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Class VI Injection Well Application
Attachment 03: Financial Assurance Plan
40 CFR 146.85

Dragon Project
Tazewell County, Illinois

22 November 2024

Project Information

Project Name: Dragon

Project Operator: Vault Dragon CCS LP

Project Contact: Scott Jordan, Project Manager
Vault Dragon CCS LP
1125-17th Street
Denver, Colorado 80202
Email: dragon@vault4401.com
Phone: 713-930-4401

Dragon Injection Well 1 (DRG INJ1) location:
Tazewell County, Illinois
Latitude: 40.45742° N
Longitude: 89.74468° W

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List of Acronyms and Abbreviations

ADM	Arthur Daniels Midland
AoR	Area of Review
BHP	bottomhole pressure
$CaCO_3$	calcium carbonate
CCS	carbon capture and sequestration
CCSvt model	CCS stochastic Monte Carlo model
CO_2	carbon dioxide
CTCNA	Computershare Trust Company, National Association
DRG ACZ1	Dragon Above Confining Zone Monitoring Well 1
DRG INJ1	Dragon Injection Well 1
DRG OBS1	Dragon Deep Observation Well 1
DRG MA1	Dragon Mahomet Aquifer Monitoring Well 1
EPA	Environmental Protection Agency
ERR	emergency and remedial response
IEc	Industrial Economics, Incorporated
MCLs	maximum contaminant levels
MIT	mechanical integrity testing
N/A	not applicable
O&G	oil and gas
OCC	Office of the Comptroller of the Currency
P&A	plugging and abandonment
PAH	polycyclic aromatic hydrocarbons
PBI	proprietary business information
pH	acidity or alkalinity measurement
PHMSA	Pipeline and Hazardous Materials Safety Administration
PISC	Post-injection Site Care
PNL	pulsed neutron logging
RO	reverse osmosis
SAFE CCS Act	Safety and Aid for the Environment in Carbon Capture and Sequestration
Act UIC	Underground Injection Control
US	United States
USD	US dollars
USDW	underground source of drinking water

1. Introduction

Consistent with the requirements set forth in 40 CFR 146.85 and the guidance set forth by the United States (US) Environmental Protection Agency (EPA), this document summarizes the financial assurances proposed by Vault Dragon CCS LP for the Dragon Project including the attendant type and value of financial assurance each of the following carbon capture and sequestration (CCS) activities (EPA, 2011).

Vault Dragon CCS LP has prepared this document to summarize the required financial assurance obligations, method of fulfilling, and estimation of costs. Table 1 summarizes the estimated costs of the four financial assurance components. The entirety of the corrective action, injection well plugging and abandonment (P&A), site closure, and emergency and remedial response (ERR) related activity costs will be fully funded prior to drilling any of the project wells.

Table 1: Summary of estimated financial assurances by CCS activity.

Component of Financial Assurance (nominal 2024 dollars unless otherwise noted)	Amount of Funding
Corrective action	$517,630
Injection well P&A	$334,350
Post-injection Site Care (PISC) and Site Closure	$4,193,041
ERR	$2,218,840
Total	**$7,263,861**

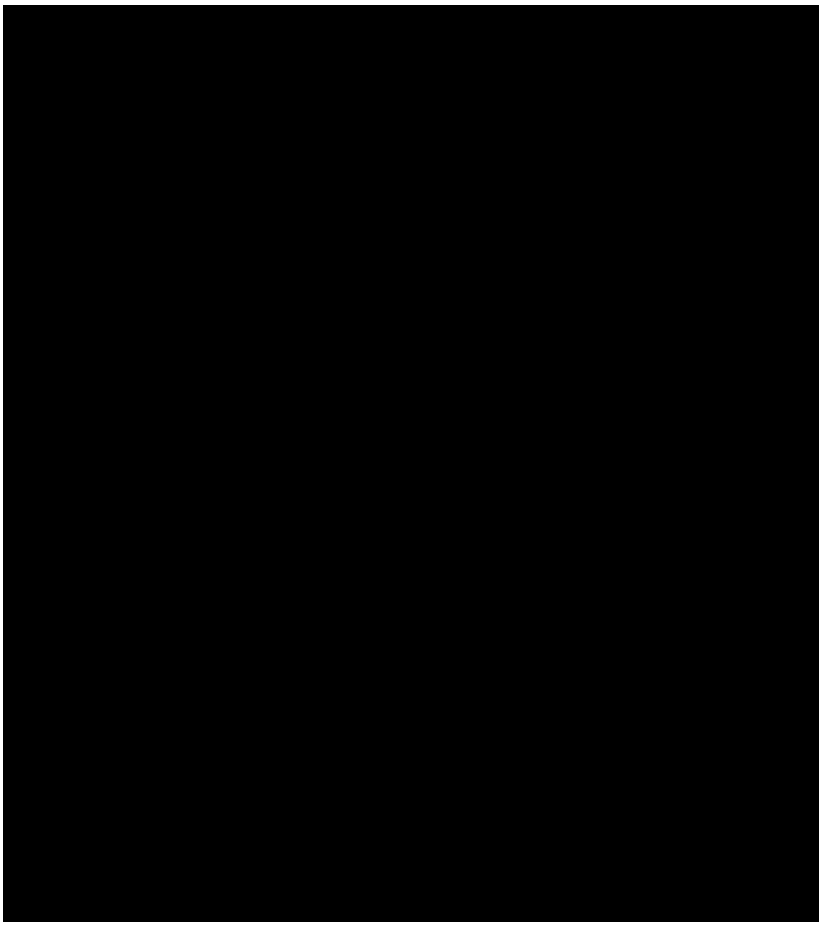
Consistent with the EPA's July 2011 Guidance, Vault Dragon CCS LP offers its financial assurance demonstration with the understanding that the financial instruments referenced herein will be updated and verified over time, as required by the EPA. Specifically, prior to beginning each CCS activity, Vault Dragon CCS LP will ensure that the face value of all attendant financial assurance instruments is fully funded and sufficient to cover the required costs of the CCS activity.

2. Corrective Action

The estimated financial assurance value for corrective action consists of two components:

1. The cost to remediate any wells within the Area of Review (AoR) that penetrate the confining zone, and
2. The cost to reassess the AoR.

There are no wells within the AoR that currently require corrective action, as no wells within the AoR penetrate the confining zone (Attachment 02: AoR and Corrective Action Plan, 2024). As such, there is no immediate cost associated with remedial action for wells that penetrate the confining zone within the AoR.



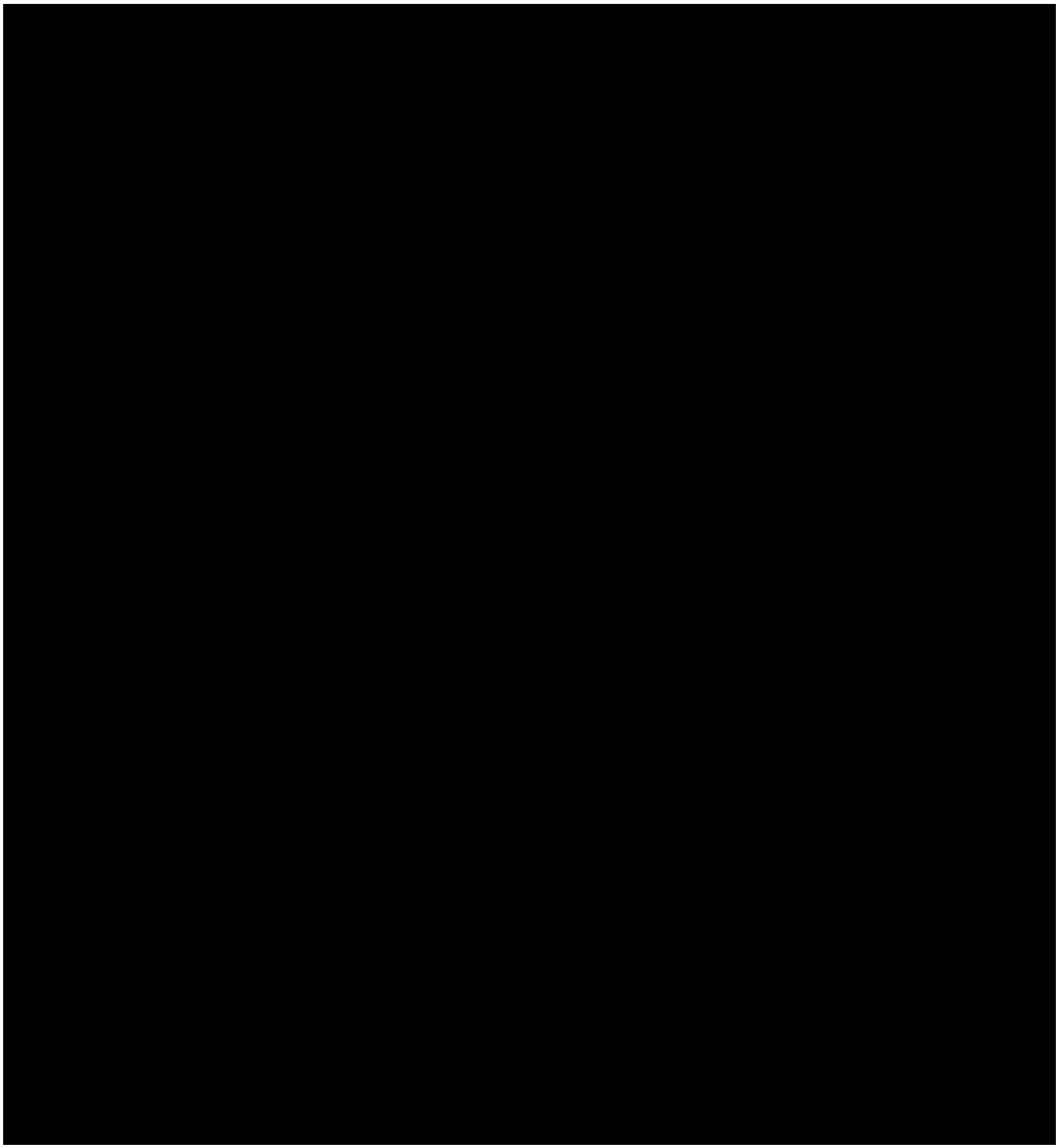
3. Injection Well P&A

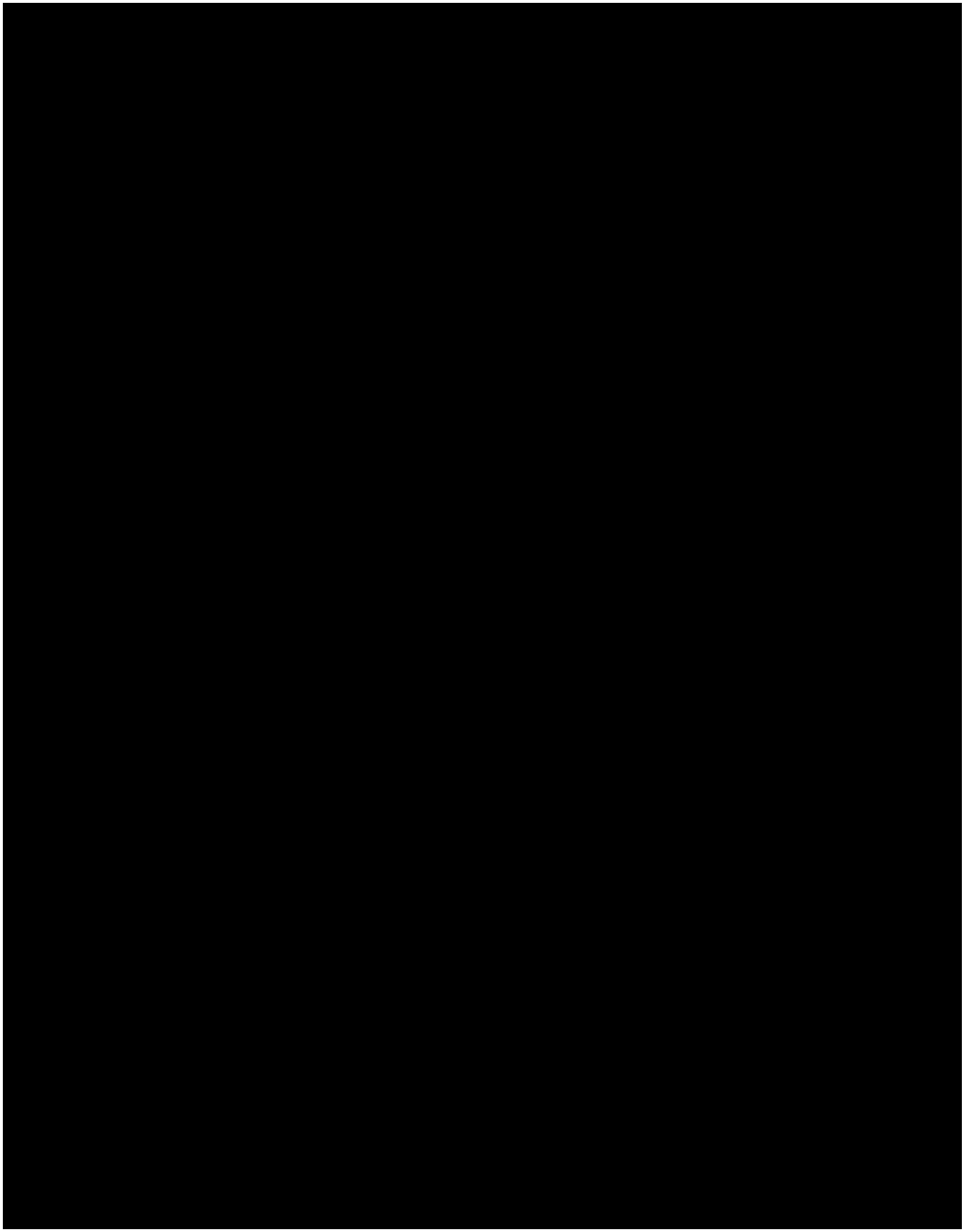
Attachment 07: Injection Well Plugging Plan, (2024) presents the plan to plug the injection well. To summarize the P&A Program:

- Mechanical integrity logging will be performed prior to field mobilization or other P&A activities.
- Carbon dioxide (CO_2)-resistant materials and cement will be used to plug the storage interval of the well.
- The well will be plugged using the balanced plug method throughout all sections of the well.

4. PISC and Site Closure

Attachment 08: Post-injection Site Care and Site Closure, (2024) summarizes all activities that will occur following the conclusion of the injection activities. Vault Dragon CCS LP does not plan to pursue an alternative PISC period.





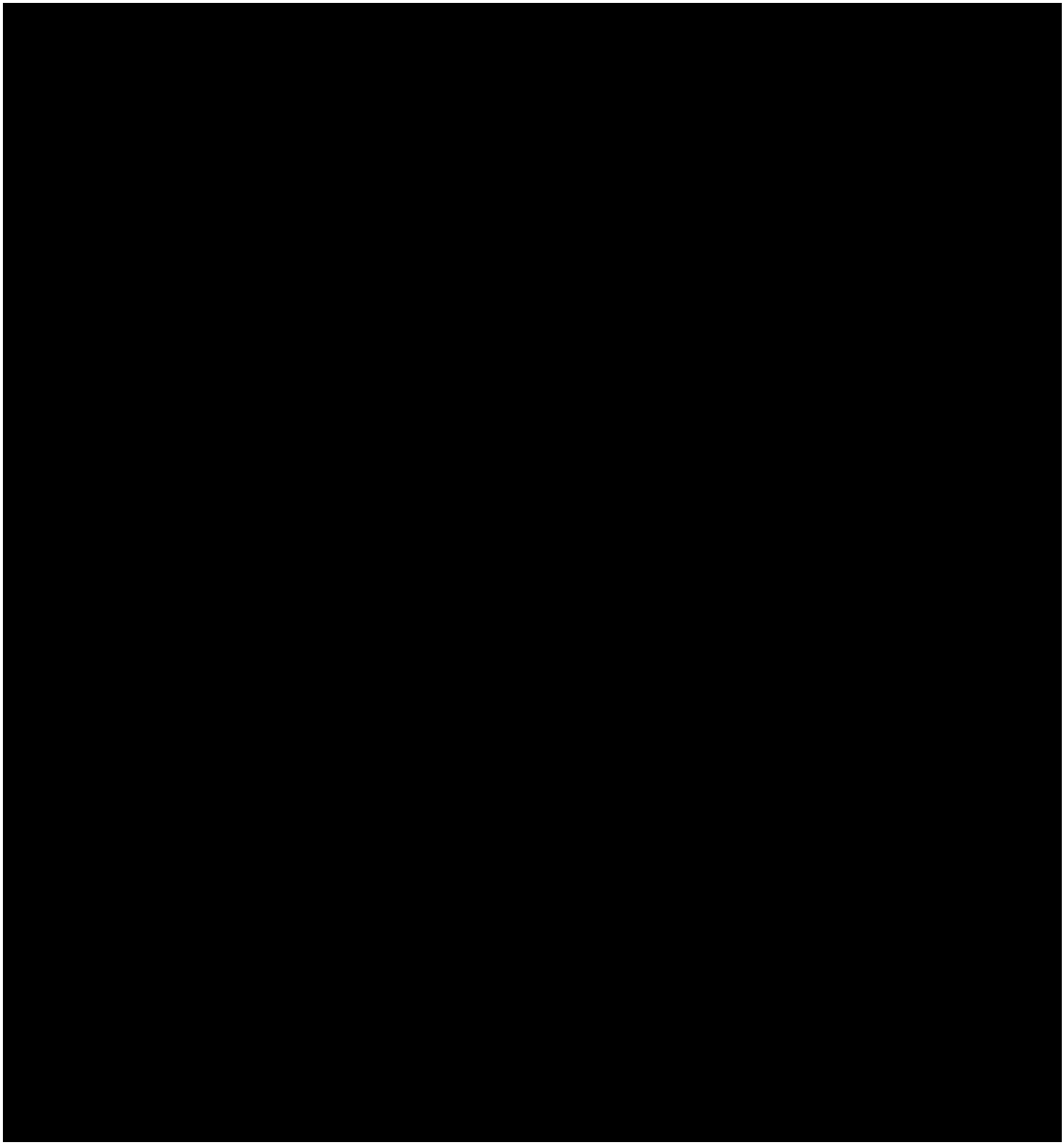
4.2. Site Closure

The DRG OBS1 and DRG ACZ1 will be plugged in a manner consistent with applicable EPA rules and regulations. Details on procedures, techniques, and materials used to plug each well are provided in the Site Closure section of the PISC (Attachment 08: Post-injection Site Care and Site Closure, 2024). Note that the cost for cement has been scaled using a quote for a separate project.

5. Emergency and Remedial Response Costs

This section summarizes estimates of ERR costs for the Vault Dragon CCS LP's Dragon Project. The full report can be referenced in Attachment 3E. These estimates are consistent with the US EPA's Underground Injection Control (UIC) Program's Class VI regulatory requirements and are intended to inform the face value of financial assurances necessary to satisfy ERR actions.

Per 40 CFR 146.85(6)(c), during the active life of the CCS project, the cost estimate for ERR should be updated no less than annually to reflect changes in inflation. In addition, within 60 days of any amendments to the ERR plan, Vault Dragon CCS LP will provide the Director written updates of cost estimate, including without limitation, any amendments that may arise as a result of any event that necessitates ERR during the life of the CCS project through site closure.

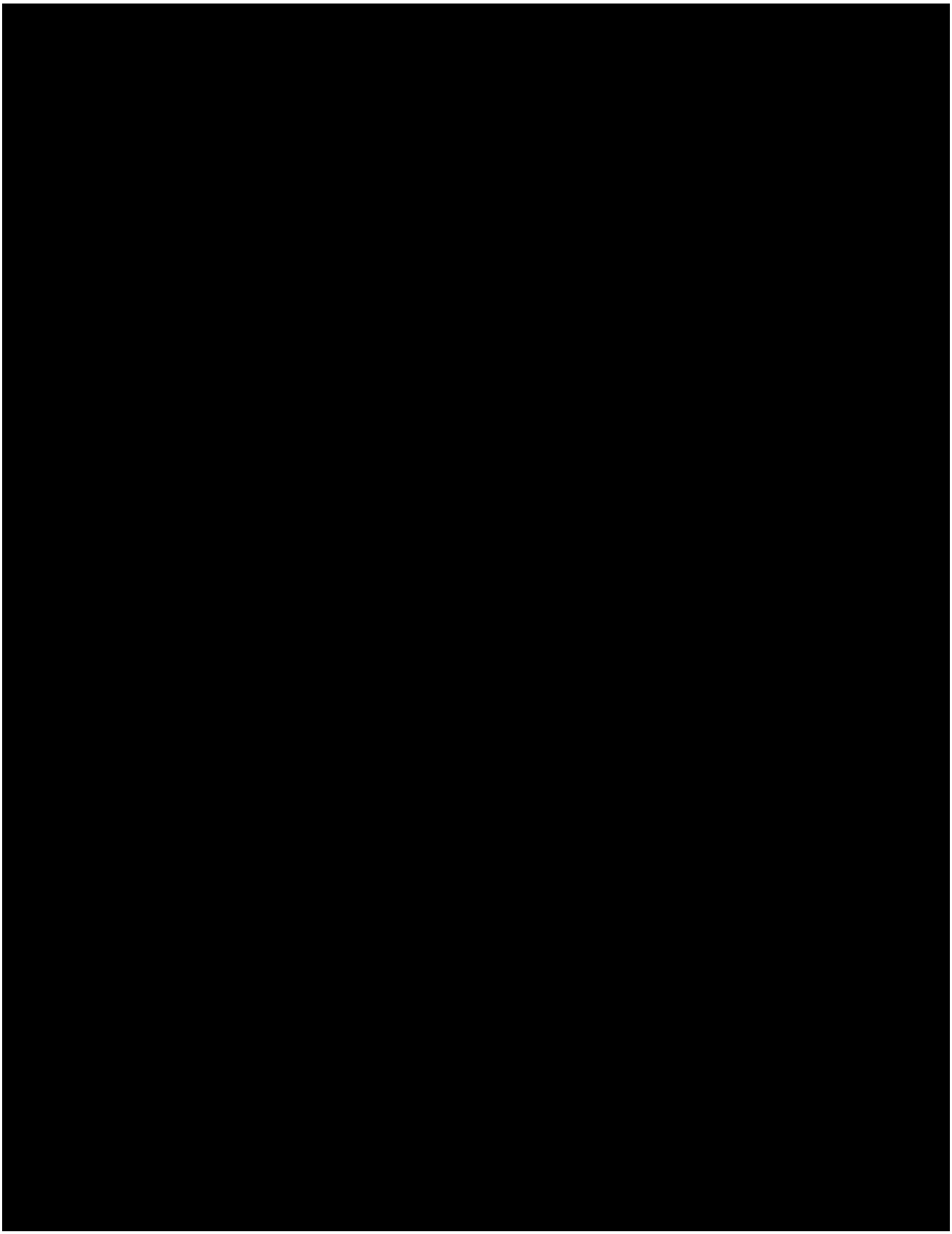


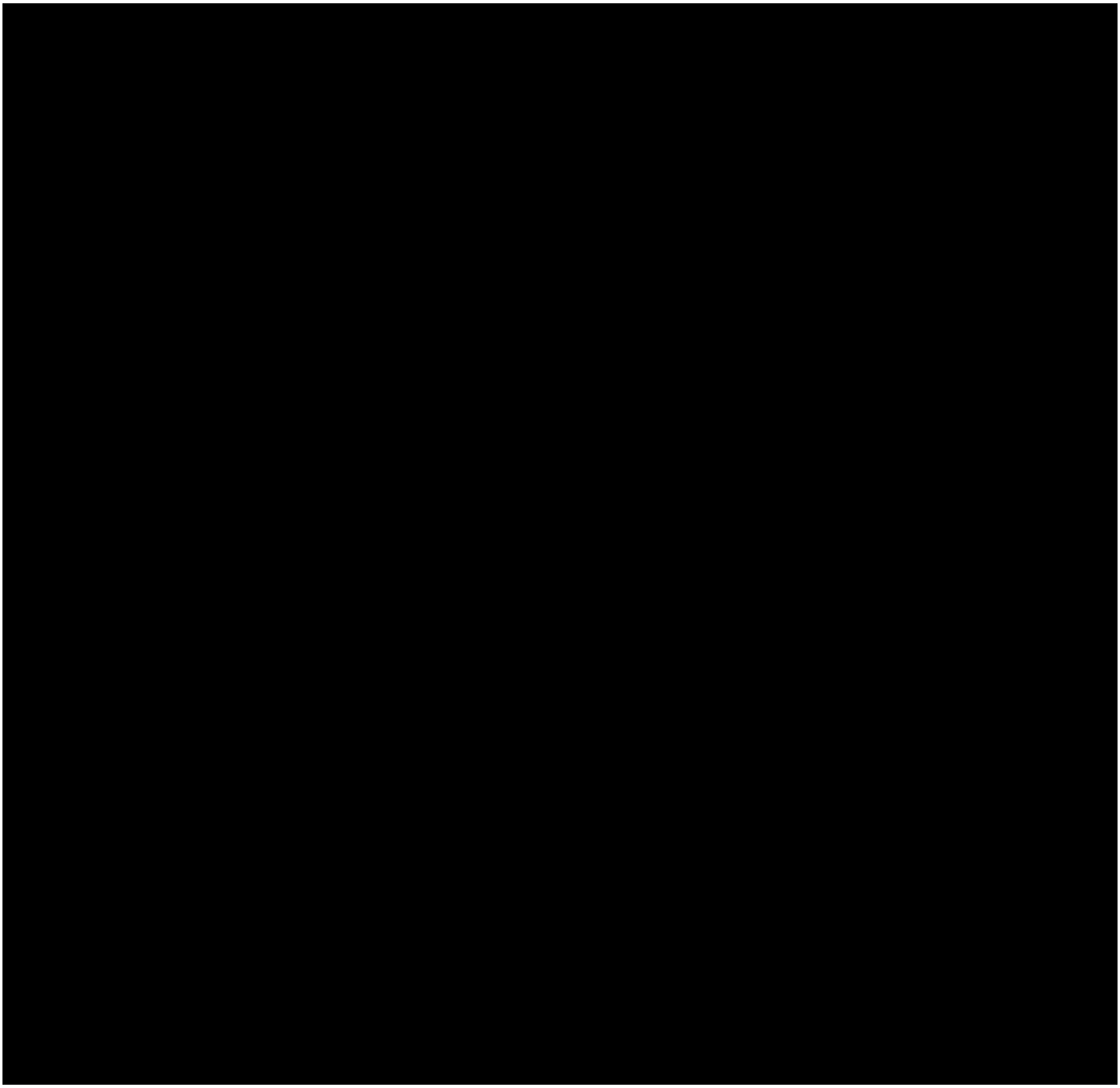
5.1. USDW Non-endangerment

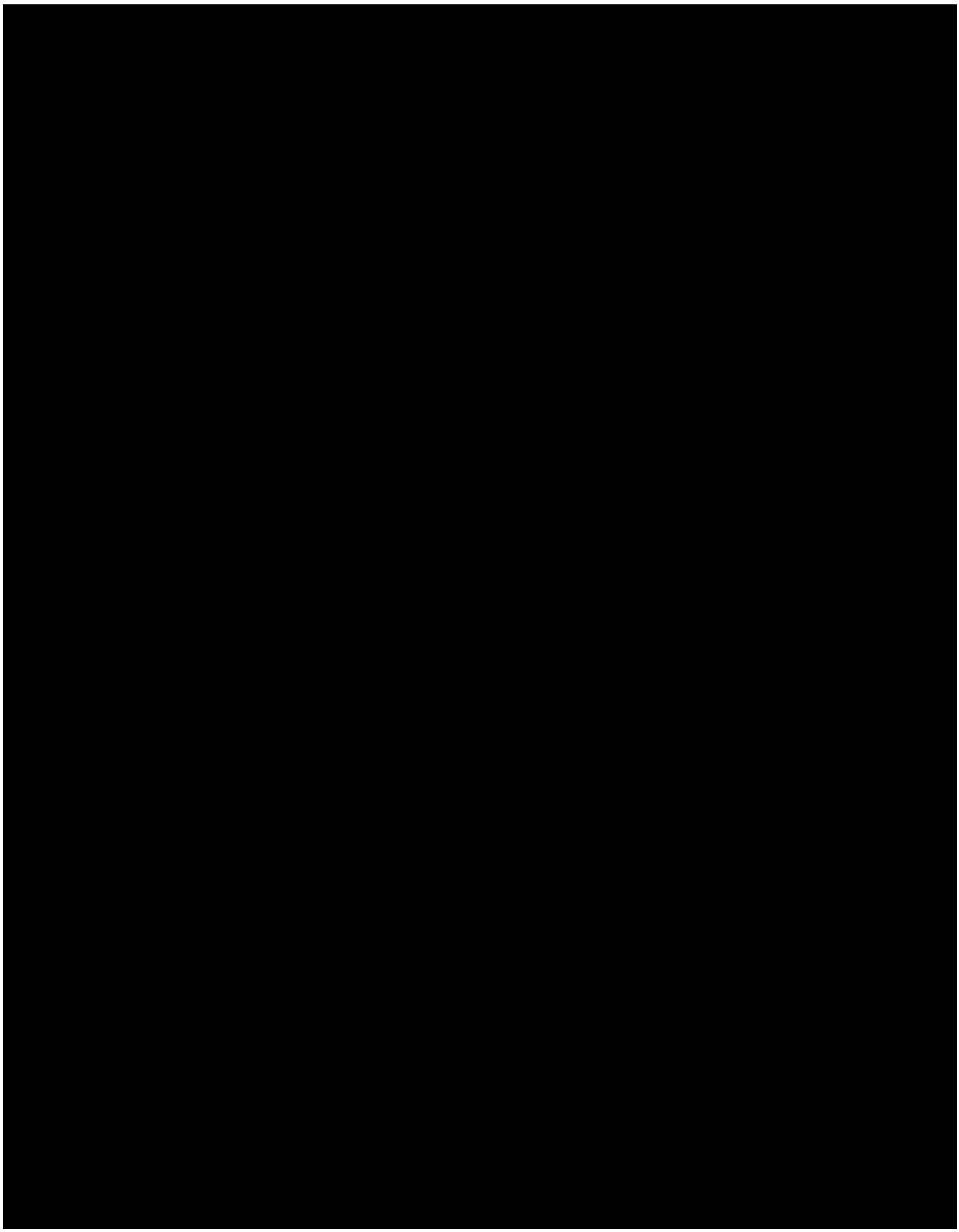
The Safe Drinking Water Act was established to protect the quality of drinking water in the United States. The law focuses on all above ground and underground sources of water designed for drinking use (42 U.S.C. §300f-300j-26). The concept of 'endangerment' (as it relates to the UIC Program) is defined further in the federal code of regulations, which states: "No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons." ("EPA Drinking Water Standards")

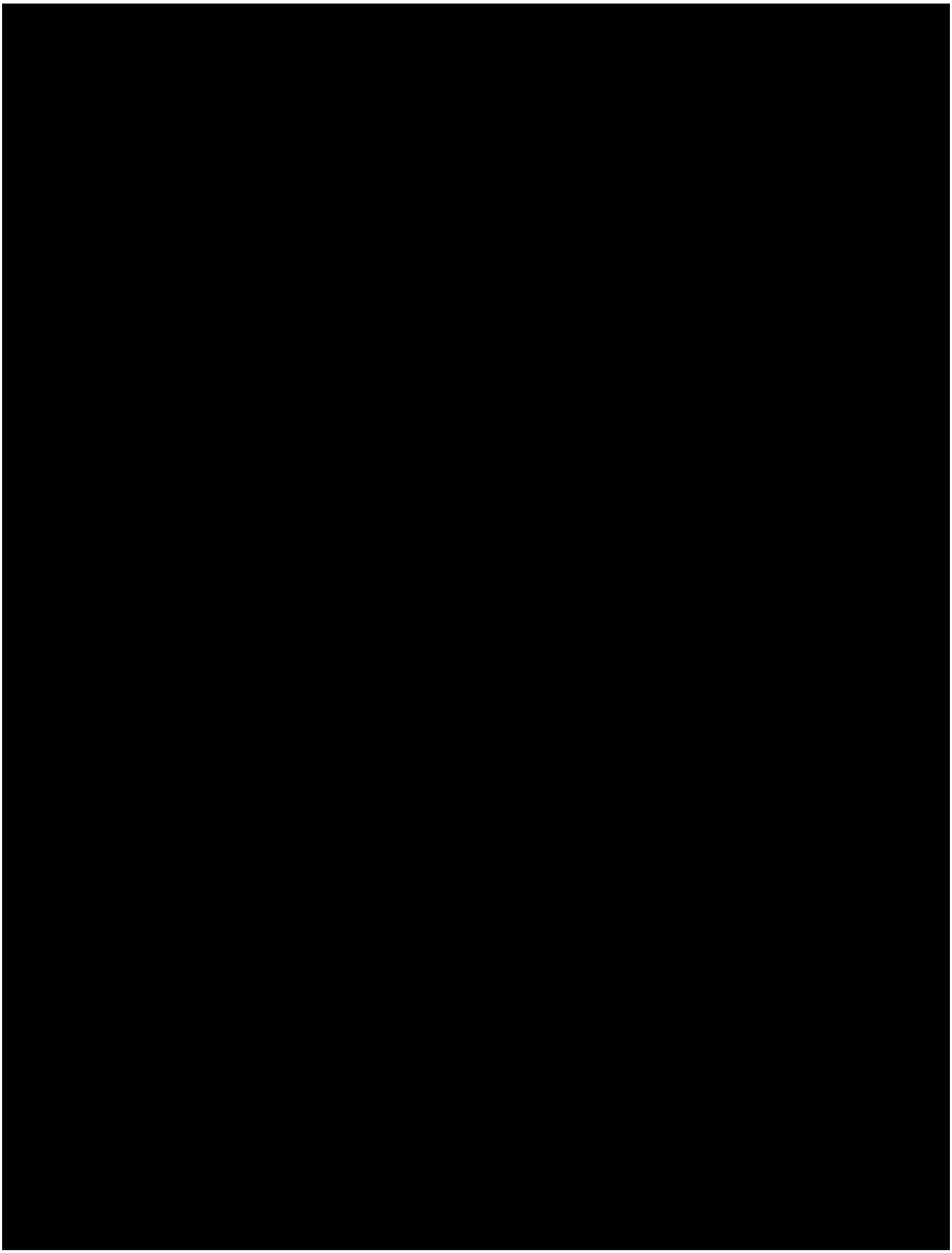
National Primary Drinking Water Regulations establish mandatory water quality standards for drinking water contaminants (US EPA). These standards are referred to as maximum contaminant levels (MCLs), which are intended to protect the public against consumption of drinking water contaminants that present a risk to human health. An MCL is the maximum allowable amount of a contaminant in drinking water delivered to the consumer.

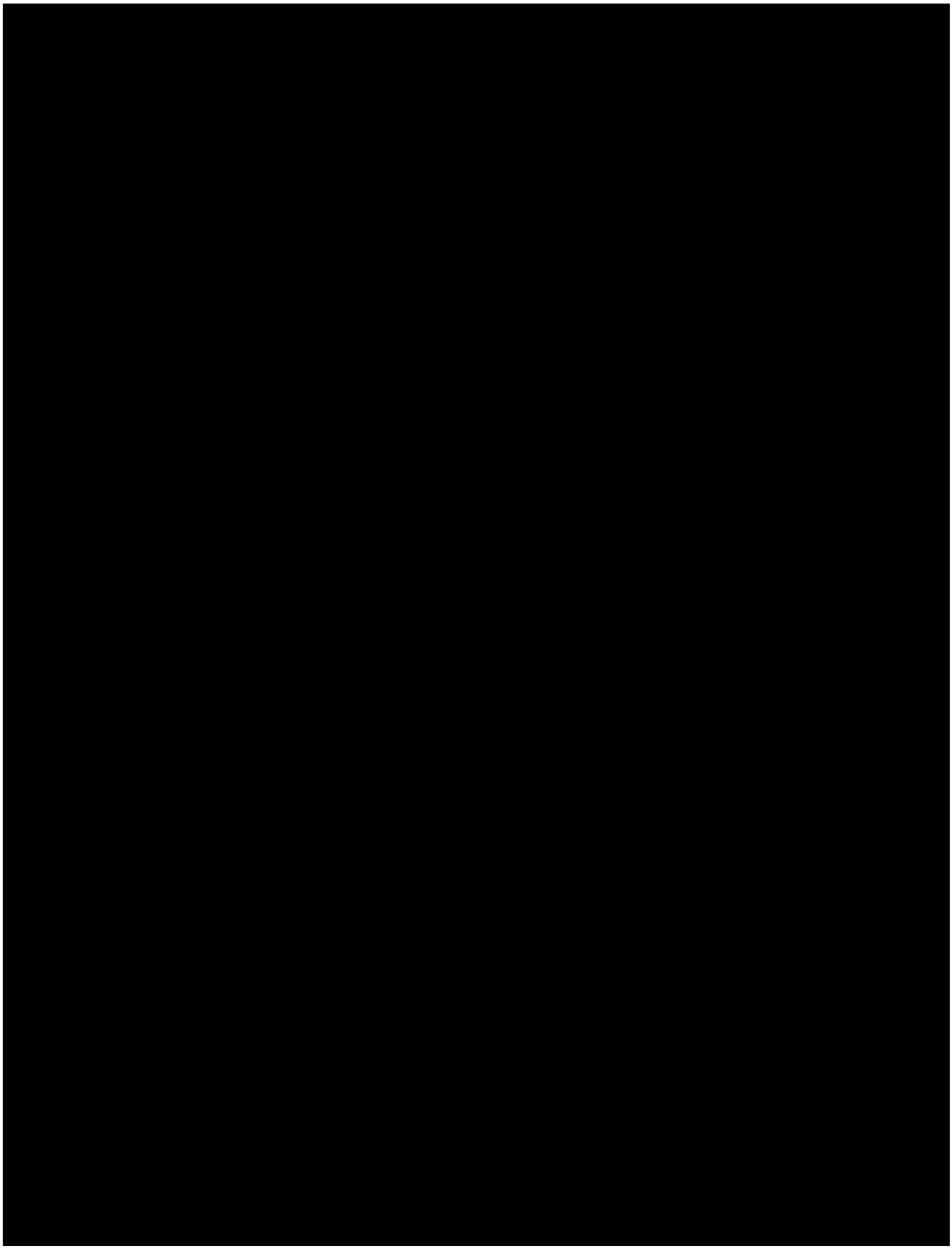
National Secondary Drinking Water Regulations set non-mandatory water quality standards for 15 contaminants. These standards are offered as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the secondary maximum contaminant level (U. S. Environmental Protection Agency).











[redacted]

5.5. *Duration of Injection and PISC Activities*

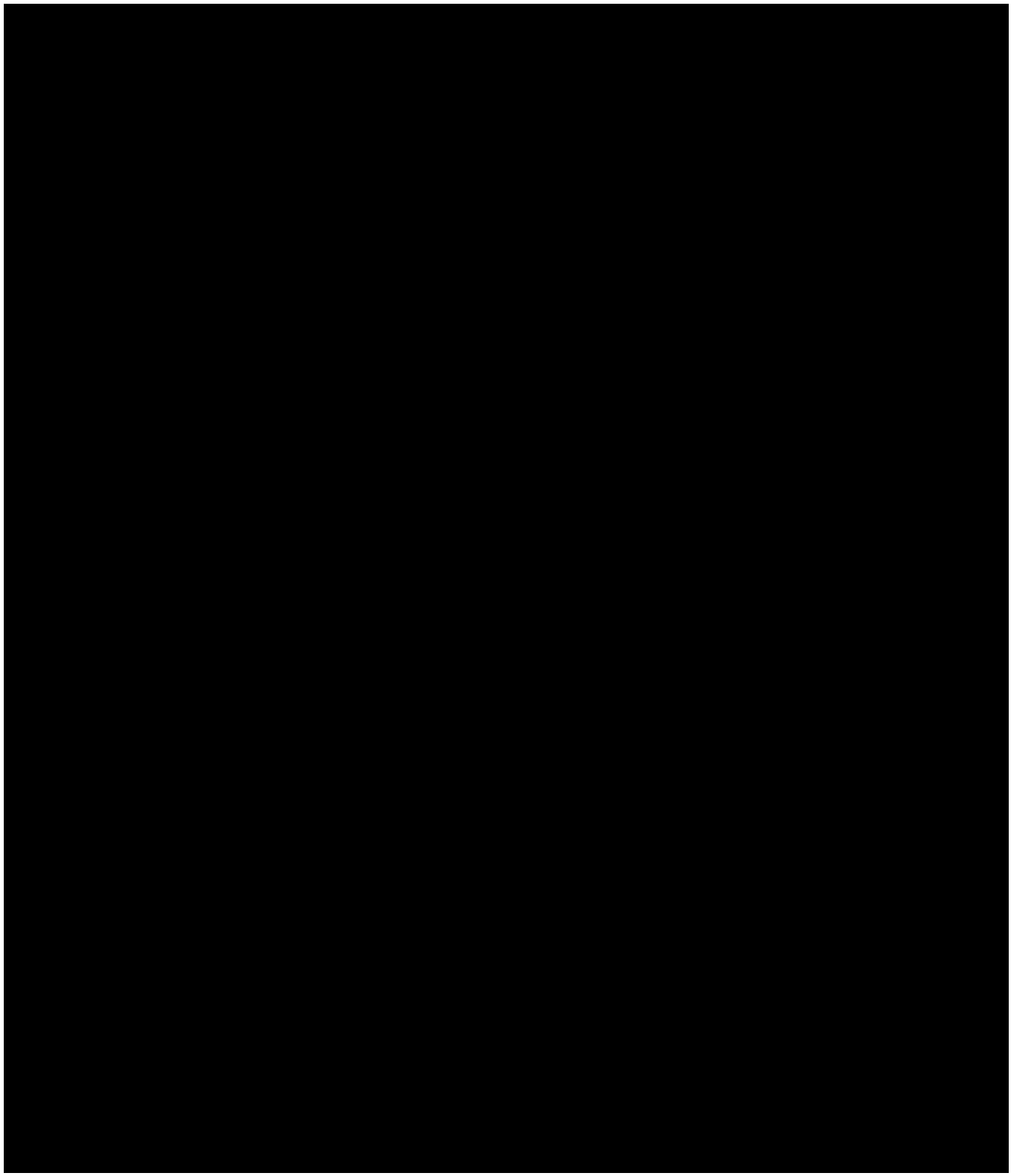
Vault Dragon CCS LP cost estimation protocol reflects a 12-year CO_2 injection period and a 50-year PISC period. Consistent with these assumptions, [redacted]

5.6. *Cost Distribution if a Release Occurs*

[redacted]

5.6.1. Well Repair Cost Distributions

[redacted]



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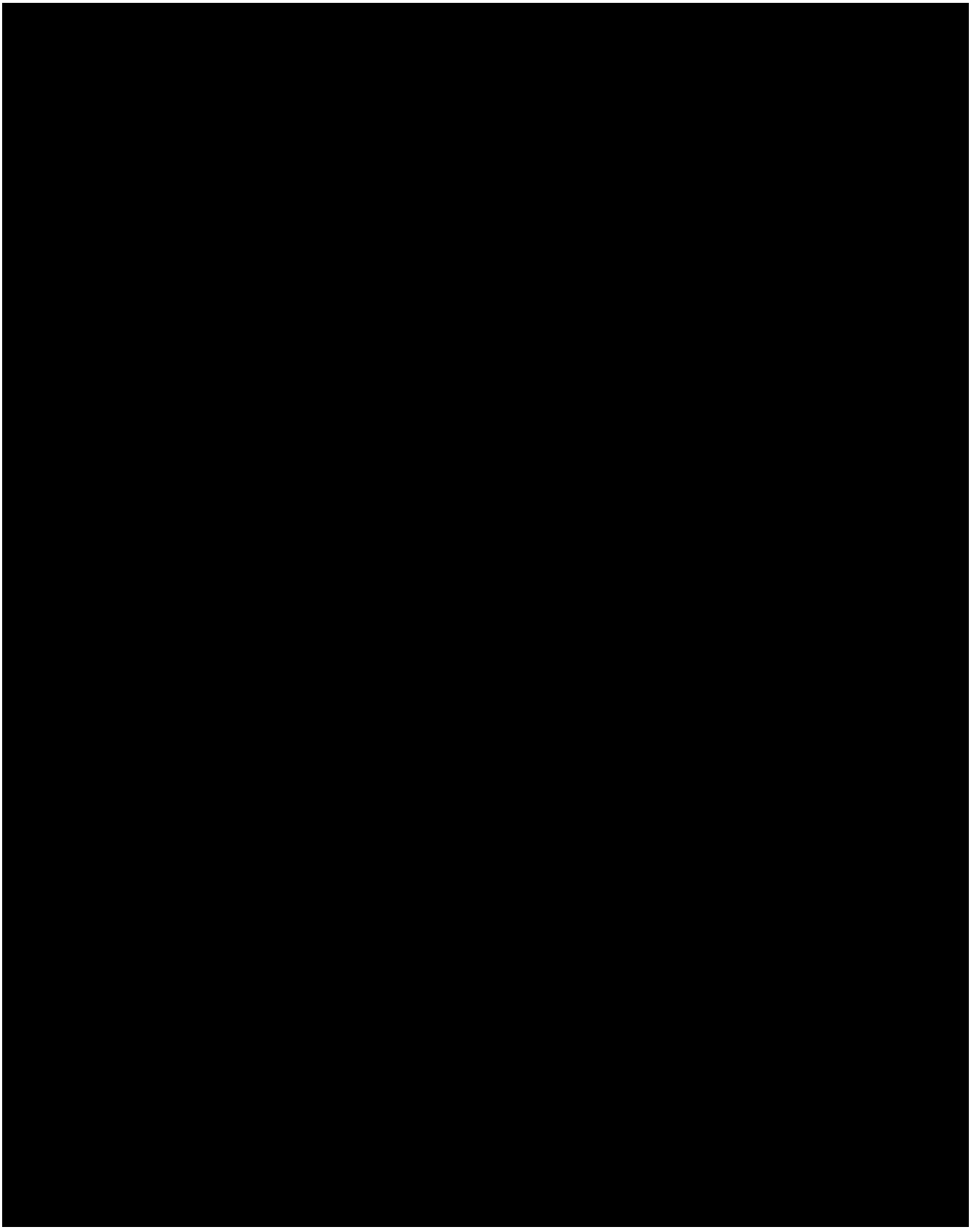
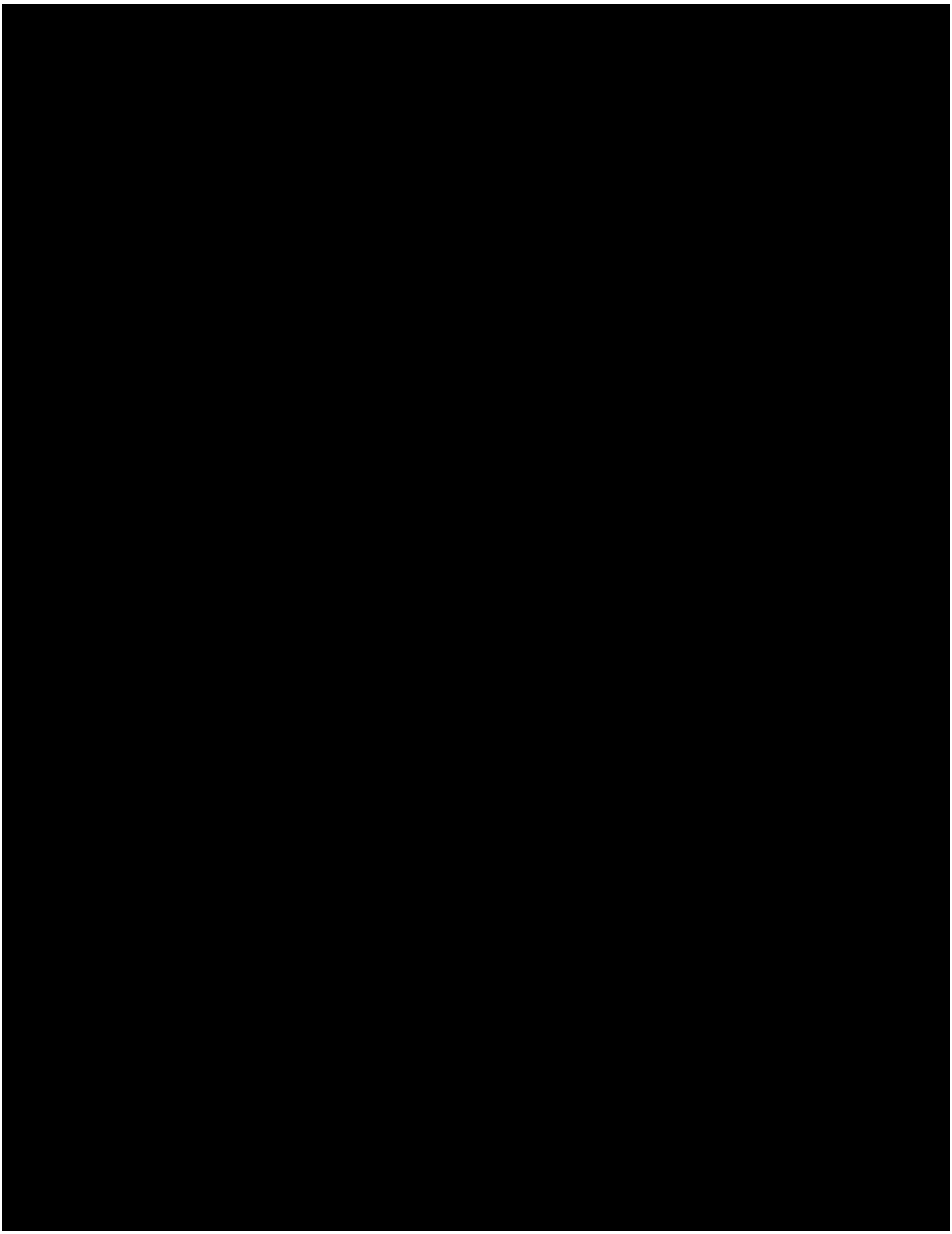
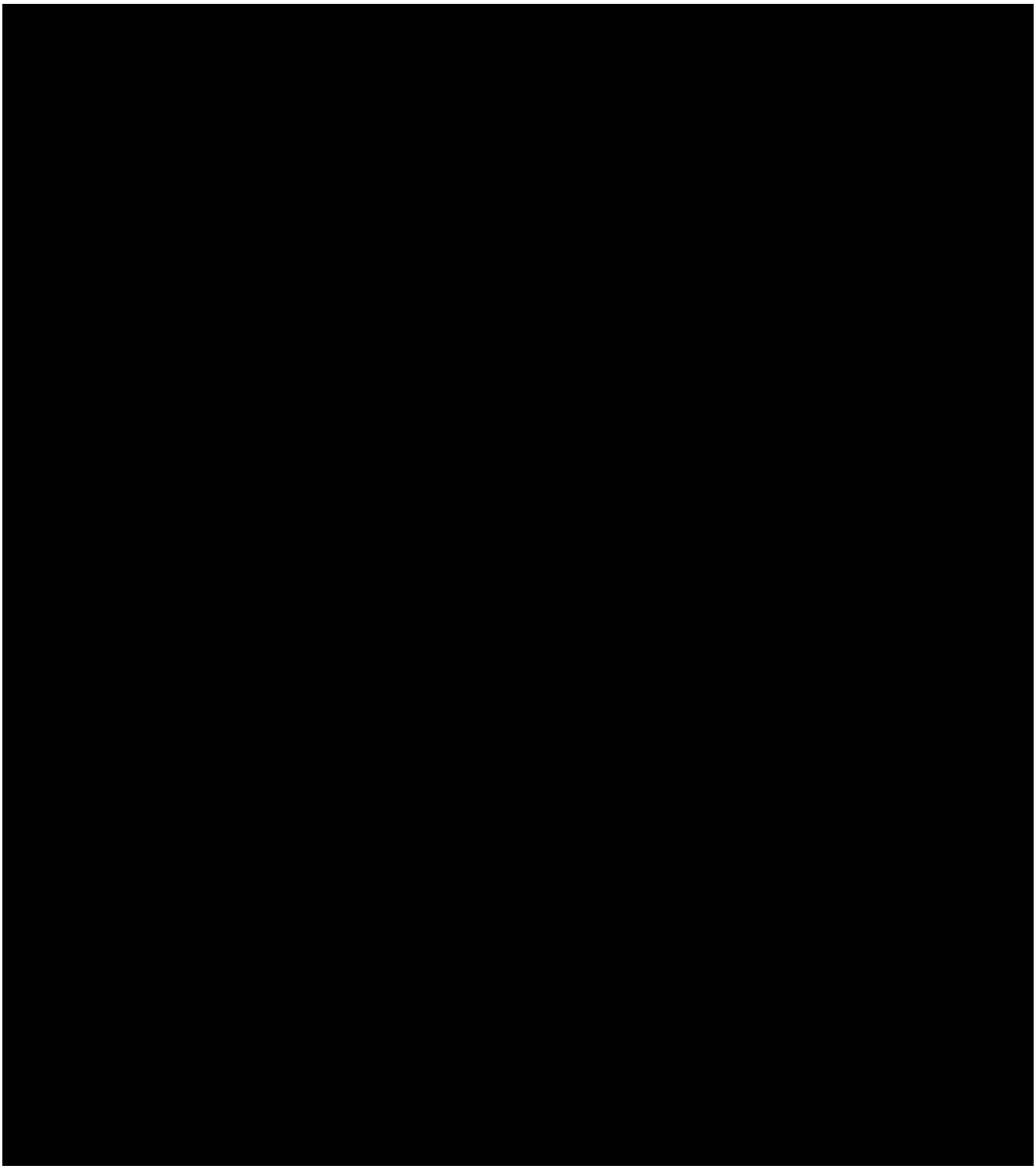
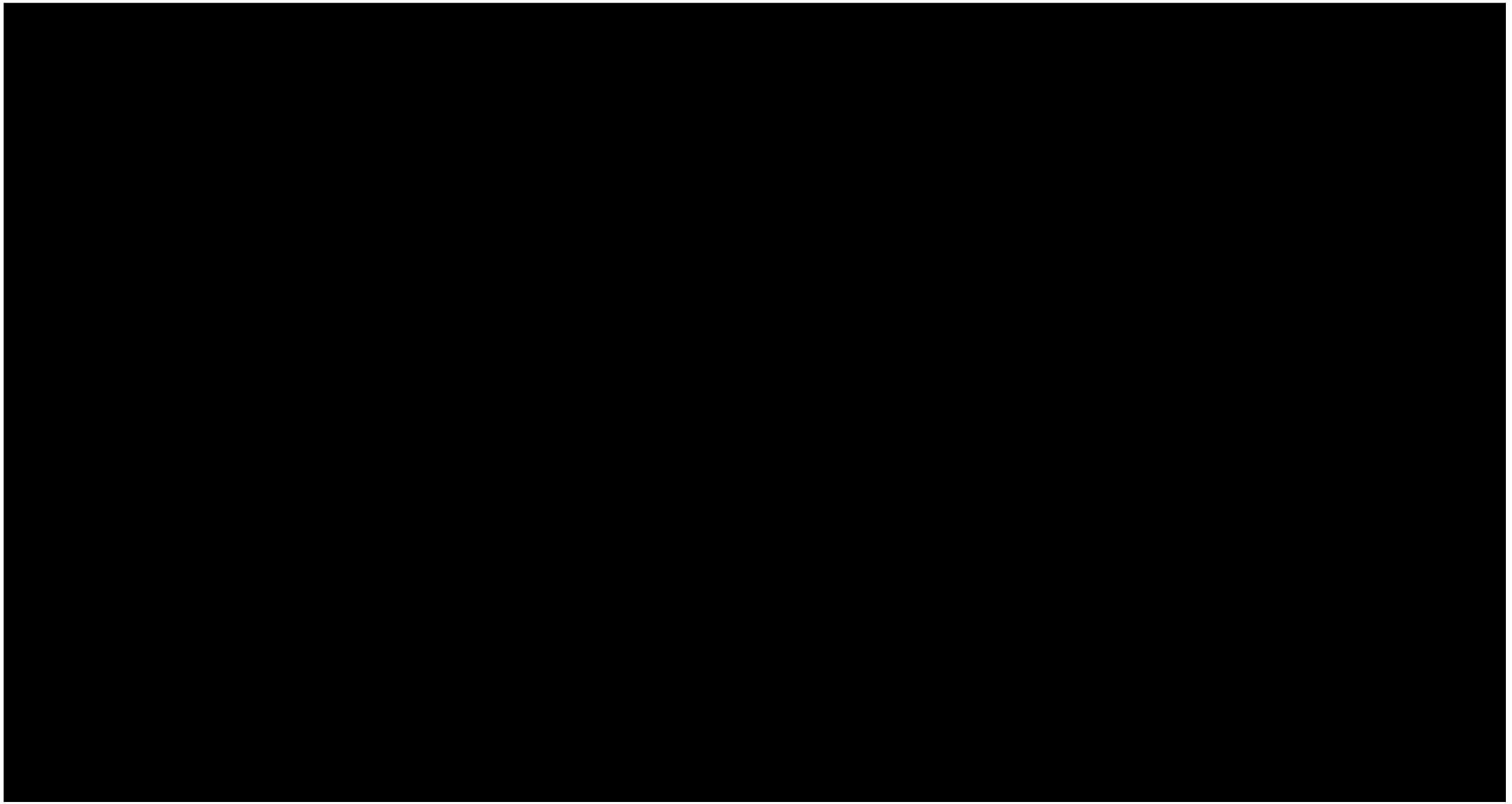




5.7. ERR Cost Estimation Results

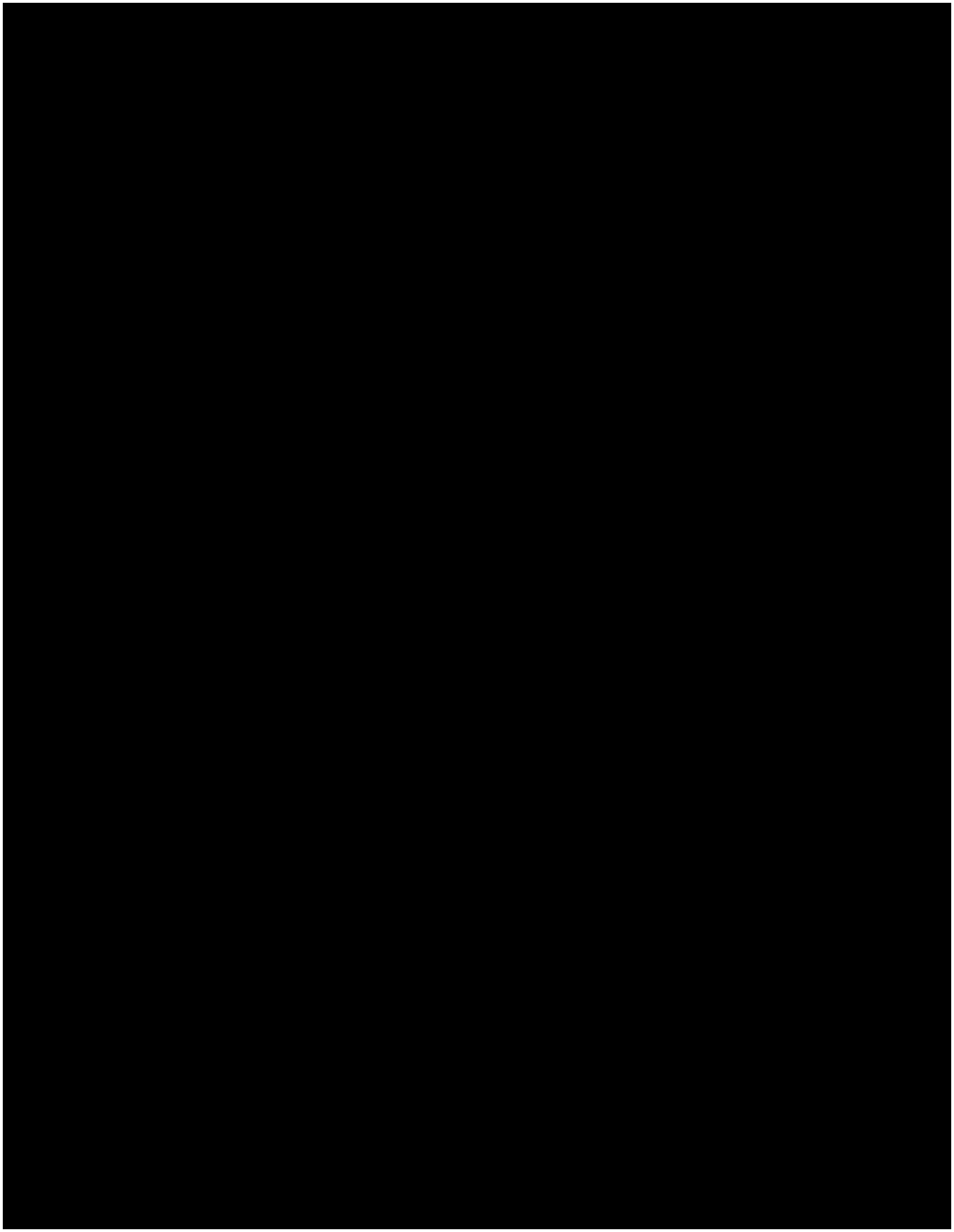


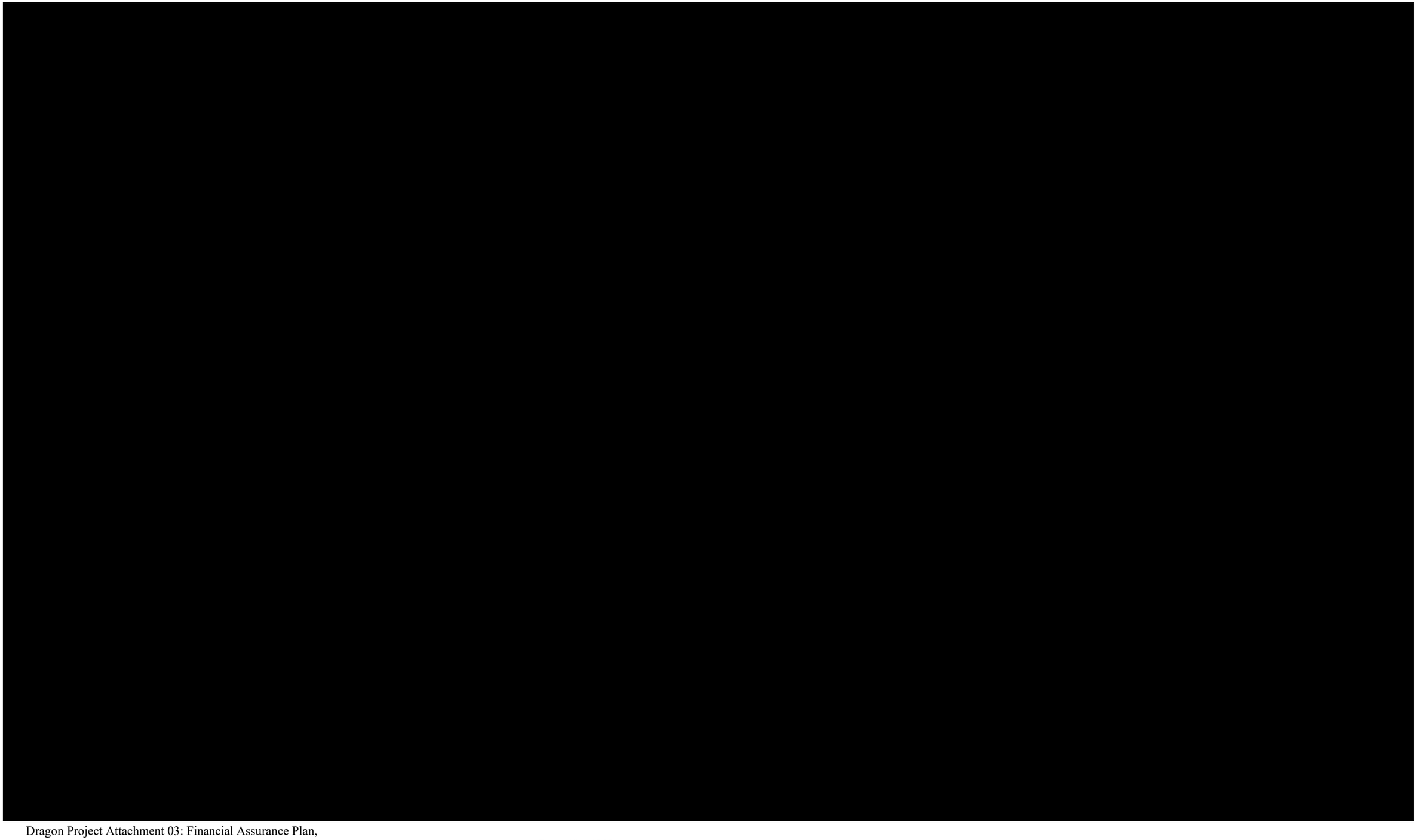
5.8. ERR Costs and Emergency and Remedial Response Plan



6. Total Estimate Value of Financial Assurances for the Dragon Project

7. Method of Financial Assurance





8. Reassessment of Financial Assurance

9. References

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Attachment 01: Narrative, 2024, Underground Injection Control Class VI Permit Application: Dragon.

Attachment 02: AoR and Corrective Action Plan, 2024, Underground Injection Control Class VI Permit Application: Dragon.

Attachment 06: Testing and Monitoring, 2024, Underground Injection Control Class VI Permit Application: Dragon.

Attachment 07: Injection Well Plugging Plan, 2024, Underground Injection Control Class VI Permit Application: Dragon.

Attachment 08: Post-injection Site Care and Site Closure, 2024, Underground Injection Control Class VI Permit Application: Dragon.

Attachment 09: Emergency and Remedial Response Plan, 2024, Underground Injection Control Class VI Permit Application: Dragon.

Attachment 10: Quality Assurance and Surveillance Plan, 2024, Underground Injection Control Class VI Permit Application: Dragon.

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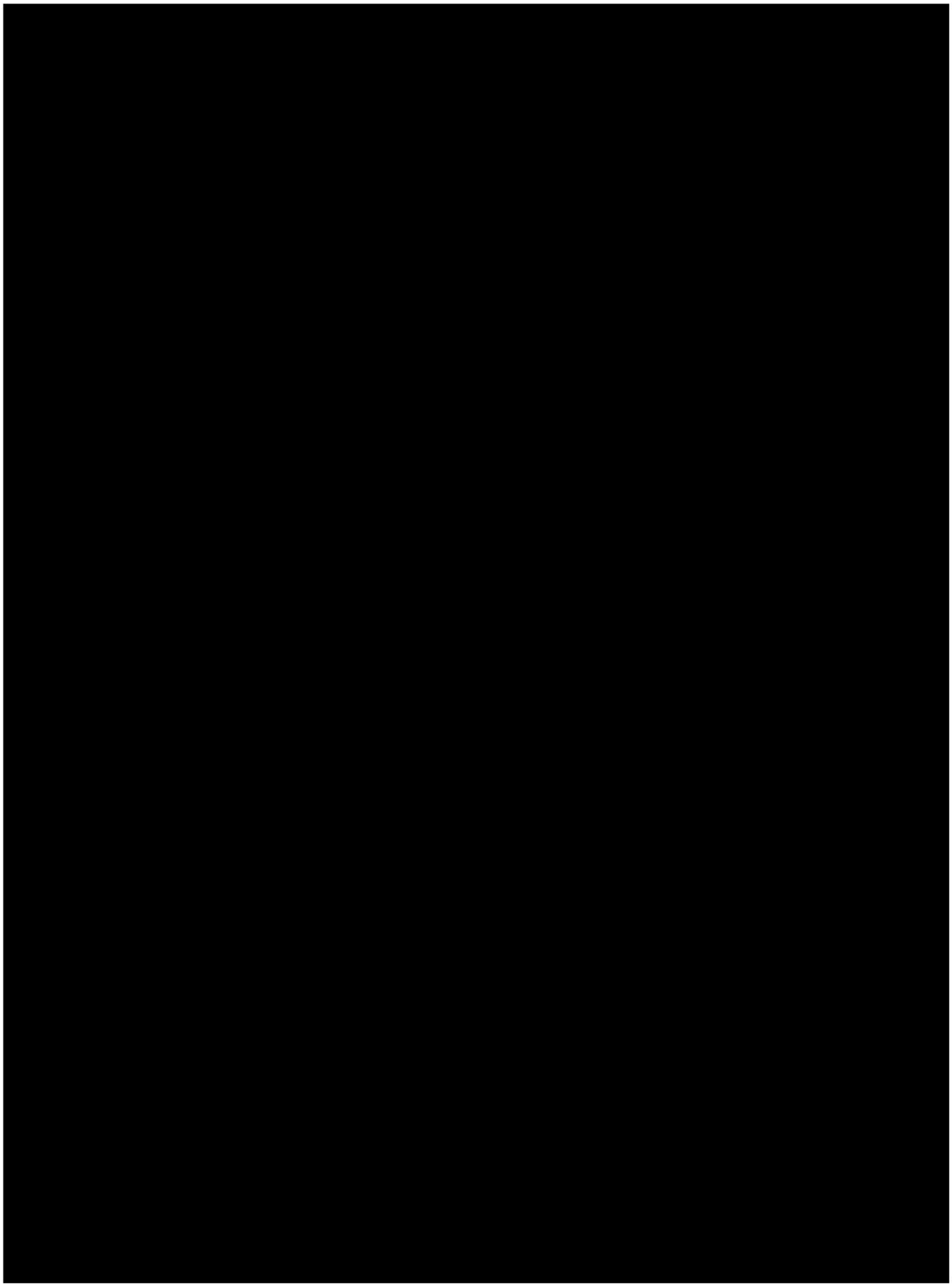
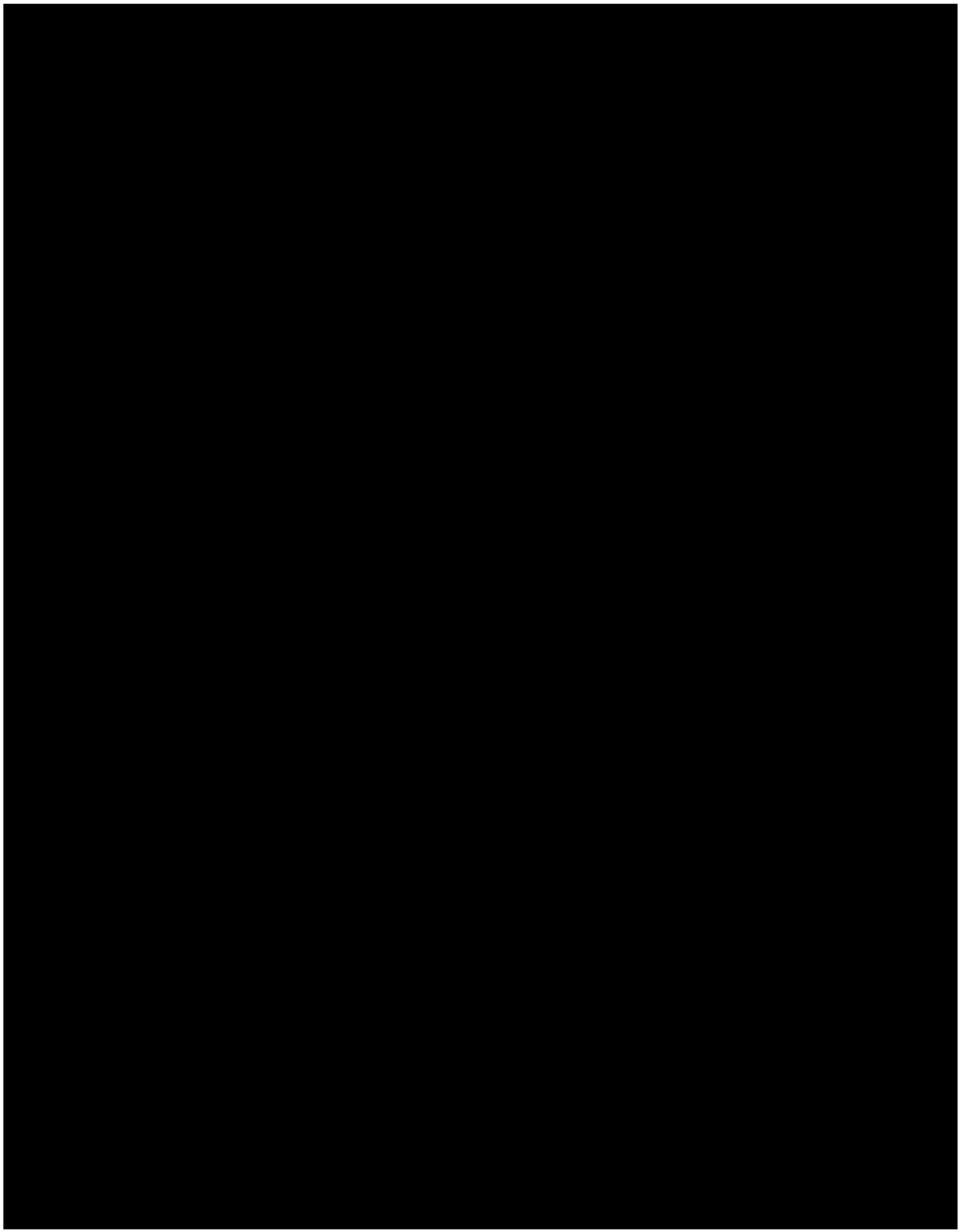
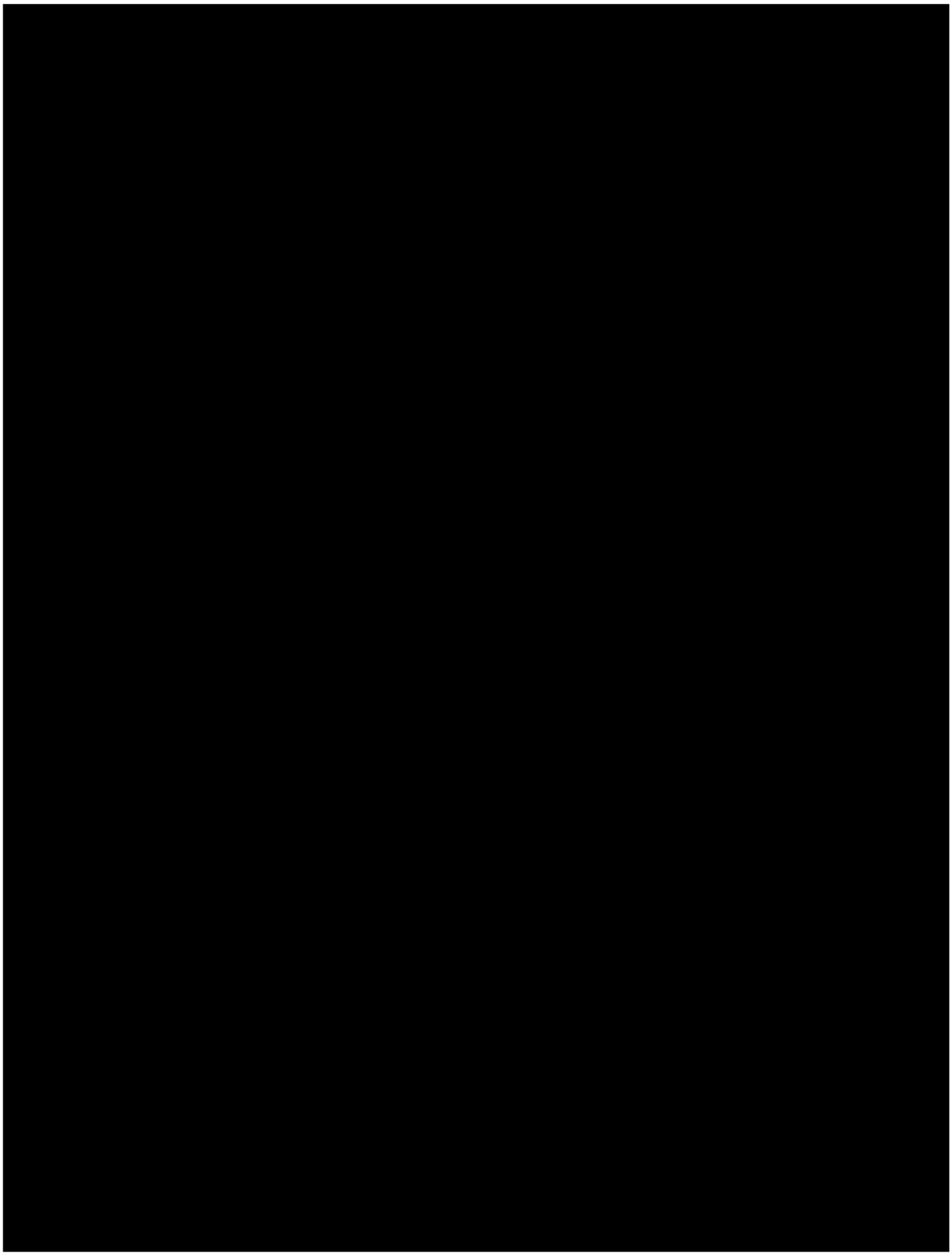
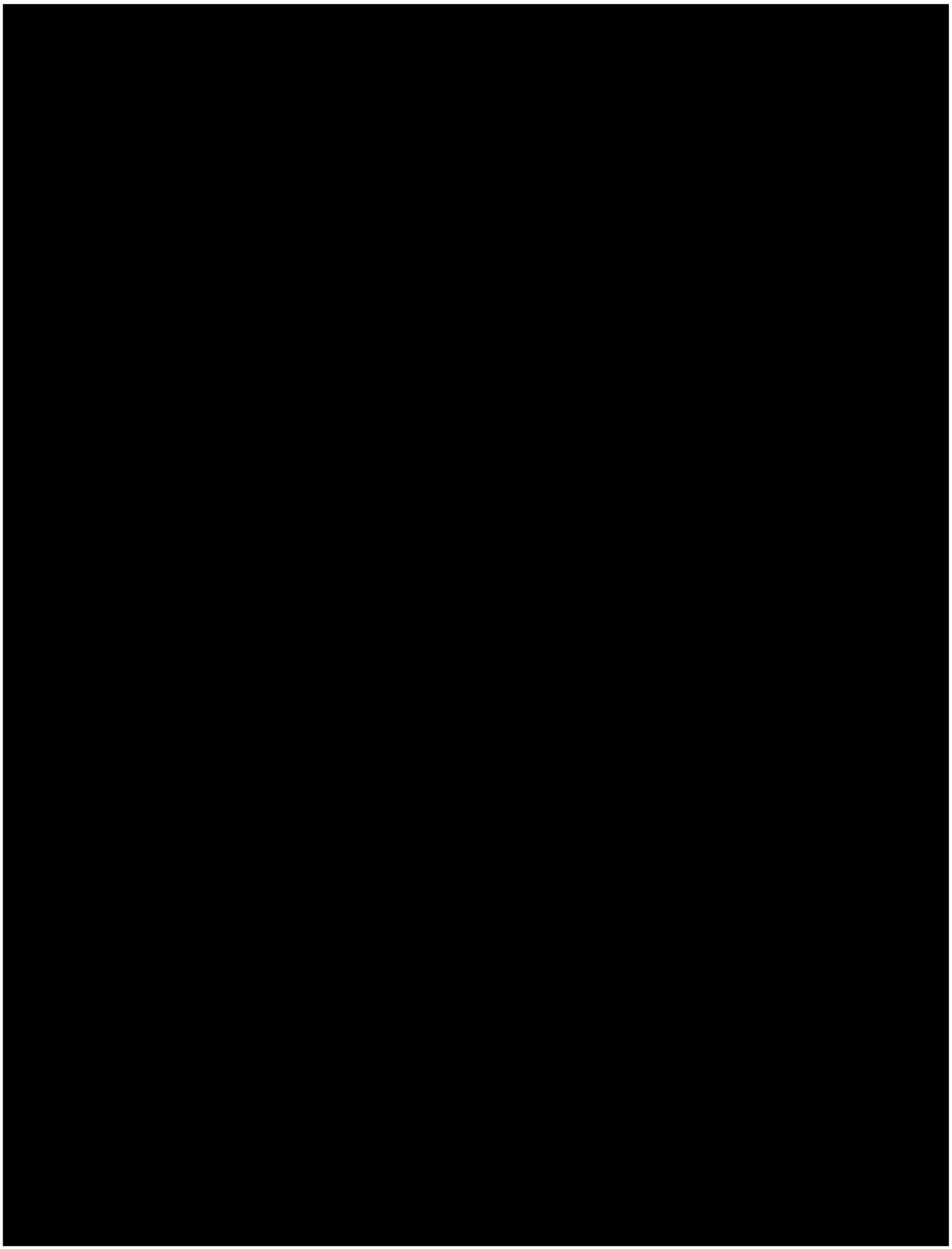
US EPA, National Primary Drinking Water Regulations: <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.

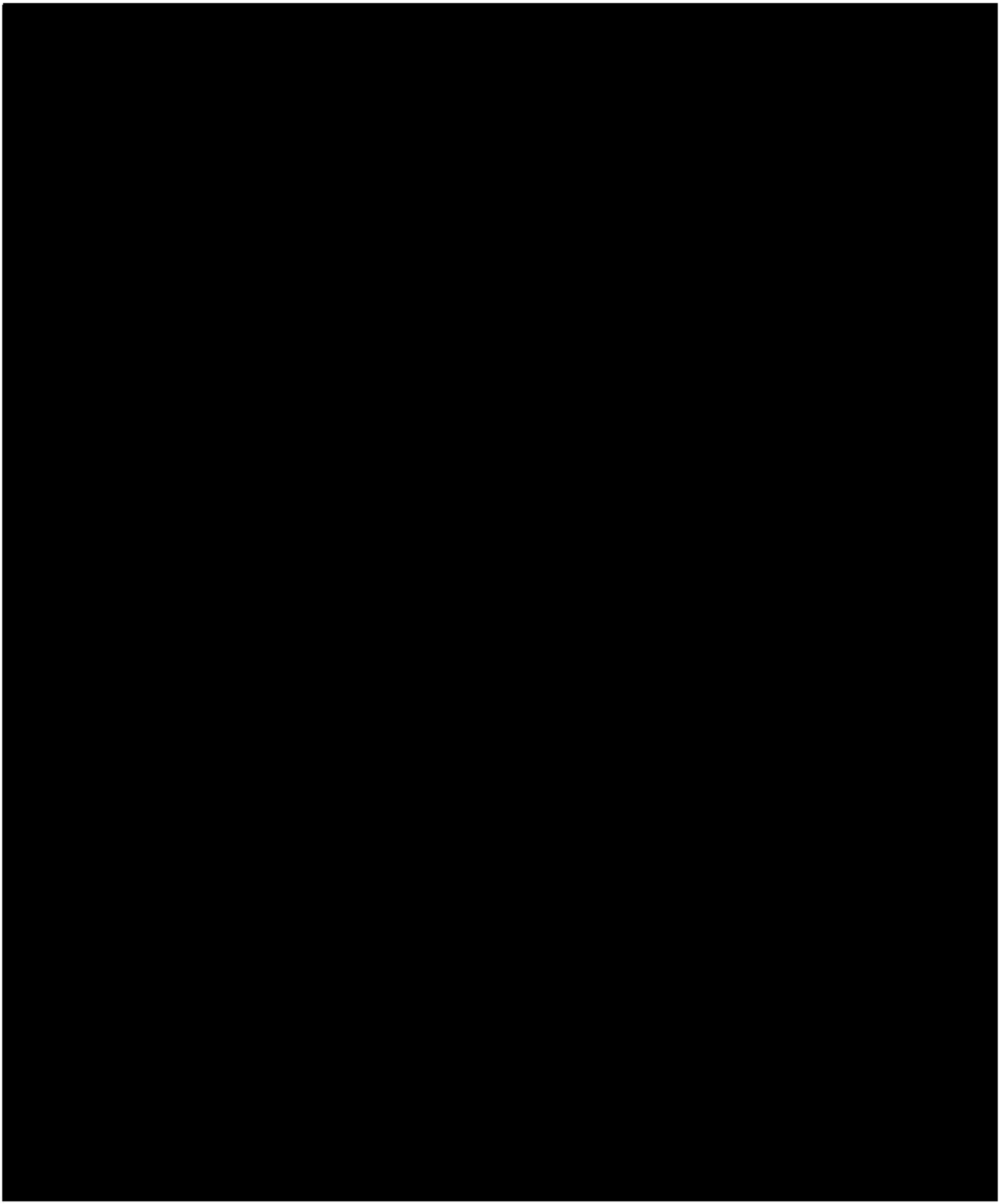
10. Attachment 3A –Escrow Agreement

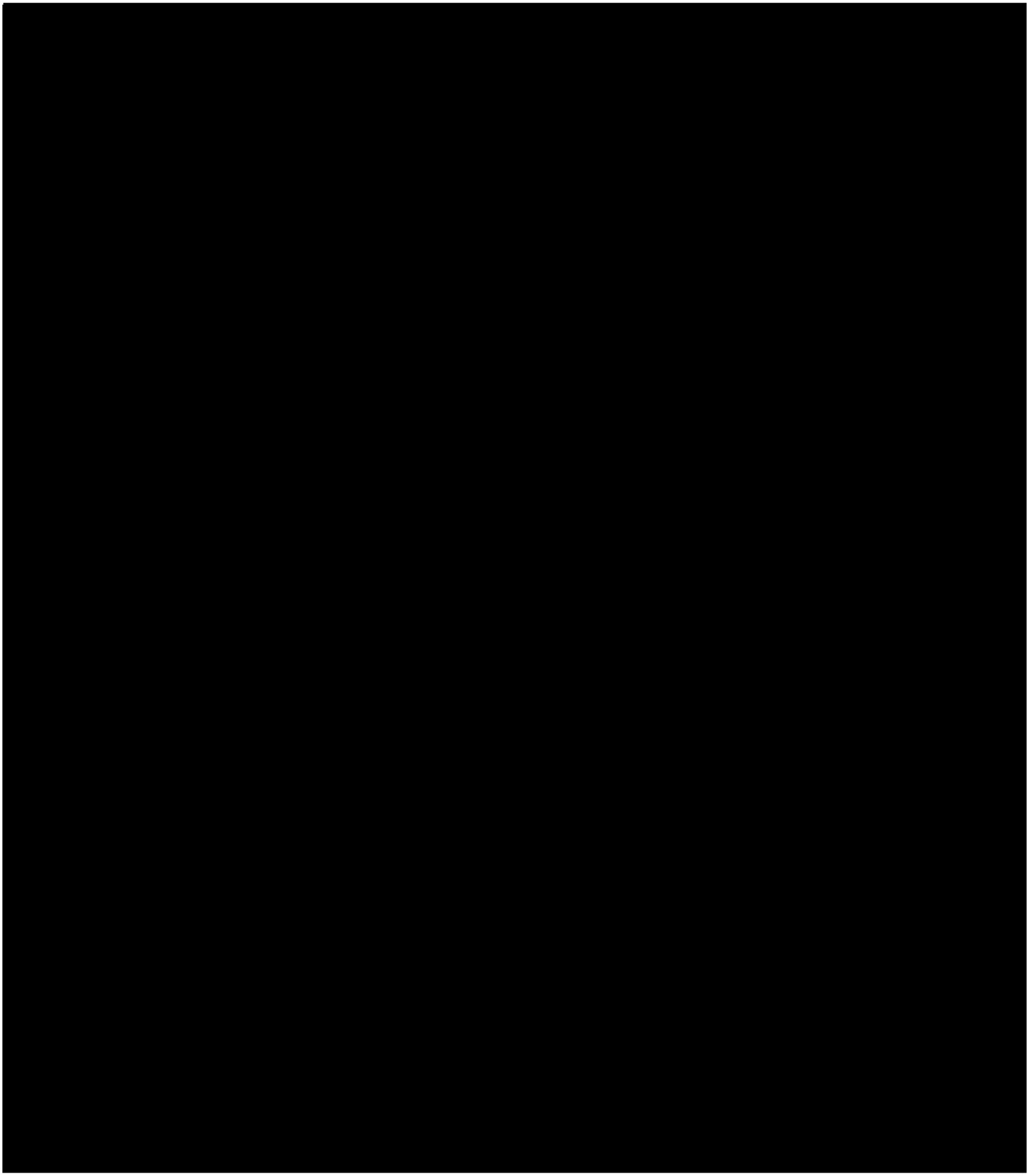




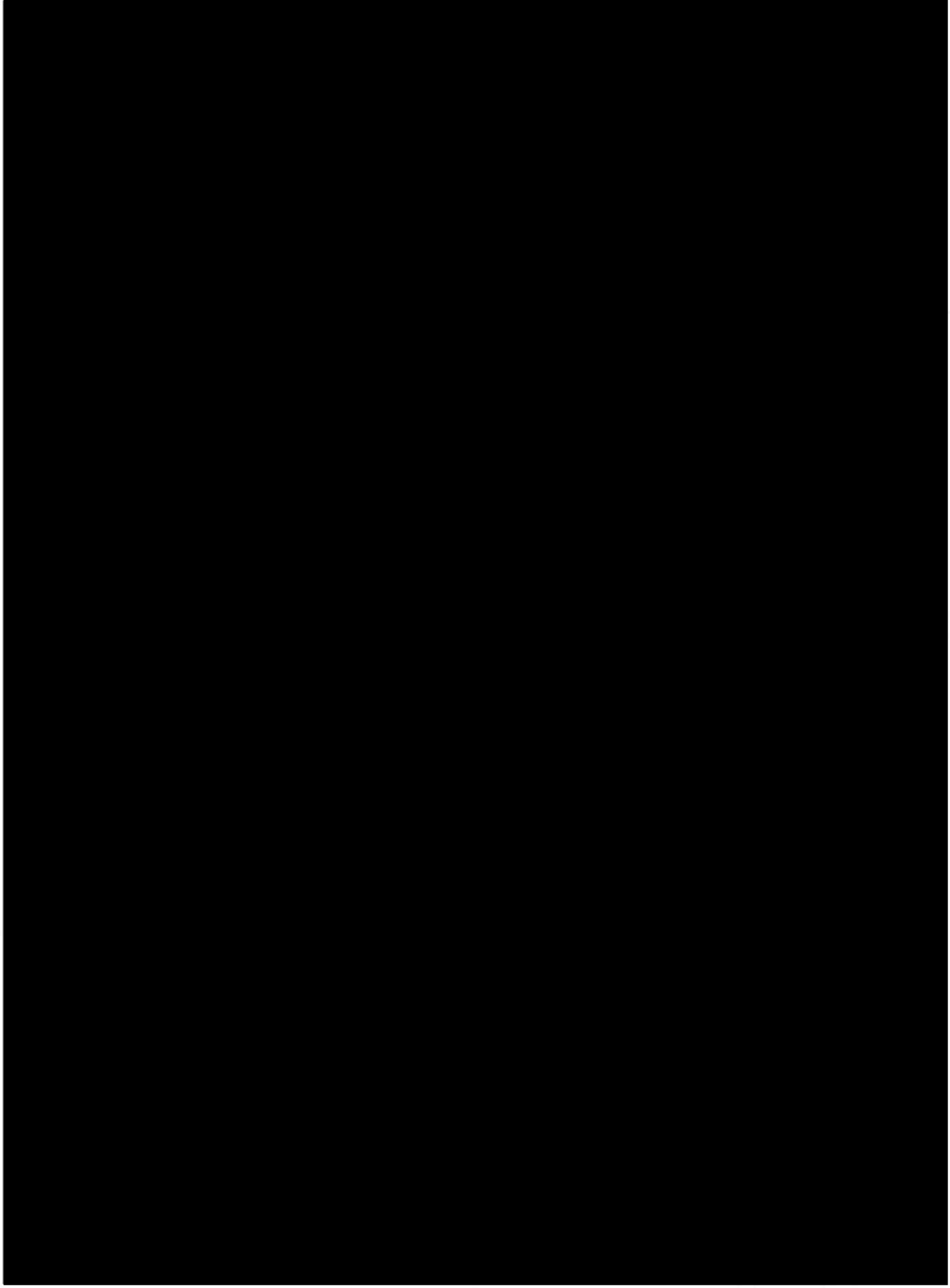






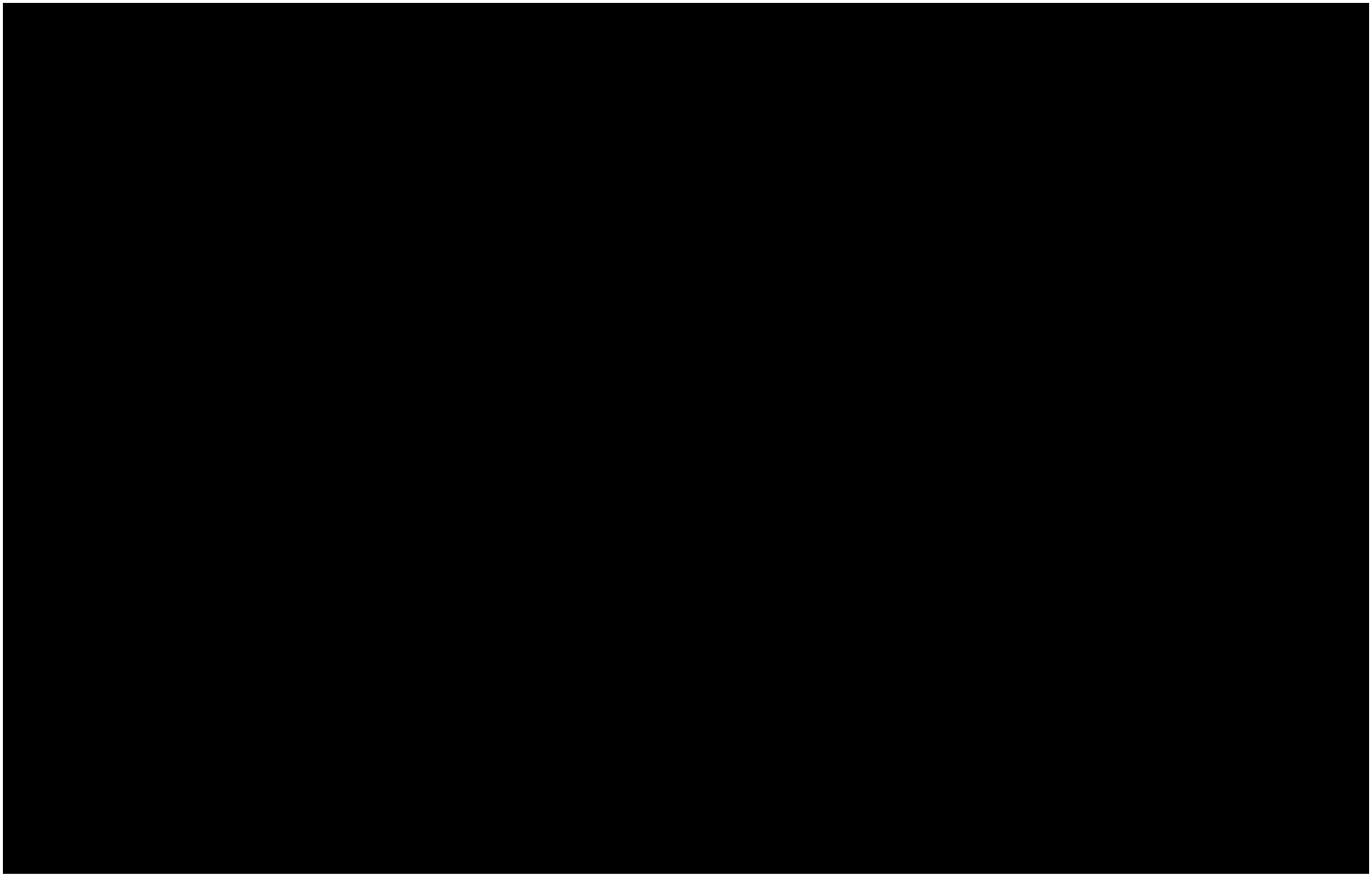


11. Attachment 3B – Signed and Notarized Certificate of Insurance



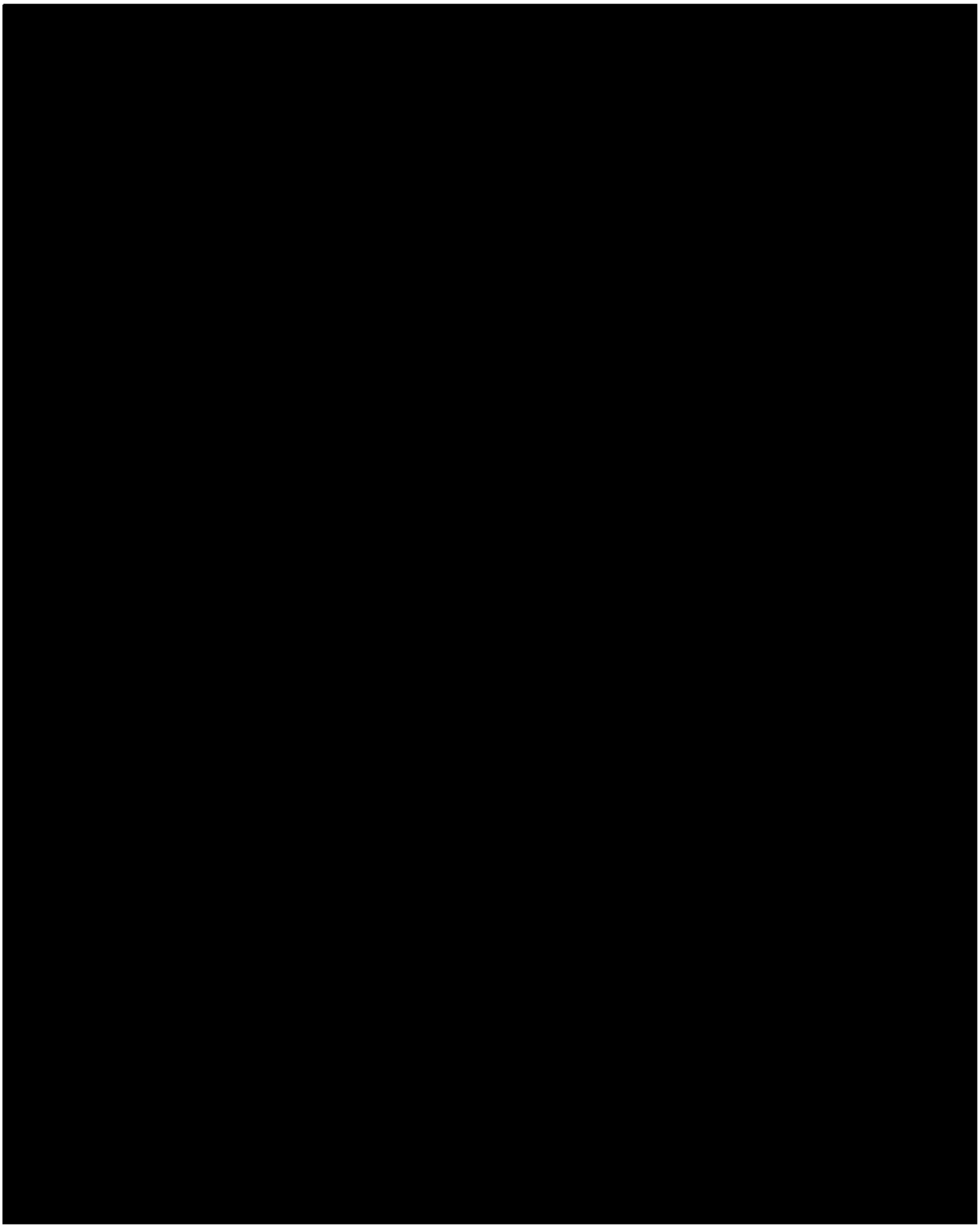
12. Attachment 3C – Third Party Quotes

13. Attachment 3D – Confirmation of Escrow Deposit



14. Attachment 3E – Industrial Economics, Incorporated Memo

15. Attachment 3F - Certificate of Corporate Existence and Fiduciary Powers



16. Attachment 3G - Supplemental Escrow Agreement Exhibit B

17. Attachment 3H – Insurance Policy

The full insurance policy will be provided for Attachment 3H after the permit application submission when received from the underwriter.

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