicles, 3 trucks were traveling per hour through the intersection in both directions during the daytime (Table 1). From those vehicles, only one truck was travelling from and to the Metagro project site. Therefore, most of the vehicles using the junction of highway and unsealed road were local traffic. At night, there is no traffic at the dirt road intersection except for a few local traffic.

Table 1. Number of vehicles travelling through the intersection

	Vehicle type	Per hour	Per day (Daytime)	Purpose
1	Light vehicles (one way)	14	168	Local traffic
2	Trucks (one way)	3	36	Only one truck per hour comes to and from Metagro.

These initial numbers indicate that traffic flows are low at the site location. It is unclear, however, when these counts were undertaken and how representative they are of future operations at the site location. Based on the anticipated number of livestock to be processed at the farm location it is assumed that vehicle movements will increase substantially.

As well as vehicle movements to and from the Eastern Highway to the unsealed track linking to the farm complex, trucks will also be travelling to Ulaanbaatar which is located approximately 290 km to the west of the farm complex site. It is anticipated that the travel time between Ulaanbaatar to the farm site location will take around 5-6 hours, it is therefore recommended that drivers stop enroute to rest. Within the EU regulations for drivers the following is stipulated regarding breaks and rest that drivers must take:

- at least 11 hours rest every day - you can reduce this to 9 hours rest 3 times between any 2 weekly rest periods
- an unbroken rest period of 45 hours every week - you can reduce this to 24 hours every other week
- a break or breaks totalling at least 45 minutes after no more than 4 hours 30 minutes driving
- your weekly rest after 6 consecutive 24-hour periods of working, starting from the end of the last weekly rest period taken

The introduction of these rest periods for drivers operating for Metagro would be a positive step in terms of improving road safety.

As well as introducing requirements for driver rest stops it is also beneficial to identify appropriate locations where drivers can stop safely and ideally access restaurants and rest room facilities. As part of the review of site conditions between Ulaanbaatar and the farm project area roadside laybys have been identified at two locations as identified in the figures below. It is recommended that travel times for drivers are assessed in more detail to determine whether the identified rest areas are in an appropriate location to warrant their utilization. Stop locations should also consider weather conditions. Operations at the farm are expected to continue throughout the year and therefore it is important that rest areas are located where drivers can find shelter from the harsh winter conditions.

Other useful information that can be reported to drivers can be the reporting of locations where particularly hazardous areas are present. This can include areas where ice can be prevalent, locations where horizontal and vertical geometry can be challenging, locations where livestock can be present on the highway, and any other information which may be useful to drivers. This information can be relayed at driver briefing meetings.



Figure 5. A flock of sheep is crossing the highway from UB to Metagro project.



Figure 6. Rest area sign at the 240th km from UB



Figure 7. Rest area at the 172nd km from UB

2.4 Vehicle Operations

As previously noted within this report, vehicles operated by Metagro within the confines of the farm project area are tracked by GPS. These are new vehicles manufactured in 2021-2023. The tracking software reports position, speed, driver and other vehicle operating information. The close analysis of driver behaviour is a likely contributor to conscientious driver actions. Furthermore, new vehicles tend to have various safety features which are more forgiving in helping to avoid an accident if a driver makes a mistake. These factors are likely to result in a reduced risk of driver fault crashes.

Vehicles used for distribution to and from UB has been contracted out to private firm. A tender was put in place to select contractor to provide distribution vehicles. The tendering process set minimum requirements for vehicle quality and drivers experience, where appropriate licences and insurances are required. Distribution vehicles are not monitored by tracking software and GPS. Journey time is instead monitored by the Contractors assumed journey time calculations based upon speed and distance. This type of monitoring is subject to abuse.

As there are no tachograph systems in place in Mongolia the Contractor needs to put in place procedures to monitor drivers' hours ensuring local regulations are met. It is reported that driving hours is the responsibility of the Contractor, but it is not clear what this means in practice. If regulation is outdated or not enforced rigorously there is a danger that drivers may exceed driving hours. It is recommended therefore that Metagro stipulates that vehicles operated by their contractor adhere to strict driving time regulations, ideally following the driving regulations applicable to the EU which have been previously referenced within this report.

It has been further reported that drivers must complete a technical readiness assessment of vehicles to ensure safety is maximised before journeys commence. Also, drivers must conduct a technical inspection with stops during the trip. Moreover, all vehicles undergo a state technical inspection of vehicles once a year. If the drivers or transportation officer believe the vehicle technical readiness and traffic safety is not fully met in terms of technical and safety, they must have right to stop or not commence the transportation and any relevant operation.

It is not clear how comprehensive these inspections are and how rigorous enforcement of the instructions is. Without management there is a danger that the exercise becomes little more than a tick box exercise. To ensure a clearly defined vehicle inspection process is in place it is recommended that an approach is adopted which is used in the UK. This firstly ensures that the vehicle inspection is conducted within the driver's working time. This therefore means the driver should not feel penalized when conducting the inspection. Secondly, the driver must take ownership of their decisions. If the vehicle is not safe, then they should not drive the vehicle. Any resultant incident leads to a potential fine, loss of licence, prohibition, to the driver.

Within the UK a check list for vehicle inspections is set out in the figure below. Details of the areas to check under each component are included within Appendix B of this report. A drivers defect report form is also included in Appendix C.

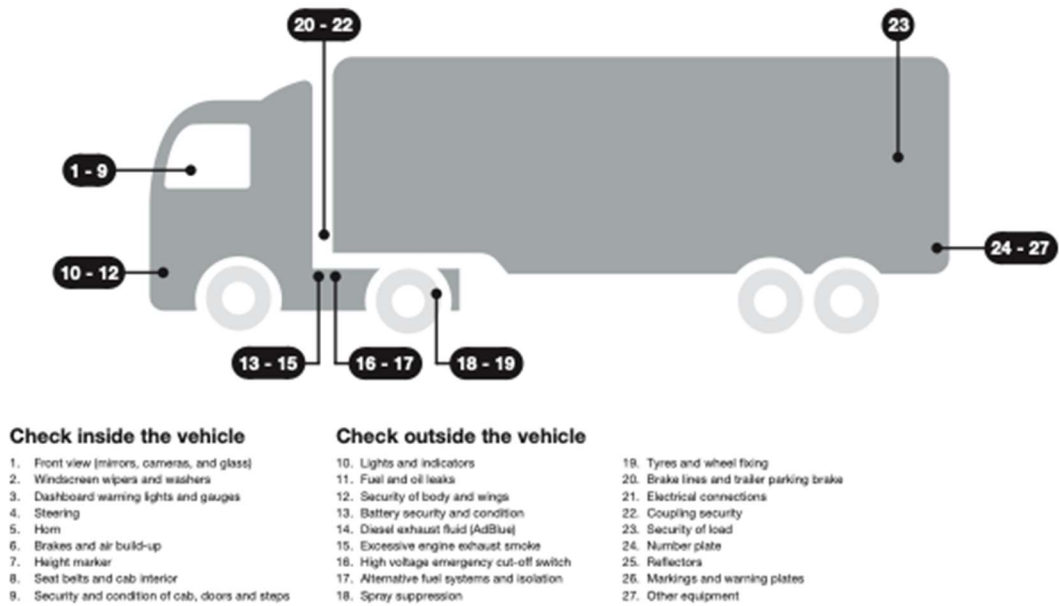


Figure 8. Truck walk around vehicle check.

A Transport Planning coordinator is employed by Metagro to manage vehicle operations and manage problems at the site. So, the Transport Planning coordinator should focus on drivers' awareness about safety, their rights to stop or not start any operations if they believe the safety is not fully met, and their rest and fatigue management.

The key mitigation action is expected to be the preparation of an issue specific Traffic Management Plan (TMP) to document a range of strategies, responsibilities, monitoring, and outcomes required.

2.5 Vehicle Operations around the farm buildings.

Metagro have provided details of traffic management measures that are proposed to be implemented around the farm camp area as shown in figure 10 below. A low vehicle speed limit will be posted and designated walkways will be defined around the building locations. These measures have all been outlined within the supporting drawing below. These are all positive steps to promote road safety at the site location. To ensure that the proposed measures occur at the site location it is recommended that enforcement takes place. The proposed 10kph speed limit is only likely to be achievable through the introduction of physical traffic calming measures such as road humps and/or enforcement by personnel at the site location with penalties administered.

It is further recommended at the farm camp area that those personnel who are working within the transport operations area, and therefore exposed to traffic movements, wear full PPE.

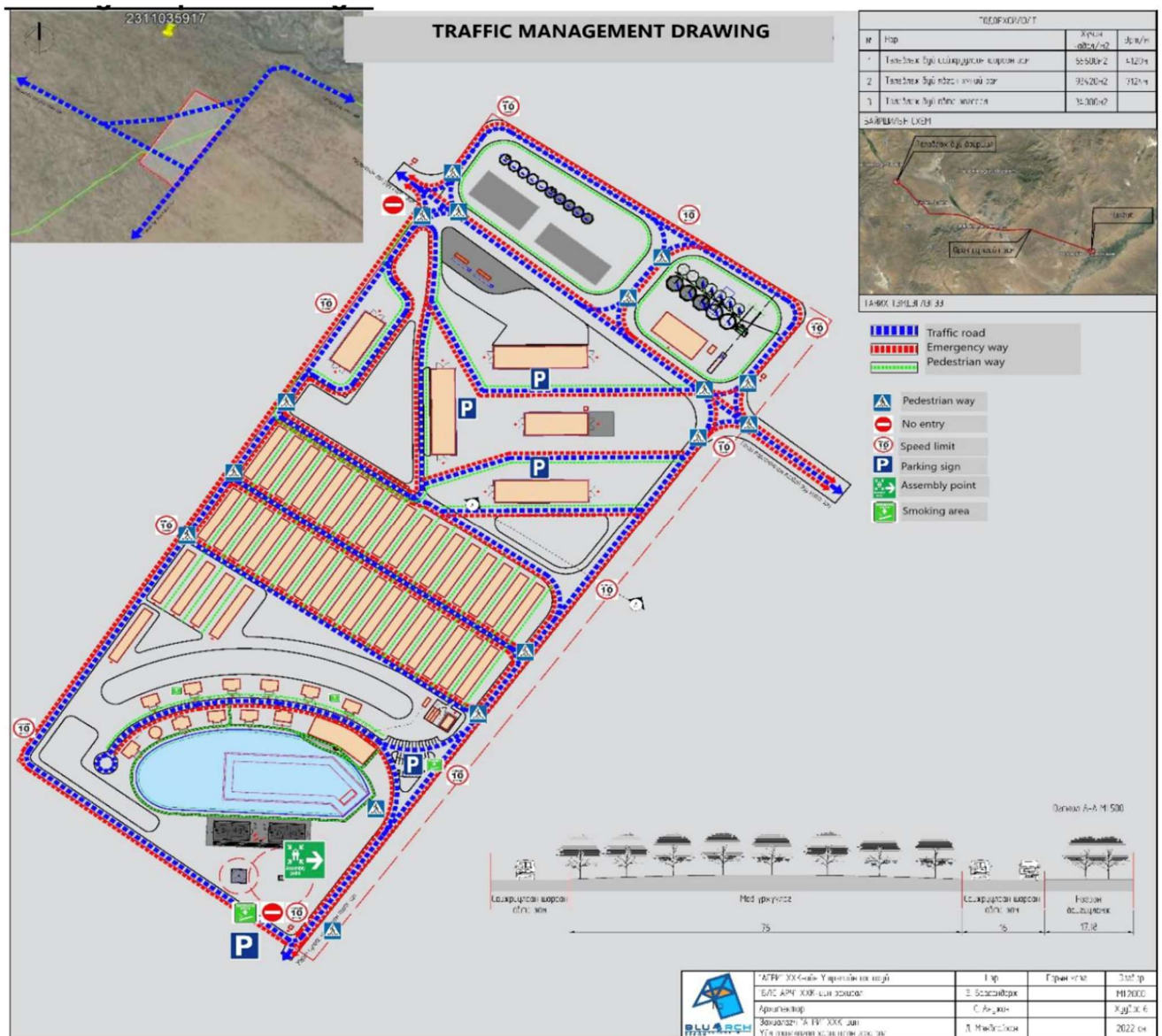


Figure 9. Proposed traffic management measures around the farm camp area.

2.6 Proposed Road Transport Routes

To minimise the impact of the transport operations originating from Metagro on the local community it has been recommended that a transport route is developed that avoids populated areas where possible and avoids movements where possible when they may possibly conflict with high-risk sites such as schools and hospitals. Due to the remote area of the site, and the limited serving road network, there is only one route that will serve movements to and from Metagro to Ulaanbaatar. This is set out below and shown in Figure 10:

- Ulaanbaatar-Nalaikh-Erdene-Baganuur-Tsenhermandal-Jargaltkhaan-Metagro site.

Although there is only one defined route it is still recommended that where possible, transport journeys of trucks are scheduled to avoid times where they may conflict with high-risk locations and user groups.

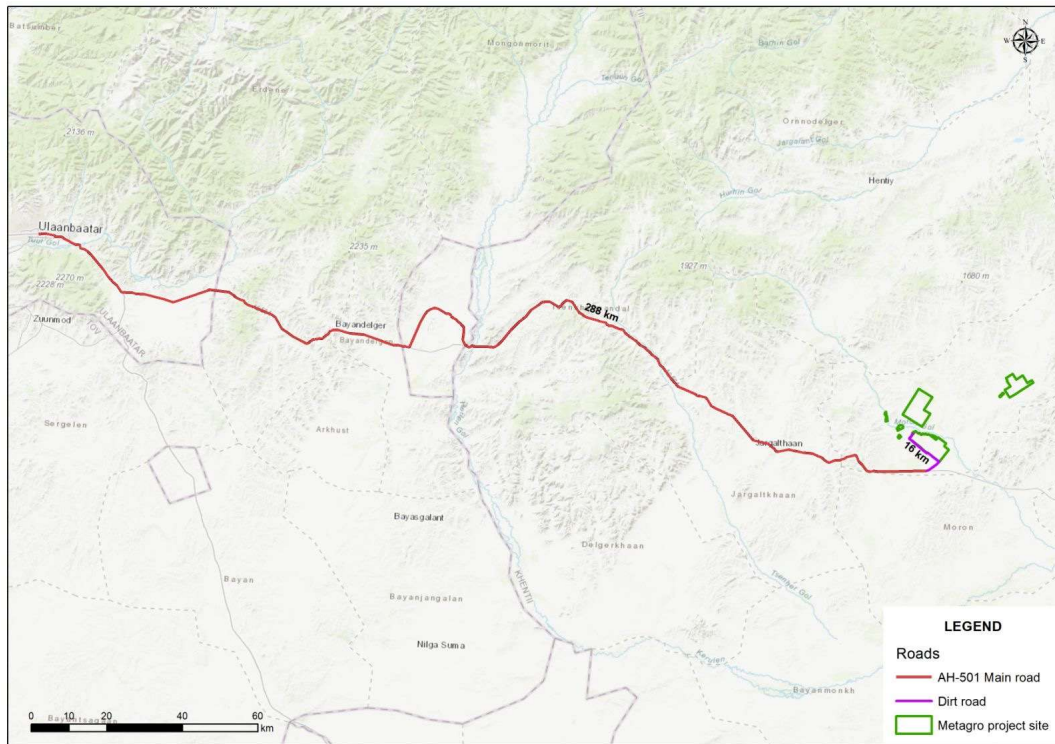


Figure 10. Route between Ulaanbaatar and Metagro project site

3. Conclusions and Recommendations

Metagro are developing an integrated arable and livestock farming project in the east of Mongolia. Although the numbers of workers employed at the site appear to be low, there are expected to be numerous vehicle movements to and from the site due to the intensiveness of the operation. This includes local farmers who will bring their livestock to the site and then the subsequent movement of meat produce to Ulaanbaatar. Despite requests, it has not been possible to ascertain the number of vehicle trips which will be generated to and from the site location. It is understood as the operations at the site continue to intensify and also include pig farming operations that the number of vehicle based trips will increase.

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recommended that drivers sign an agreement stating their adherence to driving practices within the confines of the site location.

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Background information provided as part of this project review has indicated that at the project site location where buildings and operations are located, vehicle movements will be managed. A low vehicle speed limit will be posted and designated walkways will be defined around the building locations. These measures have all been outlined within a supporting drawing. These are all positive steps to promote road safety at the site location. To ensure that the proposed measures occur at the site location it is recommended that enforcement takes place. The proposed 10kph speed limit is only likely to be achievable through the introduction of physical traffic calming measures such as road humps and/or enforcement by personnel at the site location with penalties administered.

Overall, the proposed farming project presents an intensive and technologically advanced process that appears to present some failings in the transport operational side. The absence of traffic flow and turning movements to and from the site location makes it difficult to determine what measures are appropriate. The recommendations made are therefore based on the available information and may be subject to change as more information becomes available.

Appendix A: Photographs



Photo 1. Ulziit soum identification at the junction of highway and dirt road



Photo 2 Ulziit soum identification and sign pointing to the Metagro project site.



Photo 3. The main dirt road heading to the Metagro Project site



Photo 4. Cattles along the highway

Appendix B: Drivers Checklist

1 Front view (mirrors, cameras, and glass)

Check that no objects get in the way of your front view.

As a general rule, there should be nothing in the swept area of the windscreen wipers.

Some official stickers and road safety items are allowed, as long as they do not seriously block your view of the road, for example, operator licence disc.

Mirrors, cameras and glass

Check that the windscreen is not:

- cracked
- scratched
- discoloured

Check that the windscreen and front side windows are not excessively tinted.

Check that all mirrors are in place and not:

- damaged or missing glass
- obscured
- insecure

If a camera system is used instead of a mirror, check that it works and the view is correct.

2. Windscreen wipers and washers

Make sure the windscreen wipers work. Check that they are not:

- missing
- damaged or worn

Make sure the windscreen washer is working.

3. Dashboard warning lights and gauges

Check that all of these are working correctly:

- instruments
- gauges
- warning lights - including the engine warning, emissions system, anti-lock braking system (ABS) and electronic braking system (EBS)

4. Steering

Check that the steering wheel:

- moves properly and that the power-assisted steering works correctly
- has no excessive play
- does not jam

Check that there's no excessive lift or movement in the steering column.

5. Horn

Check that the horn works and is easily accessible from the driver's seat.

6. Brakes and air build-up

Check that:

- the air builds up correctly and warning system works
- there are no air leaks
- the footwell is clear
- the service brake operates both the tractor and trailer brakes
- the parking brake for the tractor works
- the service brake pedal does not have excessive side play or missing, loose or incomplete anti-slip tread

7. Height marker

Check the correct vehicle height is displayed on the vehicle height marker in the cab.

Remember, the height can change, for example, when the fifth wheel is adjusted, or if the trailer is loaded, unloaded or reloaded.

8. Seatbelts

Check that seatbelts:

- do not have any cuts, damage or fraying that may stop them from working
- stay secure when you plug them in
- retract against you when fitted, and fully retract when you take them off

9. Security and condition of cab, doors and steps

Check that:

- cab mountings and tilt devices are secure
- body panels are secure and not likely to fall off
- all doors operate as required and secure when closed

- steps are secure and safe to use

10. Lights and indicators

Check that:

- all lights and indicators work correctly
- all lenses are fitted, clean and the right colour
- stop lamps come on when you apply the service brake and go out when you release it
- marker lights are fitted and work

11. Fuel and oil leaks

Check that the fuel filler cap is fitted correctly.

Turn on the engine and check underneath the vehicle for any fuel or oil leaks.

12. Security of body and wings

Check that:

- all fastening devices work
- cab doors and trailer doors are secure when closed
- body panels on tractor or trailer are secure and not likely to fall off
- landing legs (if fitted) are secure and not likely to fall off while driving
- sideguards and rear under-run guards are fitted if required, and that they're not insecure or damaged

13. Battery security and conditions

Check that your battery is:

- secure
- in good condition
- not leaking

14. Diesel exhaust fluid (AdBlue)

Check that your diesel vehicle has enough AdBlue diesel exhaust fluid and top up if necessary.

15. Excessive engine exhaust smoke

Check that the exhaust does not emit an excessive amount of smoke.

16. High voltage emergency cut-off switch

Check that:

- you know where the high voltage emergency cut-off switch is located
- the high voltage emergency cut off switch operates correctly
- all high voltage electrical components are secure and not damaged

17. Alternative fuel systems and isolation

Check that:

- you know where the fuel isolation switch is located
- there are no leaks from the system
- all visible components are in good condition

18. Spray suppression

If spray suppression flaps are required, check that they are:

- fitted
- secure
- not damaged
- not clogged with mud or debris

19. Tyres and wheel fixing

Check that:

- the tyres and wheels are secure
- the tyres have a tread depth of at least 1mm
- the tyres are inflated correctly
- there are no deep cuts in the tyre's sidewall
- there is no cord visible anywhere on the tyre
- all wheel nuts are tight enough - you can check if wheel nut indicators (if fitted) have moved to do this
- there are no objects or debris trapped between the twin wheels

Left: example of a gap in the tyre's tread where the tread depth is less than 1mm. Right: example of visible tyre cord on the side of a tyre.



Left: example of a lump in the side of the tyre. Right: example of tyre tread separation.

20. Brake lines and trailer parking brake

Check that:

- couplings are free from debris and are in the right place
- there are no leaks
- there is no damage or wear to the brake lines
- the parking brake for the trailer works

After the initial brake test, leave the engine running so pressure can build up. This will make it easier to hear any leaks as you carry out the rest of the walkaround check.

21. Electrical connections

Check each connection and make sure that all:

- visible wiring is insulated
- visible wiring is not likely to get caught or damaged
- all electrical trailer couplings are connected securely
- all electrical switches work correctly

22. Coupling security

Check that your vehicle is securely attached to your trailer and that the:

- trailer is located correctly in the fifth wheel or coupling
- secondary locking devices are in the correct position

23. Security of load

Check that the load does not move and is not likely to move.

Make sure you use the right type of load securing system for the load.

If you're not happy with how the load is secured or how stable it is, ask the person in charge of vehicle safety to:

- get a competent person to assess it
- reload or resecure it if necessary

24. Number plate

Check that the number plate is not:

- broken or incomplete
- incorrect or spaced incorrectly
- dirty
- faded
- covered over by anything

25. Reflectors

Check that the reflectors (including side reflectors) are not:

- missing
- broken

- insecure
- fitted incorrectly
- the wrong colour
- obscured by dirt or other objects

26. Markings and warning plates

Check that the vehicle's markings (including conspicuity markings) are:

- the right colour
- visible
- securely fastened
- not obscured by dirt or other objects

If the vehicle is carrying dangerous goods, check that the hazard information panels are:

- show the correct information for the load
- visible
- securely fastened
- not obscured by dirt or other objects

27. Other equipment

You might need to check other items specific to the vehicle, for example, loading or specialised equipment.

Appendix C: Defects Report Form

Heavy goods vehicle (HGV) defect report form for drivers

Driver's name:	Date:
Vehicle no:	
Trailer fleet/serial no.:	Odometer reading:

Daily or shift check (tick or cross)		*Items refer to vehicle and trailer combinations	
Fuel / oil leaks	Lights	Brake lines*	
Battery security (condition)	Reflectors / Markers	Coupling security*	
Tyres / wheel and wheel fixing	Indicators / Side repeaters	Electrical connections*	
Spray suppression	Wipers	Brakes inc. ABS/EBS	
Steering	Washers	Security/Condition of body / wings	
Security of load / Vehicle height	Horn	Registration plates	
Mirrors / Glass / Visibility	Excessive engine exhaust smoke	Cab interior / Seat belts	
Air build-up / Leaks	AdBlue® if required	Warning Lamps/MIL	

REPORT DEFECTS HERE:	Defect Assessment and Rectification:

Defects reported to:	
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Write NIL here if no defects found	Driver's signature:
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Defects rectified by:

Signature: Date:

Appendix L IFC Compliance Table

Performance Standard 1: Environmental & Social Risks

Item	Topic	IFC PS Requirement (Paragraph)	Findings	Action Items	Timeframe	Indicators of Completion / Documentation	Responsible	ESIA Reference
1.1	Environmental and Social Assessment and Management System	(Par. 5) The client, in coordination with other responsible government agencies and third parties as appropriate, will.....establish and maintain an Environmental and Social Management System appropriate to the nature and scale of the project and commensurate with the level of its environmental and social risks and impacts. [...]	Metagro does not yet have a complete, IFC-aligned ESMS but has some elements in place. Metagro does not yet have Project-level staff capacity for ongoing development, implementation and monitoring of social components of the ESMS in alignment with IFC PS, namely: systematic stakeholder engagement; grievance management (internal and external); local content (hiring and procurement); strategic community investment; contractor E&S management; supply chain management	Metagro will finalize the development and implementation of its ESMS in alignment with IFC standards and good international industry practice (GIIP) Metagro will recruit a suitably experienced Senior Social Manager to undertake the development, implementation and monitoring of the social components of the ESMS and this ESAP. Job description and candidate selection to be approved by IFC. Project organogram to be updated accordingly. Metagro will organize a comprehensive IFC-aligned verification audit of the ESMS by an independent consultancy. ToR and selection of consultancy to be approved by IFC. Metagro will undertake capacity-building training on IFC PS and GIIP for all Project-level and Group-level HSE and Social staff, to be delivered by a qualified E&S consultancy. Metagro will develop a process for ongoing capacity-building, training and awareness-raising of international standards and GIIP in E&S management for all project workers/contractors		All elements listed in this ESAP developed as prescribed Document showing the architecture of the ESMS Senior Social Manager recruited Updated organogram showing functions responsible for social items in this ESAP Consultancy firm and target date selected for ESMS audit. ESMS audit completed. Consultancy firm and target date selected for IFC training. Training completed. Process developed for ongoing capacity-building training and awareness-raising in E&S management	Metagro	S 8.1 S 10.1
1.2	Policy	(Par. 6) The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance. [...] The client will communicate the policy to all levels of its organization.	Metagro has an ESG Policy	Metagro will verify that the ESG Policy is Metagro-specific and that it references IFC PS and GIIP, and will adjust it as required Metagro will identify measures to communicate the Policy, both internally and externally		Written, Metagro-specific E&S Policy aligned with IFC PS Documented evidence that the policy is being communicated to staff, contractors and external stakeholders	Metagro	S 8.4
1.3	Identification of Risks and Impacts	(Par. 7) The client will establish and maintain a process for identifying the environmental and social risks and impacts of the project. [...] The process may comprise a full-scale environmental and social impact assessment, a limited or focused environmental and social assessment, or straightforward application of environmental siting, pollution standards, design criteria, or construction standards. [...]	Metagro has undertaken an ESIA (this document) to identify Project E&S impacts, along with mitigation measures Metagro does not yet have a systematic process for identifying and assessing E&S impacts and risks on an ongoing basis	Metagro will develop a process for the ongoing identification and assessment of E&S impacts and risks across all Project departments Metagro will maintain an E&S Risk Register for ongoing risk identification, assessment, management and monitoring		Written procedures for ongoing E&S risk identification and assessment E&S Risk Register specific to Metagro, updated quarterly	Metagro	S 8.1
1.4	Comprehensive Assessment including Project Alternatives	For greenfield developments or large expansions with specifically identified physical elements, aspects, and facilities that are likely to generate potential significant environmental or social impacts, the client will conduct a comprehensive Environmental and Social Impact Assessment, including an examination of alternatives, where appropriate.	N/A	N/A				
1.5	Area of Influence - general	(Par. 8) Where the project involves specifically identified physical elements, aspects, and facilities that are likely to generate impacts, environmental and social risks and impacts will be identified in the context of the project's area of influence. This area of influence encompasses, as appropriate: 1) The area likely to be affected by: (i) the project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project; (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.	Metagro's Area of Influence (AoI) is defined and managed as part of this ESIA.	N/A				
1.6	Area of Influence - Associated facilities	2) Associated facilities , which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.	N/A	N/A				
1.7	Area of Influence - Cumulative impacts	3) Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.	The EBRD is leading a study to evaluate the business and technical case to create a dam on the Murun River to supply water to Metagro and other users.					

1.8	Area of Influence - Third party's action	(Par. 9) In the event of risks and impacts in the project's area of influence resulting from a third party's actions , the client will address those risks and impacts in a manner commensurate with the client's control and influence over the third parties, and with due regard to conflict of interest.	N/A	N/A				
1.9	Primary supply chain	(Par. 10) Where the client can reasonably exercise control, the risks and impacts identification process will also consider those risks and impacts associated with primary supply chains .	Metagro does not yet have documented measures in place to analyze, monitor and manage E&S risks associated with its supply chain	Metagro will undertake identification and analysis of E&S risks associated with its primary supply chain, primarily regarding cattle and fodder procurement Metagro will develop a Supply Chain Management Plan to address the identified E&S risks Metagro will develop an E&S questionnaire for prospective suppliers and will include questionnaire responses among its supplier selection criteria		Documented identification and analysis of E&S risks associated with primary primary supply chain, with input from relevant departments Supply Chain Management Plan document with action plan (timeline) Template of E&S questionnaire for prospective suppliers. Integration of questionnaire in the procurement process.	Metagro	S 9.19 SC1-5
1.10	Identification of risks and impacts	(Par.11) Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate environmental and social impacts, the identification of risks and impacts will take into account the findings and conclusions of related and applicable plans, studies, or assessments prepared by relevant government authorities or other parties that are directly related to the project and its area of influence. [...] The risks and impacts identification will take account of the outcome of the engagement process with Affected Communities as appropriate.	Same as line 1.3	Same as line 1.3		Same as line 1.3		
1.11	Individuals and groups	(Par.12) Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, and as part of the process of identifying risks and impacts, the client will identify individuals and groups that may be directly and differentially or disproportionately affected by the project because of their disadvantaged or vulnerable status . [...]	Same as line 1.23	Same as line 1.23		Same as line 1.23		
1.12	Management programmes	(Par. 13) Consistent with the client's policy and the objectives and principles described therein, the client will establish management programmes that, in sum, will describe mitigation and performance improvement measures and actions that address the identified environmental and social risks and impacts of the project. (Par. 14) Depending on the nature and scale of the project, these programmes may consist of some documented combination of operational procedures, practices, plans, and related supporting documents (including legal agreements) that are managed in a systematic way. [...]	Metagro does not yet have systematic E&S management programmes to address all Project impacts and risks on an ongoing basis. Priority management programmes are prescribed in this ESAP.	Metagro will develop management programmes to address each group of impacts and risks identified in the ESIA. A management program typically includes: an annual plan, procedures, assigned resources (staff, budget), an implementation timeline, and a monitoring and evaluation (M&E) process. Based on the impact & risk groups identified in the ESIA, Metagro will establish and/or enhance the following Management Programmes: - Soil Conservation - Groundwater - Emergency Preparedness & Emergency Response - Air Quality - Traffic - Biodiversity - Invasive Species - Hazardous Materials - Waste - Integrated Pest Management - Occupational Health & Safety - Animal Welfare & Health - Stakeholder Management - Grievance Management - Community Investment - Local Content - Worker/Contractor Influx - Supply Chain Management - Security and Human Rights Metagro will update and adjust the management programmes		Complete, documented management programmes for each group of E&S impacts and risks in the ESIA, and any new ones emerging over the course of Project operations	Metagro	S 10.1 S 10.3 S 9 throughout
1.13	Mitigation and performance measures	(Par. 15) Where the identified risks and impacts cannot be avoided, the client will identify mitigation and performance measures and establish corresponding actions to ensure the project will operate in compliance with applicable laws and regulations [...]	Same as lines 1.1, 1.3, 1.12	Same as lines 1.1, 1.3, 1.12		Same as lines 1.1, 1.3, 1.12		

1.14	Action Plan	(Par. 16) The management programmes will establish Environmental and Social Action Plans, which will define desired outcomes and actions to address the issues raised in the risks and impacts identification process, as measurable events to the extent possible, with elements such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods, and with estimates of the resources and responsibilities for implementation. [...]	Same as lines 1.1, 1.3, 1.12	Same as lines 1.1, 1.3, 1.12		Same as lines 1.1, 1.3, 1.12		
1.15	Organizational structure	(Par. 17) The client, in collaboration with appropriate and relevant third parties, will establish, maintain, and strengthen as necessary an organizational structure that defines roles, responsibilities, and authority to implement the ESMS. [...]	Metagro has EHS embedded in its organizational structure. Metagro does not yet have defined roles, responsibilities and implementation authority for all of the social components of the ESMS.	Same as line 1.1		Same as line 1.1		
1.16	Knowledge, skills, and experience	(Par. 18) Personnel within the client's organization with direct responsibility for the project's environmental and social performance will have the knowledge, skills, and experience necessary to perform their work [...]	Metagro has knowledgeable, skilled and experienced HSE personnel to manage HSE performance. Metagro does not yet have knowledgeable, skilled and experienced personnel assigned or recruited to manage social performance.	Same as line 1.1		Same as line 1.1		
1.17	Competent professionals	(Par. 19) The process of identification of risks and impacts will consist of an adequate, accurate, and objective evaluation and presentation, prepared by competent professionals . [...]	Same as line 1.1, 1.5, 1.16	Same as line 1.1		Same as line 1.1		
1.18	Emergency Preparedness and Response	(Par. 20) Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, the ESMS will establish and maintain an emergency preparedness and response system so that the client, in collaboration with appropriate and relevant third parties, will be prepared to respond to accidental and emergency situations associated with the project in a manner appropriate to prevent and mitigate any harm to people and/or the environment. [...]	Same as line 1.12	Same as line 1.12		Same as line 1.12		
1.19	Affected Community	(Par. 21) [...] The client will document its emergency preparedness and response activities, resources, and responsibilities, and will provide appropriate information to potentially Affected Community and relevant government agencies.	Same as line 1.12	Same as line 1.12		Same as line 1.12		
1.20	Monitoring and Review	(Par. 22) The client will establish procedures to monitor and measure the effectiveness of the management program, as well as compliance with any related legal and/or contractual obligations and regulatory requirements. [...] Where appropriate, clients will consider involving representatives from Affected Communities to participate in monitoring activities (e.g. participatory water monitoring). [...]	Same as 1.1, 1.12	Same as 1.1, 1.12		Same as 1.1, 1.12		
1.21	Corrective and preventive action	(Par 23) [...] The client will document monitoring results and identify and reflect the necessary corrective and preventive actions in the amended management programme and plans. The client, in collaboration with appropriate and relevant third parties, will implement these corrective and preventive actions, and follow up on these actions in upcoming monitoring cycles to ensure their effectiveness.	Same as 1.1, 1.12	Same as 1.1, 1.12		Same as 1.1, 1.12		
1.22	Performance reviews	(Par 24) Senior management in the client organization will receive periodic performance reviews of the effectiveness of the ESMS , based on systematic data collection and analysis. [...]	Same as 1.1, 1.12	Same as 1.1, 1.12		Same as 1.1, 1.12		
1.23	Stakeholder Analysis and Engagement Planning	(Par. 26) Clients should identify the range of stakeholders that may be interested in their actions and consider how external communications might facilitate a dialog with all stakeholders [...]	Metagro has not yet undergone a formal (documented) process of stakeholder identification and analysis for affected communities in its AoI Metagro currently undertakes stakeholder engagement on an ad hoc basis, according to Project needs or emerging issues The ESIA Team has identified vulnerable stakeholders as part of the ESIA SEP Metagro does not yet have a systematic process for identifying, analyzing and managing vulnerable stakeholders	Metagro will deepen its understanding of stakeholders in the project AoI by I) undertaking stakeholder identification, mapping and analysis, and II) establishing a centralized data management system that allows for aggregation and tracking of engagement records and information and updating the information on an ongoing basis. This will include differentiation of vulnerable stakeholders.		Documented stakeholder identification and analysis exercise with input from all relevant project departments Stakeholder database (or similar) in place and maintained / expanded regularly	Metagro	S 9.14 WI1-8 S 9.15 BS1-8 S 9.16 AS1-2 S 9.19 SE1-4
1.24		(Par. 27) The client will develop and implement a Stakeholder Engagement Plan that is scaled to the project risks and impacts and development stage, and be tailored to the characteristics and interests of the Affected Communities. Where applicable, the Stakeholder Engagement Plan will include differentiated measures to allow the effective participation of those identified as disadvantaged or vulnerable. When the stakeholder engagement process depends substantially on community representatives, the client will make every reasonable effort to verify that such persons do in fact represent the views of Affected Communities and that they can be relied upon to faithfully communicate the results of consultations to their constituents.	Metagro currently undertakes stakeholder engagement on an ad hoc basis, according to Project needs or emerging issues	The ESIA Team will develop a Stakeholder Engagement Plan (SEP), including communication of the grievance mechanism, for disclosure and consultation of the draft ESIA Report to stakeholders in Metagro's AoI. Metagro will develop a Metagro-specific SEP, aligned with IFC PS 1 and updated annually, for solidifying stakeholder relationships in its AoI and for ongoing participative disclosure and consultation of Project impacts & risks, mitigation measures, and general Project information, activity reports and opportunities. Metagro will develop special engagement measures for vulnerable stakeholders. Communication of the grievance mechanism will be integrated in the SEP.		ESIA SEP developed, implemented, and documented Annual project SEP developed, implemented and documented	Metagro	S 9.14 WI1-8 S 9.15 BS1-8 S 9.16 AS1-2 S 9.19 SE1-4

1.25		(Par. 28) In cases where the exact location of the project is not known, but it is reasonably expected to have significant impacts on local communities, the client will prepare a Stakeholder Engagement Framework , as part of its management program, outlining general principles and a strategy to identify Affected Communities and other relevant stakeholders and plan for an engagement process compatible with this Performance Standard that will be implemented once the physical location of the project is known.	The exact location of the Project is known.	N/A				
1.26	Disclosure of Information	(Par.29) [...] The client will provide Affected Communities with access to relevant information on: (i) the purpose, nature, and scale of the project; (ii) the duration of proposed project activities; (iii) any risks to and potential impacts on such communities and relevant mitigation measures; (iv) the envisaged stakeholder engagement process; and (v) the grievance mechanism.	Measures for disclosure of project impacts and risks are included in the ESIA SEP Metagro does not yet have a process or plan for ongoing disclosure of Project impacts and risks	Same as lines 1.3, 1.24,			Same as lines 1.3, 1.24,	
1.27	Consultation	(Par.30) When Affected Communities are subject to identified risks and adverse impacts from a project, the client will undertake a process of consultation in a manner that provides the Affected Communities with opportunities to express their views on project risks, impacts and mitigation measures, and allows the client to consider and respond to them. [...] The client will tailor its consultation process to the language preferences of the Affected Communities, their decision-making process, and the needs of disadvantaged or vulnerable groups. If clients have already engaged in such a process, they will provide adequate documented evidence of such engagement.	Metagro has undertaken some informed consultation and participation in relation to opportunities for local herders Measures for consultation on project impacts and risks are included in the ESIA SEP Metagro does not yet have a process or plan for ongoing consultation for Project impacts and risks	Same as lines 1.3, 1.24,			Same as lines 1.3, 1.24,	
1.28	Informed Consultation and Participation	(Par. 31) For projects with potentially significant adverse impacts on Affected Communities, the client will conduct an Informed Consultation and Participation (ICP) process that will build upon the steps outlined above in Consultation and will result in the Affected Communities' informed participation. [...] The client will document the process, in particular the measures taken to avoid or minimize risks to and adverse impacts on the Affected Communities, and will inform those affected about how their concerns have been considered.	Same as lines 1.26, 1.27	Same as lines 1.26, 1.27			Same as lines 1.26, 1.27	
1.29	Indigenous Peoples	(Par. 32) For projects with adverse impacts to Indigenous Peoples , the client is required to engage them in a process of ICP and in certain circumstances the client is required to obtain their Free, Prior, and Informed Consent (FPIC). The requirements related to Indigenous Peoples and the definition of the special circumstances requiring FPIC are described in Performance Standard 7.	N/A	N/A				
1.30	Private Sector Responsibilities Under Government-Led Stakeholder Engagement	(Par. 33) Where stakeholder engagement is the responsibility of the host government, the client will collaborate with the responsible government agency , to the extent permitted by the agency, to achieve outcomes that are consistent with the objectives of this Performance Standard. In addition, where government capacity is limited, the client will play an active role during the stakeholder engagement planning, implementation, and monitoring. If the process conducted by the government does not meet the relevant requirements of this Performance Standard, the client will conduct a complementary process and, where appropriate, identify supplemental actions.	N/A	N/A				
1.31	External Communications	(Par. 34) Clients will implement and maintain a procedure for external communications that includes methods to (i) receive and register external communications from the public; (ii) screen and assess the issues raised and determine how to address them; (iii) provide, track, and document responses, if any; and (iv) adjust the management program, as appropriate. [...]	Metagro does not currently have an external communications procedure as described in this IFC PS Metagro has a communication plan at the MCS Group level, and has some methods in place for collecting stakeholder input and concerns	Metagro will develop a Project-specific External Communications Procedure that focuses on collecting input from external stakeholders and that demonstrates how the input helps inform Metagro's E&S management programmes Metagro will communicate the External Communications Procedure with all project personnel and contractors who interface with community stakeholders			Documented Communications Procedure Documentation of measures undertaken to communicate the procedure to all relevant staff/contractors	Metagro S 9.19 SE1-4
1.32	Grievance Mechanism for Affected Communities	(Par. 35) Where there are Affected Communities, the client will establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the client's environmental and social performance. [...] The client will inform the Affected Communities about the mechanism in the course of the stakeholder engagement process.	Metagro has procedures for managing community grievances, however, enhancements are required for them to be considered a complete, IFC-aligned grievance mechanism. The ESIA Team's proposed adjustments are included in the ESIA SEP.	Metagro will adjust its existing grievance management procedures to bring them in closer alignment with IFC standards and GIP Metagro will integrate ongoing communication about the grievance mechanism into its annual SEP			Enhanced external grievance mechanism documented and communicated to community stakeholders as part of the SEP	Metagro S 9.17 GM1-2
1.33	Ongoing Reporting to Affected Communities	(Par. 36) The client will provide periodic reports to the Affected Communities that describe progress with implementation of the project Action Plans on issues that involve ongoing risk to or impacts on Affected Communities and on issues that the consultation process or grievance mechanism have identified as a concern to those Communities. [...] The frequency of these reports will be proportionate to the concerns of Affected Communities but not less than annually.	Metagro undertakes some reporting to government authorities and communities, however, it does not have a systematic process for doing so based on Project impacts and risks	In the SEP, include activities for regular, ongoing reporting to affected communities about Project impacts, risks, action plans and stakeholder concerns			Ongoing reporting to affected communities documented and integrated into project SEP	Metagro S 9.17 GM1-2

Performance Standard 2: Labour and Working Conditions

Item	Topic	IFC PS Requirement (Paragraph)	Findings	Action Items	Timeframe	Indicators of Completion / Documentation	Responsible	ESIA Reference
		Working Conditions and Management of Worker Relationship						
2.1	Human Resources Policies and Procedures	(Par. 8) The client will adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of this Performance Standard and national law.	Metagro adopts and implements the MCS Group human resources policies and procedures, however, those policies and procedures are missing some of the requirement of this IFC PS.	In its existing Human Resources management plans, policies and processes, Metagro will integrate the following: - Reference to E&S requirements for contractors - Reference to enhanced worker/contractor Code of Conduct - Reference to the enhanced grievance mechanism - Reference to the E&S training and awareness requirements for workers/contractors and visitors		Updated Human Resources Management Plan	Metagro	S9.14 WI-8
2.2	Documented information	(Par. 9) The client will provide workers with documented information that is clear and understandable, regarding their rights under national labor and employment law and any applicable collective agreements, including their rights related to hours of work, wages, overtime, compensation, and benefits upon beginning the working relationship and when any material changes occur.	Metagro and/or MCS Group provides workers with documented information as described in this performance standard.	N/A				
2.3	Working Conditions and Terms of Employment	(Par. 10) Where the client is a party to a collective bargaining agreement with a workers' organization, such agreement will be respected. Where such agreements do not exist, or do not address working conditions and terms of employment, the client will provide reasonable working conditions and terms of employment .	Metagro and/or MCS Group respect collective bargaining agreements as described in this performance standard.	N/A				
		(Par. 11) The client will identify migrant workers and ensure that they are engaged on substantially equivalent terms and conditions to non-migrant workers carrying out similar work.	Metagro and MCS Group have an HR Policy ensures equal terms and conditions of employment for migrants	N/A				
		(Par. 12) Where accommodation services are provided to workers covered by the scope of this Performance Standard, the client will put in place and implement policies on the quality and management of the accommodation and provision of basic services . [...]	Metagro and MCS Group have policies in place on the quality and management of worker accommodation and provision of basic services	N/A				
2.4	Workers' Organizations	(Par.13) In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the client will comply with national law. [...]	Metagro and MCS Group have systems in place to ensure that they comply with all national labour laws. There are currently no worker organizations at Metagro, but should there be in the future, Metagro will provide them with information needed for meaningful negotiation.	N/A				
		(Par. 14) [...] The client will engage with workers' representatives and workers' organizations, and provide them with information needed for meaningful negotiation in a timely manner. Workers' organizations are expected to fairly represent the workers in the workforce.						
2.5	Non-Discrimination and Equal Opportunity	(Par. 15) The client will not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. [...] The client will take measures to prevent and address harassment, intimidation, and/or exploitation, especially in regard to women. The principles of non-discrimination apply to migrant workers.	Same as lines 2.3, 2.4	N/A				
		(Par. 16) In countries where national law provides for non-discrimination in employment, the client will comply with national law . [...]	Same as lines 2.3, 2.4	N/A				
		(Par. 17) Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job will not be deemed as discrimination, provided they are consistent with national law.	Same as lines 2.3, 2.4	Same as lines 2.3, 2.4				
2.6	Retrenchment	(Par. 18) Prior to implementing any collective dismissals, the client will carry out an analysis of alternatives to retrenchment. If the analysis does not identify viable alternatives to retrenchment, a retrenchment plan will be developed and implemented to reduce the adverse impacts of retrenchment on workers. [...]	Metagro does not foresee any collective dismissals. Should the need arise unexpectedly, it will carry out the requirements stipulated in this performance standard.	N/A				
		(Par. 19) The client should ensure that all workers receive notice of dismissal and severance payments mandated by law and collective agreements in a timely manner. All outstanding back pay and social security benefits and pension contributions and benefits will be paid (i) on or before termination of the working relationship to the workers, (ii) where appropriate, for the benefit of the workers, or (iii) payment will be made in accordance with a timeline agreed through a collective agreement. Where payments are made for the benefit of workers, workers will be provided with evidence of such payments.	The requirements of this performance standard are included in national legislation. Metagro and MCS Group have systems in place to ensure compliance with national law.	N/A				
2.7	Grievance Mechanism	(Par.20) The client will provide a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. The client will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them. [...]	Metagro has procedures in place for workers to raise workplace concerns, which are communicated to them at the time of recruitment. However, enhancements are required for these procedures to be considered a complete, IFC-aligned grievance mechanism. The ESIA Team's proposed adjustments are included in the ESIA SEP.	Metagro will adjust its existing internal grievance management procedures to bring them in closer alignment with IFC standards and GIIP Metagro will include ongoing communication of the internal grievance mechanism to workers and contractors as part of its annual SEP		Updated Grievance Redress Mechanism	Metagro	S 9.17 GM1-2
		Protecting the Work Force						

2.8	Child Labor	(Par.21) The client will not employ children in any manner that is economically exploitative, or is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. [...] All work of persons under the age of 18 will be subject to an appropriate risk assessment and regular monitoring of health, working conditions, and hours of work.	Metagro and MCS Group do not employ workers under the age of 18 and have systems in place to safeguard against child labour, in accordance with national legislation and the requirements of this IFC PS.	N/A				
2.9	Forced Labor	(Par. 22) The client will not employ forced labor , which consists of any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. The client will not employ trafficked persons.	Metagro and MCS Group have systems in place to safeguard against forced labour, in accordance with national legislation and the requirements of this IFC PS.	N/A				
Occupational Health and Safety								
2.15	Work environment	(Par. 23) The client will provide a safe and healthy work environment , taking into account inherent risks in its particular sector and specific classes of hazards in the client's work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women. [...]	Metagro now has OHS Policies, Workplace Risk Assessment, Manuals of Procedures, OHS Guidelines for Contractors and Sub-Contractors, and a spreadsheet-based monitoring and reporting function. The Metagro safety culture has also been significantly strengthening, and greater focus has been given to the supervision and monitoring of subcontractors in addition to their employees. A 3-year, 36-point Safety Improvement Plan is also in place	Further development and alignment of Metagro's existing OHS Policy and OHS standard operating procedures with sector-specific OHS best-practice, including the WB EHS Guidelines: - Annual Crop Production (2016) - Mammalian Livestock Production (2007) - Meat Processing (2007) Enhance the existing OHS Policy and OHS standard operating procedures by achieving certification to international standard ISO 45001 for occupational health and safety		Updated OHS Policy, and SOPs Certification to ISO 45001 Monitoring reports documenting all activities related to the update and implementation of the plans and procedures identified	Metagro	S9.12 OHS1-3
2.16	H&S Management	[...] the client will address areas that include the (i) identification of potential hazards to workers, particularly those that may be life-threatening; (ii) provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) training of workers; (iv) documentation and reporting of occupational accidents, diseases, and incidents; and (v) emergency prevention, preparedness, and response arrangements.	Same as line 2.15	Development of an Emergency Preparedness and Response Plan informed by a HAZOP study or similar risk assessment. The Plan should at least include organisation of emergency areas, roles and responsibilities, communication systems, response procedures and resources and training. The Plan should have a dedicated section on Spill Control specifically to address, minimise and control potential for agrochemical and fuel spills. The Plan should also have a dedicated section on prevalent natural hazards such as wildfires, flooding and dzuds. It should include trainings for fire prevention and suppression actions for all construction contractors, workers, Project users, adjacent structure users and neighbouring communities.		Emergency Preparedness and Response Plan, and related SOPs Monitoring reports documenting all activities related to the update and implementation of the plans and procedures identified	Metagro	S9.12 OHS1-3
Workers Engaged by Third Parties								
2.17	Third parties engagement	(Par. 24) With respect to contracted workers the client will take commercially reasonable efforts to ascertain that the third parties who engage these workers are reputable and legitimate enterprises and have an appropriate ESMS that will allow them to operate in a manner consistent with the requirements of this Performance Standard, except for paragraphs 18–19, and 27–29.	Metagro has contractor management plans and associated procedures to ascertain that its contractors are reputable, legitimate and have appropriate HSE processes in place. However, the contractor management plan(s) are missing some of the E&S requirements stipulated in this IFC PS.	Metagro will adjust its contractor management plans, monitoring systems and contractual agreements to require compliance with the Metagro ESG Policy, and to require a process for the identification, assessment, mitigation and reporting of E&S risks for all contractors throughout construction and operations.		Modified contractor management plans, monitoring systems and contractual agreements applied	Metagro	S8.1 S8.4 S9.14 W11-8 S9.15 BS1-8
2.18	Policies and procedures for third parties	(Par. 25) The client will establish policies and procedures for managing and monitoring the performance of such third party employers in relation to the requirements of this Performance Standard. In addition, the client will use commercially reasonable efforts to incorporate these requirements in contractual agreements with such third party employers.	Metagro has systems in place for managing and monitoring the HSE performance of its contractors and includes HSE requirements in contractual agreements. However, the systems and contractual agreements are missing some of the E&S requirements stipulated in this IFC PS.	Same as line 2.17		Same as line 2.17		
2.19	Grievance Mechanism	(Par. 26) The client will ensure that contracted workers, covered in paragraphs 24–25 of this Performance Standard, have access to a grievance mechanism . In cases where the third party is not able to provide a grievance mechanism the client will extend its own grievance mechanism to serve workers engaged by the third party.	Metagro's internal grievance procedures are made available to contractors, however, components are missing from the procedures for them to constitute a complete, IFC-aligned grievance mechanism.	Same as line 2.7		Same as line 2.7		
Supply Chain								
2.20	Monitoring	(Par. 27) [...] The client will monitor its primary supply chain on an ongoing basis in order to identify any significant changes in its supply chain and if new risks or incidents of child and/or forced labor are identified, the client will take appropriate steps to remedy them.	same as line 1.9	same as line 1.9		same as line 1.9		
2.21	Mitigation measures	(Par. 28) Additionally, where there is a high risk of significant safety issues related to supply chain workers, the client will introduce procedures and mitigation measures to ensure that primary suppliers within the supply chain are taking steps to prevent or to correct life-threatening situations.	Same as line 2.20	Same as line 2.20		Same as line 2.20		

2.22	Shift the suppliers	(Par. 29) The ability of the client to fully address these risks will depend upon the client's level of management control or influence over its primary suppliers. Where remedy is not possible, the client will shift the project's primary supply chain over time to suppliers that can demonstrate that they are complying with this Performance Standard.	Same as line 2.20	Same as line 2.20		Same as line 2.20		
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Performance Standard 3: Resource Efficiency and Pollution Prevention

Item	Topic	IFC PS Requirement (Paragraph)	Findings	Action Items	Timeframe	Indicators of Completion / Documentation	Responsible	ESIA Reference
		Resource Efficiency and Pollution Prevention						
3.1	Resource efficiency and pollution prevention principles	(Par. 4) During the project life-cycle, the client will consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention principles and techniques that are best suited to avoid, or where avoidance is not possible, minimize adverse impacts on human health and the environment. [...]	Metagro is implementing its operations as a leading model of regenerative agriculture; adopting good agricultural practices such as the no-tillage technique, crop rotation, planting of cover crops to enable proper soil management and preserve soil quality, whilst also boosting agricultural yield and allowing for adequate supply of livestock feed.	Metagro should develop a Soil Conservation and Management Plan for preventing physical and chemical degradation of soils, such as pollution, erosion or compaction from agricultural activities. Other aspects of resource efficiency are covered in: water / ecosystem services - Line 4.4; pollution prevention - Line 3.9; IPM - Line 3.11		Soil Conservation and Management Plan and related SOPs	Metagro	S9.4 GS1 S9.6 CC1-2
3.2	EHS Guidelines	(Par. 6) The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance. [...] The client will communicate the policy to all levels of its organization.	Same as line 1.2	Same as line 1.2		Same as line 1.2		
		Resource Efficiency						
3.3	Measures of improving efficiency	(Par. 6) The client will implement technically and financially feasible and cost effective measures for improving efficiency in its consumption of energy, water , as well as other resources and material inputs, with a focus on areas that are considered core business activities. Such measures will integrate the principles of cleaner production into product design and production processes with the objective of conserving raw materials, energy, and water. Where benchmarking data are available, the client will make a comparison to establish the relative level of efficiency.	Metagro's project plan has indicated its commitments and strategies to exploring renewable energy sources, implementation of smart agriculture techniques and good agricultural practices (GAP) to reduce project input demands and to minimise related GHG emissions.	N/A - in progress		N/A - in progress		
3.4	Greenhouse Gases	(Par. 7) In addition to the resource efficiency measures described above, the client will consider alternatives and implement technically and financially feasible and cost-effective options to reduce project-related GHG emissions during the design and operation of the project. [...]	Metagro has been considering the operation of a bio-gas plant at the site for energy generation and waste management purposes, and to contribute to GHG savings. However this remains a concept-only, and now unlikely with the pig farm project now on hold.	N/A - business case on hold		N/A		
		(Par. 8) For projects that are expected to or currently produce more than 25,000 tonnes of CO2-equivalent annually, the client will quantify direct emissions from the facilities owned or controlled within the physical project boundary, as well as indirect emissions associated with the off-site production of energy used by the project. Quantification of GHG emissions will be conducted by the client annually in accordance with internationally recognized methodologies and good practice.	Metagro has presented documents highlighting strategies to reduce 20,899 tons of CH4 emissions over the next 10 years of the project's operation However it has not yet conducted a current and future baseline GHG emission study of the project site to benchmark this reduction against, and to estimate its predicted scope 1 and 2 emissions based on the proposed scale of operation.	Metagro will conduct a baseline GHG emission study to quantify and estimate its emissions. Metagro will develop a GHG quantification methodology and reporting framework to handle resource efficiency and track its emissions.		Detailed current and future baseline GHG emissions with all aspects of the operational phase of the project carefully considered. Implemented GHG quantification methodology and GHG reporting framework. Quarterly and Annual GHG emissions reports to track progress and set targets.		S9.6 CC5-6
3.5	Water Consumption	(Par. 9) When the project is a potentially significant consumer of water, in addition to applying the resource efficiency requirements of this Performance Standard, the client shall adopt measures that avoid or reduce water usage so that the project's water consumption does not have significant adverse impacts on others. These measures include, but are not limited to, the use of additional technically feasible water conservation measures within the client's operations, the use of alternative water supplies, water consumption offsets to reduce total demand for water resources to within the available supply, and evaluation of alternative project locations.	Same as line 4.4	Same as line 4.4		Same as line 4.4		
		Pollution Prevention						

3.6	Prevention and mitigation	<p>(Par. 10) The client will avoid the release of pollutants or, when avoidance is not feasible, minimize and/or control the intensity and mass flow of their release. This applies to the release of pollutants to air, water, and land due to routine, non-routine, and accidental circumstances with the potential for local, regional, and transboundary impacts. Where historical pollution such as land or ground water contamination exists, the client will seek to determine whether it is responsible for mitigation measures. If it is determined that the client is legally responsible, then these liabilities will be resolved in accordance with national law, or where this is silent, with GIIP.</p> <p>Engineering features to control key risks are being implemented, including the in-construction cattle feedlot wastewater treatment plant. Secondary containment and hardstanding will be in use for hazardous liquid storage and handling.</p> <p>A monitoring regime is also required to assess the performance</p>	<p>Metagro has the potential to release pollutants to soil, surface water, groundwater and air from several key operations, most notably:</p> <ul style="list-style-type: none"> - biological pollutants and odours from its feedlot and slaughterhouse operations - agrochemical pollutants from its storage, handling and use of fertilisers, herbicides and pesticides - hydrocarbon pollutants from its storage, handling and use of fuels and oils for its large machinery and vehicle fleet - air pollutants (dust) from its agricultural activities and transportation on dirt tracks across the site 	<p>Hazardous materials and waste controls are required, see line 3.9</p> <p>A Groundwater and Surface Water Quality Monitoring Programme is required, see line 4.4</p> <p>Metagro should develop an Air Quality Management Plan to minimize odour and dust emissions.</p>	<p>Air Quality Management Plan implemented</p> <p>see also lines 3.9 and 4.4</p>		<p>S9.4 WR1-4 S9.7 AQ-1 S9.11 HM1-3</p>
3.8	Adverse impacts	<p>(Par 11) To address potential adverse project impacts on existing ambient conditions, the client will consider relevant factors, including, for example (i) existing ambient conditions; (ii) the finite assimilative capacity of the environment; (iii) existing and future land use; (iv) the project's proximity to areas of importance to biodiversity; and (v) the potential for cumulative impacts with uncertain and/or irreversible consequences. In addition to applying resource efficiency and pollution control measures as required in this Performance Standard, when the project has the potential to constitute a significant source of emissions in an already degraded area, the client will consider additional strategies and adopt measures that avoid or reduce negative effects. These strategies include, but are not limited to, evaluation of project location alternatives and emissions offsets.</p>	Same as line 3.7	Same as line 3.7	Same as line 3.7		
3.9	Wastes	<p>(Par. 12) The client will avoid the generation of hazardous and non-hazardous waste materials. Where waste generation cannot be avoided, the client will reduce the generation of waste, and recover and reuse waste in a manner that is safe for human health and the environment. Where waste cannot be recovered or reused, the client will treat, destroy, or dispose of it in an environmentally sound manner that includes the appropriate control of emissions and residues resulting from the handling and processing of the waste material.</p> <p>If the generated waste is considered hazardous the client will adopt GIIP alternatives for its environmentally sound disposal while adhering to the limitations applicable to its transboundary movement.</p> <p>When hazardous waste disposal is conducted by third parties, the client will use contractors that are reputable and legitimate enterprises licensed by the relevant government regulatory agencies and obtain chain of custody documentation to the final destination. The client should ascertain whether licensed disposal sites are being operated to acceptable standards and where they are, the client will use these sites. Where this is not the case, clients should reduce waste sent to such sites and consider alternative disposal options, including the possibility of developing their own recovery or disposal facilities at the project site.</p>	Metragro has institutional control measures in place for many aspects of hazardous materials and waste management.	<p>Further alignment with GIIP should be undertaken for key elements of hazardous materials and waste management.</p> <p>This should include further development of an Emergency Preparedness & Response Plan, Hazardous Materials Management Plan, and Waste Management Plan in accordance with the recommendations in the ESIA</p>	<p>Updated Emergency Preparedness & Response Plan and related SOPs</p> <p>Updated Hazardous Materials Management Plan and related SOPs</p> <p>Updated Waste Management Plan and related SOPs</p> <p>Monitoring reports documenting all activities related to the update and implementation of the plans and procedures identified</p>	Metagro	S9.11 HM1-3
		Same as above	Same as above	Same as above	Same as above		
		Same as above	Same as above	Same as above	Same as above		
3.10	Hazardous Materials Management	<p>(Par. 13) Hazardous materials are sometimes used as raw material or produced as product by the project. The client will avoid or, when avoidance is not possible, minimize and control the release of hazardous materials. In this context, the production, transportation, handling, storage, and use of hazardous materials for project activities should be assessed. The client will consider less hazardous substitutes where hazardous materials are intended to be used in manufacturing processes or other operations.</p> <p>The client will avoid the manufacture, trade, and use of chemicals and hazardous materials subject to international bans or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer.</p>	Same as line 3.9	Same as line 3.9	Same as line 3.9		
		Same as line 3.11	Same as line 3.11	Same as line 3.11	Same as line 3.11		

3.11	Pesticide Use and Management	(Par. 14) The client will, where appropriate, formulate and implement an integrated pest management (IPM) and/or integrated vector management (IVM) approach targeting economically significant pest infestations and disease vectors of public health significance. [...]	Metragro is a significant user of agrochemicals including pesticides and herbicides (such as over 50 tonnes of glyphosate in 2022) An IPM programme is in place, detailed records are kept of all agricultural crop activities including sprayer operations, and several approaches to natural pest control are being implemented such as the installation of roosting post for birds of prey every 150m around the 70km of perimeter fencing.	The IPM should be regularly refined and implemented, giving preference to alternative pest management strategies with the use of agrochemicals as a last option. Key measures in the IPM may include: - Use predators (e.g. birds) to control pests; maintain structures to keep out pests; and use mechanical controls (e.g. traps, barriers, light, and sound) to kill, relocate, or repel pests - Protect natural enemies of pests by providing a favourable habitat (e.g. bushes for nesting sites and other indigenous vegetation) that can house pest predators - Use good housekeeping practices in barns and other facilities to limit food sources and habitat for pests, and consider covering manure piles to reduce pest and insect populations. - Only pesticides that are manufactured and registered and approved in accordance with FAO's International Code of Conduct on the Distribution and Use of Pesticides shall be used. - No pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Classes 1A and 1B shall be used. - SOPs for use, handling, mixing and application of pesticides (including herbicides) - Application technologies and practices shall be designed to reduce unintentional drift or runoff, used only as indicated in the SOP/IPM and under controlled conditions. - Record and documentation requirements including records of pesticide use and effectiveness. - Storage requirements - Training and PPE requirements in accordance with planned procedures	Updated Integrated Pest Management Plan and related SOPs Monitoring reports documenting all activities related to the update and implementation of the plans and procedures identified		S9.11 HM3	
		(Par. 15) When pest management activities include the use of chemical pesticides, the client will select chemical pesticides that are low in human toxicity , that are known to be effective against the target species, and that have minimal effects on non-target species and the environment. [...]	Same as line 3.11	Same as line 3.11	Same as line 3.11			
		(Par. 16) The client will design its pesticide application regime to (i) avoid damage to natural enemies of the target pest, and where avoidance is not possible, minimize, and (ii) avoid the risks associated with the development of resistance in pests and vectors , and where avoidance is not possible minimize. In addition, pesticides will be handled, stored, applied, and disposed of in accordance with the Food and Agriculture Organization's International Code of Conduct on the Distribution and Use of Pesticides or other GJP	Same as line 3.11	Same as line 3.11	Same as line 3.11	Same as line 3.11		
		(Par. 17) The client will not purchase, store, use, manufacture, or trade in products that fall in WHO Recommended Classification of Pesticides by Hazard Class Ia (extremely hazardous); or Ib (highly hazardous). The client will not purchase, store, use, manufacture or trade in Class II (moderately hazardous) pesticides, unless the project has appropriate controls on manufacture, procurement, or distribution and/or use of these chemicals. These chemicals should not be accessible to personnel without proper training, equipment, and facilities to handle, store, apply, and dispose of these products properly.	Same as line 3.11	Same as line 3.11	Same as line 3.11	Same as line 3.11		

Performance Standard 4: Community Health, Safety and Security

Item	Topic	IFC PS Requirement (Paragraph)	Findings	Action Items	Timeframe	Indicators of Completion / Documentation	Responsible	ESIA Reference
		Community Health and Safety						
4.1	H&S preventive and control measures	(Par. 5) The client will evaluate the risks and impacts to the health and safety of the Affected Communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice (GIIP), such as in the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) or other internationally recognized sources. The client will identify risks and impacts and propose mitigation measures that are commensurate with their nature and magnitude. These measures will favor the avoidance of risks and impacts over minimization.	Metagro does not currently have preventive and control measures in place for impacts and risks to local communities associated with: - traffic and road safety - project emergencies - the influx of workers and contractors	Metagro will include impacts on local communities in the Traffic Management Plan Metagro will ensure local community protection is considered in the Emergency Preparedness and Response Plan Metagro will incorporate guidelines on community relations in the existing code of conduct for workers and contractors, including conduct off-site and outside work hours Metagro will include the same guidelines in an induction presentations for new workers/contractors and visitors Metagro will include the same guidelines in its E&S training programme for workers and contractors Metagro will monitor the grievance mechanism for any trends associated with contractor interactions in local communities		Updated Traffic Management Plan Updated Emergency Preparedness and Response Plan Amended code of conduct for workers and contractors Induction presentation for new workers, contractors and visitors with community relations component Monitoring reports documenting all activities related to the update and implementation of the plans and procedures identified Community relations component integrated into E&S training programme	Metagro	S9.9 TR1-6 S9.12 OHS3 S9.14 W11-8
4.2	Infrastructure and Equipment Design and Safety	(Par. 6) The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance. [...] The client will communicate the policy to all levels of its organization.	N/A - as designed and construction substantially complete	N/A		N/A		
4.3	Hazardous Materials Management and Safety	(Par. 7) The client will avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the project. Where there is a potential for the public (including workers and their families) to be exposed to hazards, particularly those that may be life-threatening, the client will exercise special care to avoid or minimize their exposure by modifying, substituting, or eliminating the condition or material causing the potential hazards. [...]	Same as line 3.9	Same as line 3.9		Same as line 3.9		
4.4	Ecosystem Services	(Par. 8) The project's direct impacts on priority ecosystem services may result in adverse health and safety risks and impacts to Affected Communities. [...] Where appropriate and feasible, the client will identify those risks and potential impacts on priority ecosystem services that may be exacerbated by climate change. Adverse impacts should be avoided, and if these impacts are unavoidable, the client will implement mitigation measures in accordance with paragraphs 24 and 25 of Performance Standard 6. With respect to the use of and loss of access to provisioning services, clients will implement mitigation measures in accordance with paragraphs 25–29 of Performance Standard 5.	The threat to water resources is a major Project risk due to the presence of multiple very shallow community wells for livestock and human consumption close to the site. Metagro's activities are a risk to the quality and availability of this resource due to: - proposals for extensive groundwater abstraction for irrigation - potential surface water damming and use for irrigation - the use of agrochemicals across large land areas	Undertake a Water Resources Sustainability Review to include: - a computation groundwater model to assess localised aquifer drawdown - water usage minimisation options - irrigation technologies review with respect to water conservation - water recycling and reuse options Develop a Groundwater Management Programme to monitor: - groundwater level changes in different pumping areas - amount of water pumped from each borehole - report on water usage (drinking water, irrigation etc.); and - groundwater quality in the Project area Develop a Groundwater and Surface Water Quality Monitoring Programme to include: - representative sampling locations, including the most at-risk community water wells, the Murun River, and other at-risk surface water bodies		Water Resources Sustainability Review Groundwater Management Programme in place Groundwater and Surface Water Quality Monitoring Programme developed and in progress Monitoring reports documenting all activities related to the update and implementation of the plans and procedures identified	Metagro	S9.5 WR1-3
4.5	Community Exposure to Disease	(Par. 9) The client will avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases , and communicable diseases that could result from project activities, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. [...]	same as line 4.4, and in addition: there is a risk to community livestock health and community member health from potential diseases and pests that may be introduced via Metagro's livestock operations	Finalisation of Animal Health Policy and Animal Welfare Policy (currently in draft) Continuous improvement of existing cattle feedlot, biosecurity, veterinary, and animal health and welfare practices and SOPs at Metagro Farm.		Animal Health Policy and Animal Welfare Policy in place Updated and additional SOPs for cattle feedlot operations	Metagro	S9.13 AW1-4
		(Par. 10) The client will avoid or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent project labor.	Metagro workers and contractors are required to undertake regular medical checks and follow HSE protocols in the event of a disease outbreak	N/A		N/A		

4.6	Emergency Preparedness and Response	<p>(Par. 11) In addition to the emergency preparedness and response requirements described in Performance Standard 1, the client will also assist and collaborate with the Affected Communities, local government agencies, and other relevant parties, in their preparations to respond effectively to emergency situations, especially when their participation and collaboration are necessary to respond to such emergency situations. If local government agencies have little or no capacity to respond effectively, the client will play an active role in preparing for and responding to emergencies associated with the project. The client will document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information to Affected Communities, relevant government agencies, or other relevant parties.</p>	same as line 1.18	same as line 1.18	same as line 1.18		
Security Personnel							
4.7	Arrangements for security personnel	<p>(Par. 12) When the client retains direct or contracted workers to provide security to safeguard its personnel and property, it will assess risks posed by its security arrangements to those within and outside the project site. In making such arrangements, the client will be guided by the principles of proportionality and good international practice in relation to hiring, rules of conduct, training, equipping, and monitoring of such workers, and by applicable law. The client will make reasonable inquiries to ensure that those providing security are not implicated in past abuses; will train them adequately in the use of force (and where applicable, firearms), and appropriate conduct toward workers and Affected Communities; and require them to act within the applicable law. The client will not sanction any use of force except when used for preventive and defensive purposes in proportion to the nature and extent of the threat. The client will provide a grievance mechanism for Affected Communities to express concerns about the security arrangements and acts of security personnel.</p>	<p>Metagro uses Security contractors to control access to the Project site. There are currently no formal (documented) measures in place to assess risks of human rights infractions associated with security rules of engagement and use of force, and to verify that security contractors are trained in line with international standards and GIIP.</p>	<p>As part of its risk management process (line 1.3), Metagro will undertake the identification and analysis of E&S and human rights risks associated with Security contractors, including verifying that their policies and procedures on rules of engagement and use of force are aligned with international standards and GIIP.</p> <p>As part of its contractor management plan and associated requirements (line 2.17), Metagro will ensure that Security contractors have a process for identifying, addressing and reporting E&S risks.</p> <p>As part of its programme for ongoing training and awareness-building of IFC PS and GIIP for all workers and contractors (line 1.1), Metagro will ensure that Security contractors are trained according to the requirements of this IFC PS, and that all workers, contractors and local communities are informed on their human rights.</p>	Same as lines 1.3, 2.17 and 1.1, with integration of the components described here	Metagro	S9.20 SH1-3
4.8	Risks documentation	<p>(Par. 13) The client will assess and document risks arising from the project's use of government security personnel deployed to provide security services. [...]</p>	Metagro does not use government security personnel	N/A	N/A	N/A	N/A
4.9	Prevention	<p>(Par. 14) The client will consider and, where appropriate, investigate all allegations of unlawful or abusive acts of security personnel, take action (or urge appropriate parties to take action) to prevent recurrence, and report unlawful and abusive acts to public authorities.</p>	Same as line 4.7	Same as line 4.7	Same as line 4.7		

Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Item	Topic	IFC PS Requirement (Paragraph)	Findings	Action Items	Timeframe	Indicators of Completion / Documentation	Responsible	ESIA Reference
		General						
6.1	Direct and indirect project-related impacts	(Par. 6) The risks and impacts identification process as set out in Performance Standard 1 should consider direct and indirect project-related impacts on biodiversity and ecosystem services and identify any significant residual impacts. [...]	The main potential impacts on Biodiversity from the Metagro Farm operation include: - Fragmentation of habitat due to new access roads and fencing on site - Threat of injury or impalement of large wildlife, as well as to herder livestock, from extensive barbed wire fencing - Damage to flora and fauna and to freshwater habitats from the inappropriate use of agrochemicals - Eutrophication of the local Murun river from increased levels of nutrients due to fertiliser run-off - Disturbance of fauna due to the introduction of new animals on site - Alien invasive species or bacteria may be introduced to the local environment via the livestock operations	Develop a Biodiversity Action Plan (BAP) and a resulting Biodiversity Management Plan (BMP), including a no-net loss (NNL) strategy. The construction and operation workforce should be trained in biodiversity management requirements, including - how to recognise, notify and report, and avoid impacts to sensitive habitats and species where these are present. - movement of construction and operation transport vehicles on dedicated paths to minimise any harm to small fauna within the site Use of non-barbed wire in future and replacement perimeter fencing		Biodiversity Action Plan (BAP) and Biodiversity Management Plan (BMP) and related SOPs in place. Training materials and training logs to demonstrate biodiversity awareness raising. Non-barbed wire fencing specified for future works.	Metagro	S9.10 B11-3
6.2	Measures	(Par. 6) The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance. [...] The client will communicate the policy to all levels of its organization.	Same as line 1.2	Same as line 1.2		Same as line 1.2		
6.3	Experts	(Par. 8) Where paragraphs 13-15 (Natural Habitat) are applicable, the client will retain competent professionals to assist in conducting the risks and impacts identification process. Where paragraphs 16-19 (Critical Habitat) are applicable, the client should retain external experts with appropriate regional experience to assist in the development of a mitigation hierarchy that complies with this Performance Standard and to verify the implementation of those measures.	Same as line 6.6	Same as line 6.6		Same as line 6.6		
		Protection and Conservation of Biodiversity						
6.4	Mitigation and protection	(Par. 10) For the protection and conservation of biodiversity , the mitigation hierarchy includes biodiversity offsets, which may be considered only after appropriate avoidance, minimization, and restoration measures have been applied. [...] When a client is considering the development of an offset as part of the mitigation strategy, external experts with knowledge in offset design and implementation must be involved.	Same as line 6.1	Same as line 6.1		Same as line 6.1		
6.5	Modified Habitat	(Par. 12) This Performance Standard applies to those areas of modified habitat that include significant biodiversity value, as determined by the risks and impacts identification process required in Performance Standard 1. The client should minimize impacts on such biodiversity and implement mitigation measures as appropriate.	Appropriate actions will be taken via the measures in line 6.1	Same as line 6.1		Same as line 6.1		
6.6	Natural Habitat	(Par. 14) The client will not significantly convert or degrade natural habitats, unless all of the following are demonstrated: - No other viable alternatives within the region exist for development of the project on modified habitat; - Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and - Any conversion or degradation is mitigated according to the mitigation hierarchy.	The Metagro Farm operations have been established on pre-existing agricultural land, in use since 1977. This is a modified habitat of long-standing.	N/A		N/A		
		(Par. 15) In areas of natural habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible. Appropriate actions include: - Avoiding impacts on biodiversity through the identification and protection of set-asides - Implementing measures to minimize habitat fragmentation, such as biological corridors; - Restoring habitats during operations and/or after operations; and - Implementing biodiversity offsets.	Appropriate actions will be taken via the measures in line 6.1	Same as line 6.1		Same as line 6.1		
		(Par. 17) In areas of critical habitat, the client will not implement any project activities unless all of the following are demonstrated: - No other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical; - The project does not lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values;	The Critical Habitat Assessment concluded that critical habitat is triggered under criterion 1 for the Mongolian Marmot (<i>Marmota sibirica</i>), White-naped crane (<i>Grus vipio</i>) and the Mongolian gazelle (<i>Procapra gutturosa</i>), and critical habitat was triggered under criterion 3 for the Mongolian gazelle (<i>Procapra gutturosa</i>).	Develop a Biodiversity Action Plan (BAP) and a resulting Biodiversity Management Plan (BMP), including a no-net loss (NNL) strategy. The BAP should include appropriate expertise and surveys to assess and safeguard the habitats of the 3 species identified via Critical Habitat Assessment: Mongolian Marmot		Biodiversity Action Plan (BAP) and Biodiversity Management Plan (BMP) and related SOPs in place.	Metagro	S9.10 BI

6.7	Critical Habitat	- The project does not lead to a net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time; and		(Marmota sibirica), White-naped crane (Grus vipio) and the Mongolian gazelle.					
		- A robust, appropriately designed, and long-term biodiversity monitoring and evaluation programme integrated into the client's management program.							
		(Par. 18) In such cases where a client is able to meet the requirements defined in paragraph 17, the project's mitigation strategy will be described in a Biodiversity Action Plan and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated.	As above	As above			As above		
		(Par. 19) In instances where biodiversity offsets are proposed as part of the mitigation strategy, the client must demonstrate through an assessment that the project's significant residual impacts on biodiversity will be adequately mitigated to meet the requirements of paragraph 17.	As above	As above			As above		
6.8	Legally Protected and Internationally Recognized Areas	(Par. 20) In circumstances where a proposed project is located within a legally protected area or an internationally recognized area , the client will meet the requirements of paragraphs 13 through 19 of this Performance Standard, as applicable. In addition, the client will:	N/A						
		- Demonstrate that the proposed development in such areas is legally permitted;	There is one nationally protected area within the vicinity of the Project; the 8,820 hectare Undurkhaan Uul National Park. This protected area is approximately 44km east of the Metagro homestead and the major operational complexes; the closest distance between the national park and any of the Project site components is 6.5km from the boundary of Field 3	N/A			N/A		
		- Act in a manner consistent with any government recognized management plans for such areas;							
		- Consult protected area sponsors and managers, Affected Communities, Indigenous Peoples and other stakeholders on the proposed project, as appropriate; and							
		- Implement additional programmes, as appropriate, to promote and enhance the conservation aims and effective management of the area.							
6.9	Invasive Alien Species	(Par. 22) The client will not intentionally introduce any new alien species (not currently established in the country or region of the project) unless this is carried out in accordance with the existing regulatory framework for such introduction. [...] All introductions of alien species will be subject to a risk assessment (as part of the client's environmental and social risks and impacts identification process) to determine the potential for invasive behavior. [...]	There is potential for invasive species to be brought in via supply chain livestock	Develop an Invasive Species Management Plan (ISMP)			ISMP and related SOPs in place	Metagro	S9.10 B14
		(Par. 23) Where alien species are already established in the country or region of the proposed project, the client will exercise diligence in not spreading them into areas in which they have not already been established. As practicable, the client should take measures to eradicate such species from the natural habitats over which they have management control.	As above	As above			As above		
		Management of Ecosystem Services							
6.10	Review	(Par. 24) Where a project is likely to adversely impact ecosystem services, as determined by the risks and impacts identification process, the client will conduct a systematic review to identify priority ecosystem services. [...]	Same as line 4.4	Same as line 4.4			Same as line 4.4		
6.11	Mitigation	(Par. 25) With respect to impacts on priority ecosystem services of relevance to Affected Communities and where the client has direct management control or significant influence over such ecosystem services, adverse impacts should be avoided . If these impacts are unavoidable, the client will minimize them and implement mitigation measures that aim to maintain the value and functionality of priority services. [...]	Same as line 4.4	Same as line 4.4			Same as line 4.4		
		Sustainable Management of Living Natural Resources							
6.12	Land-based agribusiness and forestry projects	(Par. 26) [...] Where feasible, the client will locate land-based agribusiness and forestry projects on unforested land or land already converted. Clients who are engaged in such industries will manage living natural resources in a sustainable manner, through the application of industry-specific good management practices and available technologies. Where such primary production practices are codified in globally, regionally, or nationally recognized standards, the client will implement sustainable management practices to one or more relevant and credible standards as demonstrated by independent verification or certification.	The Metagro Farm operations have been established on pre-existing agricultural land, in use since 1977.						
			Metagro is currently developing certification to Sustainable Agriculture Initiative / Farm Sustainability Assessment (FSA)	N/A - already in process			N/A - already in process		
6.13	Pre-assessment	(Par. 28) Where relevant and credible standard(s) exist, but the client has not yet obtained independent verification or certification to such standard(s), the client will conduct a pre-assessment of its conformity to the applicable standard(s) and take actions to achieve such verification or certification over an appropriate period of time.	Same as line 6.12	N/A			N/A		
6.14	Principles and standards	(Par. 29) In the absence of a relevant and credible global, regional, or national standard for the particular living natural resource in the country concerned, the client will: - Commit to applying good international industry operating principles, management practices, and technologies; and - Actively engage and support the development of a national standard, where relevant, including studies that contribute to the definition and demonstration of sustainable practices.	Same as line 6.12	N/A			N/A		
		Supply Chain							

6.15	The systems and verification practices	<p>(Par. 30) Where a client is purchasing primary production (especially but not exclusively food and fiber commodities) that is known to be produced in regions where there is a risk of significant conversion of natural and/or critical habitats, systems and verification practices will be adopted as part of the client's ESMS to evaluate its primary suppliers. The systems and verification practices will (i) identify where the supply is coming from and the habitat type of this area; (ii) provide for an ongoing review of the client's primary supply chains; (iii) limit procurement to those suppliers that can demonstrate that they are not contributing to significant conversion of natural and/or critical habitats (this may be demonstrated by delivery of certified product, or progress towards verification or certification under a credible scheme in certain commodities and/or locations); and (iv) where possible, require actions to shift the client's primary supply chain over time to suppliers that can demonstrate that they are not significantly adversely impacting these areas. The ability of the client to fully address these risks will depend upon the client's level of management control or influence over its primary suppliers.</p>	Same as line 1.9 and 6.12	Same as line 1.9 and 6.12		Same as line 1.9 and 6.12		
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Appendix M Metagro ESMS Self Assessment, 1Mar24

1. Policy	Company self assessment	Independent assessment	Observations (evidence for rating justification)
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1. The following best describes our policy on <u>environmental</u> objectives and principles:	2		
We do not have any policies regarding our environmental objectives and principles. (=0)			
We are in the process of developing policies regarding our environmental objectives and principles. (=1)			
We have policies regarding environmental issues that are most common in our industry and region. (=2)			
We have policies that align with the environmental code of conduct and standards of our customers or lenders . (=3)			
We have policies that align with the environmental code of conduct and standards of our customers or lenders, including a management system requirement . (=4)			
We have policies that align with the environmental code of conduct and standards of our customers or lenders, including a management system requirement. We have a documented process to periodically review and revise our policies. (=5)			

2. The following best describes our policy on <u>occupational health and safety</u>:	2		
We do not have any policies regarding our occupational health and safety objectives and principles. (=0)			
We are in the process of developing policies regarding our occupational health and safety objectives and principles. (=1)			
We have policies regarding occupational health and safety issues that are most common in our industry and region. (=2)			
We have policies that align with the occupational health and safety requirements of ILO or OSHA standards . (=3)			
We have policies that align with the occupational health and safety requirements of ILO or OSHA standards, including a management system requirement . (=4)			
We have policies that align with the occupational health and safety requirements of ILO or OSHA standards, including a management system requirement. We have a documented process to periodically review and revise our policies. (=5)			

3. The following best describes our policy on <u>labor and working conditions</u>:			
We do not have any policies regarding our labor and working conditions objectives and principles. (=0)			

1. Policy	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>We are in the process of developing policies regarding our labor and working conditions objectives and principles. (=1)</p> <p>We have policies regarding labor and working conditions issues that are regulated by national labor law. (=2)</p> <p>We have policies that align with the requirements of the ILO conventions on labor and working conditions. (=3)</p> <p>We have policies that align with the requirements of the ILO conventions on labor and working conditions, including a management system requirement. (=4)</p> <p>We have policies that align with the requirements of the ILO conventions on labor and working conditions, including a management system requirement. We have a documented process to periodically review and revise our policies. (=5)</p>	2		
<p>4. The following best describes our policy on <u>community health, safety, and security</u>:</p> <p>We do not have any policies regarding community health, safety, and security objectives and principles. (=0)</p> <p>We are in the process of developing policies regarding community health, safety, and security objectives and principles. (=1)</p> <p>We have policies regarding community health, safety, and security issues that are most common in our industry and region. (=2)</p> <p>We have policies that align with the code of conduct and standards of our customers or lenders. (=3)</p> <p>We have policies that align with the code of conduct and standards of our customers or lenders, including a management system requirement. (=4)</p> <p>We have policies that align with the code of conduct and standards of our customers or lenders, including a management system requirement. We have a documented process to periodically review and revise our policies. (=5)</p>	1		
<p>5. We <u>review and revise</u> our environmental and social policies as follows:</p> <p>We do not review our policies. (=0)</p> <p>We revise our policies in reaction to external requests. (=1)</p> <p>We revise our policies when we become aware of changes in local regulations. (=2)</p> <p>We have a procedure to review and revise our policies based on any changes in regulations or customer/lender requirements. (=3)</p>	4		

1. Policy	Company self assessment	Independent assessment	Observations (evidence for rating justification)
We periodically review and revise our policies based on any changes in regulations or customer/lender requirements, and the results of monitoring and review of our performance. (=4)	4		
We periodically review and revise our policies based on any changes in regulations or customer/lender requirements, and the results of monitoring and review of our performance. We involve our workers and external stakeholders in the process. (=5)			

6. The following best describes how our environmental and social policies are <u>communicated</u> :	4		
We do not have a way to communicate environmental and social policies. (=0)			
We verbally communicate environmental and social policies in our workplace. (=1)			
Our environmental and social policies are prominently posted in our facility and mentioned during the initial orientation for new employees. (=2)			
Our environmental and social policies are distributed and explained to all employees, including contract and seasonal workers. (=3)			
We communicate our environmental and social policies in all relevant languages for all employees, including contract and seasonal workers. We check to make sure that everyone understands. (=4)			
We communicate our environmental and social policies in all relevant languages for all employees, including contract and seasonal workers, and external stakeholders. We proactively engage to make sure that everyone understands. (=5)			

7. Based on actions by our senior management, the following statement best reflects their <u>level of commitment</u> to our environmental and social policies:	5		
Senior management has no awareness or involvement. (=0)			
Senior management has delegated this activity and has limited involvement. (=1)			
Senior management communicates with lenders and customers about their requirements and then instructs the relevant employees to address the issue. (=2)			
Senior management communicates our environmental and social policy commitment to all levels of the company and in a public statement. (=3)			
Senior management makes a clear statement of commitment to all levels of the company and provides the necessary resources to implement the policies. (=4)			
Senior management participates in the formal review and revision of our environmental and social policies. They provide the necessary resources to continually improve. They communicate their commitment both internally and externally. (=5)			

1. Policy	Company self assessment	Independent assessment	Observations (evidence for rating justification)
1. Policy - Score	2.9	0.0	

2. Identification of Risks and Impacts	Company self-assessment	Independent assessment	Observations (evidence for rating justification)
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1. Our risk assessment considers the following risk factors in our operations (including contractors) that may lead to potential <u>environmental</u> impacts:			
1. Raw materials consumption	Yes		
2. Energy consumption	No		
3. Water consumption	Yes		
4. Wastewater quantity	Yes		
5. Wastewater quality	Yes		
6. Air emissions	Yes		
7. Solid waste generation	Yes		
8. Hazardous waste generation	Yes		
9. Usage of chemicals	Yes		
10. Usage of hazardous materials	Yes		
11. Noise generation	Yes		
12. Land conversion	Yes		
We do not do a risk assessment. (=0)	5		
Our risk assessment covers at least 3 of the topics above. (=1)			
Our risk assessment covers 4-6 of the topics above. (=2)			
Our risk assessment covers 7-8 of the topics above. (=3)			
Our risk assessment covers 9-11 of the topics above. (=4)			
Our risk assessment covers all of the topics above. (=5)			

2. Our risk assessment considers the following risks related to potential <u>occupational health and safety</u> impacts:			
1. Fire and explosion hazards	Yes		
2. Physical hazards (e.g. cuts, falls, rotating/moving equipment, vibration)	Yes		
3. Ergonomic hazards (e.g., lifting, repetitive work, work posture injuries)	Yes		
4. Chemical hazards	Yes		
5. Biohazards	No		
6. Radiation hazards	Not applicable		
7. Electrical hazards	Yes		
8. Work zone air quality	No		
9. Work zone noise level	Yes		
10. Eye hazards	Yes		

11. Workplace temperature and humidity	Yes	
12. Working at heights	Yes	
13. Working in confined spaces	Yes	
14. Industrial vehicle driving and site traffic	Yes	
15. Transportation of workers	Yes	

We do not do a risk assessment. (=0)	4	
Our risk assessment covers at least 3 of the topics above. (=1)		
Our risk assessment covers 4-7 of the topics above. (=2)		
Our risk assessment covers 8-11 of the topics above. (=3)		
Our risk assessment covers 12-14 of the topics above. (=4)		
Our risk assessment covers all 15 of the topics above. (=5)		

3. Our risk assessment considers the following information to identify whether our company may have a potential negative impact related to <u>labor and working conditions</u>:		
1. Age profiles of workforce	No	
2. Gender composition of workforce	No	
3. Presence of dormitories	No	
4. Differences in nationalities/ethnicities	No	
5. Use of security guards	Yes	
6. Use of migrant labor	No	
7. Use of temporary, seasonal and contract labor, on- or off-site	Yes	
8. Use of apprentice programs	No	
9. Use of production-quota-based pay systems	Yes	
10. Use of recruiting or labor contracting agencies	No	
11. Presence of worker representatives	No	

We do not do a risk assessment. (=0)	1	
Our risk assessment covers at least 3 of the topics above. (=1)		
Our risk assessment covers 4-5 of the topics above. (=2)		
Our risk assessment covers 6-7 of the topics above. (=3)		
Our risk assessment covers 8-10 of the topics above. (=4)		
Our risk assessment covers all 11 of the topics above. (=5)		

4. Our risk assessment considers whether our company may have a potential negative impact on the <u>community</u> due to:		
1. Contamination of surface water bodies (rivers, lakes, estuaries, etc.)	Yes	

2. Ambient air quality/odor from industrial emissions	No	
3. Solid waste disposal	Yes	
4. Hazardous waste disposal	Yes	
5. Usage of chemicals and hazardous materials	Yes	
6. Ground or surface water depletion	Yes	
7. High ambient noise level due to industrial operations	Yes	
8. Ground water contamination	No	
9. Air emissions and noise from transportation	No	
10. Traffic congestion	Yes	
11. Cultural heritage site/historical monuments/ecologically sensitive sites	No	
12. Land acquisition and usage	Yes	
13. Buildings and infrastructure development/decommissioning	Yes	
14. Security personnel	Yes	

We do not do a risk assessment. (=0)	3	
Our risk assessment covers at least 4 of the topics above. (=1)		
Our risk assessment covers 5-7 of the topics above. (=2)		
Our risk assessment covers 8-11 of the topics above. (=3)		
Our risk assessment covers 12-13 of the topics above. (=4)		
Our risk assessment covers all 14 of the topics above. (=5)		

5. The following best describes <u>how</u> we identify and assess our <u>environmental</u> risks:	1	
We do not conduct an environmental risk assessment. (=0)		
We do not have a formal method, but we are aware of the environmental regulations that apply to our operations. (=1)		
We look at inputs and outputs of all of our business processes to assess environmental risks. (=2)		
We look at inputs and outputs of all of our business processes to assess environmental risks. We have a risk evaluation and prioritization method. (=3)		
We look at inputs and outputs of all of our business processes to assess environmental risks. We have a risk evaluation and prioritization method. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=4)		
We look at inputs and outputs of all of our business processes to assess environmental risks, including those involving contractors and primary suppliers . We have a risk evaluation and prioritization method. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=5)		

6. The following best describes <u>how</u> we identify and assess our <u>occupational health and safety risks</u>:	2		
We do not conduct an occupational health and safety risk assessment. (=0)			
We do not have a formal method but we are aware of some of the occupational health and safety risks. (=1)			
We look at all of our business processes to assess occupational health and safety risks. We use methods such as job hazard analysis. (=2)			
We look at all of our business processes to assess occupational health and safety risks. We have a risk evaluation and prioritization method . (=3)			
We look at all of our business processes to assess occupational health and safety risks. We have a risk evaluation and prioritization method. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=4)			
We look at all of our business processes to assess occupational health and safety risks, including those involving contractors and primary suppliers . We have a risk evaluation and prioritization method. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=5)			

7. The following best describes <u>how</u> we identify and assess our risks related to <u>labor and working conditions</u>:	2		
We do not conduct a labor risk assessment. (=0)			
We do not have a formal method but we are aware of some of the labor risks. (=1)			
We look at employment contracts, payment records, grievances log to assess associated labor risks. (=2)			
We look at employment records and employee profiles such as age, gender, nationality, and ethnicity to assess associated labor risks. (=3)			
We look at employment records and employee profiles to assess associated labor risks. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=4)			
We look at employment records and employee profiles for all workers, including outsourced activities, contractors and suppliers , to assess associated labor risks. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=5)			

<p>8. The following best describes <u>how</u> we identify and assess our risks of negative impacting the surrounding communities:</p>	2		
<p>We do not conduct a community risk assessment. (=0)</p>			
<p>We do not have a formal method for community risk assessment, but we are aware of some of the risks. (=1)</p>			
<p>We have identified the communities that might be affected by our operations. The information is documented and available upon request. (=2)</p>			
<p>We have identified the communities that might be affected by our operations. We have identified the risks and analyzed their significance. The information is documented and is available upon request. (=3)</p>			
<p>We have identified the affected communities and the nature and significance of the risks. The information is documented and is available upon request. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=4)</p>			
<p>We have identified and documented the affected communities and the nature and significance of the risks for our operations and those involving contractors and primary suppliers. We consider the different impacts on women and vulnerable groups. The information is documented and is available upon request. The risk assessment is reviewed for its adequacy on a periodic basis and whenever we have a change in processes and activities, or an expansion. (=5)</p>			
<p>9. The following best describes <u>who participates</u> in the identification and assessment of risks:</p>	1		
<p>We do not conduct any risk assessment. (=0)</p>			
<p>The managers of each area conduct the risk identification and assessment independently. (=1)</p>			
<p>The managers of each area conduct the risk identification and assessment independently. Supervisors and worker representatives participate in the identification of risks. (=2)</p>			
<p>A committee involving multiple departments jointly conducts the identification of environmental and social risks. Supervisors and worker representatives participate in the identification of risks. External experts are engaged as necessary. (=3)</p>			
<p>A committee involving multiple departments jointly conducts the identification of all environmental and social risks. Supervisors and worker representatives participate in the identification of risks. The committee proactively engages external experts, contractors and primary suppliers. (=4)</p>			

<p>A committee involving multiple departments jointly conducts the identification of all environmental and social risks. Supervisors and worker representatives participate in the identification of risks. The committee proactively engages external experts, contractors, primary suppliers and other external stakeholders for the identification of risks. (=5)</p>		
<p>2. Identification of Risks and Impacts - Score</p>	<p>2.3</p>	<p>0.0</p>

3. Management Programs	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>1. When we find or learn of environmental and social problems, we do the following:</p> <p>Assume that the people involved will handle the problem. (=0)</p> <p>Depend on the investor, customer or external stakeholder to tell us what to do. (=1)</p> <p>Take action in the affected area to minimize the impact. (=2)</p> <p>Take action in the affected area to minimize the impact and review other related areas to see if the problem is replicated elsewhere. (=3)</p> <p>Analyze the problem and improve our operations to minimize the impact and the chance of recurrence. (=4)</p> <p>Analyze the problem and improve our operations and ESMS to address the impact and prevent it from happening again. We prioritize actions that avoid the impact, over those that minimize it. (=5)</p>	4		
<p>2. The following best describes how our procedures address environmental and social risks and impacts:</p> <p>Our procedures are focused on business operations only and do not address environmental and social risks and impacts. (=0)</p> <p>The people at my company are aware of the environmental and social risk management procedures but these are not documented. (=1)</p> <p>We have some documented procedures to minimize and/or offset negative impacts and improve performance. These address some of the environmental and social risks and impacts identified by our risk assessment. (=2)</p> <p>We have documented procedures to avoid as well as minimize and/or offset negative impacts and improve performance. These address all environmental and social risks and impacts identified by our risk assessment. The risk assessment covers our internal operations only. (=3)</p> <p>We have documented procedures to avoid as well as minimize and/or offset negative impacts and improve performance. These address all environmental and social risks and impacts identified by our risk assessment. The risk assessment covers our internal operations. We routinely review and improve our procedures. (=4)</p> <p>We have documented procedures to avoid as well as minimize and/or offset negative impacts and improve performance. These address all environmental and social risks and impacts identified by our risk assessment. The risk assessment covers our internal operations and our supply chain. We routinely review and improve our procedures based on our monitoring and internal and external feedback. (=5)</p>	2		

3. The following best describes how we develop our environmental and social action plans:	1		
Normally we do not require specific action plans, as the concerned departments take appropriate actions to address the environmental and social issues. (=0)			
Our action plans are primarily developed for us by external consultants/experts. (=1)			
Supervisors and managers are qualified and they prepare the necessary Action Plans, with the support of external experts as and when required. (=2)			
Supervisors and managers are responsible for preparing the necessary Action Plans, in consultation with the workers. External experts are engaged when necessary. (=3)			
Our Action Plans are based on extensive research on best practices and input from workers, managers and external experts as appropriate. (=4)			
We consider industry best practices and consult all our key stakeholders (e.g. investors, customers, suppliers, community) when developing Action Plans. There is appropriate involvement of workers and senior management. (=5)			

4. The following best describes the structure of our action plans:	3		
Normally we do not develop specific action plans. If necessary, the concerned personnel are informed verbally or by phone/e-mail. (=0)			
Our action plans are simple and list the actions to be taken along with the target dates . (=1)			
Our action plans specifically mention the responsible personnel along with the actions and target dates. (=2)			
Our action plans include actions to be taken with target dates, responsible personnel and the necessary resources required for implementation of each action. (=3)			
Our action plans include targeted objectives and indicators . All necessary information pertaining to actions, target dates, responsibility and necessary resources are well-defined. (=4)			
We have a structured format for the action plans that includes operational procedures needed for the long term sustainability of the actions. All necessary information pertaining to targeted objectives and indicators, actions, target dates, responsibility and necessary resources are well-defined.(=5)			

5. We make sure that the action plans have been implemented by doing the following:			
If we don't hear another complaint about it, we assume it's resolved. (=0)			
The people directly involved are responsible for checking progress on the Action Plans. (=1)			

The people directly involved are responsible for checking and reporting on the progress on the Action Plans. (=2)	2	
The people with responsibility for our ESMS routinely review records and progress on the Action Plans with all department managers. (=3)		
Multiple departments and senior management review and verify progress on Action Plans. They review records of all problems and resolutions and verify that the appropriate adjustments to the Action Plans and the ESMS have been made. (=4)		
Multiple departments and senior management review and verify progress on action plans and ESMS improvements, and set annual improvement goals. (=5)		

3. Management Programs - Score	2.4	0.0
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4. Organizational Capacity and Competency	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>1. In my company the people from the following functional areas have <u>day-to-day involvement</u> in managing environmental and social (OHS, labor, and community) risks and impacts:</p> <p>We only deal with these matters on a case-by-case basis, so no one is assigned. (=0)</p> <p>This is usually handled on a limited basis by one or two people in the areas that manage our customer/investor relationships, such as Marketing, Finance, Administration and Legal. They handle these issues only when customers and investors ask. (=1)</p> <p>The people that manage our customer/investor relationships have some knowledge and involvement. Each issue is also handled by the relevant functional area – labor issues are handled only by HR, environmental issues are handled only by EHS, and community issues by Communication/CSR. (=2)</p> <p>The people that manage our customer/investor relationships are trained and involved, as well as the people in the HR, EHS and Communication/CSR areas. They work together with trained people in the Production and Maintenance departments, so that environmental and social issues are reviewed as part of daily operations. (=3)</p> <p>We have a cross-functional team of trained people from all the internal business and operations areas, led by a senior management member. They meet and review environmental and social issues on a routine basis. There is an integrated management system that covers the Quality, EHS, and Labor areas. (=4)</p> <p>We have a cross-functional team of trained people from all the business and operations areas, including our supply chain. They are led by a senior management member and meet and review environmental and social issues on a routine basis. There is an integrated management system that covers the Quality, EHS, Labor, and Community Relations areas. Our Sourcing/Procurement area is involved in extending our environmental and social policies to our supply chain. (=5)</p>	2		
<p>2. The people at my company involved in managing environmental and social risks and impacts have the <u>responsibility and authority</u> to do the following:</p>			
1. Develop and modify policies	Yes		
2. Revise and implement procedures and work instructions	Yes		
3. Conduct internal monitoring	Yes		
4. Follow up on the internal and external audits to address problems	Yes		
5. Conduct manager and worker training	Yes		
6. Establish and manage worker communication channels	Yes		
7. Coordinate among the business departments to implement Action Plans	Yes		

8. Approve or veto business decisions that have significant potential negative impact	Yes	
9. Hire external experts as needed	No	
10. Manage environmental and social issues with suppliers and contractors	Yes	
11. Engage local organizations, government, trade union and other groups on issues related to workers, environment and community	Yes	
12. Report on performance to senior management	Yes	
0 of the above activities (=0)	5	
1-2 of the above activities (=1)		
3-4 of the above activities (=2)		
6-7 of the above activities (=3)		
8-9 of the above activities (=4)		
10-12 of the above activities (=5)		

3. The following best describes our <u>current expertise</u> to develop and manage our ESMS:	2	
We do not have environmental and social expertise in our company. (=0)		
We do not have environmental and social expertise in our company. We completely rely on external parties. (=1)		
We have some staff with knowledge on environmental and social issues. They review materials from our investors, customers and external parties. (=2)		
We have competent professionals with current knowledge and skills on environmental and social issues, including regulatory requirements and industry best practices. (=3)		
We have competent professionals with current knowledge and skills on environmental and social issues, including regulatory requirements and industry best practices. We involve external experts to assist in the identification of risks for complex projects. (=4)		
We have competent professionals with current knowledge and skills on environmental and social issues, including regulatory requirements and industry best practices. They have also been trained on management system standards. We involve external experts to assist in the identification of risks for complex projects. (=5)		

4. <u>Training</u> for our employees about our ESMS is best described by the following statement:		
We focus our employee training on job-related skills only. (=0)		
We introduce our environmental and social policies in our employee orientation. (=1)		
In addition to the employee orientation, we provide additional training for our EHS and HR staff. (=2)		

<p>We provide ongoing introductory and refresher training at least once a year to all managers and workers. Workers are trained on the environmental and social policies and procedures that apply to their work area. (=3)</p>	2		
<p>We provide ongoing introductory and refresher training at least once a year to all managers and workers, including full-time, part-time, temporary and contractors. Training is based on the content of the policies and procedures that apply to each area. (=4)</p>			
<p>Everyone in our company receives ongoing training on the applicable environmental and social policies and procedures. The people responsible for the ESMS receive specialized training in management systems, monitoring and internal auditing, root cause analysis, and continual improvement programs. We measure the effectiveness of our training through tests, surveys and interviews to continually improve our training program. (=5)</p>			

4. Organizational Capacity and Competency - Score	2.8	0.0
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5. Emergency Preparedness and Response	Company self assessment	Independent assessment	Observations (evidence for rating justification)
1. Our emergency preparedness and response <u>plan</u> can best be described as:	1		
We are aware of the potential emergency situations at our site and know how to deal with them. However, we do not have a formal plan. (=0)			
We have an emergency management plan that was developed by an external agency. (=1)			
Our emergency response plan was developed with external assistance, but we review it periodically for its continued suitability and adequacy, and we update it when required. (=2)			
Our employees play an active role in identification of potential emergency situations and emergency response planning. We consult external expertise when required. The emergency response plan is periodically reviewed and updated. (=3)			
All our employees across all shifts, including contract workers, are involved in emergency identification and management planning. Regular training, mock drills in all shifts, periodic review and update, and documentation/record keeping are some of the key features of our emergency response plan. Senior management has an active role in monitoring of emergency response, and we focus on continual improvement of emergency management. (=4)			
Not only do we have employees' and contractors' full involvement, we also focus on continued participation and communication with surrounding communities on emergency management planning. External communication channels in case of an emergency are defined. "Off-site" emergency management and "mutual aid" are key features of our emergency plan. (=5)			
2. We develop <u>practical skills</u> for emergency response as follows:	2		
Mock drills and exercises are conducted when necessary. (=0)			
Mock drills are conducted regularly. We do not conduct drills in all shifts, but we are aware of the emergency risks in the night shift. (=1)			
Mock drills are conducted in all shifts with regular frequency. Records of mock drills are maintained mostly for internal safety requirements or regulatory compliance. (=2)			
Mock drills are conducted in all shifts with regular frequency. Records and analysis of the results are documented. Performance on emergency response is monitored and evaluated to identify opportunities for potential improvements. Sometimes these findings are incorporated in our emergency management plan. (=3)			

Mock drills are conducted in all shifts with regular frequency. Mock drill reports from all shifts are evaluated and analyzed for improvement opportunities. All findings are discussed and recommendations/corrective actions are incorporated in the emergency management plan. (=4)			
There is demonstrated involvement of senior management, which normally takes part in mock drills. Senior management reviews recommendations and corrective actions resulting from the mock drill reports and provides resources to implement them promptly. (=5)			

3. We <u>train</u> our workforce on emergency management as follows:			
Basic awareness on fire safety and evacuation is part of the employee orientation program. Subsequent training is normally not required. (=0)			
Basic awareness on fire safety and evacuation is part of the employee orientation program. Re-training is done when necessary. (=1)			
All employees across all shifts, including contract workers, are regularly trained on life safety under common emergency scenarios (e.g. fire safety, evacuation, shelter-in-place, first aid). (=2)			
All employees across all shifts, including contract workers, are regularly trained on life safety. In addition, we have specific training requirements for emergency response teams. (=3)			
All employees across all shifts, including contract workers, are regularly trained on life safety. In addition, we have specific training requirements for emergency response teams. Managers are trained on risk identification and management. We monitor the effectiveness of emergency training. (=4)			
We have an annual emergency training program with targeted objectives for all levels and departments. We continually update our training program to cover new acquisitions and changes to operations and the surrounding environment. We adapt our training based on employee input. (=5)	2		

4. Our system for managing our emergency detection, alarm, and response <u>equipment</u> can best be described as:			
We have the necessary and appropriate portable fire extinguishers in the facility. (=0)			
The number, type and size of fire extinguishers are decided based on the risk assessment. They are maintained as per the manufacturer's specification. (=1)			
In addition to fire extinguishers, critical areas are covered with smoke detectors and other early warning systems. We also have emergency alarms, lighting, and signage in all working areas. (=2)			

<p>We cover all working areas with early warning systems, emergency alarms, lighting and signage, portable fire extinguishers, and pressurized water suppression systems. (=3)</p>	<p>2</p>	
<p>We regularly test our early warning system, alarms, and fire extinguishers. Our fire hydrant system, including the water tank, is cleaned, maintained and tested at a defined frequency. Our emergency systems are connected to an independent energy source and are operational at all times. (=4)</p>		
<p>Our procurement system is in line with our risk assessment and covers multi-emergency equipment, such as early warning systems, emergency alarms, lighting, and signage, first aid, and fire suppression, flood, earthquake, and chemical spills response equipment. The inventory of our emergency equipment is regularly maintained and upgraded to keep up with the new technologies and potential risks. (=5)</p>		

<p>5. Emergency Preparedness and Response - Score</p>	<p>1.8</p>	<p>0.0</p>
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6. Stakeholder Engagement	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>1. The following best describes the way that we <u>identify the external groups</u> that may be affected by or might influence our company:</p> <p>We handle all issues internally. (=0)</p> <p>Sometimes our investors or customers put us in touch with external groups or we get approached directly by such groups. (=1)</p> <p>We keep a record of the groups that contact us so that we know whom we have dealt with in the past. (=2)</p> <p>Our staff has conducted a stakeholder mapping exercise in which we identify our affected stakeholders. (=3)</p> <p>We review our stakeholder mapping with external groups to identify any other relevant groups and regularly update as our business changes. (=4)</p> <p>We survey our workers and outside experts as well as external groups to identify relevant groups and regularly update as our business changes. (=5)</p>	3		
<p>2. We <u>involve external stakeholders</u> in our environmental and social management program in the following ways:</p> <p>We don't engage with any external stakeholder. (=0)</p> <p>External stakeholders can contact us through our external communication and grievances mechanisms. (=1)</p> <p>We regularly inform on our current and planned operations and the expected environmental and social positive and negative impacts. (=2)</p> <p>We regularly provide relevant information on our current and planned and expected impacts, so that people can express concerns and suggestions to reduce negative impacts. (=3)</p> <p>We provide relevant information on our plans and expected impacts, so that people can express concerns and suggestions to reduce negative impacts. Our action plans are adapted based on this exchange of information. (=4)</p> <p>Besides the system described above, we take specific measures so that vulnerable and marginalized groups can participate. (=5)</p>	2		
<p>3. We routinely <u>work with</u> the following organizations to improve our environmental and social performance:</p> <p>1. Local community groups</p> <p>2. External consultants and experts</p> <p>3. Organizations focused on workers' issues</p>	Yes		

4. Organizations focused on environmental issues	Yes	
5. Trade unions	Yes	
6. International nongovernmental organizations	No	
7. Other local and national nongovernmental organizations	Yes	
8. Consumer groups	No	
9. Government ministries	Yes	
10. Industry associations	Yes	
0 of the above (=0)	5	
1 of the above (=1)		
2 of the above (=2)		
3 of the above (=3)		
4 of the above (=4)		
5 or more of the above (=5)		

6. Stakeholder Engagement - Score	3.3	0.0
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7. External Communication and Grievance Mechanisms	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>1. If representatives of the local community complained that our company was causing negative environmental or social impacts, we would most likely <u>respond</u> as follows, based on our current practices:</p> <p>We do not deal with such groups. (=0)</p> <p>We would request details from them and then handle it internally. (=1)</p> <p>We would meet with the group to discuss the negative impact and get their suggestions on how to deal with the problem. (=2)</p> <p>We would meet and coordinate with the group to investigate the problem and discuss the related action plan. (=3)</p> <p>We would meet and coordinate with the group to investigate the problem and develop, implement and monitor the related action plan. (=4)</p> <p>We routinely work with such groups on an ongoing basis to monitor and conduct root-cause analysis of negative impacts that affect the community and address them. (=5)</p>	5		
<p>2. The following best describes our external stakeholder <u>grievance mechanism</u> related to our ESMS:</p> <p>We do not have a grievance mechanism for external stakeholders. (=0)</p> <p>We have some channels to receive communications from external stakeholders, such as suggestion boxes, email, mail, phone or designated persons to record verbal complaints. (=1)</p> <p>We have communication channels such as those listed above. People can present confidential and anonymous complaints. (=2)</p> <p>Besides the communication channels described above, we have documented procedures for collecting and investigating complaints, and for communicating back decisions taken. (=3)</p> <p>Besides the system described above, we make sure that our stakeholders understand how they can present a complaint and what will be the process to handle them. (=4)</p> <p>We have procedures covering all aspects of our grievance mechanism. We involve external stakeholders in reviewing its effectiveness and revising it as needed. (=5)</p>	5		

3. At my company, handling inquiries, concerns or formal complaints from external stakeholders is the day-to-day responsibility of:	2		
It is unclear who at my company has this responsibility. (=0)			
We have one person or one area of the company that usually handles this. (=1)			
We have one person or one area of the company that manages this, and they coordinate with other areas of the company relevant to particular cases. (=2)			
We have a team of people that share this responsibility and have received specific training. (=3)			
We have a trained team that manages this, and senior management is directly involved. (=4)			
We have a trained team that includes senior management and has the authority to make operational decisions to address external grievances. We reach out to independent facilitators in case of serious complaints.(=5)			

7. External Communication and Grievance Mechanisms - Score	4.0	0.0
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8. Ongoing Reporting to Affected Communities	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>1. If there are concerns or complaints from affected communities about environmental and/or social risks and impacts, we <u>communicate</u> with them in the following way:</p> <p>We do not communicate with anyone about our company's operations. (=0)</p> <p>We acknowledge receipt of their request and tell them we will handle it internally. (=1)</p> <p>We respond if the affected community contacts us with a specific request for information. (=2)</p> <p>We provide the affected community with reports on a regular basis. (=3)</p> <p>We provide the affected community with a report in the local language and in an easily understandable format on a regular basis and any time there is a significant update. (=4)</p> <p>In addition to regular reports and updates as described above, the affected community can access the current status of cases through a variety of communication channels. (=5)</p>	3		
<p>2. The following best describes the <u>information</u> that we report back to affected communities:</p> <p>We do not communicate with anyone about our company's operations. (=0)</p> <p>We inform the individual or group that presented a grievance about the actions taken. (=1)</p> <p>We report to affected communities on our action plans and resolution of the issues identified during the stakeholder engagement process or through our grievance mechanism. (=2)</p> <p>We regularly report on the progress of our commitments, and on those aspects of our operations that have been identified as important by the affected communities (e.g. effluents, jobs created, etc.). (=3)</p> <p>Besides reporting on the progress of our commitments and relevant aspects of our operations, we report on the outcomes and impacts of what we have put in place. (=4)</p> <p>We regularly report on the progress and impacts of our commitments, and relevant aspects of our operations. Affected communities participate in the monitoring of the commitments and aspects that they have identified as important.(=5)</p>	3		
<p>3. The following describes the <u>channels</u> that we use for reporting and receiving feedback from the affected community:</p> <p>1. Meetings (reporting out and receiving feedback)</p>	Yes		

2. Website (reporting out)	Yes	
3. Dedicated email address (receiving feedback)	Yes	
4. Dedicated phone line (receiving feedback)	Yes	
5. Town hall meetings (reporting out and receiving feedback)	No	
6. Presentations at forums, training workshops and conventions (reporting out)	Yes	
7. Written reports (reporting out)	Yes	
8. Direct mail (reporting out)	No	
9. Brochures, flyers, banners (reporting out)	Yes	
10. Advertisements in local publications (reporting out)	Yes	
11. Surveys (receiving feedback)	No	
a. 0 of the above (=0)	5	
b. 1 of the above (=1)		
c. 2 of the above (=2)		
d. 3 of the above (=3)		
e. 4 of the above (=4)		
f. 5 or more of the above (=5)		

8. Ongoing Reporting to Affected Communities - Score	3.7	0.0
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9. Monitoring and Review	Company self assessment	Independent assessment	Observations (evidence for rating justification)
<p>1. The following best describes our <u>monitoring plan</u>:</p> <p>Normally we do not have a requirement for monitoring our environmental and social (i.e. OHS, human resources, community) performance. If a problem arises, people in that area will monitor the situation. (=0)</p> <p>We don't have a monitoring plan but some information is recorded to verify our compliance with legal requirements. (=1)</p> <p>We have a monitoring plan for some of the critical areas selected by our managers and supervisors. (=2)</p> <p>Our monitoring plan is linked to our environmental and social risk assessment, which is reviewed periodically. Monitoring is done for all areas having a potential risk. (=3)</p> <p>Our monitoring plan covers all areas having a potential risk. Besides indicators, the plan includes procedures and assigned responsibilities for the recording, analysis, and reporting of results. (=4)</p> <p>Besides the monitoring plan described above, we have trained internal or external auditors that conduct regular audits and inspections for which we have identified a set of environmental and social criteria. (=5)</p>	1		
<p>2. The following best describes <u>how we use</u> our monitoring results:</p> <p>We do not monitor our environmental or social performance. (=0)</p> <p>We only collect and analyze information to verify compliance with regulatory requirements. (=1)</p> <p>Besides verifying regulatory compliance, we track our environmental and social performance. (=2)</p> <p>Besides verifying regulatory compliance, we track our environmental and social performance. We identify areas of under-performance and take suitable corrective/preventive actions to address them. (=3)</p> <p>Besides verifying regulatory compliance, we track our environmental and social performance. We identify areas of under-performance and take suitable corrective/preventive actions to address them and continually improve our environmental and social management system. (=4)</p> <p>Besides the system described above, senior management sets annual improvement plans with progressive environmental and social performance targets. (=5)</p>	2		

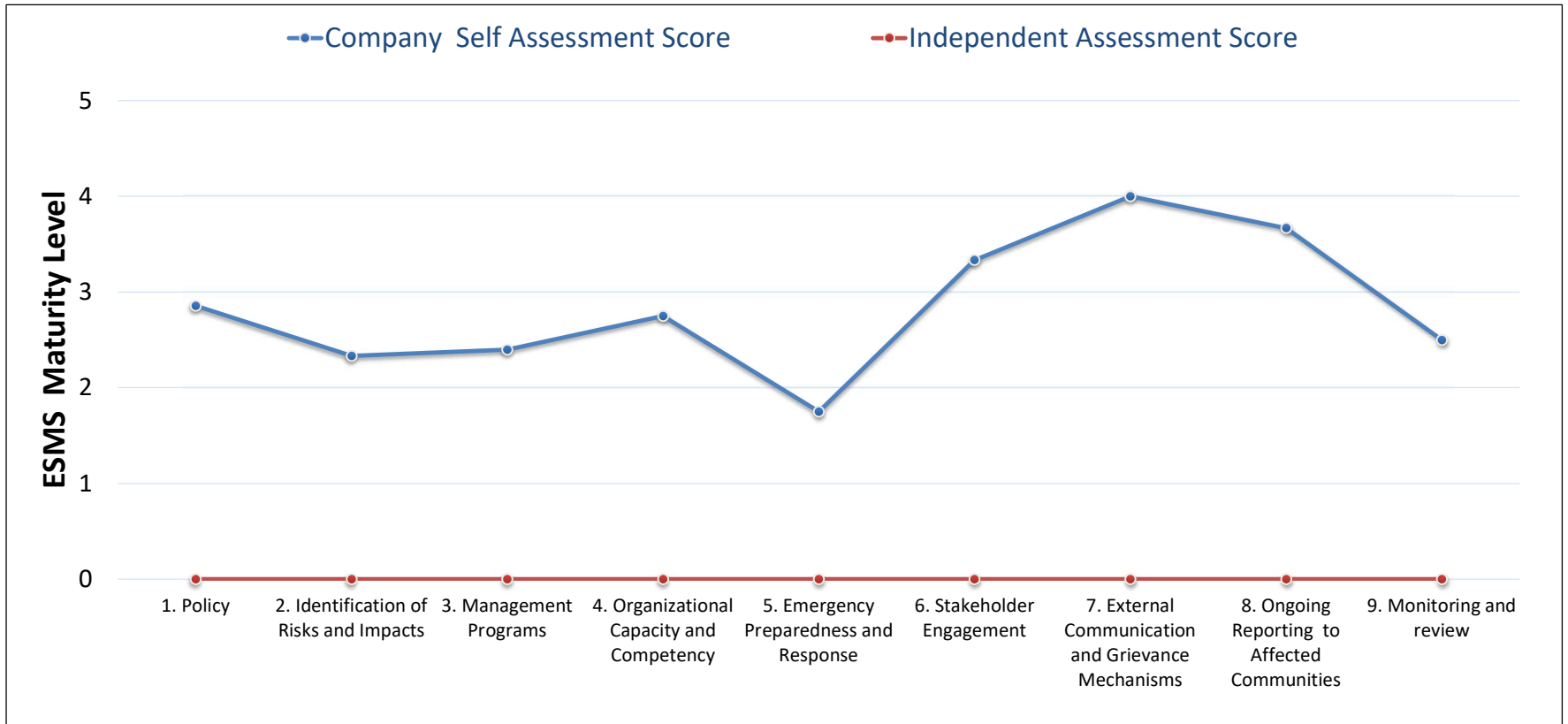
3. We use the following resources and methods to monitor our environmental and social performance:		
1. Use calibrated testing and measuring devices	Yes	
2. Review documents and records (e.g. policies, procedures, employment contracts, payslips, timecards, complaint logs, utility bills, water meter logs, records of purchased chemicals, training records)	Yes	
3. Review labor inspection records	Yes	
4. Review environmental inspection records	Yes	
5. Conduct physical inspections of our facility	Yes	
6. Surveys and questionnaires	No	
7. Talk to workers	Yes	
8. Talk to managers and supervisors	Yes	
9. Talk to affected communities	Yes	
10. Ask customers to share guidance	No	
11. Seek advice from external consultants and experts	Yes	
We do not do not monitor our environmental and social performance. (=0)	5	
We use 1-2 of the resources above. (=1)		
We use 3-4 of the resources above. (=2)		
We use 5-6 of the resources above. (=3)		
We use 7-8 of the resources above.(=4)		
We use 9 or more of the resources above. (=5)		

4. The following best describes senior management involvement in the review of our environmental and social management system:	2	
We do not monitor our environmental and social performance. (=0)		
Monitoring results are handled by the managers of respective departments. Business or operational planning is normally independent of environmental and social performance results. (=1)		
Senior management periodically receives information summarizing our environmental and social performance and progress in the implementation of our action plans. (=2)		
Senior management regularly meets to review our environmental and social performance and progress in the implementation of our action plans. (=3)		
Senior management regularly meets to review the effectiveness of our environmental and social management system. They analyze the areas of under-performance and assign the necessary resources to take suitable corrective/preventive actions. (=4)		

<p>Besides the management system review as described above, senior management sets annual improvement plans with progressive environmental and social performance targets and include them as an official part of our annual business planning process. (=5)</p>			
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9. Monitoring and Review - Score	2.5	0.0
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	1. Policy	2. Identification of Risks and Impacts	3. Management Programs	4. Organizational Capacity and Competency	5. Emergency Preparedness and Response	6. Stakeholder Engagement	7. External Communication and Grievance Mechanisms	8. Ongoing Reporting to Affected Communities	9. Monitoring and review
Highest score	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Company Self Assessment Score	2.9	2.3	2.4	2.8	1.8	3.3	4.0	3.7	2.5
Independent Assessment Score	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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