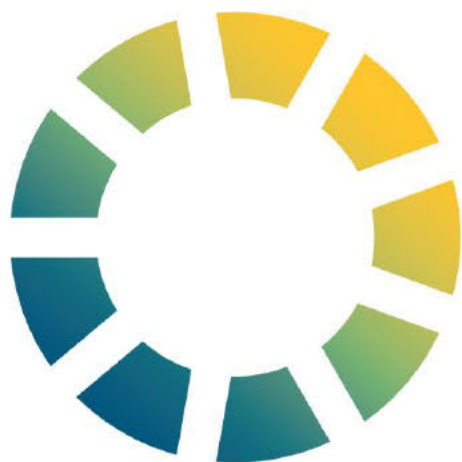




NQGP

**NORTH QUEENSLAND
GAS PIPELINE**

Pipeline Management Plan

NQGP-100-PA-GEN-001

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1. INTRODUCTION

This Plan details the Operational, Safety and Environmental aspects that are implemented to operate the North Queensland Gas Pipeline (NQGP). It includes responsibilities, policies and procedures that are in place to ensure that all activities to be carried out are safe, environmentally sound and in compliance with regulatory requirements.

The Petroleum and Gas (Production and Safety) Act (the Act) requires a Safety Management System and AS2885.3:2012 (the Standard) requires a Pipeline Management System. This document is intended to meet the requirements specific to the NQGP of both the Act and the Standard. This plan and supporting documents listed in Appendix A constitute the Safety Management System for the NQGP.

1.1 Abbreviations

Abbreviation	Definition
ALARP	As Low As Reasonably Practicable
AS	Australian Standard
CoG	Coordinator General
BYDA	Before You Dig Australia
DES	Department of Environment and Science (QLD)
DTMR	Department of Transport and Main Roads
EA	Environmental Authority
ECMP	Environmental and Cultural Heritage Management Plan
EHS	Environment, Health and Safety
EIS	Environmental Impact Statement
EPR	Earth Potential Rise
ERP	Emergency Response Plan
ESA	Environmentally Significant Area
ESD	Emergency Shutdown
GIS	Geographic Information System
GTA	Gas Transmission Agreement
GUF	Gas Unaccounted For
HAZOP	Hazard and Operability Study
HDD	Horizontal directional drilling
HSE	Health, Safety and Environment
HSE&Q	Health, Safety, Environment and Quality
ISI	Industry Safety Induction
LFI	Low Frequency Induction
LMR	Land Management Register
MAOP	Maximum Allowable Operating Pressure
MGPF	Moranbah Gas Processing Facility
MLV	Main Line Valve
NQGP	North Queensland Gas Pipeline
NQGPPL	North Queensland Pipeline No1 and No2 Pty Ltd.

Abbreviation	Definition
O&M	Operations and Maintenance
PGI	Petroleum and Gas Inspectorate (QLD)
PIMS	Palisade Integrated Management Services
PIMP	Pipeline Integrity Management Plan
PMP	Pipeline Management Plan
PMS	Pipeline Management System
PPE	Personal Protective Equipment
PPL	Petroleum Pipeline Licence
PTW	Permit to Work
QNI	Queensland Nickel
ROW	Right of Way
RSHQ	Resources Safety & Health Queensland
RTU	Remote Telemetry Unit
SCADA	Supervisory Control and Data Acquisition
SDV	Shutdown Valve
SMP	Safety Management Plan (this document)
SMS	Safety Management System
SWI	Safe Work Instruction
SWMS	Safe Work Method Statement
TEG	Tri-ethylene Glycol
TNA	Training Needs Analysis
TPS	Townsville Power Station
UPS	Uninterruptible Power Supply
WHS	Workplace Health and Safety
WHSMS	Work Health and Safety Management System
WHSQ	Department of Justice, Workplace Health and Safety Queensland
WPM	Work Planning Meeting
WPS	Worley Power Services

1.2 Definitions

Term	Definition
ALARP	‘As low as reasonably practicable’ as defined in AS2885: A risk cannot be demonstrated as ALARP until consideration has been given to: - Means of further reducing the risk - The reasons why these further means have not been adopted. ALARP is achieved when the cost of further risk reduction measures is grossly disproportionate to the benefit gained from the reduced risk that would result

Term	Definition
AS2885	Australian Standard - Pipelines – Gas and Liquid Petroleum has the objective of providing the requirements for the
Audit	A systematic examination against defined criteria to determine whether activities conform to planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve the organisation's policy and objectives.
HAZOP	Control Hazard and Operability study. A systematic risk assessment process with a multi-disciplinary team which is related purely to the computer control systems of an operation.
Competent Persons	A person who has acquired through training, qualification, experience, or a combination of these, the knowledge and skills qualifying that person to perform a task.
Dangerous Event	• An event caused by specified high risk plant; • An event at a workplace caused by workplace activity; and • If the event involves or could have involved exposure of persons to risk their health and safety because of: - Collapse, overturning, failure, or malfunction of, or damage to, an item of specified high-risk plant - Collapse, or failure of an excavation or of any shoring supporting an excavation - Damage to any load bearing member of, or the failure of any brake, steering device, or other control device of, a crane, hoist, conveyor, lift or escalator - Implosion, explosion, or fire - Escape, spillage or leakage of any hazardous material or dangerous goods - Fall or release from a height of any plant, substance, or object - Damage to a boiler, pressure vessel or refrigeration plant - Uncontrolled explosion, fire or escape of gas or steam.
Dangerous Electrical Event	Section 12 of the QLD Electrical Safety Act 2002 defines a dangerous electrical incident as including: • Events involving electrical equipment and in which electricity causes significant property damage • Unlicensed or unauthorised electrical work • Unsafe electrical work or unmarked electrical equipment is found • Other incidents involving high voltage where a person does not receive a shock or injury, but the person was not electrically safe, or had they been present they would not have been electrically safe.
Delivery Point	Any point along the pipeline that has the purpose of delivering gas to a customer.
Emergency Services	Organisations that provide emergency response assistance and include the Police, Ambulance service, State Emergency Services, Queensland Fire and Rescue Services and the Rural Fire Authority.
Executive Safety Manager	Means the senior managing officer of the corporation or organisation responsible for the management and safe operation of the authorised activities for the authority or Tenure.
Hazard	A source or situation with a potential for harm in terms of human injury, damage to property, damage to the environment, or a combination of these.
Hazard Alert	A brief summary document (usually one page) issued to relevant staff, businesses or areas, indicating a potential safety issue which needs to be communicated.
HAZOP	Hazard and Operability Study. A facilitated and systematically executed risk assessment process with a multi-disciplinary team, usually applied in the design phase of an operation.

Term	Definition
Health Surveillance	Monitoring of individuals for the purpose of identifying changes in health status that may be due to occupational exposure to a hazard.
Incident	An unplanned event resulting in, or having a potential for injury, ill health, damage or other loss.
Job Hazard Analysis	A document derived from systematic evaluation of a work activity that identifies potential hazards and their controls. JHAs incorporate a review of the site conditions. The associated safety, environmental and stakeholder hazards are identified, risk assessed and controls specified to reduce the risks to as low as reasonably practicable.
Job Supervisor	NQGPPL/WPS employee delegated responsibility for a work activity. Where a permit is required the job supervisor will be the Permit Holder.
Lag Indicator	Performance indicator that reflects things or events that have already occurred.
Land Management Register	Database of Landowner and land use information. This information is stored in the software: "X-info Connect".
Lead Indicator	Performance indicators that reflect trends of a predictive nature, enabling measures to be put in place before adverse events or things occur.
Liable Person	A Liable Person is defined in Section 155 of the Petroleum and Gas (Safety) Regulation 2018.
NQGPPL Employee	Either an employee of NQGPPL or and employee of WPS acting on behalf of NQGPPL.
Permit to Work	A work control document which assists in work being carried out safely.
Plant	Any facility, equipment connected or otherwise that is related to the transport of high-pressure gas from receipt point to delivery point.
Receipt Point	Any point on the pipeline whose normal function is to receive gas to be transported through the pipeline.
Responsible Operator	The operator is the person who has the role of being responsible for the management and safe operation of the plant. For NQGPPL this person is the General Manager
Risk	The consideration of both the likelihood of a negative outcome and the consequences of that outcome occurring. For example, a high likelihood of injury or harm occurring would equate to a high risk.
Risk Assessment	Overall process of estimating the magnitude of risk and subsequently deciding what actions will be taken to reduce the risk to ALARP.
Safe work instruction	A document that details how to successfully complete a work activity. SWIs highlight areas of risk and incorporate strategies to reduce those risks.
Serious Bodily Injury	An injury to a person that causes: • The injured person's death • The loss of a distinct part or an organ of the injured person's body • The injured person to be absent from the person's voluntary or paid employment for more than four normal working days.

Term	Definition
Serious Electrical Incident	Section 11 of the Electrical Safety Act 2002 defines a serious electrical incident as being incidents caused by electricity that: • Results in death • Results in a shock or injury requiring medical treatment by, or under the supervision of a doctor • A person receives a shock or injury from electricity at high voltage, whether or not the person requires medical treatment by, or under the supervision of a doctor.
Site Safety Manager	Means a person appointed by the operator as the safety manager for a site. For NQGPPL this is the Pipeline Supervisor.
Safe work instruction	A document that details how to successfully complete a work activity. SWIs highlight areas of risk and incorporate strategies to reduce those risks.
Safe Work Method Statement	A document derived from systematic evaluation of a work activity that identifies potential hazards and their controls. SWMSs incorporate a review of the site conditions. The associated safety, environmental and stakeholder hazards are identified, risk assessed and controls specified to reduce the risks to as low as reasonably practicable.
Toolbox talk	Generally informal workplace meeting used to discuss safety, environmental or other issues of importance.
WPS	Worley Power Services providing Field Services under contract to NQGPPL:
Work Injury	• An injury to a person that requires first aid or medical treatment if the injury was caused by work, a workplace, a workplace activity or specified high risk plant; and • The recurrence, aggravation, acceleration, exacerbation or deterioration of any existing injury in a person if: - First aid or medical treatment is required for the injury - Work, a workplace, workplace activity or specified high risk plant caused the recurrence, aggravation, acceleration, exacerbation or deterioration - Any serious bodily injury, if the injury was caused by work, a workplace, a workplace activity or specified high risk plant.
Work Caused Illness	• An illness contracted by a person to which work, a workplace, a workplace activity or specified high risk plant was a significant contributing factor; and • The recurrence, aggravation, acceleration, exacerbation or deterioration in a person of an existing illness if work, a workplace, a workplace activity or specified high risk plant was a significant contributing factor to the recurrence, aggravation, acceleration, exacerbation or deterioration.

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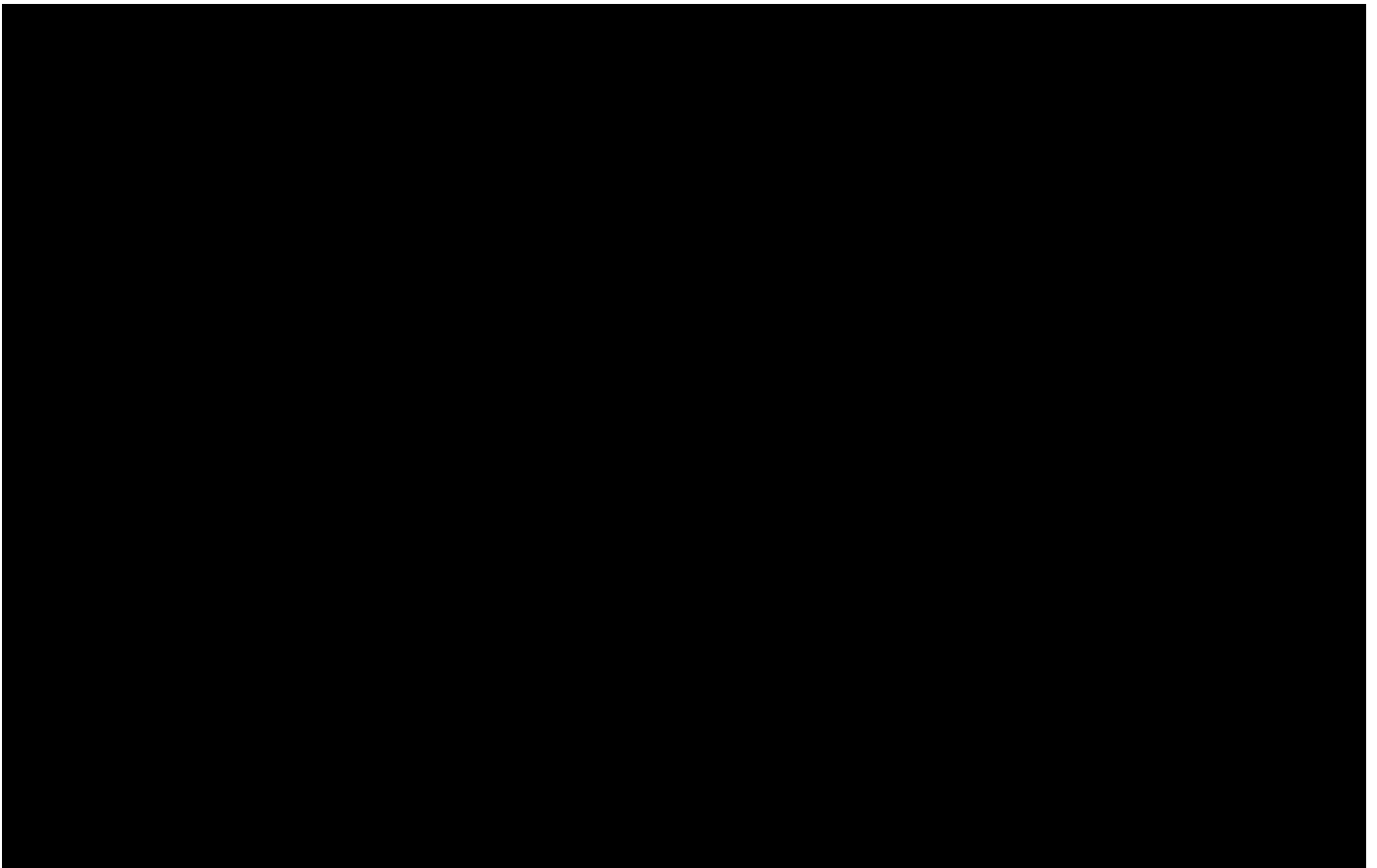
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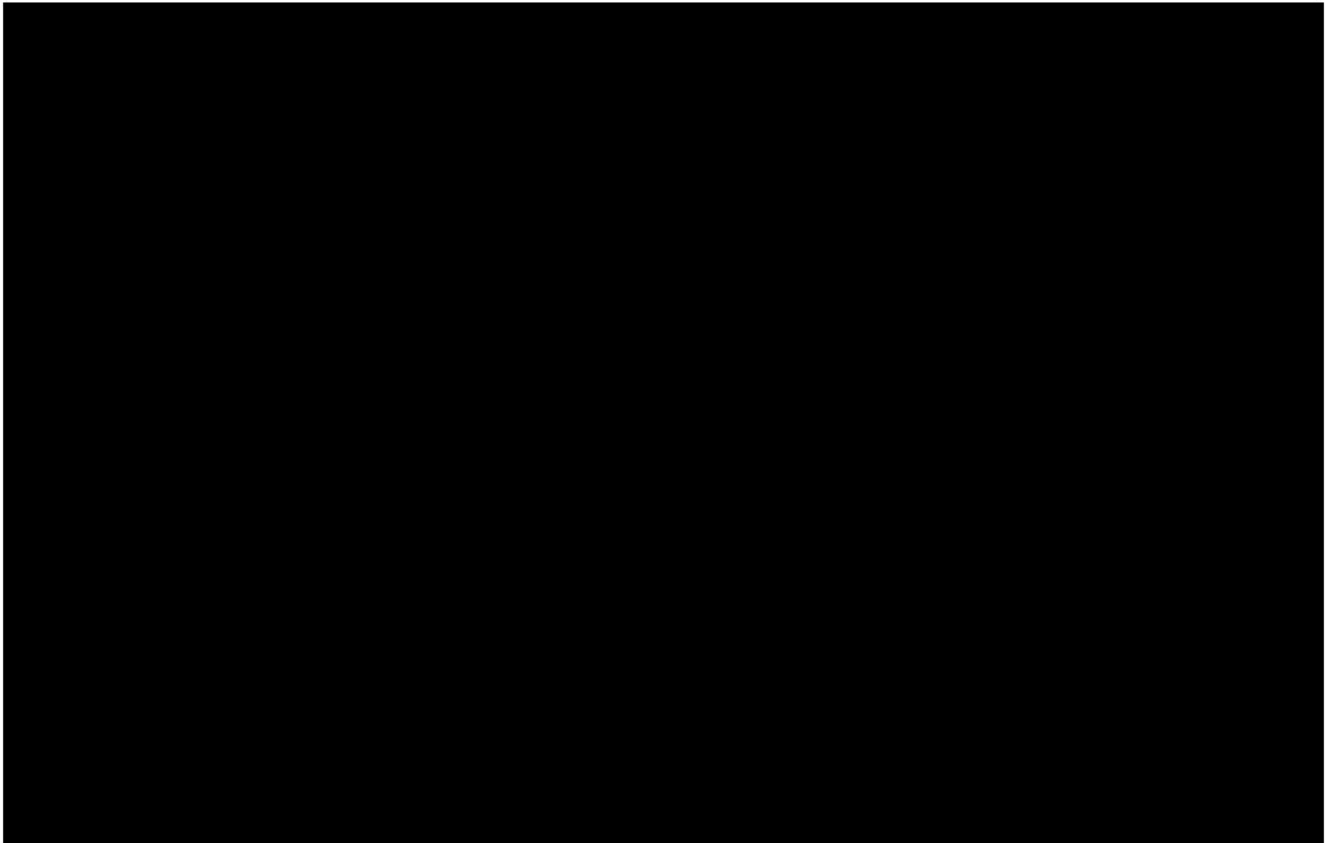
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4.11 Environmental Management

The NQGP operates under an Environmental Authority (EA) granted under the Environmental Protection Act 1994 and administered by the Department of Environment and Science. NQGPPL manage their environmental responsibilities in accordance with the Australian Pipeline & Gas Association (APGA) Code of Environmental Practice to ensure that the NQGP is operated in accordance with industry best practice. An Environmental and Cultural Management Plan (ECMP) [4] has been developed which provides detail on NQGP's management practices in general. An aspects and impacts register is maintained for the NQGP which details all Environmental risks associated with the operation and maintenance of the gas pipeline.

The NQGP impacts on several environmentally sensitive areas (ESA) which require additional management practices.

4.11.1 Yakka Skink

The Yakka Skink is an endangered species with known habitats in the vicinity of the MGPF and Southern end of the pipeline. An awareness of these habitats is required to ensure they are not disturbed during ROW activities.

4.11.2 Black Throated Finch

The Black Throated Finch (BTF) (*Poephila cincta cincta*) preferred habitat is present on both the lateral and mainline north of Woodstock Station. The BTF breeds in the same area each season (November to March). During this period a 100 meter no go zone is to be established around any identified breeding site. These sites are marked on the alignment sheets. These areas are to be avoided where possible.

The BTF is locally nomadic and breeding and feeding patterns are dependent upon rainfall. The finch typically disperses to breeding areas approximately 2 months after the first heavy summer rains and frequents the same breeding areas each season. Breeding records suggest that breeding occurs from 3 - 4 months after the first heavy summer rains. Food supplies are affected by rainfall with seed supplies diminishing once the heavy summer rains commences.

4.11.3 Black Ironbox

During construction a commitment was made to DEWHA to regenerate the Black Ironbox (*Eucalyptus Raveretiana*) community at Table Mountain Creek (KP182) that was impacted during the HDD at a 3:1 strike rate. 3 mature trees were removed during construction. Natural regeneration did not occur in the area. It was necessary to propagate seedlings from seed collected at the site. A number of saplings have been planted at the site and caged to provide protection from the grazing cattle. 21 trees have been regenerated to a current height of 3m. This location is identified on the alignment sheets and an awareness of their importance is provided in the NQGP site specific inductions.

4.11.4 Bluegrass

The easement transects areas of Bluegrass (*Dichanthium* spp.). These areas are identified on the NQGP alignment sheets and the easement width has been reduced in these areas to 20m. Awareness of these areas is required during ROW activities to ensure impact is minimised. An area has been

fenced off easement to rehabilitate an area of Brigalow and Bluegrass. See the Brigalow section below for further details. Commitments to DEHWA for rehabilitation at bluegrass monitoring sites have been completed and approved by DEHWA refer Enertrade letter to DEHWA dated 19 October 2007.

4.11.5 Brigalow

During construction a commitment was made to the Department of Environment, Water, Heritage and the Arts (DEHWA) of “No net loss of Brigalow”. To cover the loss caused by construction an agreement was entered into with the landowners of “Lancewood” property to fence off an area of degraded Brigalow and Bluegrass. The 9.4 ha area is comprised of approximately 6 ha of Brigalow and 3.4 ha of a mosaic of Bluegrass downs and Mountain Coolabah grassy woodland. This area occurs on the Northern side of the Suttor Development Road approx. 8km east of the ROW. Management of this area requires annual surveys to assess the health of the Brigalow and Bluegrass; a grazing strategy (managed by the landholders) to control the buffel grass in the area and weed control to ensure noxious weeds don’t impact the area. Previous surveys have been conducted by NQGP operators with the result of the Brigalow being healthy and Bluegrass stable.

4.11.6 Semi Evergreen Vine Thicket

Semi Evergreen Vine thicket is present in areas adjacent to the easement. An awareness of this plant is included in the inductions to ensure that there is no impact during ROW repair activities. Known locations are also identified on the alignment sheets.

4.11.7 Noxious Weeds

The NQGP transects known areas of noxious weed infestations, particularly Parthenium. Strict vehicle and personal hygiene processes are followed when moving between weed infected areas and weed free areas. Weed infestation areas are monitored for the life of the pipeline and are managed through seasonal monitoring and eradication of declared plant and other weed species. The management of these is addressed in the *NQGP Weed Management Procedure [35]*.

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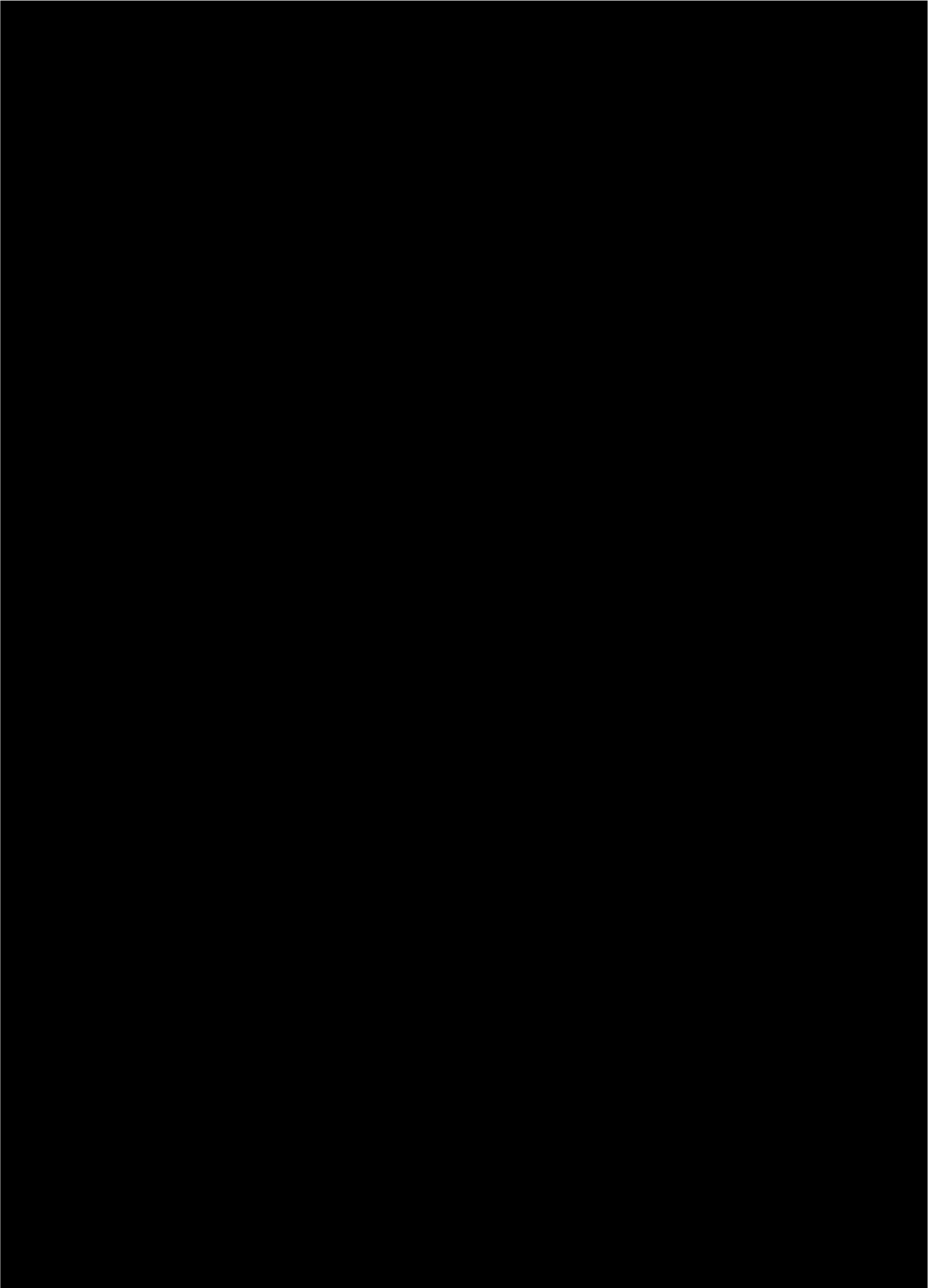
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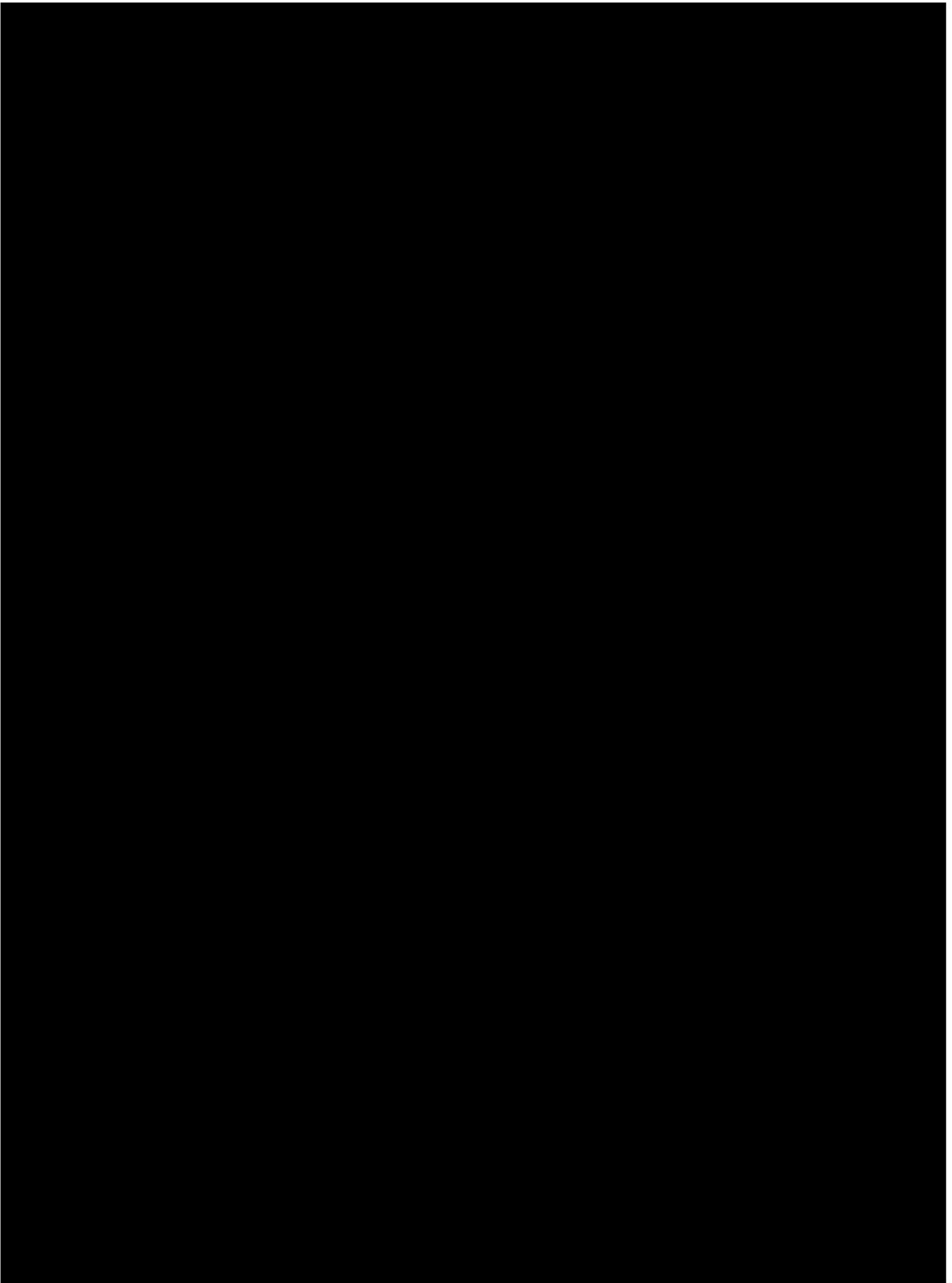
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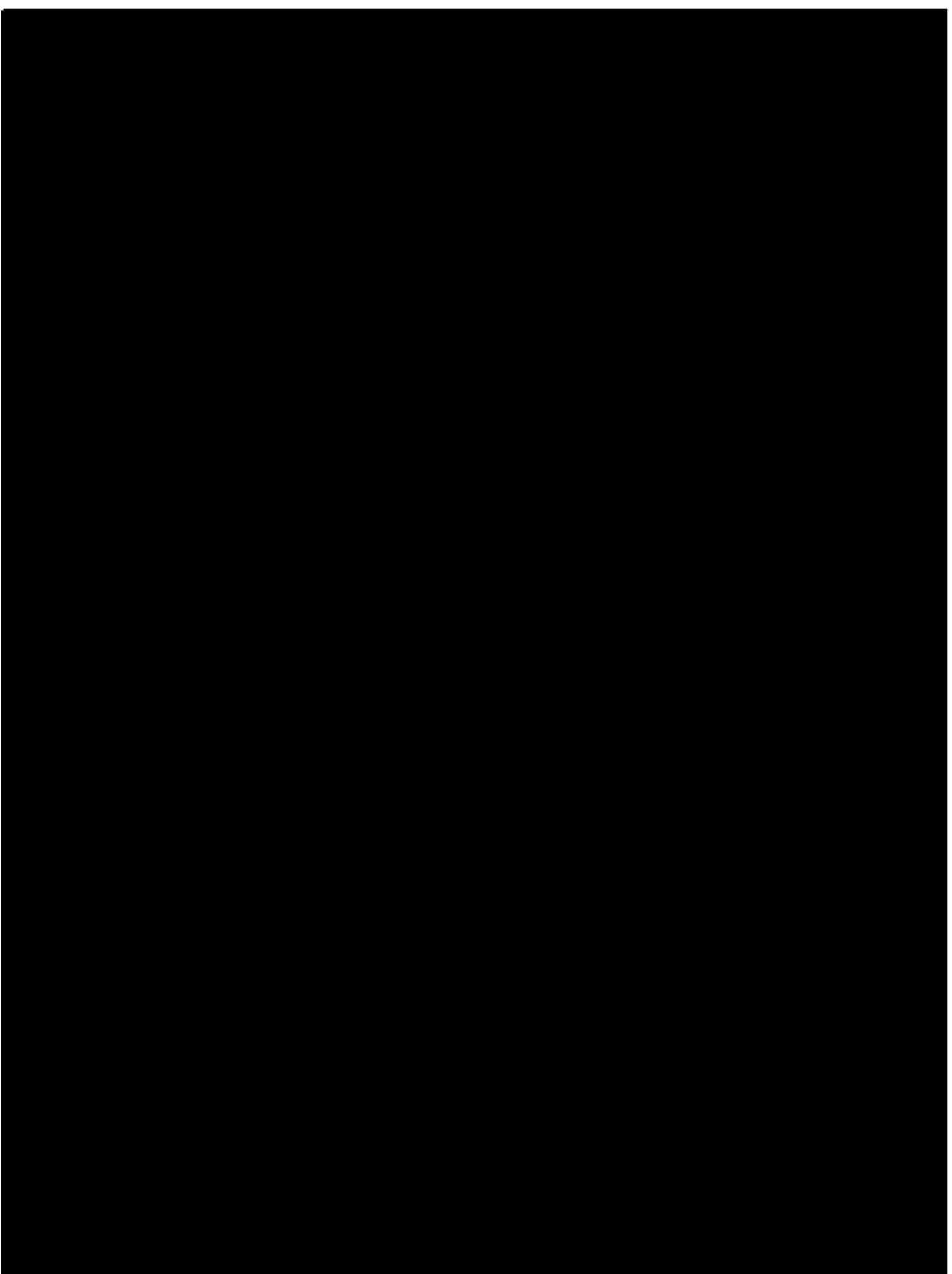
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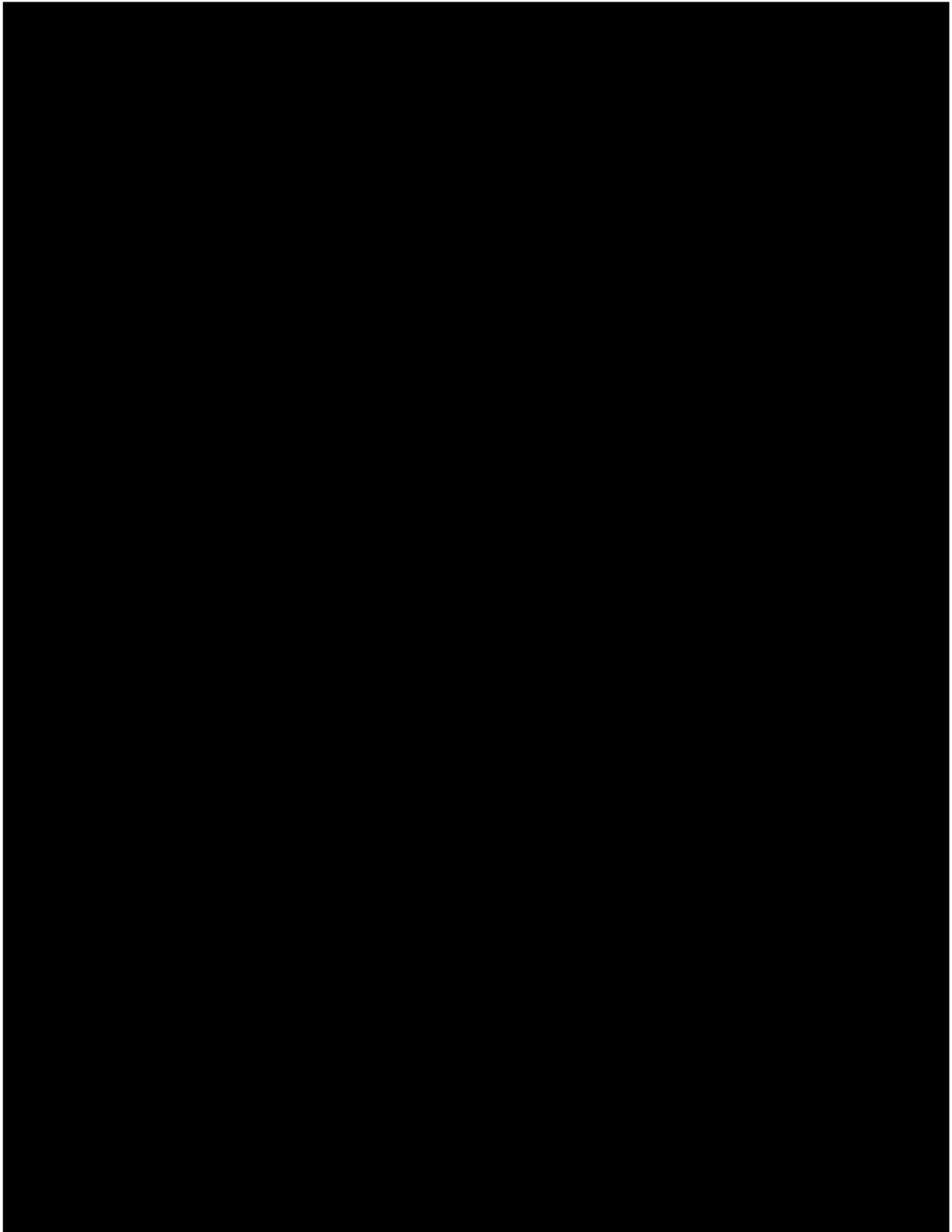


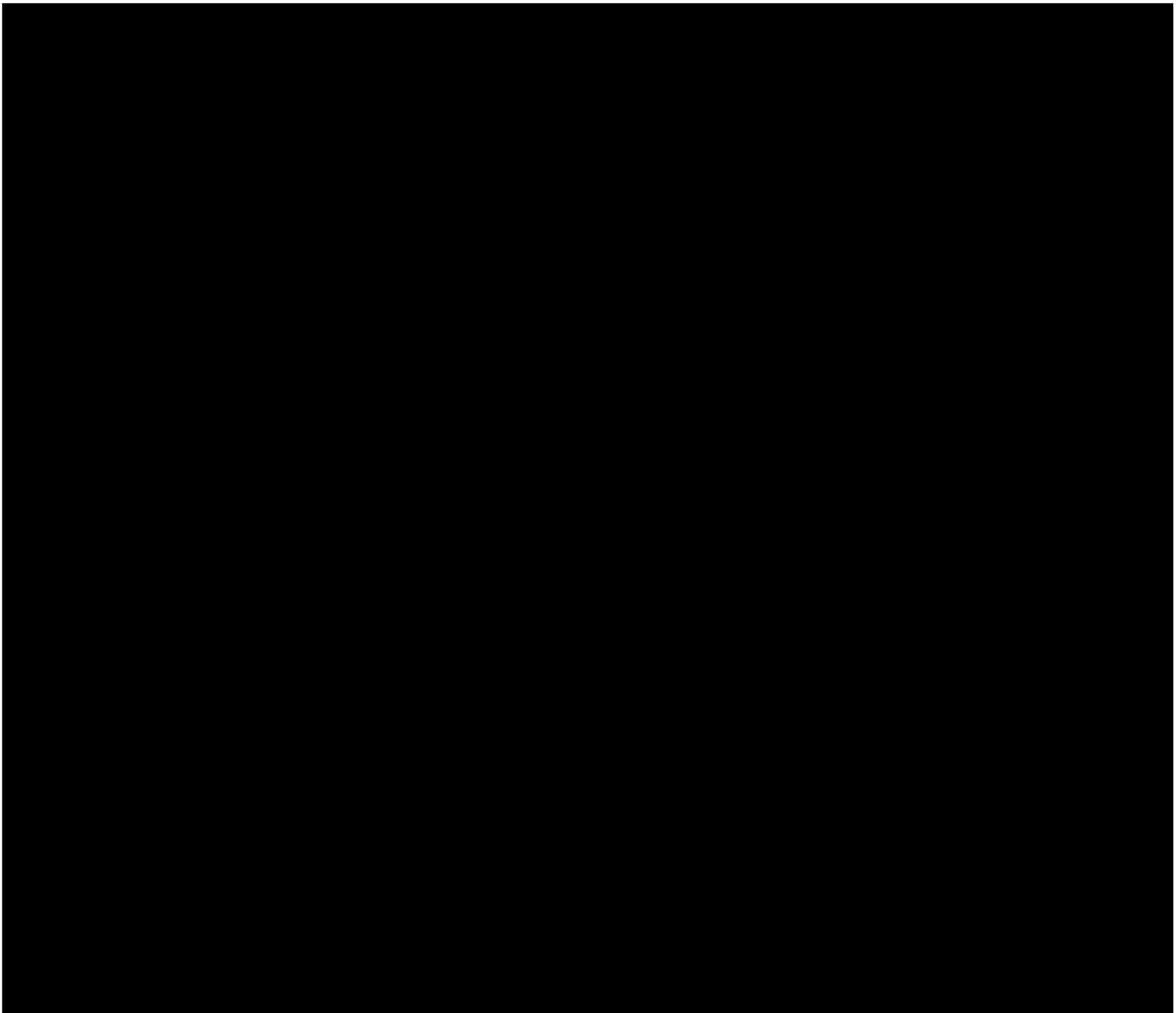


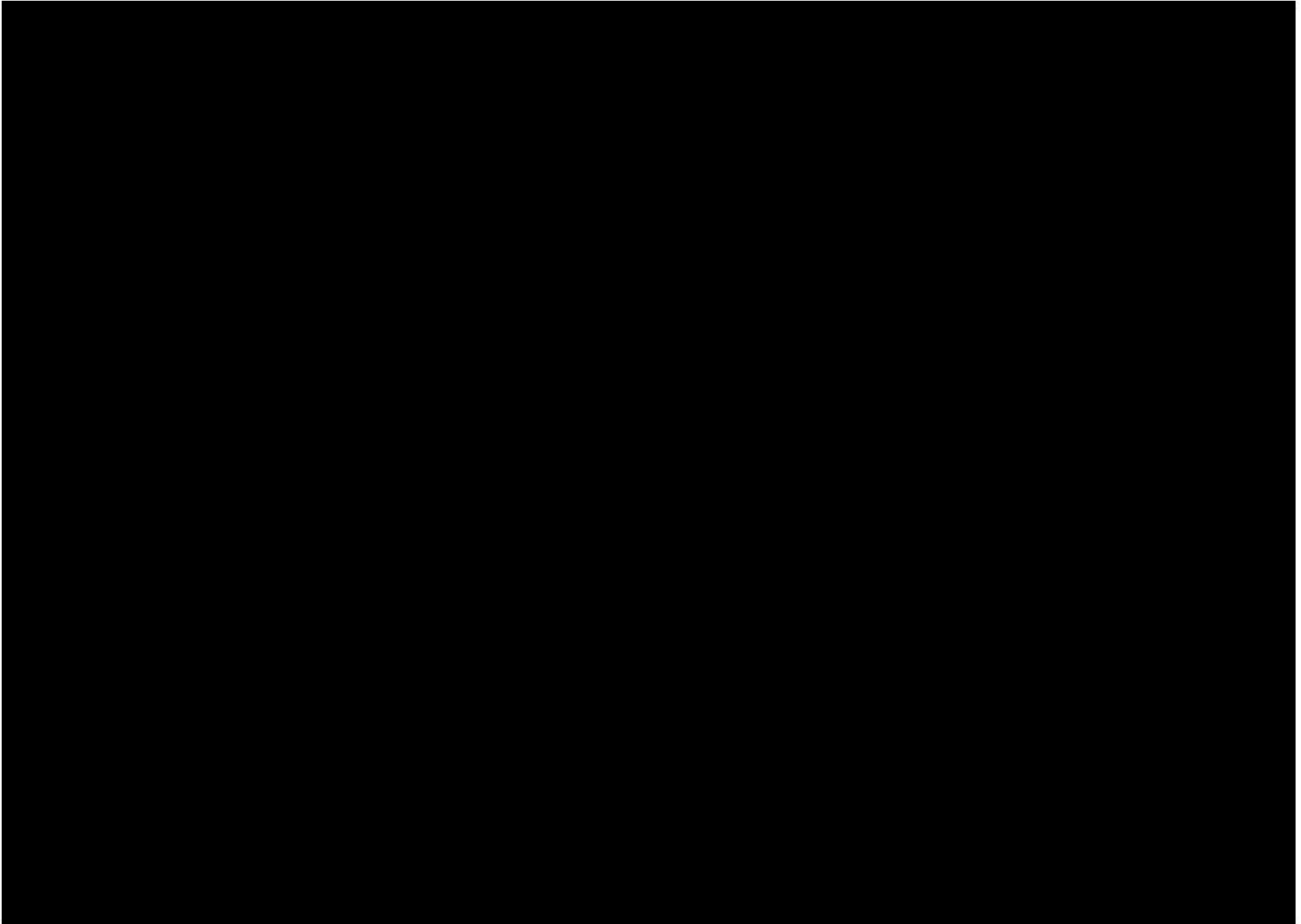


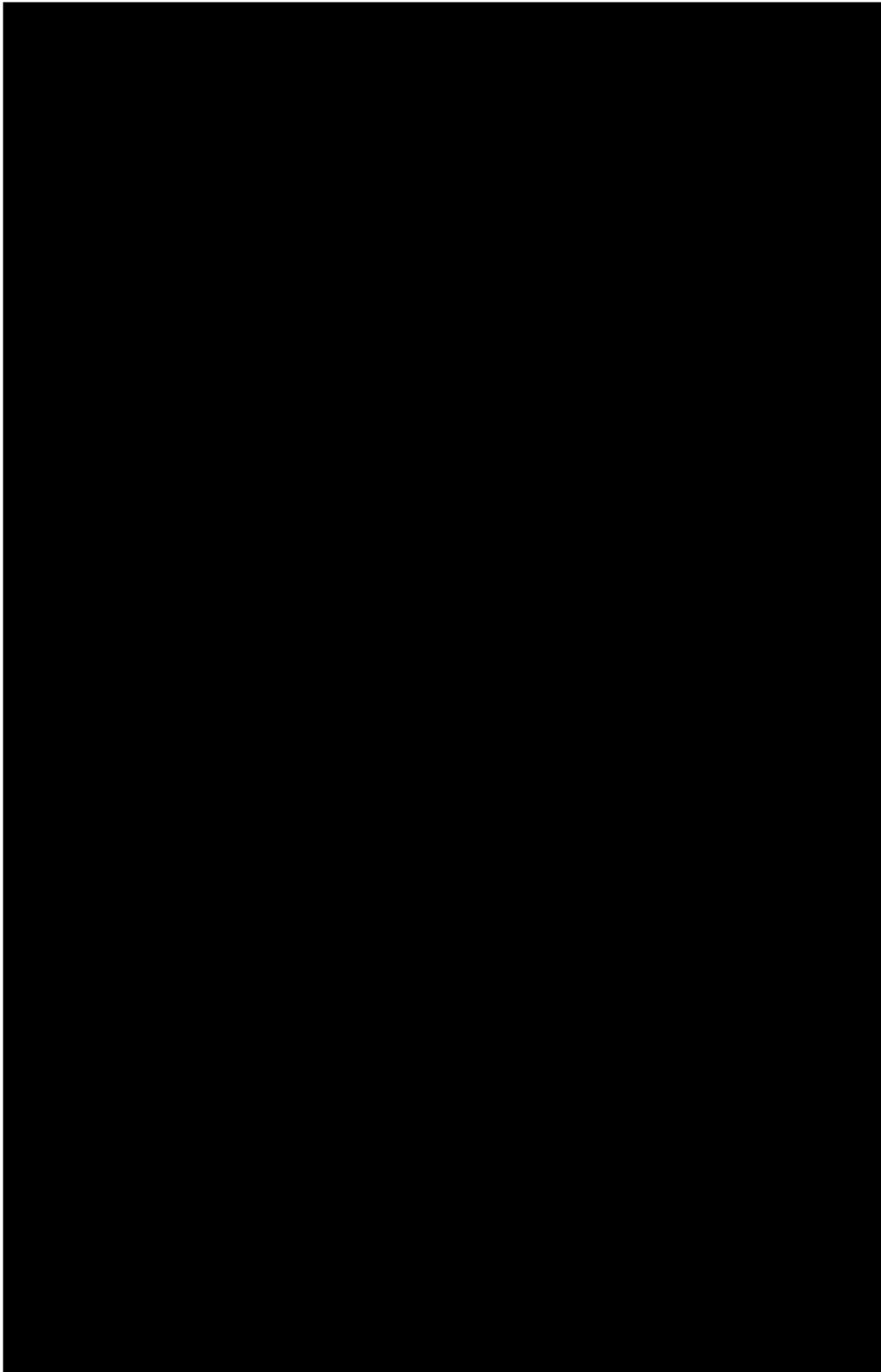












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