

COMMENT NUMBER:	REFERENCE: Be specific	TOPIC: Identify the issue	COMMENT: Provide all the information needed for the proponent and the Board to understand the rationale for the accompanying recommendation.
EC-1	2014 QIA and NWB Annual Report, Section 2.2.1 (Sewage and Grey Water Management), page 13	Disposal of sewage sludge	Sludge management is described as a sludge removal system involving the addition of polymer to the waste sludge to bind the solids together and force them through a screen, creating a dried "cake", which is then collected and brought to the incinerator for disposal. EC notes that the dewatered sludge cake will contain bound polymer. However it is unclear if the incineration of the sludge/polymer cake could lead to the formation and release of contaminants to the environment?
EC-2	2014 QIA and NWB Annual Report, Section 2.2.1 (Sewage and Grey Water Management); NWB Type "A" Water Licence No. 2AM-MRY1325 for the Mary River Project	Exceedance of effluent discharge quality limits	Section 2.2.1 (page 14) of the 2014 annual report states that the Mine Site MBR treatment plant commenced direct discharge to the receiving environment on February 14th. Subsequent to February 14th, the Mine Site MBR treatment plant discharged exclusively to the approved location near Mary River for the remainder of 2014. The Milne Port MBR treatment plant continued to directly discharge to Milne Inlet during the entire year of 2014. NWB Type "A" Water Licence No. 2AM-MRY1325 for the Mary River Project specifies a grab sample effluent discharge quality limit of 1000 CFU/100 mL for faecal coliforms at monitoring stations MP-01 (Milne Port Sewage Treatment Facilities; discharge into ditch prior to ocean) and MS-01 (Mine Site Sewage Treatment Facilities). Table 2.8 of the 2014 annual report provides the water quality monitoring results and included Faecal coliform counts exceeding the water licence limits (i.e., exceeded 1000 CFU/100 mL) at MP-01 on April 1, 2014 (83000 CFU/100 mL), and at MS-01 on August 12, 2014 (9300 CFU/100 mL). The annual report does not provide a discussion of these exceedances.

RECOMMENDATION: Can be for the proponent or for the Board; be as specific as possible; relate the issues raised in the "comment" column to an action that you believe is necessary.								
EC recommends that the proponent demonstrate that the incineration of the polymer bound sludge is an environmentally sound practice and that emissions from the incinerators will meet design specifications when processing sludge/polymer cake.								
EC recommends that treatment plant performance be reviewed and necessary steps taken to ensure effluent treatment is optimised.								

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EC-3	Waste Management Plan	Incineration	Table 4.2 provides a list wastes and and applicable disposal methods. EC notes that incineration is listed as a disposal method for kitchen grease and plastics. However, EC also notes that the incinerator manufacturer warns against the incineration of kitchen grease because it leads to destruction of the refractory insulation and shortens the life expectancy of the equipment. In addition, grease contributes excess energy to the incineration system which could lead to incomplete combustion of material potentially resulting in the generation of pollutants, including dioxins and furans.
EC-4	Waste Management Plan	Record keeping	
EC-5	Interim Closure and Reclamation Plan - Various Sections including Sections 5.1.1.7; 5.1.1.8; 9.7 as well as Table 6.1	"Unacceptable environmental risk" is undefined	The term "Unacceptable environmental risk" is used regularly in the Interim Closure and Reclamation Plan but the term is not defined. It is, therefore, unclear what would be considered acceptable or unacceptable environmental risk.



EC-6	2014 Annual Report, Section 7.3.1.3; Appendix L2, 2014 Annual Terrestrial Monitoring Report: Section 5.2. and Table 27; TEMMP Section 3.2.	Pre-clearing nest surveys	EC appreciates BIM's efforts to report the results of the pre-clearing nest surveys in Table 27. At the Terrestrial Environment Working Group (TEWG) meeting on 22 April 2015, EC provided many suggestions to improve the presentation of information related to the pre-clearing nest surveys for clarity and to also highlight instances when BIM rescheduled work to avoid impacts on migratory birds. In nesting zone N10, which includes Baffin Island, migratory birds may be found nesting from the end of May until mid-August. For the most current information on how to protect migratory birds and their nests and eggs when planning or carrying out project activities, consult Environment Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" at: www.ec.gc.ca/paom-itmb/
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To prevent detrimental effects on migratory birds, nests and eggs and help maintain sustainable populations of migratory birds, EC recommends that BIM update the key sensitive nesting period in the TEMMP to minimize the risk of incidental take.



EC-7	2014 Annual Report, Section 7.3.1.3 p. 51; Appendix L2, 2014 Annual Terrestrial Monitoring Report: Section 5.2 and Table 27.	Pre-clearing nest surveys	EC has concerns after reviewing the results of the pre-clearing nest surveys. The bird species discovered during surveys are not reflective of the relative abundance of species in the avian community reported through other on-site monitoring and previous baseline studies. Incidental take may be occurring despite the active nest searches prior to land clearing.
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EC-8	2014 Annual Report, Section 7.3.1.3; Appendix L2, 2014 Annual Terrestrial Monitoring Report: Section 5.3. and 5.8.	Discontinuation of Red Knot surveys	BIM is proposing to discontinue the Red Knot species-specific surveys based on the absence of detections in surveys to date, including most recently in the Philips Creek area. EC suggests that Red Knot surveys should be improved rather than discontinued. At the TEWG meeting on 22 April 2015, EC expressed concerns regarding the area surveyed along Philips Creek and the previously reported presence of red knots (see EC-10 below). EC indicated that the selection of the survey area is unclear in relation to Red Knot preferred habitats that may be impacted, directly or indirectly, by project activities. Based on the reported number of observers and spacing among them (i.e. 3 at 25m apart) EC conservatively estimates that the Philips Creek survey covered approximately 100m from the shoreline. Given that red knots can nest up to 500m away from waterbodies and usually within the 300-500m range the results may have been biased.
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EC recommends that a risk assessment approach be used to select survey areas for future red knot surveys. Priority should be given to surveying areas of preferred habitat that will be impacted directly by project activities and should employ skilled and experienced observers. Additional surveys, using survey methods such as PRISM, could target a sample of preferred habitats indirectly impacted and control areas with the Regional Study Area.

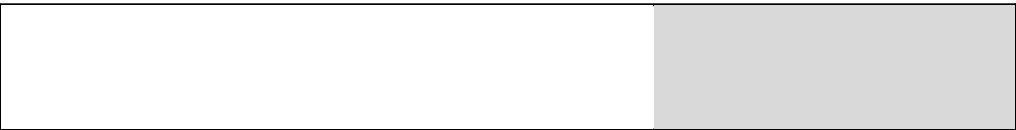


EC-9	2014 Annual Report, Section 7.3.1.3 p. 50; TEMMP Section 3.2; 2014 Annual Terrestrial Monitoring Report: Section 5.4	Communication Towers surveys and PC condition 68	During the Mary River project EA, EC noted that communication towers and guy-wires presented a collision risk for migratory birds. EC stated that the use of flashing lights, instead of steady burning lights, would reduce the attraction of migratory birds to these structures. EC also explained that thousands of birds migrate through the project area in September when day length is reduced. As stated in the 2014 Annual Report, the installation of bird collision deterrents on the communication towers has been an unresolved issue for some time. At the TEWG meeting on 22 April 2015, BIM confirmed that lights had been installed on the 2 communication towers, but that guy-wire diverters had not. Following a discussion of what represents adequate monitoring to determine the impacts of the communication towers, BIM committed to installing guy-wire diverters to comply with the Project Certificate condition 68. BIM has also engaged EC after the TEWG meeting on appropriate types of guy-wire deterrents and possible suppliers.
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EC-10	2014 Annual Report, Section 7.3.1.3; Appendix L2, 2014 Annual Terrestrial Monitoring Report: Section 5.5. and Table 30; Hawkings and Hughes (1999).	Roadside Waterfowl surveys	At the last TEWG (22-Apr-15), EC expressed concerns that the "Roadside Waterfowl surveys" did not reconcile with indicator species identified in PC condition 74. EC questions the value of these surveys both in terms of impact prediction and contribution to regional monitoring. EC is also concerned with the methodology of this survey not following established procedures of Hawkings and Hughes (1999) as stated. The timing of this type of survey is critical to determining a local breeding population. Repeating this survey over the breeding season would better capture the range of nest initiation dates of the various species and account for failed breeding attempts. BIM also noted that timing of surveys could influence results in the 2014 Annual Terrestrial Monitoring Report. EC is also concerned with the annual variation in sampling of waterbodies and that sample sizes of most species are too small to determine any trend with confidence (with the exception of Snow Goose, which accounted for 80% of all observations).
EC-11	Appendix L2, 2014 Annual Terrestrial Monitoring Report: Section 5.1 Overview and Table 26.	Documented bird species within the terrestrial RSA	Through a review of baseline and monitoring data within the project area EC determined that more bird species have been detected than reported in the annual report. Some of the unreported species are of conservation concern in Nunavut, including the Red Knot, listed on the Species at Risk Act. EC shared this information at the last TEWG meeting (22-Apr-15) and BIM committed to reviewing EC's information.

EC recommends re-allocating resources to higher priority bird monitoring needs.	
EC recommends a thorough review of bird baseline and monitoring data to determine presence of bird species, including species at risk within the project area.	
EC recommends that Table 26 of the 2014 Annual Terrestrial Monitoring Report be updated following the review.	



EC-12	2014 Annual Report, Section 5.2.2, Table 5.1; PC condition 71	Monitoring of flight altitude in key site for moulting snow geese	EC analysed the helicopter tracks logs provided by BIM. As presented to the TEWG (26-Nov-15), EC determined that the helicopters on site were flying below recommended altitudes most of the time.
EC-13	Appendix L2, 2014 Annual Terrestrial Monitoring Report: Section 6.1 Wildlife Mortalities	Reporting of project-related mortalities, including migratory birds	EC reviewed an earlier draft of the 2014 Annual Terrestrial Monitoring Report as a member of the TEWG. The draft report included a complete table of all project-related mortalities and including 2 long-tailed ducks that flew into an operational sheet piling crane. EC noted that this information was not reported in the final version of the 2014 Annual Terrestrial Monitoring Report. Project-related mortality data is invaluable to determine appropriate mitigation measures for this project and identify possible impacts for future projects. This specific example of project-related mortality relates directly to EC's previously expressed concerns about migratory bird collisions with project infrastructure in poor visibility or at night.

EC recommends that: -BIM continue to collect helicopter track log information; -the information be analyzed and summarized in the Annual Terrestrial Monitoring Report; -pilot and staff awareness of the area of concern be increased by displaying maps in appropriate locations and by uploading digital information in navigation GPSs.									
EC recommends that BIM: -report project-related mortality of migratory birds to EC Wildlife Enforcement and the reporting process be formalized in the TEMMP; -report all project-related mortalities, including migratory birds, with sufficient detail in their annual monitoring reports to allow for adaptive management. Information collected should include: date and time of discovery, estimate of date and time of death, species and number, suspected cause of death and rationale, general notes on weather at time of death (for e.g. high winds or fog), and any other information that may help to understand the specific circumstances.									

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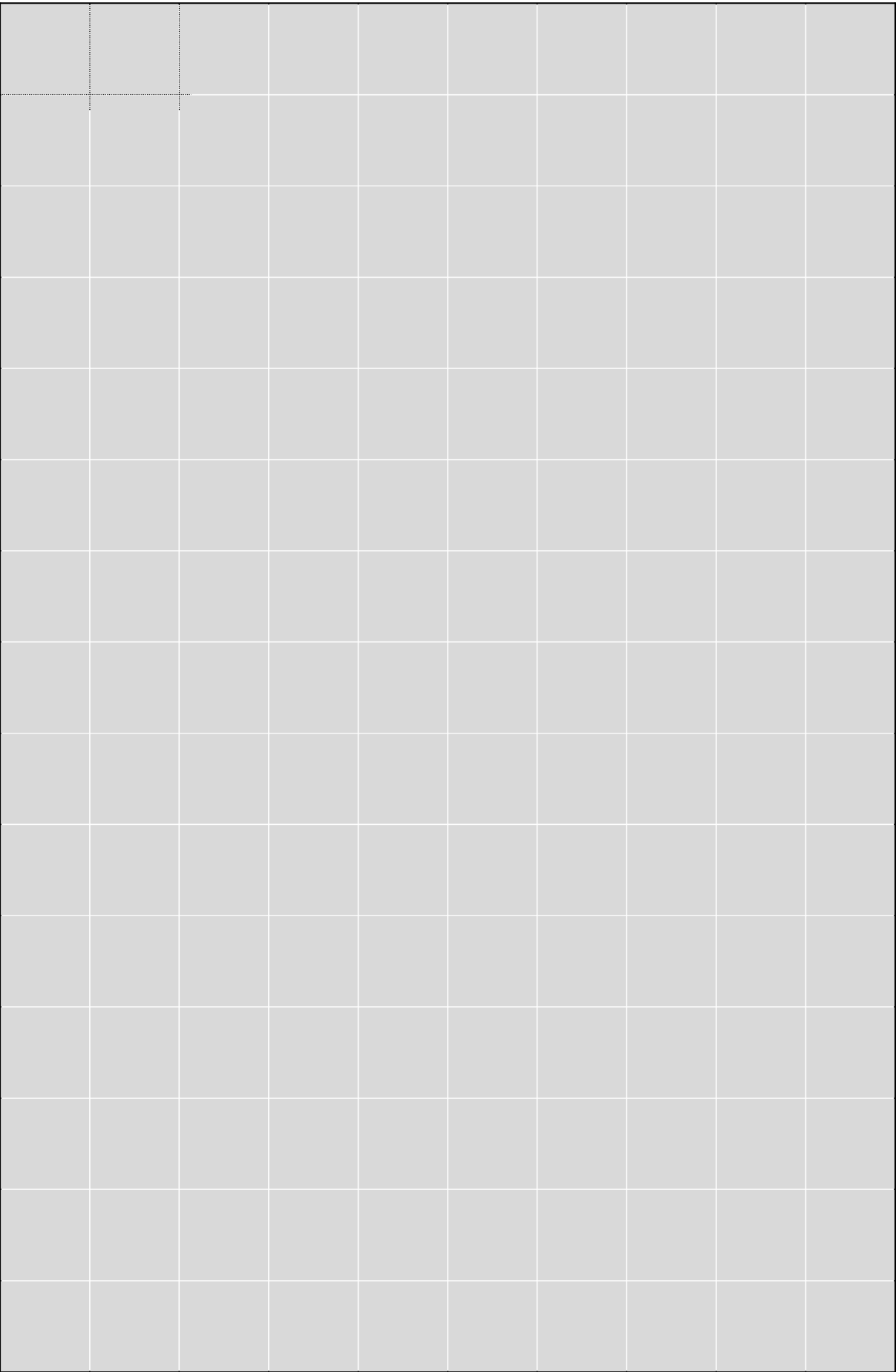
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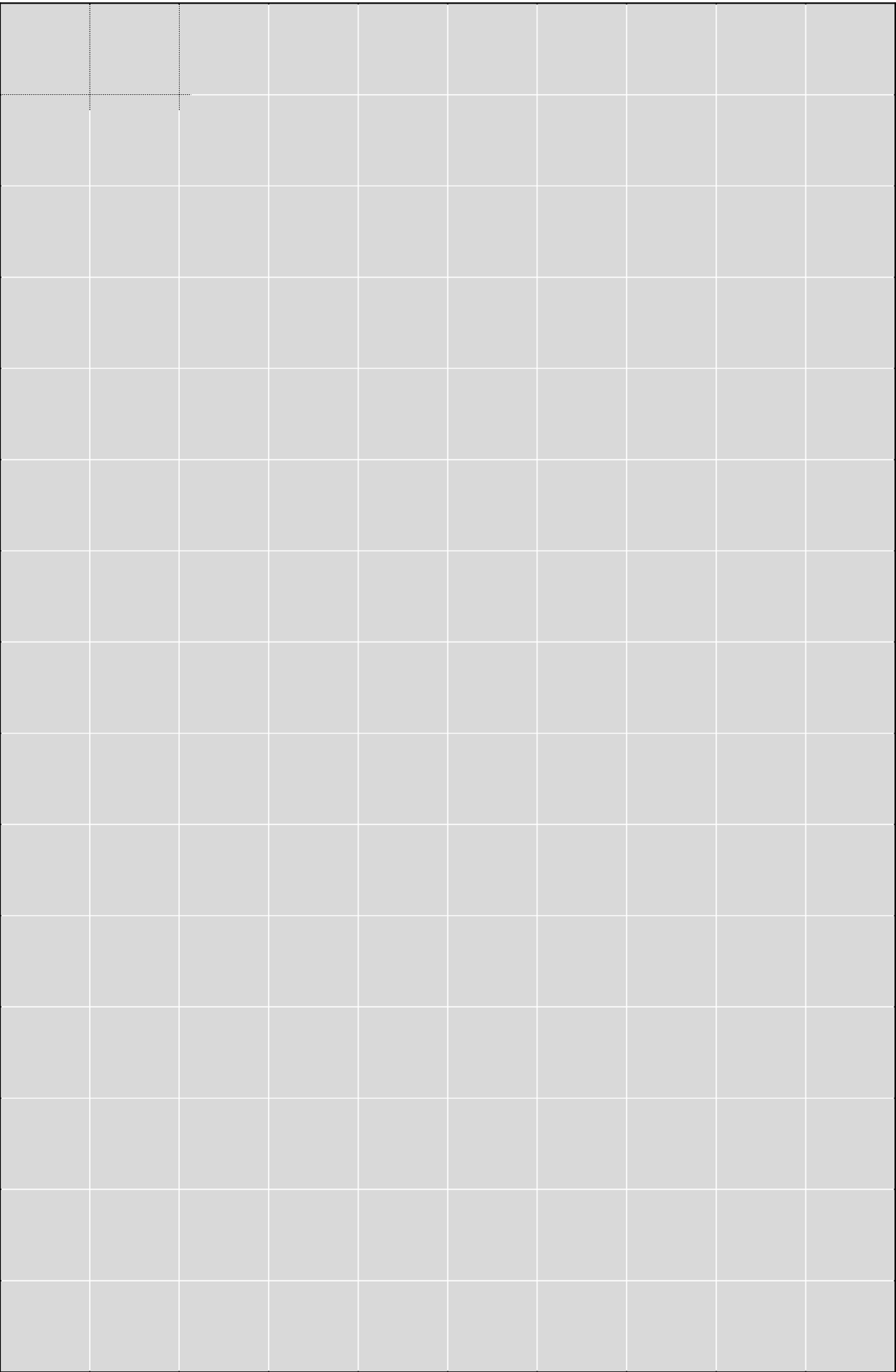
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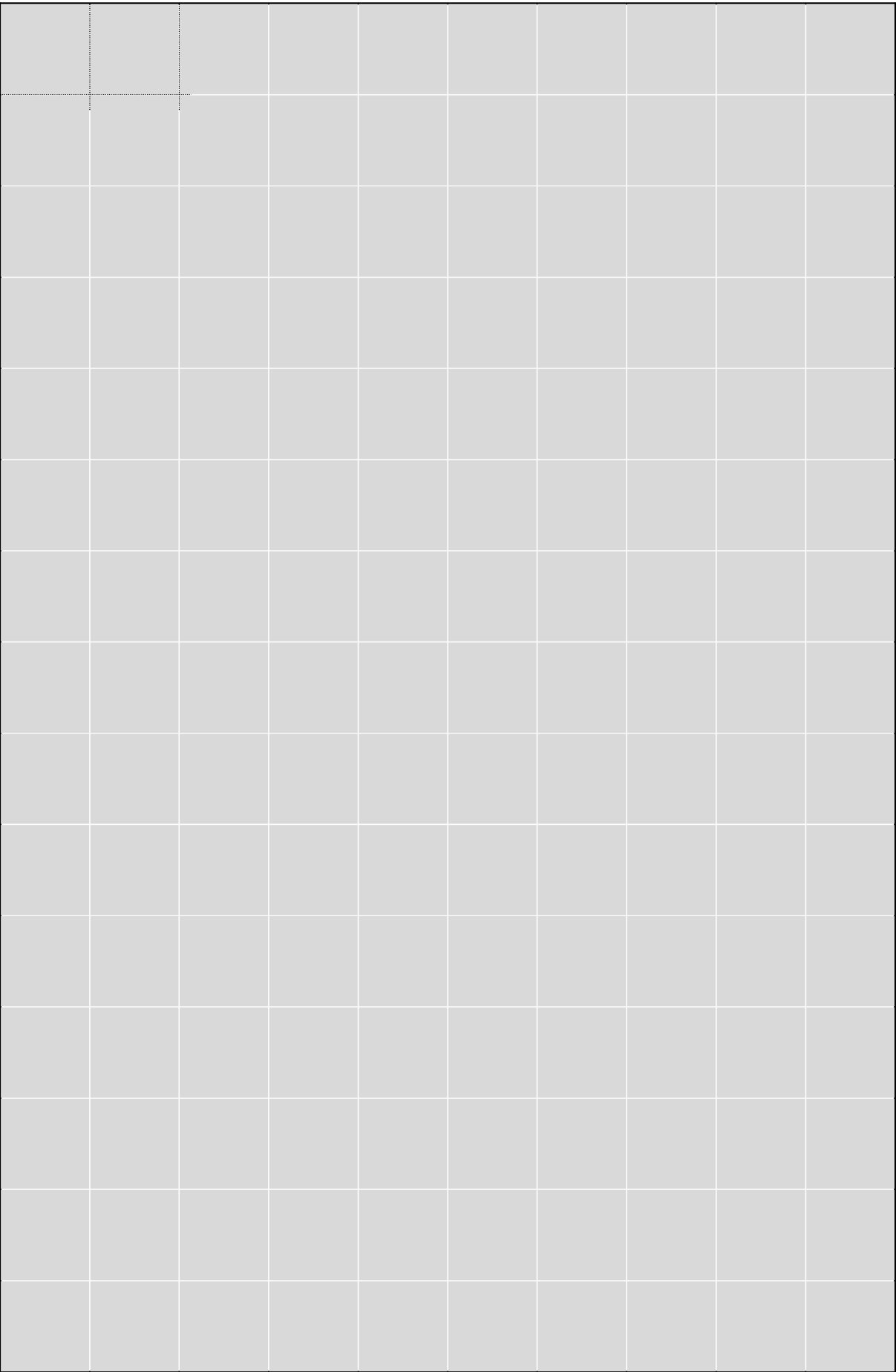


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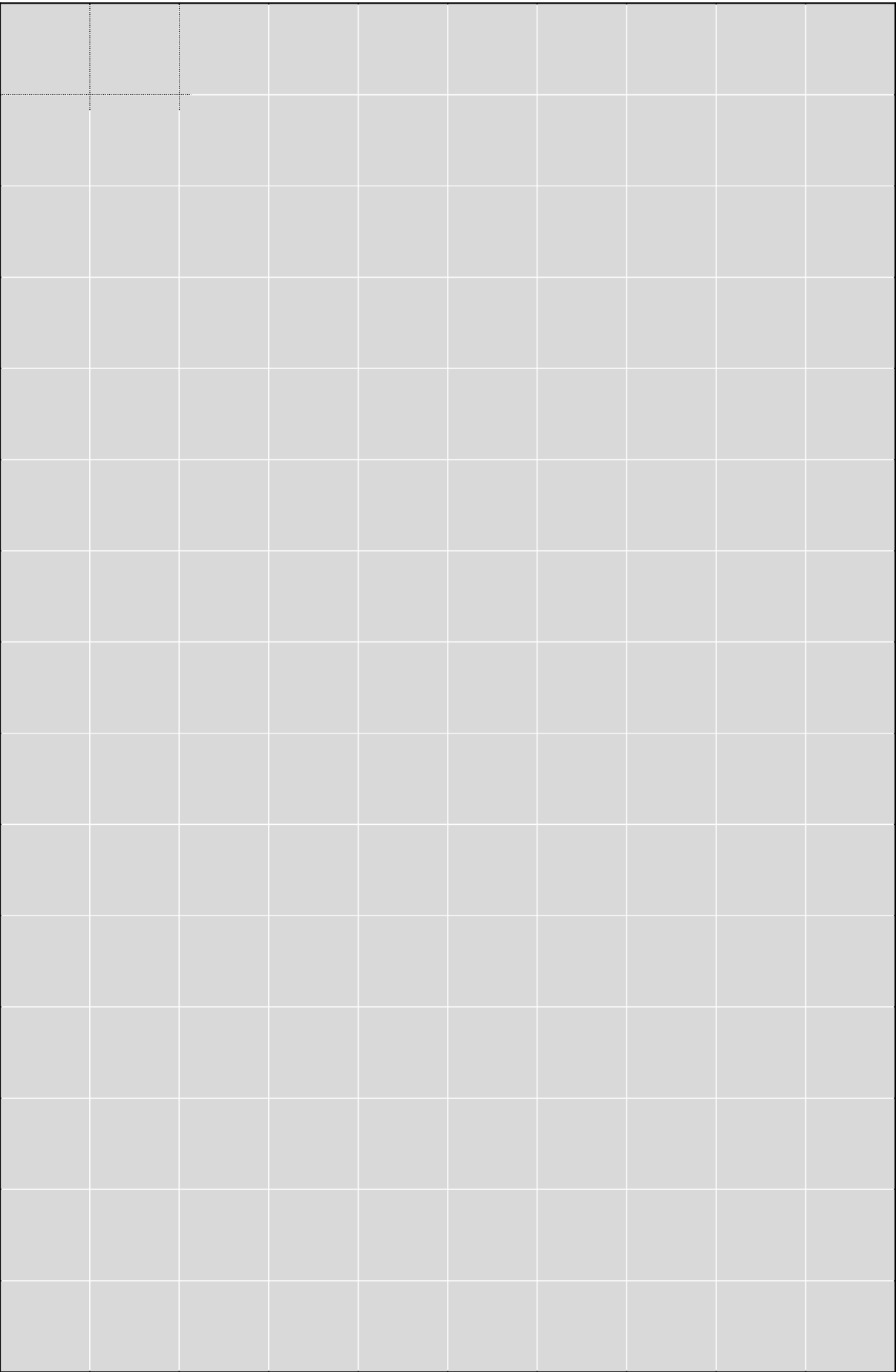


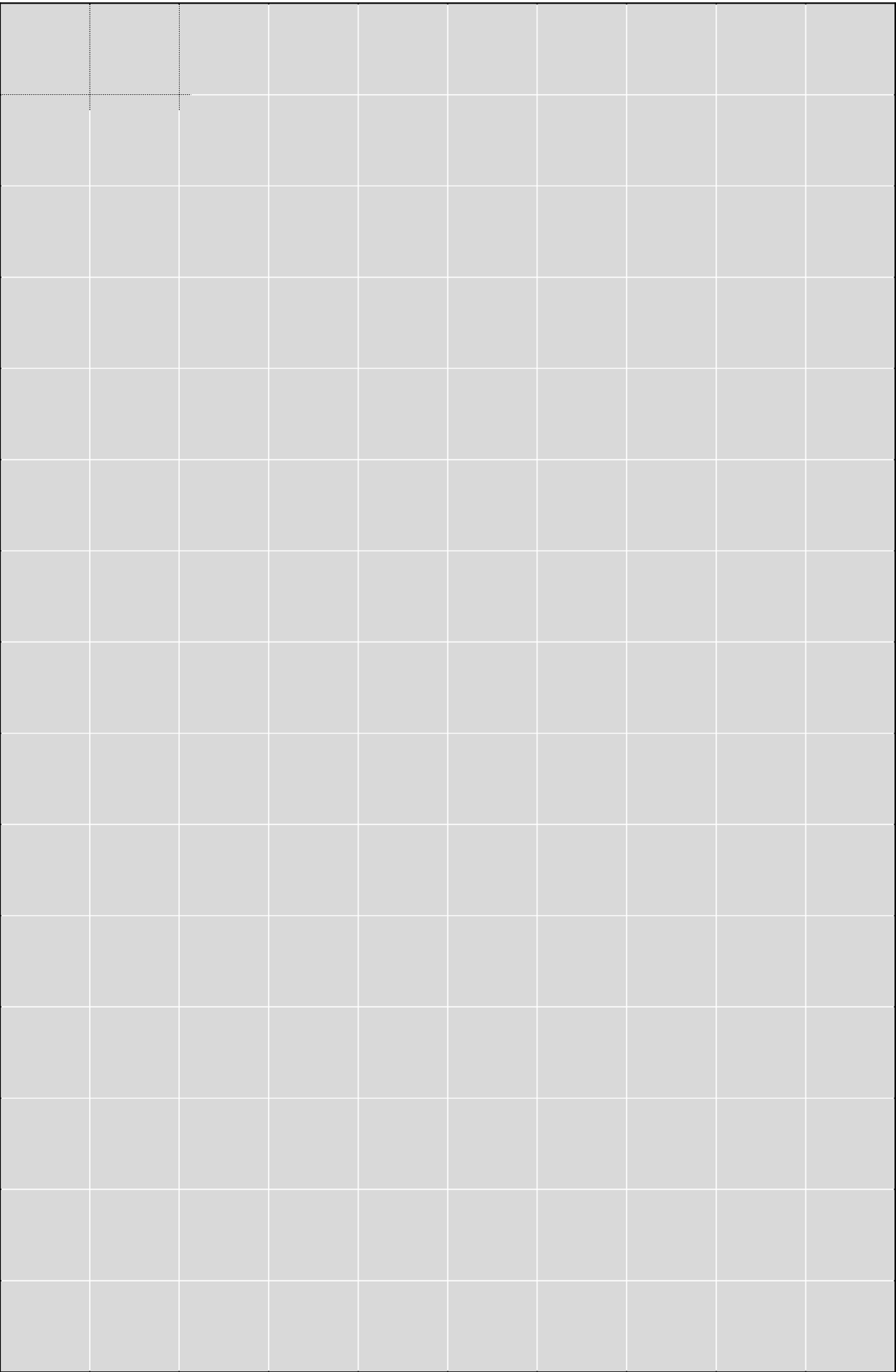


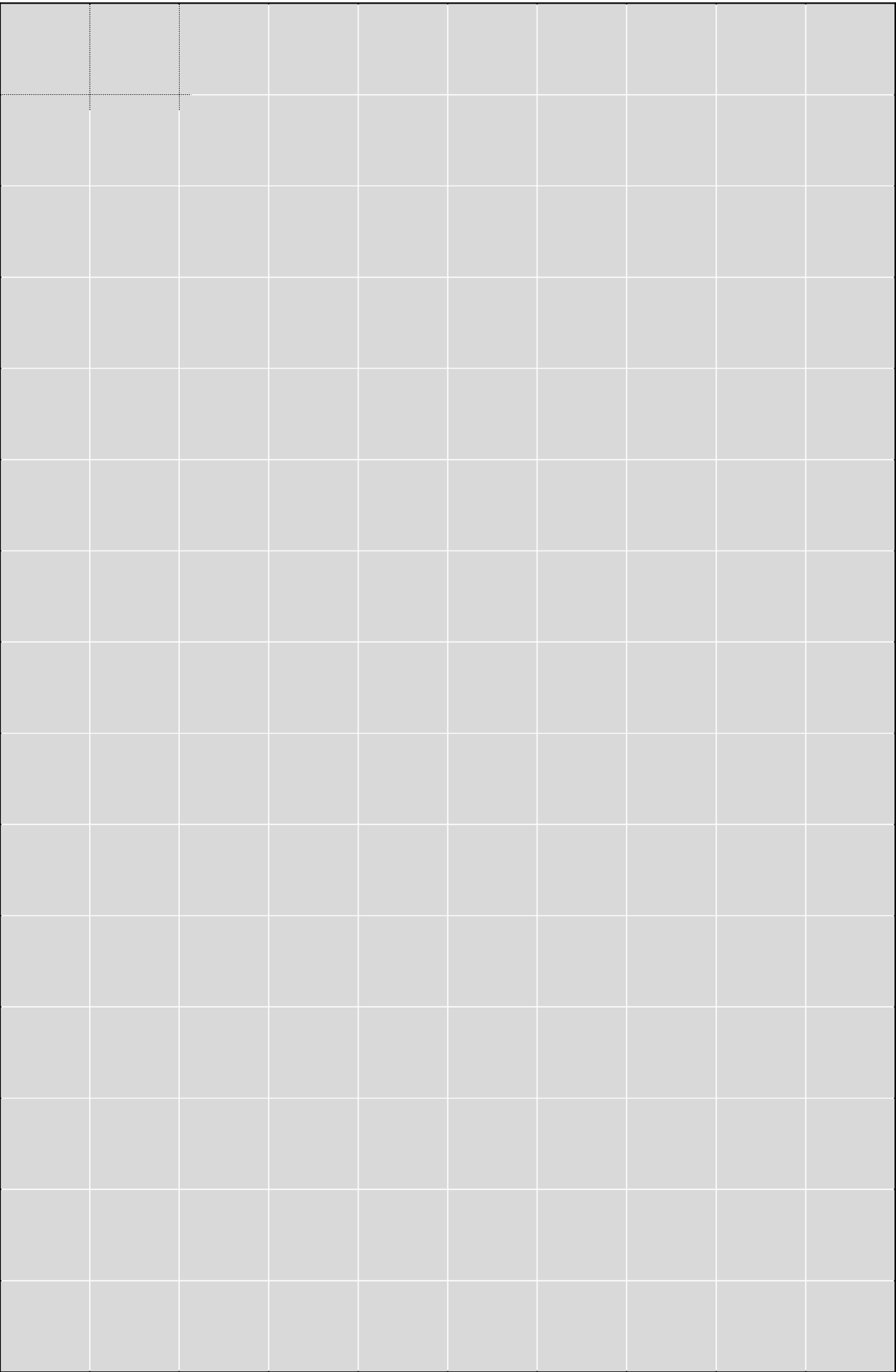


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GENERAL INSTRUCTIONS FOR EXCEL TEMPLATE:

TOPIC

COMMENT

(Be as specific as you think is appropriate; for example a section or page of the document, a recommendation #, general comment, etc.)

RECOMMENDATION

(Recommendations can be for the proponent or for the Board. Recommendations should be as specific as possible, relating the issues raised in the "comment" column to an action that you believe is necessary.)