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[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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**Spill Response and
Emergency Plan**
PHMSA Sequence #1940

**NUSTAR PIPELINE OPERATING
PARTNERSHIP L.P.**

NuStar Pipeline Operating Partnership L. P.
7340 West 21st Street North
Suite 200
Wichita, KS 67205

ACKNOWLEDGMENT AND PLAN APPROVAL

The information and procedures in this Plan must be treated as guidelines only. The user should determine to what extent it is practical and advisable to follow them. This decision may involve considerations not discussed in this Plan.

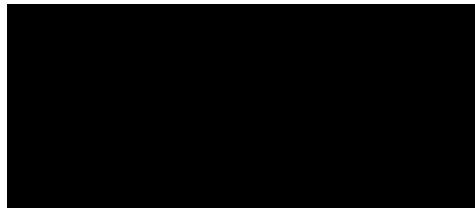
The information and procedures contained herein are considered to be accurate as of this date and are consistent with the National Contingency Plan (NCP) and applicable Area Contingency Plans (ACP) as detailed in Section 1.5.

CERTIFICATION OF QUALIFIED INDIVIDUAL AND ALTERNATE QUALIFIED INDIVIDUAL

NuStar Pipeline Operating Partnership L.P. hereby certifies that the individuals identified as Qualified Individual and Alternate Qualified Individual in this Plan have the full authority in accordance with the applicable federal and state regulations and as detailed in this Plan to:

1. Activate and engage in contracting with oil spill removal organizations.
2. Act as a liaison with the pre-designated Federal On-Scene Coordinate (OSC), and
3. Obligate funds required to carry out response activities.

Plan Approved:



Date: 07/22/2019

REVISION RECORD			
CHANGE DATE	REMOVE	INSERT	DESCRIPTION OF CHANGE(S)
	PAGE NUMBER(S)		
March 2016	Foreword	Distribution List	Added SA, #46
June 2016	Foreword	Distribution List Section 3 – Response Actions Section 2 – Notifications Appendix B	Removed NS, #33. Added response to ice covered navigable waters. Added SDS requirement to HSE Regional Staff responsibilities. Added Procedure for Response on ice.
Oct 2016	Foreword	Foreword	Updated Personnel
July 21, 2017	Foreword, Section 1, Section 2	Foreword, Section 1, Section 2	Updated Personnel, Added Mapleton Assets, SDS note, new Form 4004, Updated LEPC Listing
July 2018	Foreword	Foreword	Updated Personnel, Added Toto Assets
July 2019	Appendix B	Appendix B	Updated OSRO information

NOTE: It is the responsibility of the holder of this Plan to ensure that all changes and updates are made. The Plan holder must:

- Remove and discard obsolete pages.
- Replace obsolete pages with the updated pages.

DISTRIBUTION LIST	
COPY NUMBER	PLAN HOLDER (Hard Copies)
1	HSE Department [REDACTED] 19003 IH10 West San Antonio, Texas 78257
2	2 Electronic Copies to: Office of Pipeline Safety Pipeline and Hazardous Material Safety Administration U.S. Department of Transportation 1200 New Jersey Avenue, SE East Building, 2nd Floor Washington, DC 20590 Attn: Melanie Barber Room E22-210 Melanie.barber@dot.gov (202) 366-4560
3	Minnesota Office of Pipeline Safety 444 Cedar Street, Suite 147 St. Paul, MN 55101-2156 Phone: (651)201-7230
4	[REDACTED] Senior Mgr Area Operation (Qualified Individual) Geneva, NE Terminal
5	[REDACTED] - Manager Operations P&T (Qualified Individual) Geneva, NE Terminal
6	[REDACTED] Lead Maintenance Technician
7	[REDACTED]
8	[REDACTED] Senior Pipeline Operator
9	[REDACTED] Manager Operations P&T (Qualified Individual) McPherson, KS Pump Station
10	[REDACTED] - Senior Maintenance Technician
11	[REDACTED] - Lead Maintenance Technician
12	McPherson Utility Truck
13	[REDACTED] Manager Operations P&T (Qualified Individual) El Dorado, KS Station
14	OPEN - Lead Maintenance Technician
15	[REDACTED] - Senior Maintenance Technician
16	OPEN - Pipeline Operator II
17	[REDACTED] Manager Operations P&T (Qualified Individual) North Platte, NE Terminal
18	[REDACTED] - Maintenance Technician II

DISTRIBUTION LIST (Cont'd)	
COPY NUMBER	PLAN HOLDER (Hard Copies)
19	██████████ Senior Mgr Area Operation (Qualified Individual) Yankton, SD Terminal
20	██████████ Manager Operations P&T (Qualified Individual)
24	██████████ - Senior Maintenance Technician
25	██████████ - Maintenance Technician
23	██████████ Manager Operations P&T (Qualified Individual)
50	██████████ Maintenance Technician
27	██████████ Lead Maintenance Technician
26	██████████ Manager Operations P&T (Qualified Individual)
21	██████████ Senior Terminal Operator
22	██████████ Senior Maintenance Technician
28	██████████ Senior Area Manager Operations P&T (Qualified Individual) Roseville Office
29	██████████ Manager Operations P&T
30	██████████ Maintenance Technician II
31	██████████ Senior Maintenance Technician
32	OPEN - Maintenance Technician II
33	██████████ Senior Maintenance Technician
34	██████████ Manager of Maintenance
35	██████████ Manager Operations P&T (Qualified Individual) Jamestown North, ND Terminal
36	██████████ Lead Maintenance Technician
37	OPEN - Lead Maintenance Technician
38	██████████ Maintenance Technician II
39	██████████ Senior Maintenance Technician
40	██████████ Maintenance Technician II
41	██████████ Maintenance Manager El Dorado Shop
42	██████████ Lead Pipeline Operator El Dorado Shop
43	██████████ Pipeline Operator II Columbus Shop

DISTRIBUTION LIST (Cont'd)	
COPY NUMBER	PLAN HOLDER (Hard Copies)
44	██████████ Maintenance Manager Yankton Shop
45	██████████ North/ Central Areas Pipeline Safety Specialist Milford, IA
46	██████████ Pipeline Safety Supervisor Wichita, KS
47	██████████ HSE Coordinator 7340 West 21 st Street North Suite 200 Wichita, KS 67205
48	██████████ Area HSE Supervisor 7340 West 21 st Street North Suite 200 Wichita, KS 67205
49	OPEN – Area HSE Supervisor Spearsville, LA
50	██████████ Pipeline Safety Specialist. Ammonia System Hermann, MO
51	██████████ General Manager of Pipeline and Terminal Operations 7340 West 21 st Street North Suite 200 Wichita, KS 67205
52	██████████ Vice President Pipeline Operations 19003 IH10 West San Antonio, Texas 78257
53	██████████ Senior Manager of Engineering / Technical Services 7340 West 21 st Street North Suite 200 Wichita, KS 67205
54	██████████ - Regional Director HSE 7340 West 21 st Street North Suite 200 Wichita, KS 67205
55	██████████ Pipeline Safety Supervisor 7340 West 21 st Street North, Suite 200 Wichita, KS 67205 **Plan Administrator** Contact with updates or corrections
56	██████████ Central Control Center Manager NuStar Logistics, L.P. 19003 IH10 West San Antonio, Texas 78257
57	San Antonio Control Center Copy

	19003 IH10 West San Antonio, Texas 78257
58	██████████ Manager of Operations, Pipeline & Terminals Hermann, MO
59	██████████ Director of Operations 7340 West 21 st Street North Suite 200 Wichita, KS 67205
60	██████████ Senior Manager of Maintenance 7340 West 21 st Street North Suite 200 Wichita, KS 67205
61	██████████ Terminal Supervisor
62	██████████ Pipeline Area Manager

1.0 INTRODUCTION AND PLAN CONTENT

1.1 PLAN PURPOSE/OBJECTIVES

The purpose of this Spill Response and Emergency Plan (Plan) is to assist NuStar Pipeline Operating Partnership L.P. (Company) personnel to prepare for and respond quickly and safely to a discharge originating from the pipelines, terminals and associated facilities (Facility). The Plan provides techniques and guidelines for achieving an efficient, coordinated, and effective response to a discharge incident which may occur.

The specific objectives of the Plan are to:

- Establish Response Teams, assign individuals to fill the positions on the teams, and define the roles and responsibilities of team members.
- Define notification, activation, and mobilization procedures to be followed when a discharge occurs.
- Define organizational lines of responsibility to be adhered to during a response operation.
- Document equipment, manpower, and other resources available to assist with the response.
- Ensure compliance with the federal, state, and local oil pollution regulations.
- Ensure consistency with the National Contingency Plan and Area Contingency Plan(s) for the area of operation.

1.2 SCOPE OF PLAN

This Plan has been developed under the guidance published in 49 CFR Part 194. The Plan is organized into Contingency Planning Sections, Facility Specific Information, and Appendices.

This guide also provides for state planning requirements to be incorporated into the Plan. A summary of the applicable regulations and the facilities affected by each regulation is provided in Section 1.5.

This Plan contains prioritized procedures for Facility personnel to mitigate or prevent any discharge resulting from Facility operations. A description of the operations conducted at the Facility is detailed in Figure 1.1 with additional information provided in the Facility-specific sections and the appendices.

1.3 PLAN DISTRIBUTION PROCEDURES

Regulatory and Compliance Programs is responsible for maintenance and distribution of the Plan. Distribution will be handled in the following manner:

- Distribution of the Plan is controlled by the number on the binder cover. A distribution list is included in the Foreword to facilitate control. The official version of the plan is located on the Central East Region home page / HSE Information.
- Company personnel who may be called upon to provide assistance during discharge response activities will have access to a copy of the plan for their use and training.
- Any person holding a copy of the Plan shall ensure that the copy is transferred to their replacement in the event of reassignment or change in responsibility.
- Various regulatory agencies will also be distributed a copy of the Plan. The list of agencies is detailed in the Distribution List located in the Foreword.

1.4 PLAN REVIEW AND UPDATE PROCEDURES

Annual Review/Update

Regulatory and Compliance Programs will coordinate the following plan review and update procedures:

- At least once each year, review and make appropriate revisions as required by operational or organizational changes.
- At least once each year, review and make appropriate revisions as required by changes in the names and telephone numbers detailed in Section 2.0.
- Review and make appropriate revisions as required by improved procedures or deficiencies identified during response team tabletop exercises or actual emergency responses.
- Coordinate the word processing, publication, and distribution efforts to complete the revisions and maintain the Plan.

Incorporation of Plan Revisions

Upon receipt of any revisions, the **Plan Holder** shall:

- Review and insert the revised pages into the Plan.
- Discard the obsolete pages.
- Record this action on the "Revision Record" page in the Foreword.

1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

Agency Revision Requirements

The Company shall revise and resubmit changes to the DOT/PHMSA Pipeline Response Plans Officer within 30 days of each change that would substantially affect the implementation of the response plan. Examples of changes in operating conditions that would cause a significant change to the Plan include:

Conditions Requiring Changes

- An extension of the existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved plan.
- Relocation or replacement of portions of the pipeline which in any way substantially affect the information included in this Plan, such as a change in the Worst Case Discharge volume.
- A change in emergency response procedures.
- A change in the Qualified Individual.
- A change in the NCP or an ACP that has significant impact on the equipment appropriate for response activities.
- A change in the Facility's configuration that materially alters the information included in the Plan (i.e. new construction).
- A change in the type of oil handled, stored, or transferred that materially alters the required response resources.
- A change in the name of the Oil Spill Removal Organization (OSRO).
- A material change in capabilities of the Oil Spill Removal Organization(s) (OSROs) that provide equipment and personnel.
- A material change in the Facility's spill prevention and response procedures.
- Any other changes that materially affect the implementation of the Plan.
- As a result of post incident or drill evaluations.

DOT/PHMSA will be provided with a copy of the revisions. NuStar will submit the DOT/PHMSA issued Facility Control Number with the changes (the Facility Control Number is listed in Figure 1.1). In addition to periodic updates, when applicable, NuStar will resubmit the response plan to DOT/PHMSA every five years from the last approval date of the Plan.

Except as provided above, amendments to the following do not require approval by DOT/PHMSA:

1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

- Personnel and telephone number lists included in the Plan.
- OSRO(s) change which does not result in a material change in support capabilities.

1.5 REGULATORY COMPLIANCE

The development, maintenance, and use of this Plan implements company policy and addresses the following regulatory requirements and guidelines:

- Federal Oil Pollution Act of 1990: U.S. DOT Final Rule for Transportation Related On-shore Facilities (49 CFR Part 194).
- Oil Spill Pollution and Response.

The National Contingency Plan and applicable Area Contingency Plans for the Facility include:

- Region V Inland Area Contingency Plan (Minnesota).
- Region VII Integrated Contingency Plan (Iowa, Kansas, Nebraska).
- Region VIII Inland Area Contingency Plan (North Dakota, South Dakota).

1.6 DISCHARGE CLASSIFICATION

The severity of a discharge will have a bearing on the level of management involvement necessary and the extent of resource mobilization. The following definitions provide guidance in the early classification of discharges:

CLASS I EVENT
Incident Command will normally be assumed by local/area management. San Antonio Office support will be used on an as needed basis.
Exposure
The potential public and environmental exposure is moderate. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have moderate impact on the public and/or the environment.
Degree of Control
The incident can be controlled in a short period of time through implementation of the local resources available to the Facility (including contract resources).

1.6 DISCHARGE CLASSIFICATION (Cont'd)

CLASS I EVENT (Cont'd)
Governmental Involvement
Government involvement will be moderate and generally restricted to state and local levels.
Media Involvement
Media interest will be moderate and generally restricted to state and local levels.

CLASS II EVENT
Local Company resources may have to be supplemented with San Antonio and external resources to manage the spill incident.
Exposure
The potential public and environmental exposure is moderately high. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have moderately high impact on the public and/or the environment.
Degree of Control
The incident can be brought under control in a moderate period of time through implementation of local resources available to the Facility (including contract resources) with possible implementation of regional resources.
Governmental Involvement
Government involvement will be moderately high and generally restricted to regional levels.
Media Involvement
Media interest will be moderately high and generally restricted to regional levels.

CLASS III EVENT
Maximum Company and external resources must be implemented to respond to the spill incident. Activation of the Emergency Response Team would be anticipated during a Class III incident.
Exposure
The potential public and environmental exposure is significant. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have significant impact on the public and/or the environment.
Degree of Control
Maximum Company and third party resources must be implemented in order to gain control of the incident.
Governmental Involvement
Government involvement will be intense.
Media Involvement
Media interest will be intense.

FIGURE 1.1

INFORMATION SUMMARY

GENERAL INFORMATION

Facility Name: NuStar Pipeline Operating Partnership L.P.

PHMSA Control Number(s):

Owner Name: **Physical Address**
 NuStar Pipeline Operating Partnership L.P.
 7340 W. 21st Street N.
 Suite 200
 Wichita, KS 67205

Mailing Address
 NuStar Pipeline Operating Partnership L.P.
 7340 W. 21st Street N
 Suite 200
 Wichita, KS 67205

24 Hour Emergency Contact Phone Numbers: (800) 759-0033

Qualified Individuals:

Zone 1	[REDACTED] Senior Manager Area Operations South Region. [REDACTED] [REDACTED]
	[REDACTED] Pipeline Area Manager – South Region [REDACTED] [REDACTED]
Zone 2	[REDACTED] Senior Manager Area Operations Central Region.. [REDACTED] [REDACTED]
	[REDACTED] – Terminal Supervisor – Central Region [REDACTED] [REDACTED]
Zone 3	[REDACTED] – Senior Manager Area Operations North Region. [REDACTED] [REDACTED]

Telephone/FAX: Additional telephone references, including 24 hour numbers for the Facility Owner/Operator are provided in Figure 2.2.

Primary SIC Code: 4613

FIGURE 1.1
INFORMATION SUMMARY

GENERAL INFORMATION	
Alt. Qualified Individuals:	
Zone 1	[REDACTED] - Manager Operations P&T [REDACTED] [REDACTED]
	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
Zone 2	[REDACTED] [REDACTED] [REDACTED]
	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
Zone 3	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
	[REDACTED] Manager Operations P&T [REDACTED] [REDACTED]
Telephone/FAX:	Additional telephone references, including 24 hour numbers for the Facility Owner/Operator are provided in Figure 2.2.
Primary SIC Code:	4613

FIGURE 1.1

INFORMATION SUMMARY (Cont'd)

GENERAL INFORMATION (Cont'd)	
<i>Determination of Significant and Substantial Harm (DOT/PHMSA):</i>	Each Response Zone identified in this Plan contains line sections that are greater than 6 5/8" in nominal outside diameter, greater than 10 miles in length and either are located within a 5 mile radius of a public drinking water intake or are located within a 1 mile radius of an environmentally sensitive area. Therefore, each Response Zone in the Plan is treated as if it is expected to cause significant and substantial harm.
<i>Operator Statement of "Significant and Substantial Harm":</i>	The Company's goal is to respond as quickly as possible to <u>all</u> uncontrolled releases of petroleum product, regardless of the source point location along the system. Based upon this goal, and the definitions provided in 49 CFR 194.103 (c)(4) & (5), the Company is compelled to consider all the active line sections listed in this section as capable of a release potentially causing "significant and substantial harm".
PIPELINE LOCATION	
<i>States Traversed:</i>	Kansas, Nebraska, Iowa, South Dakota, Minnesota, North Dakota
<i>Response Zones:</i>	Detailed later in this Figure. Also see Figure 1.2
PHYSICAL DESCRIPTION - PIPELINE	
<i>General:</i>	<ul style="list-style-type: none"> ● The Company is a transporter of refined liquid petroleum products and liquid petroleum gas. ● The Company's principal customers are marketing companies and fuel wholesalers. ● As an interstate common carrier, the Company operates under the rules and regulations of the Federal Energy Regulatory Commission (FERC), while conforming to the oil pipeline regulations of the Department of Transportation (49 CFR Parts 194 & 195). ● This Plan is written in English and understood by personnel responsible for carrying out the plan.

FIGURE 1.1
INFORMATION SUMMARY (Cont'd)

PHYSICAL DESCRIPTION - PIPELINE (Cont'd)			
Pipeline Specifications:			
The basic specifications of the pipelines in all three Response Zones are as follows:			
●	Product Types:	Gasoline, liquid petroleum gas, diesel fuels, and heating oils.	
●	Pipe Detail:	3", 4", 6", 8", 10" and 16" OD (various wall thicknesses)	
Response Resources:			
Facility spill mitigation procedures and response guidelines are provided in Section 3.0 for discharges that could result from any of the following scenarios:			
●	Pipeline rupture/leak		
●	Tank overfill/failure		
●	Explosion and/or fire		
●	Failure of facility piping		
●	Equipment failure (e.g. pumping system failure, relief valve failure, etc.)		
These scenarios could result in the following discharge volumes:			
Response Zone	Discharge Scenario	DOT / PHMSA Planning Volume	Potential Source
South System	Worst Case Discharge	██████ bbls Potential Oil Group 1	Eldorado, KS Station - ████████████████████
Central System	Worst Case Discharge	██████ Bbls Potential Oil Group 1	Yankton, SD Terminal - ████████████████████
North System	Worst Case Discharge	██████ Bbls Potential Oil Group 1	Moorhead, MN Terminal ████████████████████

PHYSICAL DESCRIPTION - PIPELINE (Cont'd)***Response Resources (Cont'd):***

These worst case discharge volumes are utilized in calculating the planning volume for response resources. The planning volume is used to determine the necessary on-water recovery capacity to respond within the three tiered response times. The identified oil spill recovery devices should be capable of arriving at the scene of a discharge within the time specified for the applicable response tier. The tier requirements for high volume areas are for response in 6 hours (Tier 1), 30 hours (Tier 2), and 54 hours (Tier 3). High volume areas are listed in 49 CFR 194. The tier requirements for all other areas are for response in 12 hours (Tier 1), 36 hours (Tier 2), and 60 hours (Tier 3). Appendix G of this Plan demonstrates a series of calculations and planning volume determinations based on guidance provided by the U. S. Environmental Protection Agency (EPA) in 40 CFR Part 112 *Final Rule* dated July 1, 1994 and the Department of Transportation (DOT) PHMSA regulations in 49 CFR 194.105 dated January 5, 1993. The inclusion of these calculations is for demonstration of the response planning volumes and response capability necessary for on-water and on-shore recovery requirements as the result of the discharge scenarios outlined in the table above.

FIGURE 1.2

RESPONSE ZONE SUMMARY

RESPONSE ZONE 1 INFORMATION

General:

Response Zone 1 Southern System - Includes Company facilities in Kansas and Nebraska.

Potentially Affected Counties:

KS - Butler, Cowley, Clay, Cloud, Dickinson, Harvey, Marshall, McPherson, Ottawa, Phillips, Reno, Republic, Riley, Saline, Sedgwick, Smith

NE - Adams, Cass, Clay, Fillmore, Franklin, Frontier, Gage, Gosper, Johnson, Kearney, Lincoln, Nuckolls, Otoe, Pawnee, Phelps, Polk, Thayer, Webster, York

These facilities include:

Name: Line 1-A - Products Pipeline
 Location: 8" from Ark City to Augusta [45.82 m]; 8" from Wichita to Augusta [20.13 m]; 10" from Augusta to Potwin [18.37 m]; 8" from Augusta to El Dorado [11.55 m]; 8" from El Dorado to Potwin [12.38 m]; 8" and 10" from Potwin to Newton [13.07 m], to Hesston [9.76 m], to McPherson County Line [22.89 m]. Total = 153.97 miles.

Name: Line 1-B - Products Pipeline
 Location: 16" Line from McPherson, KS to Geneva, NE [Total = 155.3 miles].

Name: Line 2 - Products Pipeline
 Location: 6" Line from Geneva, NE to Phillipsburg, KS [108.9 m]; Geneva, NE to Columbus, NE [73.7 m] Total = 182.6 miles

Name: Line 3 - Products Pipeline
 Location: 6" Line from Geneva, NE to Duncan Pump Station [59.26 m]

Name: Line 4 - Products Pipeline
 Location: 8" Line from Geneva, NE to Duncan Pump Station [60.26 m]

Name: Line 7 - Products Pipeline
 Location: 8" Line from Geneva, NE to North Platte, NE [187.8 m]

Name: Line 8 - Products Pipeline
 Location: 6" Line from McPherson, KS to the Missouri River [212.0 m]

FIGURE 1.2

RESPONSE ZONE SUMMARY

RESPONSE ZONE 2 INFORMATION

General:

Response Zone 2 Central Region – Includes Company facilities in South Dakota, Iowa, and Nebraska.

Potentially Affected Counties:

SD – Beadle, Clay, Davison, Hanson, Hutchinson, Jerauld, Lincoln, Minnehaha, Sanborn, Union, Yankton

IA – Clay, Dickinson, Harrison, Lyon, Mills, Monona, O'Brien, Plymouth, Pottawattamie, Sioux, Woodberry

NE - Butler, Colfax, Platte, Madison, Pierce, Cass, Cedar.

These facilities include:

MAIN LINES:

Name: Council Bluffs Line - Products Pipeline
Location: 6" line from Council Bluffs, IA, to Hawarden, IA to Sioux Falls IA [169.20 m]

Name: Line 5 – Products Pipeline
Location: 6" & 8" dual diameter line from Yankton, SD to Redfield Station [116.7 m].

Name: Line 6 - Products Pipeline
Location: 6" line from Yankton, SD to Milford, IA [120.47 m]

Name: Line 3 - Products Pipeline
Location: 6" line from Highway 30 or north of the Duncan pump station and go to Yankton, SD [106 m]

Name: Line 4 - Products Pipeline
Location: 8" line from Highway 30 or north of the Duncan pump station and go to Yankton, SD [106 m]

Name: Products Pipeline
Location: Sioux River Junction to Rock Rapids [41.45 m]

Name: Line 8 - Products Pipeline
Location: 6" Line from the Missouri River, to Council Bluffs, IA [15.5 m]

RESPONSE ZONE 2 – Central Region

FIGURE 1.2

RESPONSE ZONE SUMMARY

RESPONSE ZONE 3 INFORMATION

General:

Response Zone 3 Northern Region - Central includes Company facilities in North Dakota and Minnesota.

Potentially Affected Counties:

ND - Morton, Burleigh, Kidder, Stutsman, Barnes, Cass

SD - Spink, Brown, Dickey, Lamoure

MN - Clay, Wilkin, Otter Tail, Douglass, Stearns, Wright, Hennepin, Anoka, Ramsey

These facilities include:

MAIN LINES:

Name: Mandan, ND To Moorhead, MN - Products Pipeline
Location: 10" line from Mandan, ND to Moorhead, MN
Length: 200.3 miles

Name: Burlington Northern Delivery Line
Location: 3" Delivery line from the Mandan Refinery to the BNRR Yard
Length: 2.7 miles

Name: Jamestown North Terminal Lateral
Location: 4" Lateral line from MP 778.55 to the Jamestown North Terminal
Length: 2.2 miles

Name: Prosper Junction to Mapleton Terminal
Location: 8" line from MP 0 to MP 5.86 at Mapleton Terminal
Length: 5.86 miles

Name: Mapleton Terminal to Mapleton Station
Location: 8" line from MP 5.86 to MP 6.86 at Mapleton Station
Length: 1.00 miles

Name: Moorhead, MN To Roseville, MN- Products Pipeline
Location: 8" line from Moorhead, MN to Roseville, MN
Length: 229.4 miles

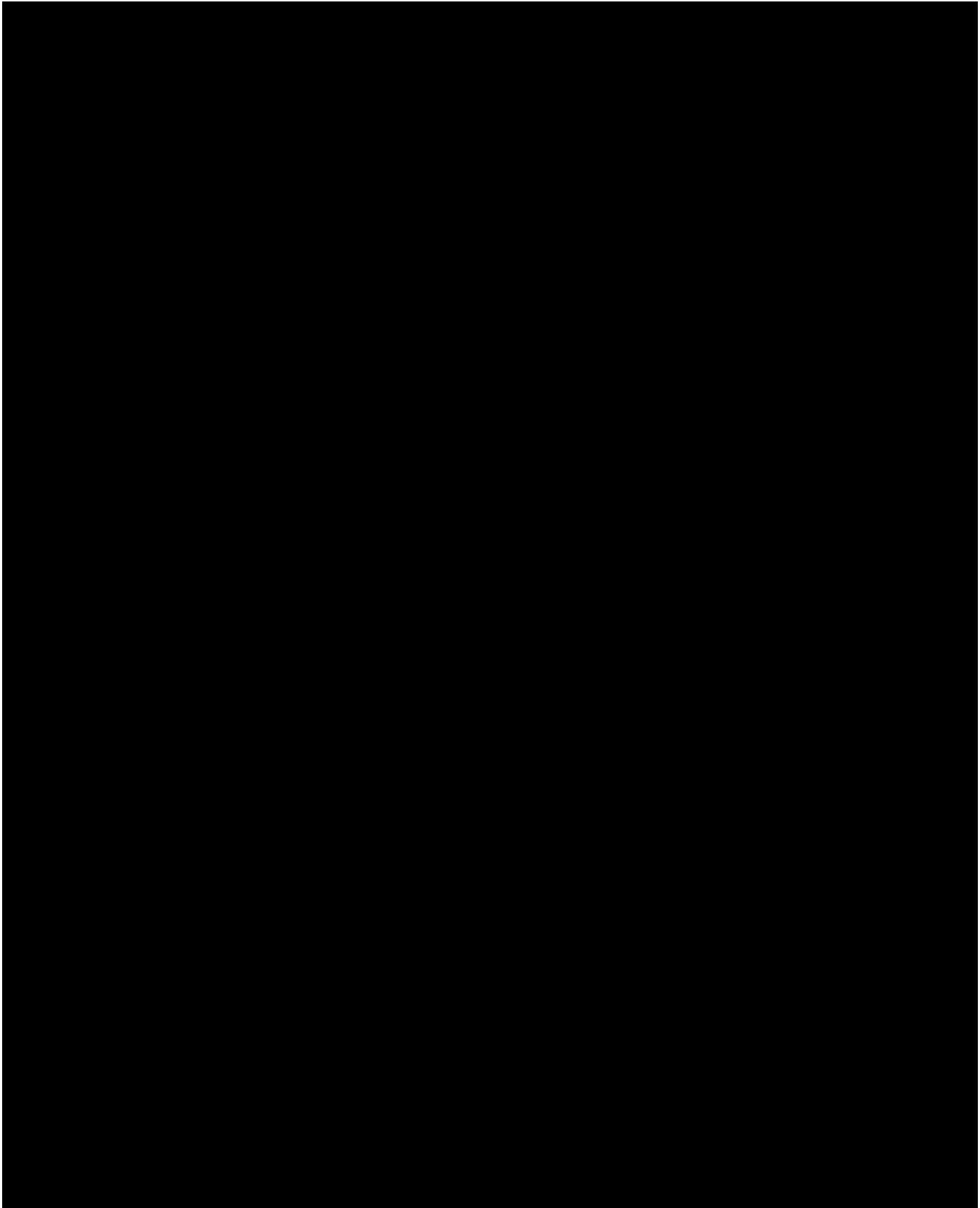
Name: Sauk Centre Lateral - Products Pipeline
Location: 6" Lateral line from MP 553.94 to the Sauk Centre Terminal
Length: .88 miles

Name: Magellan Pipe Line Terminal - Products Pipeline
Location: 6" Lateral line from MP 444.59 to Magellan Terminal
Length: 0.09 miles

Name: Redfield Pump Station to Jamestown East Terminal-Products Pipeline
Location: 6" line from Redfield PS to JE Terminal
Length: 91.33 miles

RESPONSE ZONE 3 – Northern Region

FIGURE 1.3



CENTRAL EAST SYSTEM MAP

2.0 NOTIFICATION PROCEDURES

This section is a guide for notification procedures that should be implemented immediately after discovering a discharge incident and if possible, securing the source. Internal and external notifications are described separately for clarification purposes only. All notifications are of extreme importance and must be completed in a timely manner. Internal Notification References are included in Figure 2.2. Additional Company personnel contact information is available in Section 5 of the Procedural Manual.

2.1 INTERNAL NOTIFICATION

The following internal notifications should be made for each emergency incident to the extent that the incident demands (telephone reference is provided in Figure 2.2). In no event shall notification be delayed because the immediate supervisor is inaccessible. Authorization is given to bypass management levels if necessary to provide timely notification to appropriate management. The typical internal notification responsibilities for each person potentially involved in the initial response are as follows:

Person Discovering the Discharge

- Immediately notify the **Control Center**.
- Notify **Immediate Supervisor**.
- Call 911 if applicable

Immediate Supervisor

- Activate response contractors (Appendix B).
- Notify appropriate **Operations Manager/General Manager** (Figure 2.2).
- Notify **Regional HSE Staff** (Figure 2.2).

Control Center Operator

- Notify **Control Center Manager**.

Regional HSE Staff

- Notify local, state and federal regulatory/emergency response agencies (Figure 2.5 & 2.6). Provide a current SDS to the FOSC(s) and state agencies within 6 hours of notification to NRC, if requested.
- Notify local emergency response resources (fire, police, medical, etc.).
- HSE director or General Manager will notify appropriate **Corporate HSE Staff/EOC, as needed**.

FIGURE 2.1 INTERNAL NOTIFICATION SEQUENCE

(Phone references are provided in Figures 2.2 and 2.4)

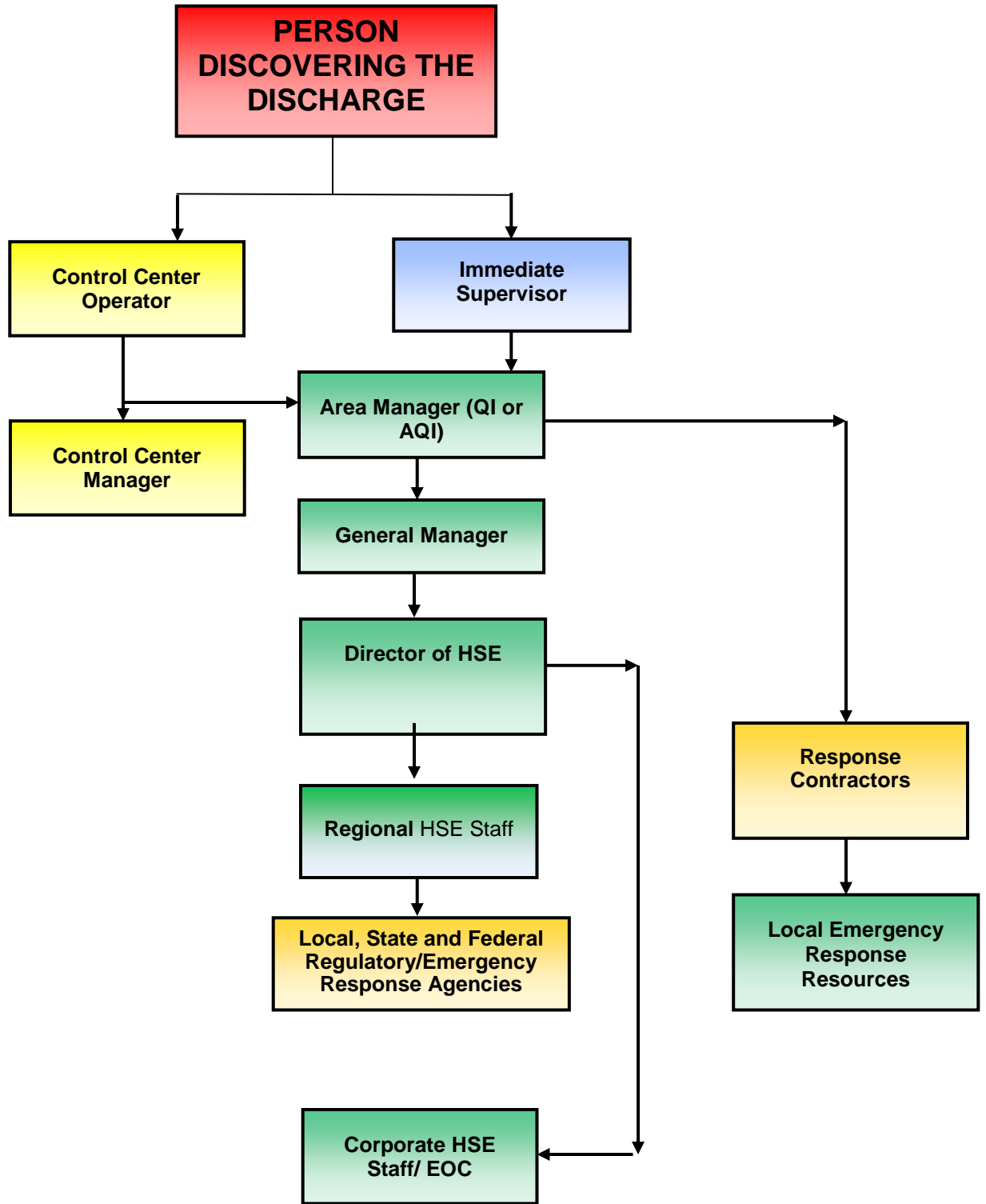


FIGURE 2.2
INTERNAL NOTIFICATION REFERENCES

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM					
POSITION/TITLE	NAME	LOCATION	OFFICE	HOME	MOBILE
MANAGEMENT					
V.P. Pipeline & Operations	██████████ ██████████	San Antonio	██████████	██████████	██████████
Central East General Manager	██████████	Wichita	██████████	██████████	██████████
Director of Operations	██████████ ██████████	Hermann	██████████	██████████	██████████
Area Senior Manager North	██████████	Roseville	██████████	██████████	██████████
Area Senior Manager Central	██████████	Yankton	██████████	██████████	██████████
Area Senior Manager South	██████████ ██████████	Geneva	██████████	██████████	██████████
CONTROL CENTERS					
SA Control Center	----	San Antonio	800-759-0033		800-759-0033
SA Control Center-Manager	██████████ ██████████	San Antonio	██████████	██████████	██████████
SAFETY/REGULATORY					
Director - HSE	██████████	Wichita	██████████	██████████	██████████
Pipeline Safety Supervisor	██████████	Wichita	██████████	██████████	██████████

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM (Cont'd)					
POSITION/TITLE	NAME	LOCATION	OFFICE	HOME	OTHER
EMERGENCY RESPONSE CONTRACTORS ARE ALSO IDENTIFIED IN APPENDIX B					
HAZ MAT RESPONSE		24-Hour EMERGENCY NUMBER: 800-229-5252			
WCEC		24-Hour EMERGENCY NUMBER: 952-980-3247			
PINNACLE ENGINEERING		24-Hour EMERGENCY NUMBER: 866-658-8883			

FIGURE 2.3



Form 4004 - Release Notification Data Sheet

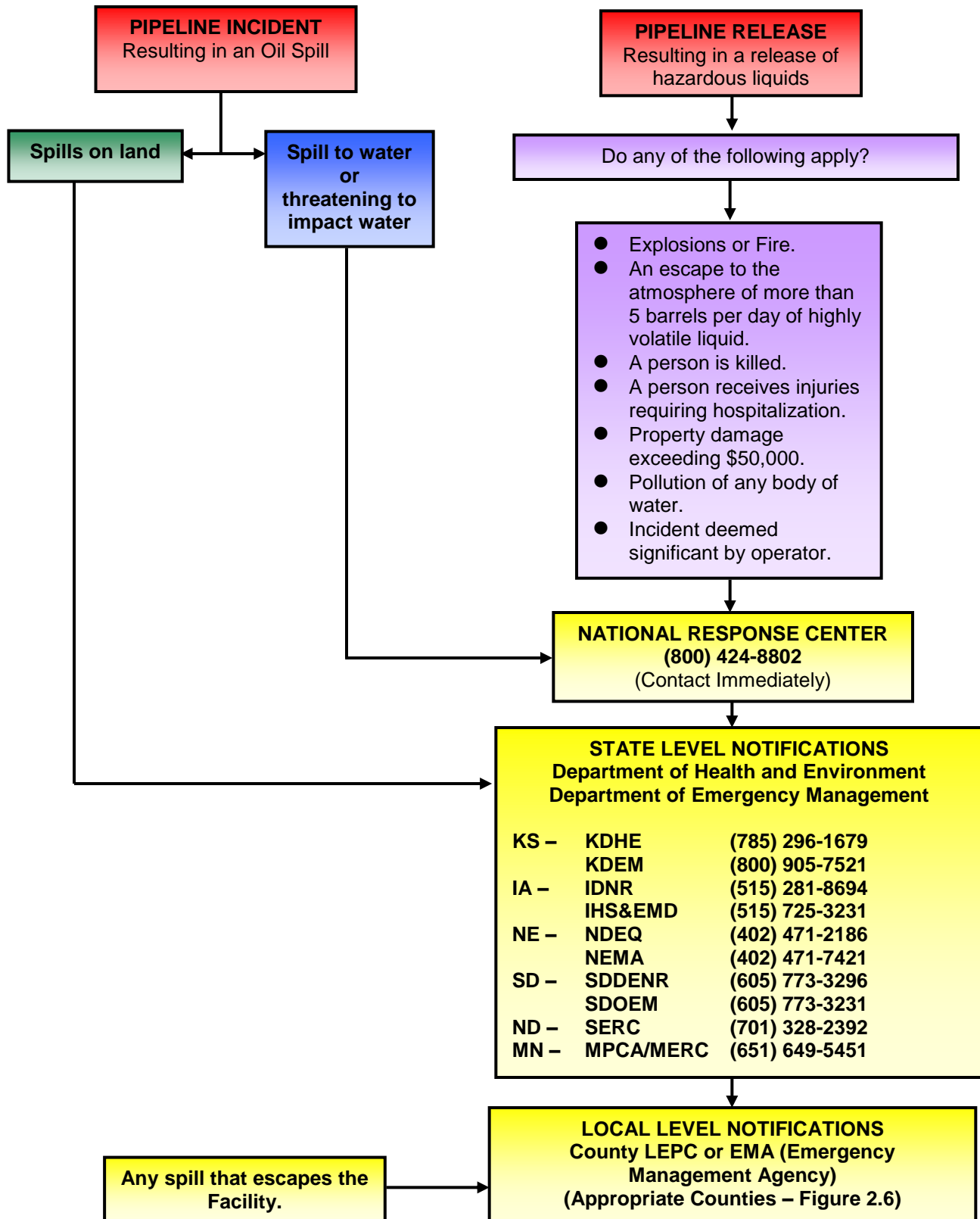
Incident Date:		Time - Operator aware of failure:		By whom:	
		Time on scene / Confirmation:		Confirmed on Scene by:	
Reporters Name:	NuStar Energy		Reporter's Company:	NuStar Energy	
			Reporter's Position:	Pipeline Safety - HSE	
Reporters Address:	7340 West 21st Street North, Suite 200		City/State	Wichita, KS	
Reporters Phone:	316-721-7053		Zip	67205	
Name of Person who notified the reporter of the incident:	Terminal Operations Manager				
<i>It is not necessary to wait for all information before calling NRC. National Response Center 1-800-424-8802</i>					
Were Materials Discharged (please circle one)	Yes		No		
Calling for Responsible Party (please circle one)	Yes		No		
Incident Description					
Facility Name:		Facility Address or driving directions:			
Responsible Party: (Name of company)	NuStar Energy		Owners Address:	19003 IH-10 West San Antonio, TX 78257	
Facility Contact Name & Title:		Facility Contact Phone No's	Office		
			Cell		
			Other		
Location of spill / Milepost			Latitude		
Material Released:			Longitude	-	
Source or cause of discharge:			Year the item was installed?		
Pressure at the time of the incident?			MOP		
Total Quantity Released:			Was surface water impacted by the spill? (yes or no)		
Total Quantity Recovered:			Total quantity into the water:		
Pipeline shut-down Time:			Tank Number (above/below) involved or pipe diameter:		
Pipeline restart time:			Tank Capacity (gallons):		
Nearest City:			County:	State:	
Direction and how far away:			Zip:	Depth of cover:	
Weather conditions at time of incident (wind, rain, snow, temperature, etc.):					
Fire or explosion involved?					
Number of Injuries:			Extent of Injuries if known:		
Number of Deaths:			Numbers Evacuated (if any):		
Was there any damage:	Yes / No / Unknown (please circle one)				
	Estimate Dollars of Damage				
Response Actions					
How was the release blocked in? (List isolation valves if used)					
Actions taken to correct, control, or mitigate the incident:					
Notifications					
Group or Agency	Persons Notified		Date & Time Notified	Notified By:	Incident No.
NRC			Called @		
State Agency	EPA		Called @		
	STATE		Called @		
LEPC - County	None		None		
Other:	911		Called @		
Other:	Wichita Office		Called @		
Other:	Sr. Manager		Called @		
HSE Group			Called @		

Original: 10/20/2003

Revised: 2017

FIGURE 2.4

EXTERNAL NOTIFICATION FLOWCHART



2.2 EXTERNAL NOTIFICATIONS

External notifications are those made to entities outside of the Company including federal, state and local regulatory agencies. These notifications will be made as follows:

- ***Regional HSE***
 - National Response Center (NRC)
 - Appropriate state agency
 - Local agencies
 - Appropriate LEPCs or EMAs will be identified and contacted as needed (see Figure 2.6)

The Notification Data Sheet (see Figure 2.3) should be used to begin the external notification process, keeping in mind that there are some strict time limits for making certain calls.

The following are guidelines to be considered when initiating external notifications:

- Receive faxed copy of Notification Data Sheet from Company employee or, at a minimum, gather pertinent incident information from the third party reporting the release.
- Do not report information that has not been verified or confirmed.
- Do not speculate as to the cause on an incident or make any statements about liability.
- Do not delay notifications because of incomplete information.
- When making notifications, document:
 - Agency notified, including telephone number
 - Date and time of notification
 - Person notified
 - Content of message
 - Incident number, if applicable

2.2 EXTERNAL NOTIFICATIONS (Cont'd)

External required agency notifications contact numbers are provided in Figure 2.4.

Periodic Follow-up Notification during Emergency Response

Periodic follow-up notification must be made within the Company as well as to federal, state, and local agencies. Responsibility for periodic follow-up notifications remains with each individual as initially assigned within the notification process flowcharts provided in Figure 2.1, unless that responsibility has been transferred based on the magnitude of the response.

FIGURE 2.5

EXTERNAL NOTIFICATION REFERENCES

REQUIRED NOTIFICATIONS (FOR ALL FACILITIES)		
NATIONAL RESPONSE CENTER		
<p>National Response Center c/o United States Coast Guard (G-OPF) 2100 2nd Street Southwest Room 2611 Washington, D.C. 20593- 0001</p>	<p>(800) 424-8802 * (202) 267-2675 * (202) 267-2165 (Fax)</p>	<p>REPORTING REQUIREMENTS</p> <p>TYPE: For all spills that impact or threaten to impact navigable water or for any failure in a pipeline system that:</p> <ol style="list-style-type: none"> 1. Caused a death or a personal injury requiring hospitalization 2. Resulted in either a fire or explosion not intentionally set by the carrier. 3. Caused estimated damage to the property of the carrier or others, or both, of a total of \$50,000 or more. 4. Resulted in the pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water or adjoining shoreline, causing a discoloration or emulsion beneath the surface of the water or upon adjoining shorelines. 5. In the judgment of the carrier, was significant even though it did not meet the criteria of any other subparagraph of this paragraph. <p>NOTE: A call to the NRC must also be made for spills or releases of hazardous substances that meet or exceed their RQ.</p> <p>VERBAL: Immediate notification required no later than ONE hour after confirmed discovery.</p> <p>WRITTEN: Not required</p>

* 24-Hour Number

FEDERAL

FIGURE 2.5

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

REQUIRED NOTIFICATIONS (FOR DOT REGULATED FACILITIES)		
DEPARTMENT OF TRANSPORTATION		
<p>US Dept. of Transportation Information Resources Manager Office of Pipeline Safety Pipeline Hazardous Materials Safety Administration Room 2103, 400 Seventh Street SW Washington, DC 20590-0001 Fax Filing: (202) 366-4566</p>	<p>(800) 424-8802* (202) 267-2675* (202) 267-2165 (Fax)</p>	<p>REPORTING REQUIREMENTS</p> <p>TYPE: In addition to the reporting of accidents to the NRC, a written accident report (Form PHMSA F7000-1, provided in Appendix I, page I-4) must be submitted for releases resulting in any of the following:</p> <ol style="list-style-type: none"> 1. Explosion or fire not intentionally set by the operator. 2. Release of 5 gallons or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels resulting from a pipeline maintenance activity if the release is: <ol style="list-style-type: none"> a. Not one described under the NRC's reporting conditions. b. Confined to Company property or pipeline right-of-way; and c. Cleaned up promptly. 3. Death of any person. 4. Personal injury necessitating hospitalization. 5. Estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000. <p>VERBAL: Call to the NRC meets the required verbal notification under DOT reporting requirement.</p> <p>WRITTEN: As soon as practicable, an accident meeting any of the above criteria must be reported on DOT Form 7000-1 (included in this Figure). The report must be sent to DOT no later than 30 days after the release. Changes or additions to the original report (DOT Form 7000-1) must file a supplemental report within 30 days.</p>

FEDERAL

* 24-Hour Number

FIGURE 2.6

EXTERNAL NOTIFICATION TO LEPCs

County	Name & Address	Phone Number
Lyon	Emergency Management Agency Arden Kopischke 410 S Boone Rock Rapids, IA 51246	712-472-8330
Sioux	Emergency Management Agency Nathan Huizenga 4363 Ironwood Avenue Suite 3 Orange City, IA 51041-7698	712-737-4010
Plymouth	Emergency Management Agency Duane Walhof 231 2 nd Avenue NE PO Box 622 Le Mars, IA 51031	712-546-8101
Pottawattamie	Emergency Management Agency Doug Reed 227 South 6 th Suite 23B Council Bluffs, IA 51501	712-328-5777
O'Brien	Emergency Management Agency Jared Johnson 240 1 st Street NE Box 482 Primghar, IA 51245-0482	712-757-4305
Dickinson	Emergency Management Agency Michael Ehret 1802 Hill Avenue Suite 1202 Spirit Lake, IA 51360	712-336-3987
Harrison	Emergency Management Agency Larry Oliver 111 S. 1 st Avenue Logan, IA 51546	712-644-2353
Monona	Emergency Management Agency Patrick Prorock 909 7 th St. Onawa, IA 51040	712-433-2525
Woodbury	Emergency Management Agency Rebecca Socknat 121 Deer Run Trail Climbing Hill, IA 51015	712 222-4421

IOWA

KANSAS

County	Name & Address	Phone Number
Republic	Republic County Emergency Management Raymond Raney, KCEM, Coordinator PO Box 429 County Courthouse	785-527-5691

	Belleville, KS 66935-0429	
Cloud	Cloud County Emergency Management, Coordinator Chief Eric Voss, Coordinator 505 SW 6 th Street Concordia, KS 66901-2717	785-243-4411
Ottawa	Ottawa County Emergency Management Marie Ballou, Coordinator County courthouse 307 North concord St. Suite 109 Minneapolis, KS 67467-2129	785-392-3600
Saline	Saline County Emergency Management Hannah Stambaugh, Coordinator 255 North 10 th Street Salina, KS 67401-2149	785-826-6511
McPherson	McPherson County Emergency Management Julie McClure, Coordinator 1177 West Woodside Street McPherson, KS 67460-3256	620-245-1260
Harvey	Harvey County Emergency Management Gary Denney, Coordinator PO Box 687 800 North Main Newton, KS 67114-0687	316-284-6910
Reno	Reno County Emergency Management Adam Weishaar, Director 210 W. First Ave. Hutchinson, KS 67501	620-694-2974
Butler	Butler County Emergency Management Pamela Dunham, Coordinator 2100 North Ohio, Suite B Augusta, KS 67010	316-733-9796
Sedgwick	Sedgwick County Emergency Management Dan Pugh 714 North Main Wichita, KS 67203-3603	316-660-5959
Cowley	Cowley County Emergency Management Vincent Warren, Coordinator 2701 East 9 th Street – PO Box 736 Wichita, KS 67156	620-221-0470
Smith	Smith County LEPC Chad Meyer, Coordinator 217 S Jefferson Smith Center, KS 66967	785 282-5180
Phillips	Phillips County LEPC Debbie Hays, Coordinator 409 East Street – PO Box 504 Phillipsburg, KS 67661-0504	785-540-4262

MINNESOTA

County	Name and Address	Phone Number
Anoka	Emergency Management Agency Terry Stoltzman 2100 3 rd Ave. Anoka, MN 55303	763-323-5761
Clay	Emergency Management Agency Bryan Green 915 9 th Ave. N. Moorhead, MN 56560	218-299-7357

Section 2.0

Notification Procedures

Douglas	Emergency Management Agency Troy Wolberson, Director 216 7 th Ave. West Alexandria, MN 56308	320-762-8151
Hennepin	Emergency Management Agency Eric Waage 1600 Prairie Drive Medina, MN 55340-5421	612-596-0252
Otter Tail	Emergency Management Agency Patrick Waletzko 520 Fir Ave. West Fergus Falls, MN 56537	216-998-8067
Ramsey	Emergency Management Agency Judson Freed, Director 50 West Kellogg Blvd. Suite 913 St. Paul, MN 55102	651-266-1020
Stearns	Emergency Management Agency Erin Hausauer P.O. Box 811 St. Cloud, MN 56302-0811	320-259-3940
Wilkin	Emergency Management Agency Breanna Koval 505 South 8th St Breckenridge, MN 56520	218 643-1873
Wright	Emergency Management Agency Steve Berg 10 NW 2 nd St. room c-114 Buffalo, MN 55313	763-684-2364

NEBRASKA

County	Name & Address	Phone Number
Adams	Hastings/Adams County Emergency Management Chip Volcek, Director 1313 N. Hastings Ave. Hastings, NE 68901	402-461-2360
Butler	Butler County Emergency Management Scott Steager, Director 451 5 th St. David City, NE 68632	402-367-7400
Lincoln	N. Platte/Lincoln County Emergency Management Brandon Myers, Director 715 S. Jefferson North Platte, NE 69101	308-532-7383
Frontier	Region 17/Frontier County Emergency Management Roger Powell, Coordinator 912 R St., Box 408 Beaver City, NE 68926	308-268-5088
Gosper	Region 17/Frontier County Emergency Management Roger Powell, Coordinator 912 R St., Box 408 Beaver City, NE 68926	308-268-5088
Polk	Polk County Emergency Management Bob Carey, Director P.O. Box 567 Osceola, NE 68651	402-747-2231

Phelps	Frontier County Emergency Management Justin Norris, Director 715 5th Ave. STE 22 Holdrege, NE 68949	308-995-2250
Franklin	Franklin County Emergency Management Jerry Archer, Director PO Box 292 Franklin, NE 68939	308-425-6231
York	York County Emergency Management Gary Petersen, Director 510 Lincoln Ave. York, NE 68467	402-362-7744
Kearney	Kearney Co. Emergency Mgmt. Jeff England, Director PO BOX 7 Axtell, NE 68924	308-743-2442
Webster	Red Cloud Emergency Management Ron Sunday, Director 641 N. Cedar Red Cloud, NE 68970	402-746-2722
Nuckolls	Nuckolls Co. Emergency Management Brad Baker, Director 150 So. Main, Box 401 Nelson, NE 68961-0401	402-225-2831
Clay	Clay Center Emergency Management Loren H. Uden, Director 205 N. Calvary Ave. Clay Center, NE 68933	402-762-4939
Thayer	Thayer Co. Emergency Management Bill McPherson, Director 225 N. 4th St., Rm 303 Hebron, NE 68370	402-768-2180
Fillmore	Fillmore County Emergency Management James Dunker, Director PO Box 266 Geneva, NE 68361	402-759-4932
Colfax	Clarkson Emergency Management Mark Arps, Director 466 Road 10 Schuyler, NE 68661	402-352-7958
Platte	Columbus/Platte County Emergency Management Tim Hofbauer, Director 2610 14 th St. Columbus, NE 68601	402-564-1206
Cedar	Cedar County Emergency Management Kevin Garvin, Director 101 S. Broadway Ave., Mailing: P.O. Box 176 Hartington, NE 68739-0415	402-254-6862
Pierce	Pierce County Emergency Management Trent Howard, Manager 701 Koenigstein Ave. Norfolk, NE 68701	402-844-2066
Madison	Madison County Emergency Management Trent Howard, Manager 701 Koenigstein Ave. Norfolk, NE 68701	402-844-2066

NORTH DAKOTA

County	Name & Address	Phone Number
Barnes	Local Emergency Planning Committee Sue Lloyd 1525 12 th St. NW Valley City, ND 58072	701-845-8510
Burleigh	Local Emergency Planning Committee Mary Senger 221 N. 5 th St. Bismarck, ND 58501	701-222-6727
Cass	Local Emergency Planning Committee Jim Prochniak 4630 15 th Ave. N. Fargo, ND 58108	701-476-4065
Dickey	Local Emergency Planning Committee Charles Russel P.O. Box 215 Ellendale, ND 58436-0215	701-320-6299
Kidder	Local Emergency Planning Committee Jim Albrecht P.O. Box 125 Steele, ND 58482	701-475-2206
Lamoure	Local Emergency Planning Committee Kimberley Robins P.O. Box 128 Lamoure, ND 58458	701-883-6069
Morton	Local Emergency Planning Committee Tom Doering 210 2nd Ave NW Mandan, ND 58554	701-667-3290
Stutsman	Local Emergency Planning Committee Jerry Bergquist 205 6th Street, SE Ste. 2 Jamestown, ND 58401	701-252-9093

SOUTH DAKOTA

County	Name & Address	Phone Number
Beadle	Local Emergency Planning Committee Zach Nelson P.O. Box 172 Huron, SD 57350-0172	605-353-8421
Brown	Local Emergency Planning Committee Michael Thompson 25 Market Street Aberdeen, SD 57402	605-626-7122
Davison	Local Emergency Planning Committee Jeff Bathke 1015 South Miller Mitchell, SD 57301	605-995-8640
Hanson	Local Emergency Planning Committee Kevin Kayser	605-239-4218 605-999-2148

	P.O. Box 54 Emery, SD 57332-0054	
Hutchinson	Local Emergency Planning Committee Dave Hoffman 205 East Main Street Parkston, SD 57366	605-770-7927
Lincoln	Local Emergency Planning Committee Harold Timmerman 123 N. Main Street Canton, SD 57013	605-764-5746
Minnehaha	Local Emergency Planning Committee Lynn DeYoung 5608 Sigler Ave Sioux Falls, SD 57104-2040	605-367-4290
Sanborn	Local Emergency Planning Committee Jason Coenen P.O. Box 426 Woonsocket, SD 57385-0426	605-796-4511
Spink	Local Emergency Planning Committee Larry Tebben P.O. Box 151 Redfield, SD 57469-0151	605-472-4591
Yankton	Local Emergency Planning Committee Paul Scherschligt P.O. Box 176 Yankton, SD 57078-0176	605-668-5289

3.0 RESPONSE ACTIONS

3.1 INITIAL RESPONSE ACTIONS

Initial response actions are those taken by local personnel immediately upon becoming aware of a discharge or emergency incident, before the Local Response Team (described in Section 4.0) is formed and functioning. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

The pages that follow discuss initial response actions for a variety of emergencies that have the possibility of occurring. These emergencies are discussed in the order listed below:

- Leaks/Spills
- Fire/Explosions
- Vapor Cloud
- Bomb Threat

It is important to note that these actions are intended only as guidelines. The appropriate response to a particular incident may vary depending on the nature and severity of the incident and on other factors that are not readily addressed. Note that, without exception, personnel and public safety is first priority.

The first Company person on scene will function as the person-in-charge until relieved by an authorized supervisor who will assume the position of Incident Commander (IC). Transfer of command may take place as more senior management respond to the incident. For response operations within the control of the Local Response Team, the role of IC will typically be assumed and retained by Facility Management.

The person functioning as IC during the initial response period has the authority to take the steps necessary to control the situation and must not be constrained by these general guidelines.

INITIAL RESPONSE ACTIONS - SUMMARY

- Personnel and public safety is first priority
- Eliminate sources of ignition
- Isolate the source of the discharge, minimize further flow
- Make internal notifications
- Make external notifications
- Activate the Local Response Team as necessary
- Activate response contractors and other external resources as necessary
- Monitor and control the containment and clean-up effort

In addition to the potential emergency events outlined in this section, the Company has identified several “abnormal operations” that could be expected in the pipeline. The pipeline has defined the events and established procedures to identify, eliminate or mitigate the threat of worst case discharge due to these events. In compliance with 49 CFR 195.402(d), these procedures are defined in the *NuStar Energy, L.P. Operations and Maintenance Manual*, Section 100 (O&M Manual).

3.1 INITIAL RESPONSE ACTIONS (Cont'd)

FIRST COMPANY PERSON NOTIFIED/ON SCENE

- _____ Notify Control Center and Immediate Supervisor of the incident.
- _____ Notify local emergency services as necessary (police, fire, medical – DIAL 911).
- _____ Follow the appropriate "*Specific Incident Response Checklist*" in Figure 3.1 and "*Product Specific Response Considerations*" in Figure 3.2.

CONTROL CENTER OPERATOR

- _____ Initiate appropriate shutdown/emergency response actions (Procedural Manual).
- _____ Notify Lead Controller.

LEAD CONTROLLER

- _____ Notify appropriate Operations Manager/Director/Superintendent (QI).
- _____ Notify Central East HSE Group (refer to Figure 2.2)

OPERATIONS MANAGER/DIRECTOR/SUPERINTENDENT (QI)

- _____ Evaluate the Severity, potential impact, safety concerns, and response requirements based on the initial data provided by the first person on scene.
- _____ Assume the role of Incident Commander.
- _____ Confirm safety aspects at site, including need for personal protective equipment, sources of ignition, and potential need for evacuation.
- _____ Activate the Local Response Team and primary response contractors, as the situation demands.
- _____ Coordinate/perform activation of additional spill response contractors, as the situation demands (telephone reference is provided in Figure 2.5).
- _____ Perform notifications as per Figure 2.1, including Spill Management Team activation, as necessary.
- _____ HSE will notify the appropriate regulatory agencies as the situation demands (notification procedures and telephone references are provided in Figures 2.4 and 2.5 respectively).
- _____ Proceed to spill site and coordinate response and clean-up operations.
- _____ Direct containment, dispersion, and/or clean-up operations in accordance with the "*Product Specific Response Considerations*" provided in Figure 3.2.

3.1 INITIAL RESPONSE ACTIONS (Cont'd)

LOCAL RESPONSE TEAM

- _____ Assigned personnel will immediately respond to a discharge from the Facility, as the situation demands.
- _____ Perform response/clean-up operations as directed or coordinated by the Incident Commander.
- _____ Assist as directed at the spill site.

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST

Remember: Without Exception, Personnel Safety Is The First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.

INITIAL RESPONSE

- ____ Take appropriate personal protective measures.
- ____ Call for medical assistance if an injury has occurred.
- ____ Restrict access to the spill site and adjacent area as the situation demands. Take additional steps necessary to minimize any threat to health and safety.
- ____ Eliminate possible sources of ignition in the near vicinity of the spill.
- ____ Notify Control Center and immediate supervisor of the incident.
- ____ Verify the type of product and quantity released, and determine potential safety hazards.
- ____ Advise personnel in the area of any potential threat and/or initiate evacuation procedures.
- ____ Identify/isolate the source and minimize the loss of product.
- ____ Take necessary fire response actions.

All personnel are reminded that outsiders other than emergency services will not be allowed in the affected area(s) during the time of an emergency, and that no statements will be issued to the media or other interested parties except by designated Facility Management. Be courteous with media representatives and direct them to the designated spokesperson.

INITIAL RESPONSE

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

LINE BREAK OR LEAK, SPECIFIC RESPONSE

- _____ Notify Control Center and immediate supervisor of incident.
- _____ Control Center performs shut down procedures outlined in Procedural Manual.
- _____ Qualified personnel must use Combustible Gas Monitor, O₂ meter, proper colormetric indicator and/or other air sampling measurements to ensure that areas are safe to enter for continued response operations.
 - Mitigate spreading of the product, as the situation demands. Potential containment strategies include:
 - Earthen dike/berm
 - Ditching
 - Spreading sorbent material over the spill
 - Prevent the spill from entering the waterways, sewer, etc. to the greatest extent possible.
- _____ Inform local operators such as utilities, telephone company, railway.
- _____ If located within containment area, ensure that drainage valve(s) is "closed".
- _____ Make all necessary repairs.
- _____ Clean up spilled product to eliminate any possible environmental problems. Be alert for underground cables.
- _____ Return the line to service when repairs are complete.
- _____ Complete follow-up and written reporting, as the situation demands.

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE**INDIVIDUAL DISCOVERING THE FIRE - (All Employees)**

- _____ Call the Fire Department (911).
- _____ Notify Management and alert all immediately affected areas of the exact location and extent of the fire.
- _____ If you are trained to use fire-fighting equipment, and the fire can be safely extinguished, you may return to the scene of the fire and attempt to extinguish it.
- _____ In the event the fire is too large for an individual to fight alone, the individual discovering the fire should stand by at a safe distance to direct the fire department to the scene of the fire and keep personnel and vehicles from entering the danger area.

INDIVIDUAL DISCOVERING THE FIRE (in the absence of Supervisor)

- _____ In the event of fire in the absence of a supervisor or the Facility Operator, any Company employee on duty may be designated as the individual in charge.
- _____ The individual discovering the fire will adhere to the instructions above:
 - Ensure that the fire department has been notified.
 - Alert all Facility areas of the exact location and extent of the fire.
 - Ensure supervisor is notified by telephone (refer to Figure 2.2).
- _____ Prior to the arrival of a member of management, the individual will remain in charge and will direct the fire department to the scene of the fire.

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

VAPOR CLOUD (from a massive spill, line rupture, etc.), SPECIFIC RESPONSE

- _____ The person who discovers the vapor cloud will evacuate personnel and notify the supervisor on duty.
 - **Remember: The only proper action in the presence of a vapor cloud is to get away from it. Do not shut off electrical equipment that is inside the vapor cloud unless a remote disconnect outside the cloud can be used.**
- _____ All personnel will report to the evacuation muster point for roll call and further instructions. **Large vapor clouds will require evacuation to the secondary offsite muster point, or at a greater distance if deemed necessary.**
- _____ After all personnel have been accounted for, the Facility Management, the Facility Supervisor or a Facility Operator will initiate the following actions as deemed necessary:
 1. Shut down transfer operations.
 2. Evacuation of adjacent property.
 3. Only the fire department will be permitted to enter the affected area.
- _____ Contact the appropriate agencies and potentially affected neighbors (refer to Figure 2.5).
- _____ Once the vapor cloud has been cleared, respond to the cause of the incident as outlined in the other specific response guides.

VAPOR CLOUD

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

BOMB THREATS, SPECIFIC RESPONSE**RECEIPT OF BOMB THREAT IN WRITING (LETTER, TELEGRAM, MESSAGE) or SUSPICIOUS LOOKING ITEM FOUND NEAR ASSETS OR EQUIPMENT:**

- _____ Frequently seen devices include letter bombs, soft cover pocketbook bombs, hard cover book bombs, manila envelope bombs, and cardboard box bombs. While many are delivered by U.S. mail, they may come by private courier or carrier. Be alert to recognize suspicious-looking items. The following conditions represent some of the possible suspicious characteristics:
 - Special handling marks (special delivery, air mail, registered, certified)
 - Restrictive markings (personal, confidential, addressee only)
 - Excessive postage
 - Handwritten or poorly typed address
 - Incorrect title or title but no names
 - Misspelling of common words
 - Oily stains or discolorations
 - No return address
 - Excessive weight
 - Lopsided, uneven, or ridged envelope
 - Protruding wires or tin foil
 - Excessive securing material (tape, string, etc.)
 - Any evidence that the envelope has been reopened and reglued
 - Mail item from a new or strange source

- _____ If you have a suspicious-looking letter or package:
 - **DO NOT TRY TO OPEN IT.**
 - Isolate it and evacuate to a safe distance.

- _____ Notify the Area Management. If supervision is not present, call the appropriate local government agencies listed in Figure 2.5 and inform them of the bomb threat.

- _____ Save all containers, including the envelope the threat arrived in. Once the message is recognized as a bomb threat, further unnecessary handling of the materials should be avoided.

- _____ Make every possible effort to retain and protect evidence such as fingerprints, handwriting or typewriting, paper and postal marks. Place all materials in a document protector, plastic envelope, or similar container.

BOMB THREAT

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

BOMB THREATS (Cont'd)**RECEIPT OF BOMB THREAT BY TELEPHONE**

- _____ Immediately obtain the Telephone Bomb Threat Checklist located in Appendix H for guidance during the conversation with the caller. If possible, complete the form during the call. *If you are not able to access the form, take written notes about the caller and their statements.*
- _____ Report the call to the senior member of management for the area. If supervision is not present call the appropriate local government agencies listed in Figure 2.5 and inform them of the bomb threat.
- _____ Determine if the main part of the Facility should be evacuated. When in doubt, evacuate.
- _____ Do not attempt to use two way radios during the response period as some explosive devices can be detonated by radio waves.
- _____ Keep an outside line open to permit the caller to call back.
- _____ Members of the press or general public should not be permitted inside the affected area(s). Members of the press should be advised that a bomb threat has been received by telephone and a search of the Facility is being made. Advise them that you do not have additional information, but the Facility spokesperson will meet with them when the situation permits. Advise the local government agency that members of the press are present.

BOMB THREAT

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

NATURAL DISASTER (Tornado and Severe Storms), SPECIFIC RESPONSE

Although many disasters cannot be prevented or predicted, preparation can significantly reduce losses. In the event of a severe weather condition or a natural disaster, the Facility Manager or a Facility Operator will be the Emergency Coordinator.

- _____ **Be Aware of Changing Weather Conditions**
 1. Tornado watch - conditions are right for the formation of a tornado.
 2. Tornado warning - a tornado has been sighted but is not in the area at this time.
 3. Tornado alert - a tornado has been sighted in the immediate area - take cover immediately.

- _____ **If Severe Weather Conditions Threaten**
 1. Alert Facility personnel of condition.
 2. If time permits, all personnel should assemble at an inside room in the Facility for shelter.
 3. If time does not permit, seek shelter in low level area away from glass.
 4. Make certain that Facility personnel are aware of the condition.
 5. Stay in shelter until "all clear" has been issued, or it is safe to exit the shelter area.

- _____ **Immediately After the Storm**
 1. Account for all personnel.
 2. Survey for damage to the Facility.
 3. Assign team for any repairs needed (i.e. high tank alarms, lighting, etc.).
 4. Refer to this Plan for additional response guidance regarding fires, spills, etc., as needed.

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

MEDICAL EMERGENCY, SPECIFIC RESPONSE

- _____ Apply appropriate first aid for injury and shock, exercising care not to cause further injury.
- _____ If victim is unconscious and not breathing, immediately begin CPR (if trained in CPR) and continue without interruption until natural breathing is restored or until relieved by another CPR-trained individual or other qualified medical personnel.
- _____ Call for ambulance or other medical evacuation resources, if appropriate.
- _____ Notify hospital of patient arrival and extent of injury.
- _____ Notify victim's immediate family.
- _____ Complete follow-up and written reporting, as the situation demands

MEDICAL EMERGENCY

FIGURE 3.1

SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

RESPONSE TO ICE COVERED NAVIGABLE WATERS

- West Central Environmental Consultants' "Cold Weather Oil Spill Response Standard Operating Procedures" document details the procedures that would be used in this circumstance. NuStar employees would not be performing these operations. Please see this document in Appendix B: "Response Resources".

FIGURE 3.2

FLAMMABLE LIQUIDS (Non-Polar/Water-Immiscible)	
The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. <u>The information is intended for guideline purposes only.</u>	
PRODUCTS No. 2 Fuel Oil Kerosene Gasoline Diesel Crude Jet Fuel	
HAZARD IDENTIFICATION / RECOGNITION	
GUIDE NO. 128	<p>DANGERS</p> <ul style="list-style-type: none"> ● HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. ● Vapors may form explosive mixtures with air. ● Vapors may travel to source of ignition and flash back. ● Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). ● Vapor explosion hazard indoors, outdoors or in sewers. ● Those substances designated with a "P" may polymerize explosively when heated or involved in a fire. ● Runoff to sewer may create fire or explosion hazard. ● Containers may explode when heated. ● Many liquids are lighter than water. ● Substance may be transported hot.
HEALTH	
<ul style="list-style-type: none"> ● Move victim to fresh air. Call 911 or emergency medical service. ● Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. ● Remove and isolate contaminated clothing and shoes. ● In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. ● Wash skin with soap and water. ● Keep victim warm and quiet. ● Ensure that medical personnel are aware of the material(s) involved, and take precautions. 	
PUBLIC SAFETY	
<ul style="list-style-type: none"> ● Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. ● Keep unauthorized personnel away. ● Stay upwind. ● Keep out of low areas. ● Ventilate closed spaces before entering. 	
EVACUATION	<p>Large Spill</p> <ul style="list-style-type: none"> ● Consider initial downwind evacuation for at least 300 meters (1,000 feet). <p>Fire</p> <ul style="list-style-type: none"> ● If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.
Information provided by the Emergency Response Guidebook 2000.	

4.0 RESPONSE TEAMS

4.1 INTRODUCTION

The Company utilizes the Incident Command System (ICS) to manage emergency response activities. The ICS is a management tool that is readily adaptable to very small incidents as well as those of considerable significance. ICS shall be implemented for all discharge incidents. The staffing levels required to meet the specific needs of the incident will be based on its size and severity.

The first response to a discharge will be provided by the closest facility's Spill Response Team. In the event that the response operation is beyond the capability of the Facility's Spill Response Team, the Incident Commander/Qualified Individual (typically the Area Manager) will activate the Regional Response Team. The Facility's Spill Response Team and the Regional Response Team represent the Facility's *Spill Management Team*.

A detailed explanation of the Incident Command System and the roles and responsibilities for primary members of the Facility's Spill Response Team and the Regional Response Team are provided in Section 5.

4.2 QUALIFIED INDIVIDUAL

Vital duties of the Qualified Individual (QI) include:

- Active communication to notify all response personnel.
- **IF IT IS SAFE TO ACCOMPLISH** - Identify the character, exact source, amount, and extent of the release, as well as the other items needed for response.
- Notify the local 911 dispatcher if the incident has the potential to affect the public or if local authorities are needed to assist.
- Notify and provide necessary information to the Central East HSE Group in a timely manner so that the appropriate federal, state, and local authorities, such as the National Response Center (NRC) and the State Emergency Response Commission (SERC), may be properly notified.
- Serve as liaison with the On-Scene Coordinator.
- Assess the interaction of the spilled substance with water and/or other substances stored at the Facility and notify response personnel at the scene of that assessment.
- Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (I.E., the effects of any toxic, irritating, or asphyxiating gases that may be generated or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion).
- Assess and implement prompt removal actions to contain and remove the substance released.

4.2 QUALIFIED INDIVIDUAL (Cont'd)

- Coordinate rescue and response actions as previously arranged with all response personnel.
- Access Company funding to initiate clean-up activities.
- Direct clean-up activities until properly relieved of this responsibility.

Arrangements will be made between the QI and the Alternate Qualified Individual (AQI) to ensure that either one or the other is available on a 24-hour basis and is able to arrive at the Facility in a reasonable amount of time. The AQI shall replace the QI in the event of his absence and have the same responsibilities and authority.

4.3 LOCAL RESPONSE TEAM

The first Company person on scene will function as the Incident Commander (IC) and person-in-charge until relieved by an authorized supervisor who will then assume the position of IC. Transfer of command may take place as more senior management respond to the incident. For response operations within the control of the Local Response Team (LRT), the role of IC will typically be assumed and retained by Area Management.

The number of positions/personnel required to staff the LRT will depend on the size and complexity of the incident. The duties of each position may be performed by the IC directly or delegated as the situation demands. The IC is always responsible for directing the response activities and will assume the duties of all the primary positions until the duties can be delegated to other qualified personnel.

A complete functional ICS organization is shown in Figure 4.1. The LRT should try to fill the necessary positions and request additional support from the Spill Management Team to fill/back up all the positions as the incident may dictate. Detailed job descriptions of the primary response team positions are provided in Section 4.8.

4.4 SPILL MANAGEMENT TEAM

For spill response operations outside the capabilities of the LRT, the QI or IC will determine the need for mobilization of the Spill Management Team (SMT). The members of the LRT will typically become members of the SMT.

The SMT, once fully staffed, is designed to cover all aspects of a comprehensive and prolonged incident response. The number of positions/personnel required to staff the SMT will depend on the size and complexity of the incident. During a prolonged response, additional personnel may be transferred in, and more than one level within the team may be involved to sustain 24-hour operations.

4.4 SPILL MANAGEMENT TEAM (Cont'd)

Led by the Incident Commander, the SMT is composed of the following principal components:

- Command
- Logistics
- Planning
- Finance
- Operations
- Safety

The SMT is staffed by specially trained personnel from various facility/corporate locations and various contract resources as the situation requires. (The SMT organization chart is provided in Figure 4.2; telephone reference is provided in Figure 2.2.) Command and Unit Leader responsibilities are described in Section 4.8.

4.5 RESPONSE TEAM TRAINING

The Company provides training related to discharge prevention, testing, and response, including measures to repair pipeline ruptures and mitigate discharges. The Training Methods address oil discharges from the pipeline from several perspectives: human health and safety, rupture control and repair operations, pollution control, and overall (crisis) management of the emergency. The Company's training Section in San Antonio is responsible for implementation and records maintenance of the emergency response training program. The coordination of employee schedules and location of the training sessions throughout the year is administered by the Training Department.

The competency of each training program is closely monitored by the Training Department through observation of and/or participation in actual training sessions.

Through the various training methods described below the Company's program is intended to ensure the following results:

That all personnel know:

- Their responsibilities under the Plan.
- The name, address and procedures for contacting the operator on a 24-hour basis.
- The name of, and procedures for, contacting the Qualified Individual on a 24-hour basis.

That all reporting personnel know:

- The pipelines and response zone details for the affected area (Figure 1.3).
- The telephone number of the National Response Center and other required notifications (Section 2.0).
- The notification process (Section 2.0).

That all response personnel know:

- The characteristics and hazards of the oil discharged.
- The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions, and the appropriate corrective actions (O&M Manual).

4.5 RESPONSE TEAM TRAINING (Cont'd)

That all response personnel know: (Cont'd)

- The steps necessary to control an accidental discharge of oil and to minimize the potential for fire, explosion, toxicity or environmental damage (Section 3.0).
- Proper use of personal protective equipment and fire-fighting procedures commensurate with their job description and level of training (Section 4.0).
- All Facility personnel who might be involved in an oil spill response have been informed that detergents or other surfactants are prohibited from being used on an oil spill in the water and that dispersants can only be used with the approval of the Regional Response Team.

The Company requires that all response personnel have the appropriate training necessary to serve on a response team during an emergency. Team members will receive training in the following:

Facility Response Plan Review

- All Response Team Members should review their Spill Response and Emergency Plan whenever their job position or responsibilities change under the Plan. A copy of this Plan will be available at all times to Team Members.

HAZWOPER (29 CFR 1910.120)

- Federal and state regulations require that response team members maintain up-to-date HAZWOPER training necessary to function in their assigned positions. At a minimum, all operations employees will receive "Hazardous Materials Specialist" Level training. All "Non-Company" personnel responding to an incident must satisfy the applicable HAZWOPER training requirements of 29 CFR 1910.120.

OSHA HAZWOPER TRAINING REQUIREMENTS		
Responder Classification	Required Training Hours	Refresher
29CFR 1910.120(q) Emergency Response		
First Responder - Awareness Level	2-4 hrs demonstration of competency	same
First Responder - Operations Level	8 hrs	8 hrs
Hazardous Materials Technician	24 hrs plus competency	8 hrs
Hazardous Materials Specialist	24 hrs plus competency in specialized areas	8 hrs
Incident Commander	24 hrs plus competency	8 hrs
29CFR 1910.120(e) Clean Up Sites		
General Site Workers	40 hrs / 3 days on the job training	8 hrs
Occasional Workers (Limited Tasks)	24 hrs / 1 day on the job training	8 hrs
General Site Workers (Low Hazard)	24 hrs / 1 day on the job training	8 hrs
Supervisors	8 hrs supervisor training	8 hrs
29CFR 1910.120(p)(7)(8) RCRA TSD Sites		
New Employees	24 hrs	8 hrs
Current Employees*	24 hrs	8 hrs

* Previous work experience and/or training certified as equivalent by employer.

4.5 RESPONSE TEAM TRAINING (Cont'd)

Incident Command System

- Response team members will receive ICS training and may also receive supplemental training in other, related general topics.

Volunteers

- The Company will not use volunteers for emergency incident response and no Company provisions exist to train them.

Supervisor/Team Meetings

- Periodic Supervisor/Team meetings are conducted by the various Areas and Teams with essential personnel assigned to the Response Team in attendance. These meetings typically include a review of various emergency response procedures contained in this Plan. The standard agenda could include some or all of the following:
 - Overview of emergency response.
 - Review and discussion of the Company Response System (with a focus on notification, assessment of severity of the event, functional activities/roles, and organization structure).
 - Review of the emergency response equipment and site plans.
 - A table top emergency response exercise.

Training Records Maintenance

- Emergency response training records are maintained at the Wichita Regional Office and on the Corporate Training Website. Training records for response personnel will be maintained for as long as personnel have duties in this response plan.

Contractor Training

- The Company also recognizes that contract personnel must also have sufficient training to respond to emergency response situations. The Company communicates this training need to its key contractors during contract negotiations and often specifically spells out this requirement in its contracts. The Company also tends to use well-known spill response contractors whose reputation and experience levels help ensure personnel who respond will be trained to appropriate levels.

4.5 RESPONSE TEAM TRAINING (Cont'd)

Training Qualifications

- As no formalized method of certifying training instructors has been provided by OSHA, The Company ensures the competency of its instructors and training organizations by selecting trainers and/or organizations with professional reputations and extensive hands-on and classroom experience in their subject matter. Company personnel with responsibility to coordinate the training program also conduct periodic informal audits of training courses selected for the Company's training program to ensure their suitability for the program.

4.6 RESPONSE TEAM EXERCISES

Response Team members, government agencies, contractors, and other resources must participate in response exercises required by Federal, state, or local regulations and as detailed in the "National Preparedness for Response Exercise Program (PREP) Guidelines". The Company will conduct announced and unannounced drills to maintain compliance, and each plan-holder must conduct at least one exercise annually. The following table lists the triennial exercise cycle for facilities (see PREP Guidelines for full details).

Triennial Cycle		
Total Number	Frequency	Exercise Type/Description
12	Quarterly	QI Notification Exercise
3	Annual	Equipment Deployment Exercise (<i>May consist entirely of operator owned equipment, or a combination of OSRO and operator equipment</i>).
3	Annual	Response Team Tabletop Exercise
3	Not more than Tri-annually	Unannounced Exercise (<i>not a separate exercise</i>) Actual response can be considered as an unannounced exercise.
NOTE: All response plan components must be exercised at least once in the Cycle.		

Quarterly QI Notification Exercise

- **Scope:** Exercise notification process between key facility personnel and the qualified individual to demonstrate the accessibility of the Qualified Individual.
- **Objective:** Contact by telephone, radio, message-pager, or facsimile and confirmation established as indicated in Response Plan.
- **General:** All personnel receiving notification shall respond to the notification and verify their receipt of the notification. Personnel who do not respond should be contacted to determine whether or not they received the notification.

4.6 RESPONSE TEAM EXERCISES (Cont'd)

Annual Equipment Deployment Exercise (for facilities with equipment)

- **Scope:** Demonstrate ability to deploy spill response equipment identified in the ICP.
 - May consist entirely of operator owned equipment, or a combination of OSRO and operator equipment.
 - The number of equipment deployment exercises conducted should be such that equipment and personnel assigned to each response zone are exercised at least one a year. If the same personnel and equipment respond to multiple areas, they need only exercise once per year. If different personnel and equipment respond to various response zones, each must participate in an annual equipment deployment exercise.
- **Objective:** Demonstrate personnel's ability to deploy and operate response equipment. Ensure that the response equipment is in proper working order.
- **General:** The Facility may take credit for actual equipment deployment to a spill, or for training sessions, as long as the activities are properly documented.

Annual Response Team Tabletop Exercise

- **Scope:** Demonstration of the response team's ability to organize, communication, and make strategic decisions regarding population and environmental protection during a spill event.
- **Objective:** Designated Emergency Response Team members should demonstrate the following:
 - Knowledge of the Plan.
 - Ability to organize team members effectively.
 - Communications system.
 - Interface with a unified command.
 - Coordination for response capability as outlined in Response Plan.
- **General:** Credit should be taken for an actual spill response when these objectives are met, the response is evaluated and, a proper record is generated.

4.6 RESPONSE TEAM EXERCISES (Cont'd)

Government-Initiated Unannounced Exercise

- **Scope:** Demonstrate ability to respond to a worst case discharge spill event.
- **Objectives:** Designated emergency response team members should demonstrate adequate knowledge of their Response Plan and the ability to organize, communicate, coordinate, and respond in accordance with that plan.
- **General:** Maximum of 20 unannounced PHMSA exercises conducted annually for the pipeline industry as a whole. A single owner or operator will not be required to participate in a PHMSA-initiated unannounced exercise, if they have already participated in one within the previous 36 months.

Exercise Documentation

- The documentation for drill exercises will be maintained at least 3 years and located at Central Records; documentation should specify:
 - The type of exercise;
 - Date and time of the exercise;
 - A description of the exercise;
 - The objectives met in the exercise;
 - The components of the response plan exercised; and
 - Lessons learned.

Pipeline Oil Spill Response Drills

- **Scope:** Demonstrate ability to deploy spill response equipment identified in the Oil Spill Response Plan
 - May consist entirely of operator owned equipment, or a combination of OSRO and operator equipment. Also may include joint exercises with state or local emergency management organizations.
 - The number of equipment deployment exercises conducted should be such that equipment and personnel assigned to each response zone are exercised at least once a year. If the same personnel and equipment respond to multiple areas, they need only exercise once per year. If different personnel and equipment respond to various response zones, each must participate in an annual equipment deployment exercise.
- **Objective:** Demonstrate personnel's ability to deploy and operate response equipment. Ensure that the response equipment is in proper working order.
- **General:** The Facility may take credit for actual equipment deployment to a spill, or for training sessions, as long as the activities are properly documented.

4.7 INCIDENT COMMAND SYSTEM

The Incident Command System is intended to be used as a management tool to aid in mitigating all types of emergency incidents. This system is readily adaptable to very small emergency incidents as well as more significant or complex emergencies. The Incident Command System (ICS) utilizes the following criteria as key operational factors:

- Assigns overall authority to one individual
- Provides structured authority, roles and responsibilities during emergencies
- Is simple and familiar, and is used routinely at all incidents
- Allows structured communication
- Is a structured system for response and assignment of resources
- Provides for expansion, escalation, and transfer/transition of roles and responsibilities
- Allows for "Unified Command" where outside agency involvement at the command level is required

Effective establishment and utilization of the ICS during response to all types of emergencies can:

- Provide for increased safety
- Shorten emergency mitigation time by providing more effective and organized mitigation
- Cause increased confidence and support from local, state, and federal emergency response personnel
- Provide a solid cornerstone for emergency planning efforts

Section 4.8 provides a comprehensive list of every response team member's duty assignment.

4.8 UNIFIED COMMAND

As a component of an ICS, the Unified Command (UC) is a structure that brings together the Incident Commanders of all major organizations involved in the incident to coordinate an effective response while still meeting their own responsibilities. The Unified Command (UC) system links the organizations responding to the incident and provides a forum for the Responsible Party and responding agencies to make consensus decisions. Under the UC, the various jurisdictions and/or agencies and responders may blend together throughout the organization to create an integrated response team. The UC process requires the UC to set clear objectives to guide the on-scene response resources.

4.8 UNIFIED COMMAND (Cont'd)

Multiple jurisdictions may be involved in a response effort utilizing the Unified Command of the Incident Command System. These jurisdictions could be represented by any combination of:

- Geographic boundaries
- Government levels
- Functional responsibilities
- Statutory responsibilities

The participants of the UC for a specific incident will be determined by taking into account the specifics of the incident and existing response plans and/or decisions reached during the initial meeting of the UC. The UC may change as an incident progresses, in order to account for changes in the situation.

The UC is responsible for overall management of an incident. The UC directs incident activities and approves appropriation and release of resources. The UC structure is a vehicle for coordination, cooperation and communication which is essential to an effective response.

UC representatives must be able to:

- Agree on common incident objectives and priorities
- Have the capability to sustain a 24-hour-7-day-a-week commitment to the incident
- Have the authority to commit agency or company resources to the incident
- Have the authority to spend agency or company funds
- Agree on an incident response organization
- Agree on the appropriate Command and General Staff assignments
- Commit to speak with “one voice” through the Information Officer or Joint Information Center
- Agree on logistical support procedures
- Agree on cost-sharing procedures

4.9 DISCHARGE CLASSIFICATION

The severity of a discharge will have a bearing on the level of management involvement necessary and the extent of resource mobilization. The following definitions provide guidance in the early classification of discharges:

4.9 DISCHARGE CLASSIFICATION (Cont'd)

TIER I EVENT
Incident Command will normally be assumed by Facility Management. Regional and Head Office support will be utilized on an as needed basis.
Exposure
The potential public and environmental exposure is moderate. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have moderate impact on the public and/or the environment.
Degree of Control
The incident can be controlled in a short period of time through implementation of the local resources available to the Facility (including contract resources).
Governmental Involvement
Government involvement will be moderate and generally restricted to state and local levels.
Media Involvement
Media interest will be moderate and generally restricted to state and local levels.

TIER II EVENT
Local Company resources may have to be supplemented with Head Office and external resources to manage the spill incident.
Exposure
The potential public and environmental exposure is moderately high. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have moderately high impact on the public and/or the environment.
Degree of Control
The incident can be brought under control in a moderate period of time through implementation of local resources available to the Facility (including contract resources) with possible implementation of regional resources.
Governmental Involvement
Government involvement will be moderately high and generally restricted to regional levels.
Media Involvement
Media interest will be moderately high and generally restricted to regional levels.

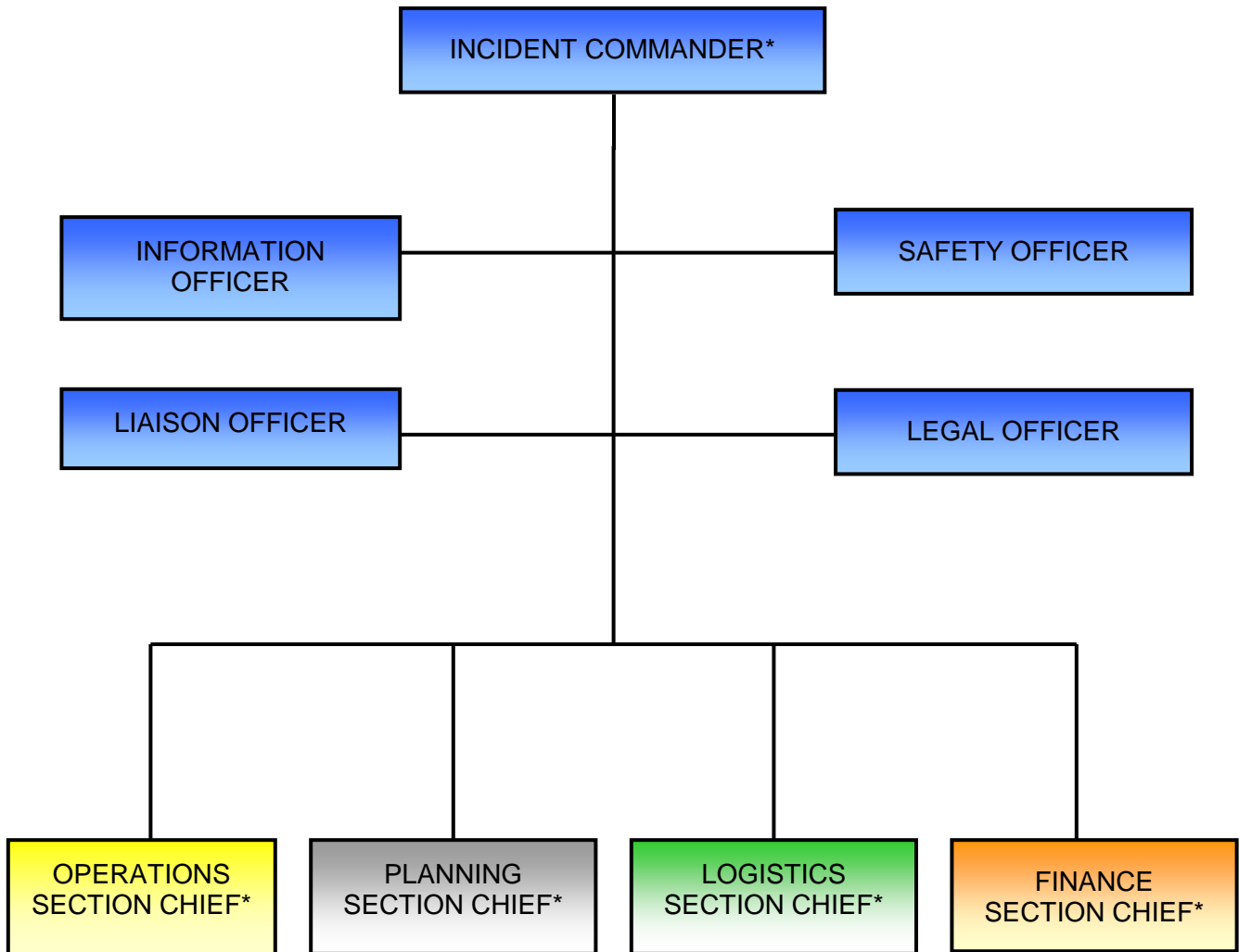
4.9 DISCHARGE CLASSIFICATION (Cont'd)

TIER III EVENT
Maximum Company and external resources must be implemented to respond to the spill incident. Activation of the Crisis Management Team would be anticipated during a Tier III incident.
Exposure
The potential public and environmental exposure is significant. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have significant impact on the public and/or the environment.
Degree of Control
Maximum Company and third party resources must be implemented in order to gain control of the incident.
Governmental Involvement
Government involvement will be high.
Media Involvement
Media interest will be high.

FIGURE 4.1

LOCAL RESPONSE TEAM

(For Initial Response and Tier I & II Incidents)

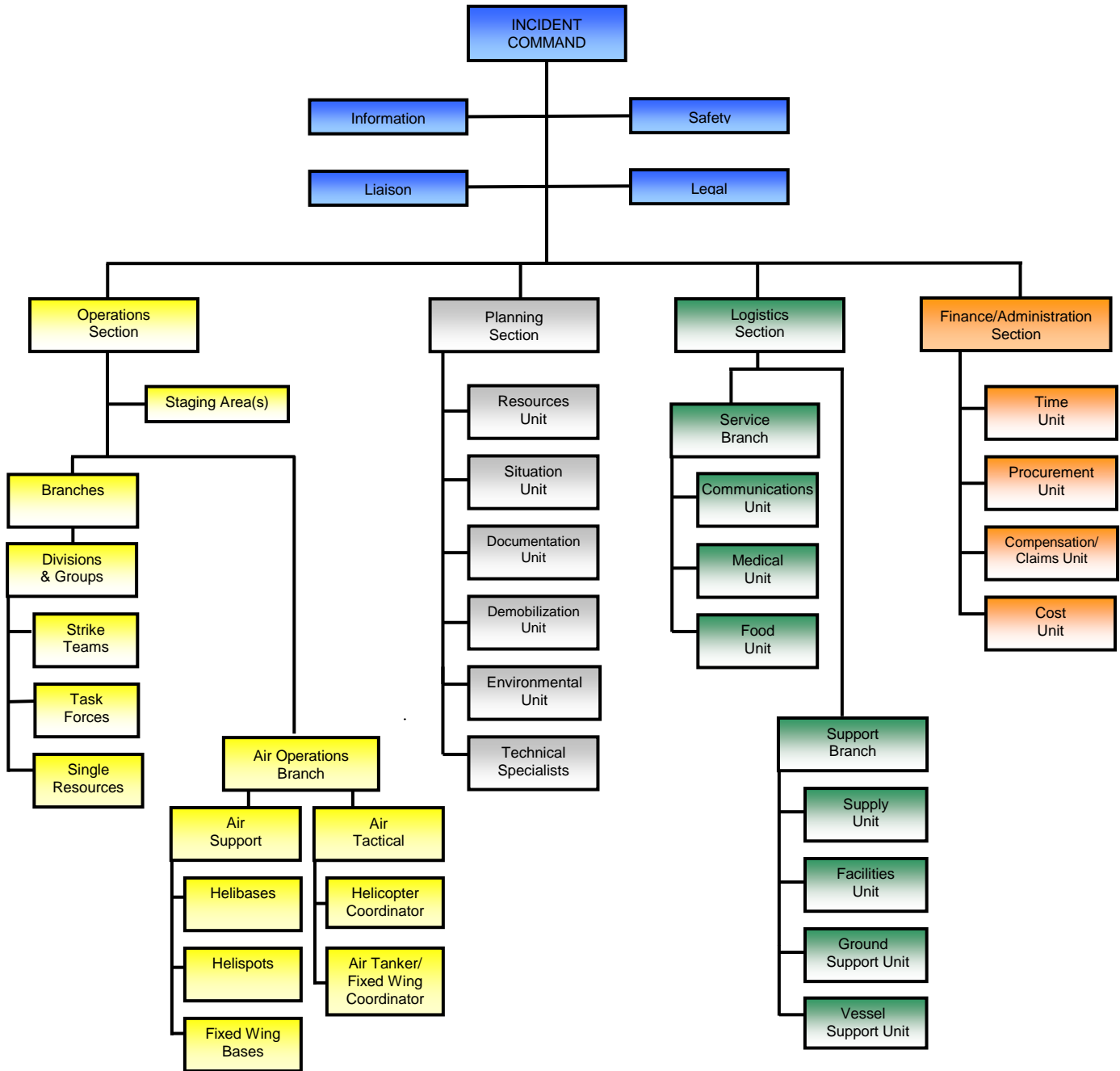


* NOTE: Spill Management Team (SMT) personnel can assume any of these positions as necessary.

FIGURE 4.2

SPILL MANAGEMENT TEAM

(For incidents beyond the response capability of the Local Response Team)



4.10 ICS ROLES AND RESPONSIBILITIES

COMMON RESPONSIBILITIES

The following is a checklist applicable to all personnel in an ICS organization:

- Receive assignment, including:
 - Job assignment
 - Resource order number and request number
 - Reporting location
 - Reporting time
 - Travel instructions
 - Special communications instructions
- Upon arrival, check-in at designated check-in location.
- Receive briefing from immediate supervisor.
- Acquire work materials.
- Supervisors maintain accountability for assigned personnel.
- Organize and brief subordinates.
- Know your assigned radio frequency(s) and ensure communications equipment is operating properly.
- Use clear text and ICS terminology (no codes) in all communications.
- Complete forms and reports required of the assigned position and send to Documentation Unit.
- Maintain unit records, including Unit/Activity Log (Figure 5.10).
- Respond to demobilization orders and brief subordinates regarding demobilization.

UNIT LEADER RESPONSIBILITIES

In ICS, a Unit Leader's responsibilities are common to all units in all parts of the organization. Common responsibilities of Unit Leaders are listed below.

- Review common responsibilities.
- Receive briefing from Incident Commander, Section Chief or Branch Director, as appropriate.
- Participate in incident planning meetings, as required.
- Determine current status of unit activities.
- Order additional unit staff, as appropriate.
- Determine resource needs.
- Confirm dispatch and estimated time of arrival of staff and supplies.
- Assign specific duties to staff; supervise staff.
- Develop and implement accountability, safety and security measures for personnel and resources.
- Supervise demobilization of unit, including storage of supplies.
- Provide Supply Unit Leader with a list of supplies to be replenished.
- Maintain unit records, including Unit/Activity Log (Figure 5.10).

COMMAND

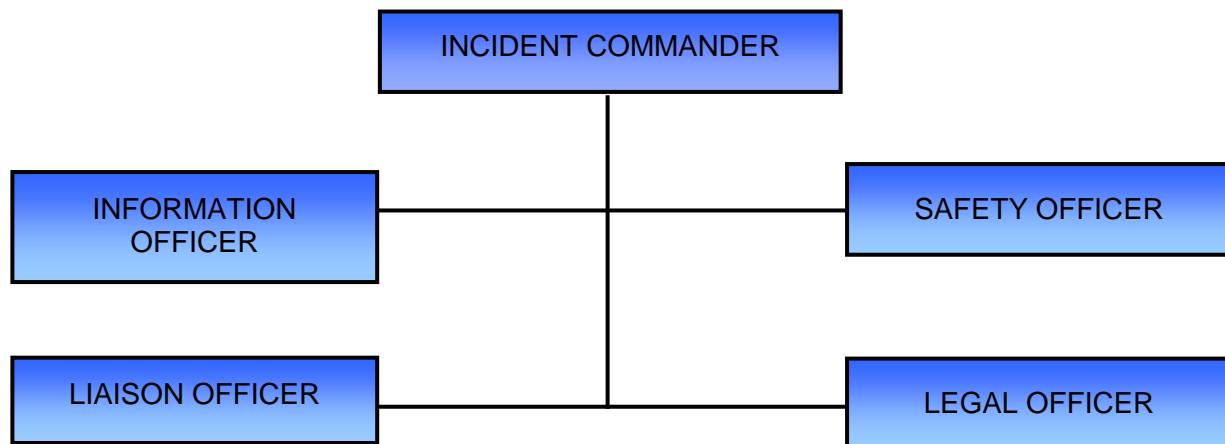
Incident Commander..... 4-16

Information Officer 4-16

Liaison Officer 4-17

Safety Officer 4-17

Legal Officer..... 4-17



INCIDENT COMMANDER

- Assess the situation and/or obtain a briefing from the prior IC.
- Determine Incident Objectives and strategy.
 - Keep the public informed of response activities.
 - Manage a coordinated response effort.
 - Maximize protection of environmentally sensitive areas.
 - Contain and recover spilled material.
 - Recover and rehabilitate injured wildlife.
 - Remove oil from impacted areas.
 - Minimize economic impacts.
 - Keep stakeholders informed of response activities.
- Establish the immediate priorities.
 - Ensure the safety of citizens and response personnel.
 - Control the source of the spill.
- Establish an Incident Command Post (ICP).
- Brief Command Staff and Section Chiefs.
- Review meetings and briefings.
- Establish an appropriate organization.
- Ensure planning meetings are scheduled as required.
- Approve and authorize the implementation of an Incident Action Plan (IAP).
- Ensure that adequate safety measures are in place.
- Coordinate activity for all Command and General Staff.
- Coordinate with key people and officials.
- Approve requests for additional resources or for the release of resources.
- Keep Company administrator(s) informed of incident status.
- Approve the use of trainees, volunteers, and auxiliary personnel.
- Authorize release of information to the news media.
- Ensure incident Status Summary (Figure 5.9) is completed and forwarded to appropriate higher authority.
- Order the demobilization of the incident when appropriate.

INFORMATION OFFICER

- Determine from the IC if there are any limits on information release.
- Develop material for use in media briefings.
- Obtain IC approval of media releases.
- Inform media and conduct media briefings.
- Arrange for tours and other interviews or briefings that may be required.
- Obtain media information that may be useful to incident planning.
- Maintain current information summaries and/or displays on the incident and provide information on the status of the incident to assigned personnel.

LIAISON OFFICER

- Be a contact point for agency representatives.
- Maintain a list of assisting and cooperating agencies and agency representatives. Monitor check-in sheets daily to ensure that all agency representatives are identified.
- Assist in establishing and coordinating interagency contacts.
- Keep agencies supporting the incident aware of incident status.
- Monitor incident operations to identify current or potential inter-organizational problems.
- Participate in planning meetings, providing current resource status, including limitations and capability of assisting agency resources.
- Coordinate response resource needs for Natural Resource Damage Assessment and NRDAR activities with the Operations Section during oil and HAZMAT responses.
- Coordinate response resource needs for incident investigation activities with the Operations Section.
- Ensure that all required agency forms, reports and documents are completed prior to demobilization.
- Have debriefing session with IC prior to departure.
- Coordinate activities of visiting dignitaries.

SAFETY OFFICER

- Participate in planning meetings.
- Identify hazardous situations associated with the incident.
- Review the IAP for safety implications.
- Exercise emergency authority to stop and prevent unsafe acts.
- Investigate accidents that have occurred within the incident area.
- Assign assistants, as needed.
- Review and approve the medical plan.
- Develop the Site Safety Plan and publish Site Safety Plan summary (Figure 5.14) as required.

LEGAL OFFICER

- Participate in planning meetings, if requested.
- Advise on legal issues relating to in-situ burning, use of dispersants, and other alternative response technologies.
- Advise on legal issues relating to differences between NRDAR and response activities.
- Advise on legal issues relating to investigations.
- Advise on legal issues relating to finance and claims.
- Advise on legal issues relating to response.

OPERATIONS

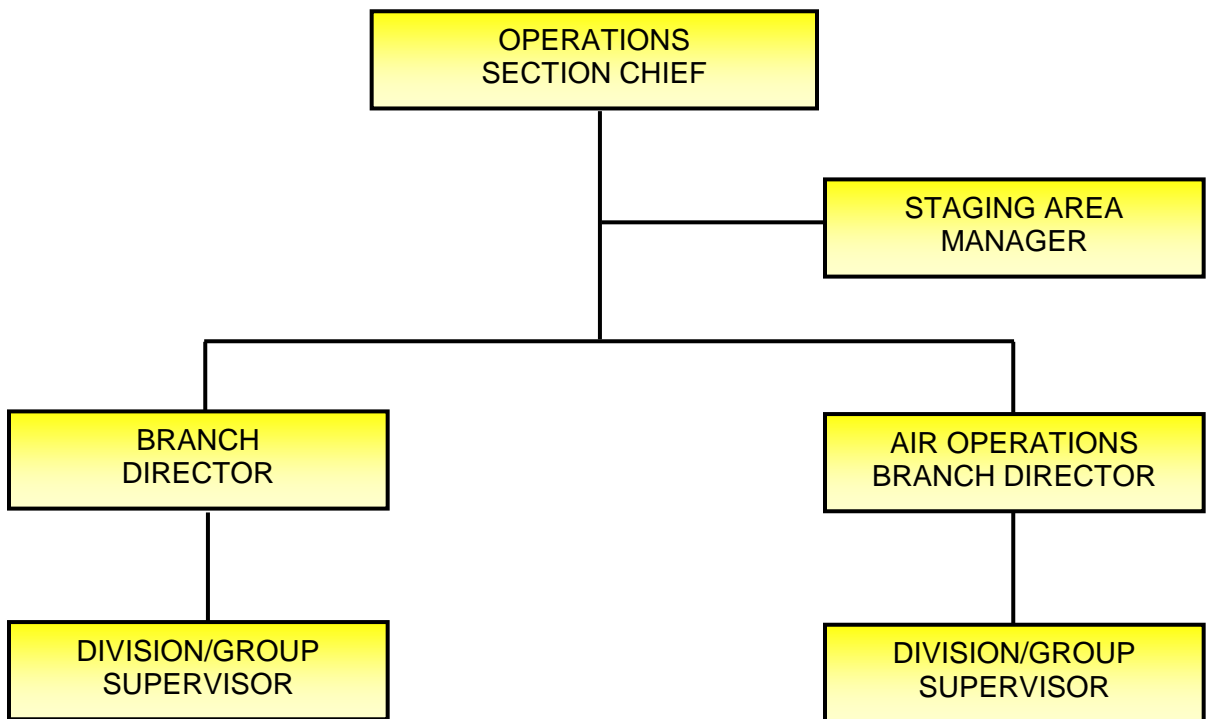
Operations Section Chief 4-19

Branch Director 4-19

Division/Group Supervisor 4-19

Staging Area Manager 4-20

Air Operations Branch Director 4-20



OPERATIONS SECTION CHIEF

- Develop operations portion of IAP.
- Brief and assign Operations Section personnel in accordance with the IAP.
- Supervise Operations Section.
- Determine need for and request additional resources.
- Review suggested list of resources to be released and initiate recommendation for release of resources.
- Assemble and disassemble Strike Teams assigned to the Operations Section.
- Report information about special activities, events, and occurrences to the IC.
- Respond to resource requests in support of NRDAR activities.

BRANCH DIRECTOR

- Develop, with subordinates, alternatives for Branch control operations.
- Attend planning meetings at the request of the Operations Section.
- Review Division/Group Assignment Lists (Figure 5.5) for Divisions/Groups within the Branch. Modify lists based on effectiveness of current operations.
- Assign specific work tasks to Division/Group Supervisors.
- Supervise Branch operations.
- Resolve logistic problems reported by subordinates.
- Report to Operations Section when: the IAP is to be modified; additional resources are needed; surplus resources are available; or hazardous situations or significant events occur.
- Approve accident and medical reports originating within the Branch.

DIVISION/GROUP SUPERVISOR

- Implement IAP for Division/Group.
- Provide the IAP to Strike Team Leaders, when available.
- Identify increments assigned to the Division/Group.
- Review Division/Group assignments and incident activities with subordinates and assign tasks.
- Ensure that the IC and/or Resources Unit is advised of all changes in the status of resources assigned to the Division/Group.
- Coordinate activities with adjacent Division/Group.
- Determine need for assistance on assigned tasks.
- Submit situation and resources status information to the Branch Director or the Operations Section.
- Report hazardous situations, special occurrences, or significant events (e.g., accidents, sickness, discovery of unanticipated sensitive resources) to the immediate supervisor.
- Ensure that assigned personnel and equipment get to and from assignments in a timely and orderly manner.
- Resolve logistics problems within the Division/Group.
- Participate in the development of Branch plans for the next operational period.

STAGING AREA MANAGER

- Establish Staging Area layout.
- Determine any support needs for equipment, feeding, sanitation and security.
- Establish check-in function as appropriate.
- Post areas for identification and traffic control.
- Request maintenance service for equipment at Staging Area as appropriate.
- Respond to request for resource assignments
- Obtain and issue receipts for radio equipment and other supplies distributed and received at Staging Area.
- Determine required resource levels from the Operations Section.
- Advise the Operations Section when reserve levels reach minimums.
- Maintain and provide status to Resource Unit of all resources in Staging Area.
- Maintain Staging Area in orderly condition.
- Demobilize Staging Area in accordance with the Incident Demobilization Plan.

AIR OPERATIONS BRANCH DIRECTOR

- Organize preliminary air operations.
- Request declaration (or cancellation) of restricted air space
- Participate in preparation of the IAP through the Operations Section. Insure that the air operations portion of the IAP takes into consideration the Air Traffic Control requirements of assigned aircraft.
- Perform operational planning for air operations.
- Prepare and provide Air Operations Summary Worksheet (Figure 5.12) to the Air Support Group and Fixed-Wing Bases.
- Determine coordination procedures for use by air organization with ground Branches, Divisions, or Groups.
- Coordinate with appropriate Operations Section personnel.
- Supervise all air operations activities associated with the incident.
- Evaluate helibase locations.
- Establish procedures for emergency reassignment of aircraft.
- Schedule approved flights of non-incident aircraft in the restricted air space area.
- Coordinate with the Operations Coordination Center (OCC) through normal channels on incident air operations activities.
- Inform the Air Tactical Group Supervisor of the air traffic situation external to the incident.
- Consider requests for non-tactical use of incident aircraft.
- Resolve conflicts concerning non-incident aircraft.
- Coordinate with Federal Aviation Administration (FAA).
- Update air operations plans.
- Report to the Operations Section on air operations activities.
- Report special incidents/accidents.
- Arrange for an accident investigation team when warranted.

PLANNING

Planning Section Chief..... 4-22

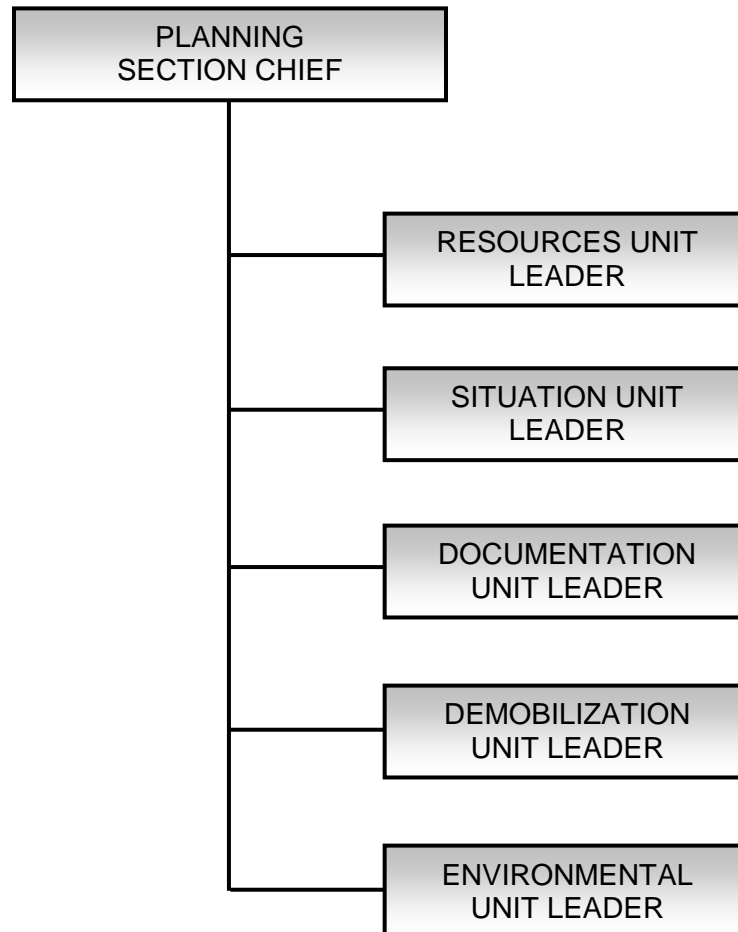
Resources Unit Leader 4-22

Situation Unit Leader 4-22

Documentation Unit Leader 4-23

Demobilization Unit Leader..... 4-23

Environmental Unit Leader 4-24



PLANNING SECTION CHIEF

- Collect and process situation information about the incident.
- Supervise preparation of the IAP.
- Provide input to the IC and the Operations Section in preparing the IAP.
- Chair planning meetings and participate in other meetings as required.
- Reassign out-of-service personnel already on-site to ICS organizational positions as appropriate.
- Establish information requirements and reporting schedules for Planning Section Units (e.g., Resources, Situation Units).
- Determine the need for any specialized resources in support of the incident.
- If requested, assemble and disassemble Strike Teams and Task Forces not assigned to Operations.
- Establish special information collection activities as necessary (e.g., weather, environmental, toxics, etc.).
- Assemble information on alternative strategies.
- Provide periodic predictions on incident potential.
- Report any significant changes in incident status.
- Compile and display incident status information.
- Oversee preparation and implementation of the Incident Demobilization Plan.
- Incorporate plans (e.g., Traffic, Medical, Communications, Site Safety) into the IAP.

RESOURCES UNIT LEADER

- Establish the check-in function at incident locations.
- Prepare Organization Assignment List (Figure 5.4) and Organization Chart (Figure 5.8).
- Prepare appropriate parts of Division Assignment Lists (Figure 5.5).
- Prepare and maintain the ICP display (to include organization chart and resource allocation and deployment).
- Maintain and post the current status and location of all resources.
- Maintain master roster of all resources checked in at the incident.

SITUATION UNIT LEADER

- Begin collection and analysis of incident data as soon as possible.
- Prepare, post, or disseminate resource and situation status information as required, including special requests.
- Prepare periodic predictions or as requested by the Planning Section Chief.
- Prepare the Incident Status Summary Form (Figure 5.9).
- Provide photographic services and maps if required.

DOCUMENTATION UNIT LEADER

- Set up work area; begin organization of incident files.
- Establish duplication service; respond to requests.
- File all official forms and reports.
- Review records for accuracy and completeness; inform appropriate units of errors or omissions.
- Provide incident documentation as requested.
- Store files for post-incident use.

DEMobilIZATION UNIT LEADER

- Participate in planning meetings as required.
- Review incident resource records to determine the likely size and extent of demobilization effort.
- Based on the above analysis, add additional personnel, workspace, and supplies as needed.
- Coordinate demobilization with agency representatives.
- Monitor the on-going Operations Section resource needs.
- Identify surplus resources and probable release time.
- Develop incident check-out function for all units.
- Evaluate logistics and transportation capabilities to support demobilization.
- Establish communications with off-incident facilities, as necessary.
- Develop an Incident Demobilization Plan detailing specific responsibilities and release priorities and procedures.
- Prepare appropriate directories (e.g., maps, instructions, etc.) for inclusion in the demobilization plan.
- Distribute demobilization plan (on and off-site).
- Provide status reports to appropriate requestors.
- Ensure that all Sections/Units understand their specific demobilization responsibilities.
- Supervise execution of the Incident Demobilization Plan.
- Brief the Planning Section Chief on demobilization progress.

ENVIRONMENTAL UNIT LEADER

- Participate in Planning Section meetings.
- Identify sensitive areas and recommend response priorities.
- Following consultation with natural resource trustees, provide input on wildlife protection strategies (e.g., removing oiled carcasses, pre-emptive capture, hazing, and/or capture and treatment).
- Determine the extent, fate and effects of contamination.
- Acquire, distribute and provide analysis of weather forecasts.
- Monitor the environmental consequences of cleanup actions.
- Develop shoreline cleanup and assessment plans. Identify the need for, and prepare any special advisories or orders.
- Identify the need for, and obtain, permits, consultations, and other authorizations including Endangered Species Act (ESA) provisions.
- Following consultation with the FOSC's Historical/Cultural Resources Technical Specialist identify and develop plans for the protection of affected historical/cultural resources.
- Evaluate the opportunities to use various response technologies.
- Develop disposal plans.
- Develop a plan for collecting, transporting, and analyzing samples.

LOGISTICS

Logistics Section Chief..... 4-26

Service Branch Director 4-26

Communications Unit Leader 4-27

Medical Unit Leader 4-27

Food Unit Leader 4-27

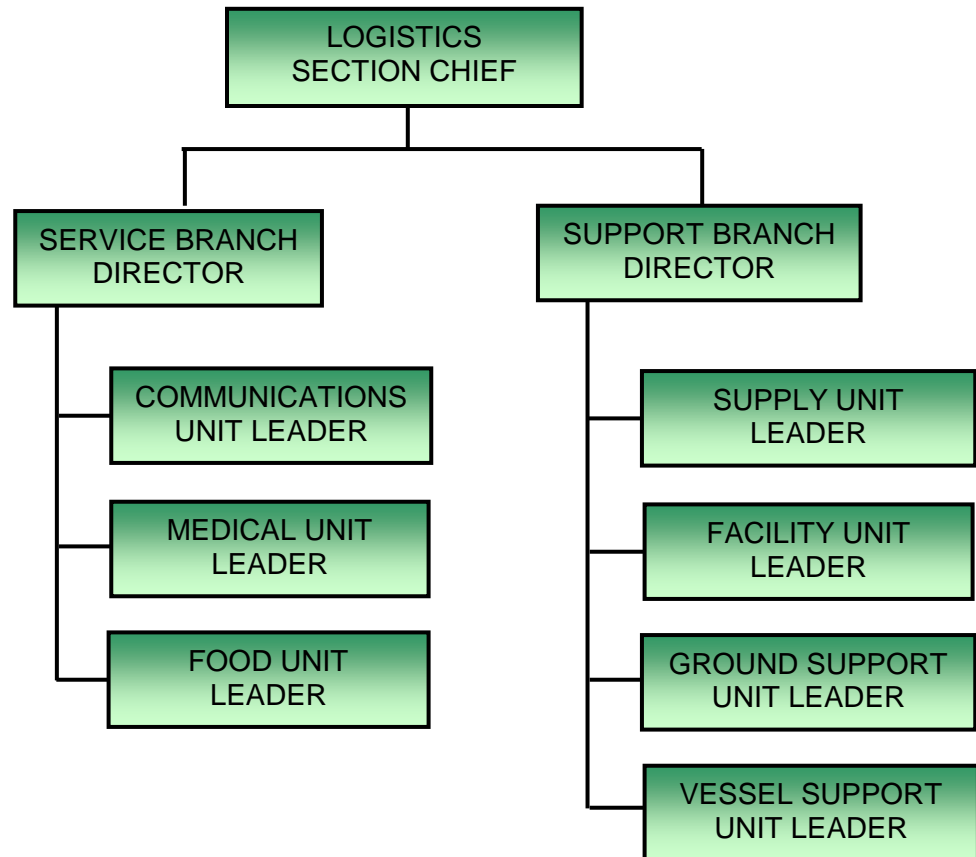
Support Branch Director 4-28

Supply Unit Leader..... 4-28

Facility Unit Leader 4-28

Ground Support Unit Leader..... 4-29

Vessel Support Unit Leader..... 4-29



LOGISTICS SECTION CHIEF

- Plan the organization of the Logistics Section.
- Assign work locations and preliminary work tasks to Section personnel.
- Notify the Resources Unit of the Logistics Section units activated including names and locations of assigned personnel.
- Assemble and brief Branch Directors and Unit Leaders.
- Participate in preparation of the IAP.
- Identify service and support requirements for planned and expected operations.
- Provide input to and review the Communications Plan, Medical Plan and Traffic Plan.
- Coordinate and process requests for additional resources.
- Review the IAP and estimate Section needs for the next operational period.
- Advise on current service and support capabilities.
- Prepare service and support elements of the IAP.
- Estimate future service and support requirements.
- Receive Incident Demobilization Plan from Planning Section.
- Recommend release of Unit resources in conformity with Incident Demobilization Plan.
- Ensure the general welfare and safety of Logistics Section personnel.

SERVICE BRANCH DIRECTOR

- Obtain working materials.
- Determine the level of service required to support operations.
- Confirm dispatch of Branch personnel.
- Participate in planning meetings of Logistics Section personnel.
- Review the IAP.
- Organize and prepare assignments for Service Branch personnel.
- Coordinate activities of Branch Units.
- Inform the Logistics Section Chief of Branch activities.
- Resolve Service Branch problems.

COMMUNICATIONS UNIT LEADER

- Determine Unit personnel needs.
- Prepare and implement the Incident Radio Communications Plan (Figure 5.6).
- Ensure the Incident Communications Center and the Message Center is established.
- Establish appropriate communications distribution/maintenance locations within the Base/Camp(s).
- Ensure communications systems are installed and tested.
- Ensure an equipment accountability system is established.
- Ensure personal portable radio equipment from cache is distributed per Incident Radio Communications Plan.
- Provide technical information as required on:
 - Adequacy of communications systems currently in operation.
 - Geographic limitation on communications systems.
 - Equipment capabilities/limitations.
 - Amount and types of equipment available.
 - Anticipated problems in the use of communications equipment.
- Supervise Communications Unit activities.
- Maintain records on all communications equipment as appropriate.
- Ensure equipment is tested and repaired.
- Recover equipment from Units being demobilized.

MEDICAL UNIT LEADER

- Participate in Logistics Section/Service Branch planning activities.
- Establish and prepare the Medical Plan (Figure 5.7).
- Prepare procedures for major medical emergency.
- Declare major emergency as appropriate.
- Respond to requests for medical aid, medical transportation, and medical supplies.
- Prepare and submit necessary documentation.

FOOD UNIT LEADER

- Determine food and water requirements.
- Determine the mode of feeding to best fit each facility or situation.
- Obtain necessary equipment and supplies and establish cooking facilities.
- Ensure that well-balanced menus are provided.
- Order sufficient food and potable water from the Supply Unit.
- Maintain an inventory of food and water.
- Maintain food service areas, ensuring that all appropriate health and safety measures are being followed.
- Supervise caterers, cooks, and other Food Unit personnel as appropriate.

SUPPORT BRANCH DIRECTOR

- Obtain work materials.
- Identify Support Branch personnel dispatched to the incident.
- Determine initial support operations in coordination with the Logistics Section Chief and Service Branch Director.
- Prepare initial organization and assignments for support operations.
- Assemble and brief Support Branch personnel.
- Determine if assigned Branch resources are sufficient.
- Maintain surveillance of assigned units' work progress and inform the Logistics Section Chief of their activities.
- Resolve problems associated with requests from the Operations Section.

SUPPLY UNIT LEADER

- Participate in Logistics Section/Support Branch planning activities.
- Determine the type and amount of supplies en route to the incident.
- Review the IAP for information on operations of the Supply Unit.
- Develop and implement safety and security requirements.
- Order, receive, distribute, and store supplies and equipment.
- Receive and respond to requests for personnel, supplies, and equipment.
- Maintain an inventory of supplies and equipment.
- Service reusable equipment.
- Submit reports to the Support Branch Director.

FACILITY UNIT LEADER

- Review the IAP.
- Participate in Logistics Section/Support Branch planning activities.
- Determine requirements for each facility, including the ICP.
- Prepare layouts of incident facilities.
- Notify Unit Leaders of facility layout.
- Activate incident facilities.
- Provide Base and Camp Managers as well as personnel to operate facilities.
- Provide sleeping facilities.
- Provide security services.
- Provide facility maintenance services (e.g., sanitation, lighting, clean up).
- Demobilize Base and Camp facilities.
- Maintain facility records

GROUND SUPPORT UNIT LEADER

- Participate in Support Branch/Logistics Section planning activities.
- Develop and implement the Traffic Plan.
- Support out-of-service resources.
- Notify the Resources Unit of all status changes on support and transportation vehicles.
- Arrange for and activate fueling, maintenance, and repair of ground resources.
- Maintain Support Vehicle Inventory and transportation vehicles (Figure 5.11).
- Provide transportation services, in accordance with requests from the Logistics Section Chief or Support Branch Director.
- Collect information on rented equipment.
- Requisition maintenance and repair supplies (e.g., fuel, spare parts).
- Maintain incident roads.
- Submit reports to Support Branch Director as directed.

VESSEL SUPPORT UNIT LEADER

- Participate in Support Branch/Logistics Section planning activities.
- Coordinate development of the Vessel Routing Plan.
- Coordinate vessel transportation assignments with the Protection and Recovery Branch or other sources of vessel transportation.
- Coordinate water-to-land transportation with the Ground Support Unit, as necessary.
- Maintain a prioritized list of transportation requirements that need to be scheduled with the transportation source.
- Support out-of-service vessel resources, as requested.
- Arrange for fueling, dockage, maintenance and repair of vessel resources, as requested.
- Maintain inventory of support and transportation vessels.

FINANCE/ADMINISTRATION

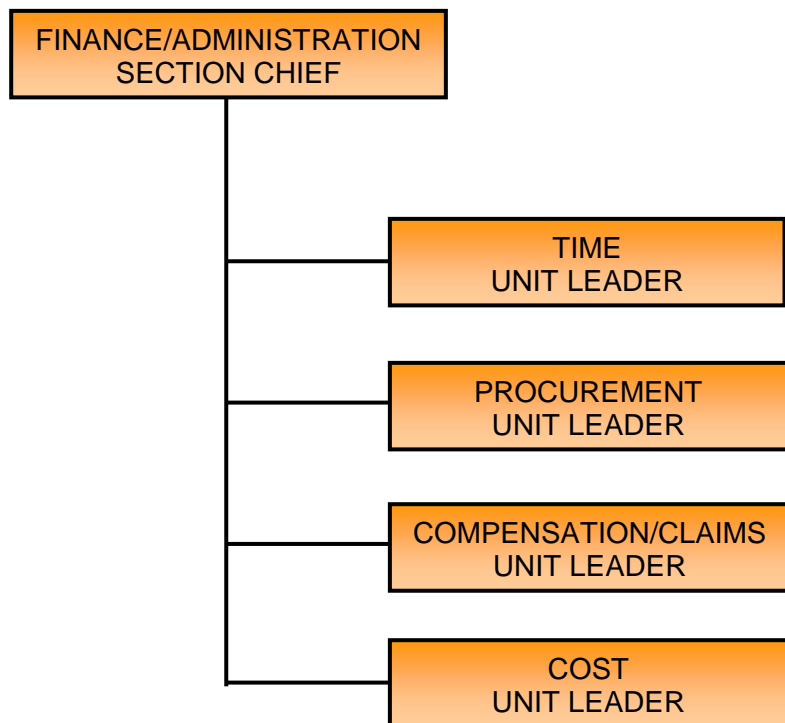
Finance/Administration Section Chief..... 4-31

Time Unit Leader 4-31

Procurement Unit Leader..... 4-32

Compensation/Claims Unit Leader..... 4-32

Cost Unit Leader 4-33



FINANCE/ADMINISTRATION SECTION CHIEF

- Attend planning meetings, as required.
- Manage all financial aspects of an incident.
- Provide financial and cost analysis information, as requested.
- Gather pertinent information from briefings with responsible agencies.
- Develop an operating plan for the Finance/Administration Section; fill supply and support needs.
- Determine the need to set up and operate an incident commissary.
- Meet with assisting and cooperating agency representatives, as needed.
- Maintain daily contact with Company administrative headquarters on finance/administration matters.
- Ensure that all personnel time records are accurately completed and transmitted, according to policy.
- Provide financial input to demobilization planning.
- Ensure that all obligation documents initiated at the incident are properly prepared and completed.
- Brief administrative personnel on all incident-related financial issues needing attention or follow-up prior to leaving incident.

TIME UNIT LEADER

- Determine incident requirements for time recording function.
- Determine resource needs.
- Contact appropriate Company personnel/representatives.
- Ensure that daily personnel time recording documents are prepared and in compliance with policy.
- Establish time unit objectives.
- Maintain separate logs for overtime hours.
- Establish commissary operation on larger or long-term incidents as needed.
- Submit cost estimate data forms to the Cost Unit, as required.
- Maintain security of time documents.
- Ensure that all records are current and complete prior to demobilization.
- Release time reports from assisting agency personnel to the respective agency representatives prior to demobilization.
- Brief the Finance/Administration Section Chief on current problems and recommendations, outstanding issues, and follow-up requirements.

PROCUREMENT UNIT LEADER

- Review incident needs and any special procedures with Unit Leaders, as needed.
- Coordinate with local jurisdiction on plans and supply sources.
- Obtain the Incident Procurement Plan.
- Prepare and authorize contracts and land-use agreements.
- Draft memoranda of understanding, as necessary.
- Establish contracts and agreements with supply vendors.
- Provide for coordination between the Ordering Manager, agency dispatch, and all other procurement organizations supporting the incident.
- Ensure that a system is in place that meets Company property management requirements. Ensure proper accounting for all new property.
- Interpret contracts and agreements; resolve disputes within delegated authority.
- Coordinate with the Compensation/Claims Unit for processing claims.
- Complete final processing of contracts and send documents for payment.
- Coordinate cost data in contracts with the Cost Unit Leader.
- Brief the Finance/Administration Section Chief on current problems and recommendations, outstanding issues, and follow-up requirements.

COMPENSATION/CLAIMS UNIT LEADER

- Establish contact with the incident Safety Officer and Liaison Officer (or agency representatives if no Liaison Officer is assigned).
- Determine the need for Compensation for Injury and Claims Specialists and order personnel as needed.
- Establish a Compensation for Injury work area within, or as close as possible, to the Medical Unit.
- Review Incident Medical Plan (Figure 5.7).
- Ensure that Compensation/Claims Specialists have adequate workspace and supplies.
- Review and coordinate procedures for handling claims with the Procurement Unit.
- Brief the Compensation/Claims Specialists on incident activity.
- Periodically review logs and forms produced by the Compensation/Claims Specialists to ensure that they are complete, entries are timely and accurate and that they are in compliance with agency requirements and policies.
- Ensure that all Compensation for Injury and Claims logs and forms are complete and routed appropriately for post-incident processing prior to demobilization.
- Keep the Finance/Administration Section Chief briefed on Unit status and activity.
- Demobilize unit in accordance with the Incident Demobilization Plan.

COST UNIT LEADER

- Coordinate cost reporting procedures.
- Collect and record all cost data.
- Develop incident cost summaries.
- Prepare resources-use cost estimates for the Planning Section.
- Make cost-saving recommendations to the Finance/Administration Section Chief.
- Ensure all cost documents are accurately prepared.
- Maintain cumulative incident cost records.
- Complete all records prior to demobilization.
- Provide reports to the Finance/Administration Section Chief.

5.0 RESPONSE PLANNING

5.1 INCIDENT ACTION PLAN

Emergency response activities are planned and coordinated through the use of an Incident Action Plan (IAP) which is developed for each Operational Period of a response by the Incident Management Team. For small responses, an ICS 201 (Incident Briefing Form provided in Figure 5.1), may be used as the IAP.

For larger or more complex incidents a more complete IAP will be required. These IAP's are generally created through the completion and compilation of several standard ICS forms. These forms include, but are not limited to:

ICS FORM NUMBER	FORM TITLE	PREPARED BY*	PLAN LOCATION
201	Incident Briefing	Initial Response IC	Figure 5.1
None	ICS IAP Cover	Situation Unit Leader	Figure 5.2
202	Incident Objectives	Planning Section Chief	Figure 5.3
203	Organization Assignment List	Resources Unit Leader	Figure 5.4
204	Assignment List	Operations Section Chief & Resources Unit Leader	Figure 5.5
205	Incident Radio Communications Plan	Communications Unit Leader	Figure 5.6
206	Medical Plan	Medical Unit Leader	Figure 5.7
207	Incident Organization	Resources Unit Leader	Figure 5.8
209	Incident Status Summary	Incident Commander	Figure 5.9
214	Unit Log	Situation Unit Leader	Figure 5.10
218	Support Vehicle Inventory	Ground Support Unit Leader	Figure 5.11
220	Air Operations Summary	Air Operations Branch Director	Figure 5.12
232	Resources at Risk Summary	Situation Unit Leader	Figure 5.13
SSP	Site Safety Plan	Safety Officer	Figure 5.14

* The Planning Section Chief may assign preparation of forms to other personnel on the Incident Management Team if identified position is unassigned or vacant when the IAP is produced. **Electronic versions of the ICS Forms (in a similar format) are available through the online FRP plan system.**

5.1 INCIDENT ACTION PLAN (Cont'd)

Depending on the nature and severity of the emergency, additional documents may be included in the IAP. These may include:

- Sensitivity Maps (Provided in Section 6)
- Waste Management & Disposal Plans (Provided in Appendix F)
- Plans for use of Alternative Technologies (Dispersant/In-situ Burning/Bioremediation)
- Security Plans
- Decontamination Plans
- Traffic Plans

5.2 SITE SAFETY PLAN

Site Safety Plans (SSP) are required by OSHA (29CFR1910.120(b)(4)) for all hazardous waste operations. The SSP should address all on-site operations and hazardous as well as on-site emergency procedures. A template for use in producing an SSP is provided as Figure 5.14.

The SSP is typically prepared by the Safety Officer and approved by the Incident Commander. All personnel must be familiar with the contents of the SSP and the SSP must be updated as conditions, operations and hazards associated with the response change

FIGURE 5.1

INCIDENT BRIEFING

1. Incident Name	2. Prepared by: (name) Date _____ Time: _____	INCIDENT BRIEFING ICS 201-OS (pg 1 of 4)
3. Map/Sketch (include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, Impacted shorelines, or other graphics depicting situational and response status)		
INCIDENT BRIEFING	June 2000	ICS 201-OS (pg 1 of 4)

FIGURE 5.1

INCIDENT BRIEFING (Cont'd)

1. Incident Name	2. Prepared by: (name) Date _____ Time: _____	INCIDENT BRIEFING ICS 201-OS (pg 3 of 4)																	
3. Current Organization																			
<pre> graph TD UC[Unified Command] --- SO[Safety Officer] UC --- LO[Liaison Officer] UC --- IO[Information Officer] UC --- OS[Operations Section] UC --- PS[Planning Section] UC --- LS[Logistics Section] UC --- FS[Finance Section] OS --- DG1[Div./Group] OS --- DG2[Div./Group] OS --- DG3[Div./Group] OS --- DG4[Div./Group] OS --- DG5[Div./Group] </pre>	FOSC _____ SOSC _____ RPIC _____ _____ _____ Safety Officer _____ Liaison Officer _____ Information Officer _____																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">Operations Section</td> <td style="width: 25%; text-align: center;">Planning Section</td> <td style="width: 25%; text-align: center;">Logistics Section</td> <td style="width: 25%; text-align: center;">Finance Section</td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> </table>	Operations Section	Planning Section	Logistics Section	Finance Section					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Div./Group</td> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="text-align: center;">Div./Group</td> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="text-align: center;">Div./Group</td> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="text-align: center;">Div./Group</td> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> </tr> </table>	Div./Group		Div./Group		Div./Group		Div./Group			
Operations Section	Planning Section	Logistics Section	Finance Section																
Div./Group																			
Div./Group																			
Div./Group																			
Div./Group																			
INCIDENT BRIEFING June 2000 ICS 201-OS (pg 3 of 4)																			

FIGURE 5.2

ICS IAP COVER

1. Incident Name	2. Operational Period to be covered by IAP (Date/Time) From: _____ To: _____	IAP COVER SHEET
3. Approved by:		
FOSC _____		
SOSC _____		
RPIC _____		

INCIDENT ACTION PLAN		
The items checked below are included in this Incident Action Plan:		
<input type="checkbox"/> ICS 202-OS (Response Objectives) _____		
<input type="checkbox"/> ICS 203-OS (Organization List) – OR – ICS 207-OS (Organization Chart) _____		
<input type="checkbox"/> ICS 204-OSs (Assignment Lists) One Copy each of any ICS 204-OS attachments: <ul style="list-style-type: none"> <input type="checkbox"/> Map <input type="checkbox"/> Weather forecast <input type="checkbox"/> Tides <input type="checkbox"/> Shoreline Cleanup Assessment Team Report for location <input type="checkbox"/> Previous day's progress, problems for location _____		
<input type="checkbox"/> ICS 205-OS (Communications List) _____		
<input type="checkbox"/> ICS 206-OS (Medical Plan) <ul style="list-style-type: none"> <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 		
4. Prepared by: _____		Date/Time _____
IAP COVER SHEET		June 2000

FIGURE 5.3

INCIDENT OBJECTIVES

1. Incident Name	2. Operational Period (Date/Time) From: _____ To: _____	INCIDENT OBJECTIVES ICS 202-OS
3. Overall Incident Objective(s)		
4. Objectives for specified Operational Period		
5. Safety Message for Specified Operational Period		
Approved Site Safety Plan Located at:		
6. Weather See Attached Weather Sheet		
7. Tides/Currents See Attached Tide/Current Data		
8. Time of Sunrise Time of Sunset		
9. Attachments (mark "X" if attached)		
<input type="checkbox"/> Organization List (ICS 203-OS)	<input type="checkbox"/> Medical Plan (ICS 206-OS)	<input type="checkbox"/> Resource at Risk Summary (ICS 232-OS)
<input type="checkbox"/> Assignment List (ICS 204-OS)	<input type="checkbox"/> Incident Map(s)	<input type="checkbox"/> _____
<input type="checkbox"/> Communications List (ICS 205-OS)	<input type="checkbox"/> Traffic Plan	<input type="checkbox"/> _____
10. Prepared by: (Planning Section Chief)		Date/Time
INCIDENT OBJECTIVES	June 2000	ICS 202-OS

FIGURE 5.4

ORGANIZATION ASSIGNMENT LIST

1. Incident Name		2. Operational Period (Date/Time) From: To:		ORGANIZATION ASSIGNMENT LIST ICS 203-OS																						
3. Incident Commander and Staff <table border="1"> <tr> <td></td> <td>Primary</td> <td>Deputy</td> </tr> <tr> <td>Federal:</td> <td></td> <td></td> </tr> <tr> <td>State:</td> <td></td> <td></td> </tr> <tr> <td>RP(s):</td> <td></td> <td></td> </tr> <tr> <td>Safety Officer:</td> <td colspan="2"></td> </tr> <tr> <td>Information Officer:</td> <td colspan="2"></td> </tr> <tr> <td>Liaison Officer:</td> <td colspan="2"></td> </tr> </table>					Primary	Deputy	Federal:			State:			RP(s):			Safety Officer:			Information Officer:			Liaison Officer:			7. OPERATION SECTION Chief _____ Deputy _____ a. Branch I – Division Groups Branch Director _____ Deputy _____ Division/Group _____ Division/Group _____ Division Group _____ Division Group _____ b. Branch II – Division/Groups Branch Director _____ Deputy _____ Division/Group _____ Division/Group _____ Division/Group _____ Division/Group _____ c. Branch III – Division/Groups Branch Director _____ Deputy _____ Division/Group _____ Division/Group _____ Division/Group _____ Division/Group _____ d. Air Operations Branch Air Operations Br. Dir _____ Air Tactical Supervisor _____ Air Support Supervisor _____ Helicopter Coordinator _____ Fixed Wing Coordinator _____	
					Primary	Deputy																				
				Federal:																						
				State:																						
				RP(s):																						
				Safety Officer:																						
Information Officer:																										
Liaison Officer:																										
4. Agency Representatives <table border="1"> <tr> <th>Agency</th> <th>Name</th> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				Agency	Name																					
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5. PLANNING SECTION Chief _____ Deputy _____ Resources Unit _____ Situation Unit _____ Environmental Unit _____ Documentation Unit _____ Demobilization Unit _____ Technical Specialists _____ _____ _____ _____ _____																										
6. LOGISTICS SECTION Chief _____ Deputy _____ a. Support Branch Director _____ Supply Unit _____ Facilities Unit _____ Transportation Unit _____ Vessel Support Unit _____ Ground Support Unit _____ b. Service Branch Director _____ Communications Unit _____ Medical Unit _____ Food Unit _____																										
8. FINANCE/ADMINISTRATION SECTION Chief _____ Deputy _____ Time Unit _____ Procurement Unit _____ Compensation/Claims Unit _____ Cost Unit _____																										
9. Prepared By: (Resources Unit) _____ Date/Time _____																										
ORGANIZATION ASSIGNMENT LIST		June 2000		ICS 203-OS																						

FIGURE 5.5

ASSIGNMENT LIST

1. Incident Name		2. Operational Period (Date/Time) From: _____ To: _____			Assignment List ICS 204-OS	
3. Branch			4. Division/Group			
5. Operations Personnel						
		Name	Affiliation	Contact # (s)		
Operations Section Chief: _____						
Branch Director: _____						
Division/Group Supervisor: _____						
6. Resources Assigned This Period "X" indicates 204a attachment with special instructions						
Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# of Persons	Notes/Remarks		↓
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
7. Assignments						
8. Special Instructions for Division/Group						
9. Communications (radio and/or phone contact numbers needed for this assignment)						
Name/Function		Radio: Freq./System/Channel		Phone	Pager	
_____		_____		_____	_____	
_____		_____		_____	_____	
_____		_____		_____	_____	
Emergency Communications						
Medical _____		Evacuation _____		Other _____		
10. Prepared By (Resource Unit Leader)			Date/Time	11. Approved By (Planning Section Chief)		Date/Time
ASSIGNMENT LIST			June 2000	ICS 204-OS		

FIGURE 5.5

ASSIGNMENT LIST (Cont'd)

1. Incident Name		2. Operational Period (Date/Time) From: _____ To: _____		ASSIGNMENT LIST ATTACHMENT
				ICS 204a-OS
3. Branch			4. Division/Group	
5. Strike Team/Task Force/Resource Identifier		6. Leader	7. Assignment Location	
8. Work Assignment Special Instructions (if any)				[Ops]
9. Special Equipment/Supplies Needed for Assignment (if any)				[Ops]
10. Special Environmental Considerations (if any)				[P.S.C.]
11. Special Site-Specific Safety Considerations (if any)				[S.O.]
Approved Site Safety Plan Located at:				
12. Other Attachments (as needed)				
<input type="checkbox"/> Map	<input type="checkbox"/> Shoreline Cleanup Assessment Team Report		<input type="checkbox"/> _____	
<input type="checkbox"/> Weather Forecast	<input type="checkbox"/> Tides		<input type="checkbox"/> _____	
13. Prepared by: (Resources Unit Leader)				
ASSIGNMENT LIST ATTACHMENT		June 2000		ICS 204a-OS

FIGURE 5.6

INCIDENT RADIO COMMUNICATIONS PLAN

1. Incident Name		2. Operational Period (Date / Time) From: _____ To: _____			INCIDENT RADIO COMMUNICATIONS PLAN ICS 205-OS	
3. BASIC RADIO CHANNEL USE						
SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS	
4. Prepared by: (Communications Unit)				Date / Time		
INCIDENT RADIO COMMUNICATIONS PLAN		June 2000			ICS 205-OS	

FIGURE 5.8

INCIDENT ORGANIZATION

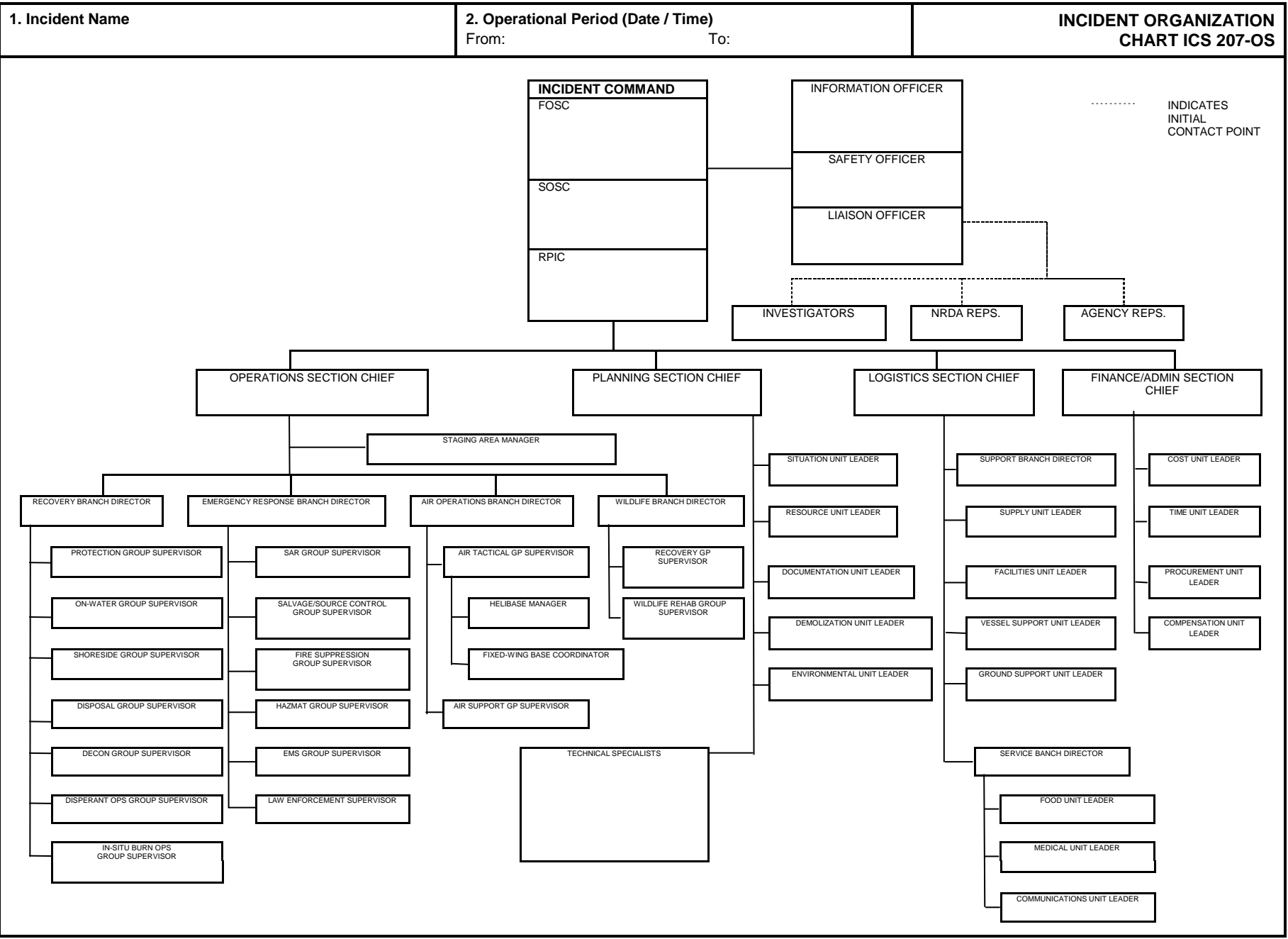


FIGURE 5.9

INCIDENT STATUS SUMMARY

INCIDENT STATUS SUMMARY	1. Incident Name	2. Date Prepared	3. Time Prepared																																																																																				
5. Spill Status (Estimated, BBLs) Source Status: _____ Remaining Potential: _____ Rate of spillage: _____ <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;"></td> <td style="width:20%; text-align:center;">LAST 24 HOURS</td> <td style="width:20%; text-align:center;">TOTAL</td> </tr> <tr> <td>Volume Spilled</td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> </table>			LAST 24 HOURS	TOTAL	Volume Spilled			4. Operational Period (Date/Time)																																																																															
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Mass Balance/Oil Budget <table style="width:100%; border-collapse: collapse;"> <tr><td>Recovered Liquids</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Evaporation</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Dispersion</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Burned</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Floating, Contained</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Floating, Uncontained</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Onshore</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td colspan="3" style="text-align:center;">Total spilled product accounted for</td></tr> </table>		Recovered Liquids			Evaporation			Dispersion			Burned			Floating, Contained			Floating, Uncontained			Onshore			Total spilled product accounted for			10. Onshore Equipment Resources <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">TYPE</th> <th style="width:15%;">Number Assigned at Incident</th> <th style="width:15%;">Number Available</th> <th style="width:10%;">Number Out-of-Service</th> </tr> </thead> <tbody> <tr><td>Heavy Equipment</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Pressure Washers</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Vacuum Trucks</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Bioremediation Units</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Containment Boom (ft.)</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Sorbent/Snare Boom (ft.)</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Stationary Skimmers</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> <tr><td>Vessels</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td></tr> </tbody> </table>		TYPE	Number Assigned at Incident	Number Available	Number Out-of-Service	Heavy Equipment				Pressure Washers				Vacuum Trucks				Bioremediation Units				Containment Boom (ft.)				Sorbent/Snare Boom (ft.)				Stationary Skimmers				Vessels																											
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ICS-OS-209																																																																																							

FIGURE 5.12

AIR OPERATIONS SUMMARY

AIR OPERATIONS SUMMARY		1. Incident Name		2. Operational Period (Date/Time)				3. Distribution Helibases _____ Fixed-Wing Bases _____	
4. PERSONNEL AND COMMUNICATIONS							5. REMARKS (Spec. Instructions, Safety Notes, Hazards, Priorities)		
	NAME		AIR/AIR FREQUENCY			AIR/GROUND FREQUENCY			
	Air Operations Director	_____	_____	_____	_____	_____			
	Air Tactical Supervisor	_____	_____	_____	_____	_____			
	Air Support Supervisor	_____	_____	_____	_____	_____			
	Helicopter Coordinator	_____	_____	_____	_____	_____			
	Fixed-Wing Coordinator	_____	_____	_____	_____	_____			
	_____	_____	_____	_____	_____	_____			
6. Location / Function	7. Assignment	8. Fixed Wing		9. Helicopter		10. Time		11. Aircraft Assigned	12. Operating Base
		Number	Type	Number	Type	Available	Commence		
ICS 220 8/96	13. Air Operation Support Equipment			14. Prepared by: (Include Date & Time)					

FIGURE 5.13

RESOURCES AT RISK SUMMARY

1. Incident Name		2. Operational Period (Date/Time) From: _____ To: _____		RESOURCES AT RISK SUMMARY ICS 232-OS
3. Environmentally-Sensitive Areas and Wildlife Issues				
Site #	Priority	Site Name and/or Physical Location	Site Issues	
Narrative				
4. Archaeo-cultural and Socio-economic Issues				
Site #	Priority	Site Name and/or Physical Location	Site Issues	
Narrative				
5. Prepared by: (Environmental Unit Leader)			Date/Time	
RESOURCES AT RISK SUMMARY		June 2000	ICS 232-OS	

FIGURE 5.14

SITE SAFETY PLAN

I. General

Tank Farm Spill Pipeline Spill Spill to Water Excavation Other: _____ AFE # _____
 Facility: _____
 Location: _____
 Work to be performed: _____

Issuing Date: _____ Time: _____
 Temperature: _____° Wind Direction: _____
 Humidity: _____

II. Hazards to be Evaluated

- | | | |
|---|---|--|
| <p>Y N</p> <p><input type="checkbox"/> <input type="checkbox"/> Oxygen Deficient/Enriched</p> <p><input type="checkbox"/> <input type="checkbox"/> Flammable Atmosphere (Explosion Fire)</p> <p><input type="checkbox"/> <input type="checkbox"/> Toxic Atmosphere: _____</p> <p><input type="checkbox"/> <input type="checkbox"/> Boat Operations</p> <p><input type="checkbox"/> <input type="checkbox"/> Confined Space</p> | <p>Y N</p> <p><input type="checkbox"/> <input type="checkbox"/> Ingestion / Skin Absorption</p> <p><input type="checkbox"/> <input type="checkbox"/> Frostbite (LPG Spills)</p> <p><input type="checkbox"/> <input type="checkbox"/> Chemical/MSDS # _____ (Must be attached)</p> <p><input type="checkbox"/> <input type="checkbox"/> Physical Hazard _____</p> <p><input type="checkbox"/> <input type="checkbox"/> Traffic _____</p> <p><input type="checkbox"/> <input type="checkbox"/> Vapor Cloud</p> | <p>Y N SPECIFIC HAZARDS</p> <p><input type="checkbox"/> <input type="checkbox"/> Gasoline</p> <p><input type="checkbox"/> <input type="checkbox"/> JP5-JP8</p> <p><input type="checkbox"/> <input type="checkbox"/> LPG</p> <p><input type="checkbox"/> <input type="checkbox"/> Kerosene / Jet A</p> <p><input type="checkbox"/> <input type="checkbox"/> Aromatics</p> <p><input type="checkbox"/> <input type="checkbox"/> Diesel Fuel</p> <p><input type="checkbox"/> <input type="checkbox"/> Heating Oil</p> <p><input type="checkbox"/> <input type="checkbox"/> Other* (see comments) _____</p> |
|---|---|--|

III. Testing & Monitoring (Check required items)

Tests are to be performed in the order listed.

- | | | |
|---|---|-------------------|
| Y N | Continuous | Frequency |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |
| <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> Y <input type="checkbox"/> N | _____ every _____ |

ACCEPTABLE ENTRY CONDITIONS

SPECIAL WORK PRACTICES OR PPE REQUIRED

PPLC ERT LEAVE AREA WORK EFFORTS SHOULD BE DIRECTED AT REDUCING CONCENTRATIONS

19.5 – 23.0% in air	< 19.5% or 23.0% in air	<16.0 or ≥ 23.5% in air
< 10% in air	≥ 10.0 but < 20.0% in air	≥ 20.0% in air
< 10 ppm	≥ 10 but < 100 ppm	≥ 100 ppm
< .5 ppm	≥ .5 but < 10 ppm	≥ 10 ppm
< 300 ppm	≥ 300 but < 750 ppm	≥ 750 ppm

As allowed by applicable standard(s) Acceptable for 5325 feet of elevation and below.

Hot work is not permitted when LEL is greater than 10% in air.

IV. Required Personal Protective Equipment (Check for required use) NOTE: PPLC EMPLOYEES DO NOT USE SCBA'S AIRLINE

RESPIRATORS

- | | | | | | | |
|---|---|---|--------------------------------------|----------------------------------|-------------------------------------|---------------------------------------|
| General | Eye Prot. | Respiratory Prot. | Hearing Prot. | Gloves | Footwear | Clothing |
| <input type="checkbox"/> Hard Hat | <input type="checkbox"/> Safety Glasses | <input type="checkbox"/> SCBA/Air Line w/Escapes | <input type="checkbox"/> Ear Plugs | <input type="checkbox"/> Leather | <input type="checkbox"/> Steel-toes | <input type="checkbox"/> FR Coveralls |
| <input type="checkbox"/> Safety Harness | <input type="checkbox"/> Goggles | <input type="checkbox"/> Air Line | <input type="checkbox"/> Ear Muffs | <input type="checkbox"/> Rubber | <input type="checkbox"/> Rubber | <input type="checkbox"/> Tyvek |
| <input type="checkbox"/> PFD | <input type="checkbox"/> Face-shield | <input type="checkbox"/> Air Purifying (Full Mask) | <input type="checkbox"/> Combination | <input type="checkbox"/> Nitrile | <input type="checkbox"/> Hip-boots | <input type="checkbox"/> Coated Tyvek |
| | <input type="checkbox"/> Tinted Lens | Cartridge Type: <input type="checkbox"/> OV <input type="checkbox"/> Hepa-OVV | | <input type="checkbox"/> PVC | <input type="checkbox"/> _____ | <input type="checkbox"/> Saranyx |
| | | | | <input type="checkbox"/> _____ | | <input type="checkbox"/> _____ |

Any other special PPE: _____

V. Emergency Information and Rescue Services

Emergency Contact Person: _____ Contact by: _____

Fire Department: _____ Contact by: _____

Ambulance: _____ Contact by: _____

Hospital: _____ Contact by: _____

Rescue Services: _____ Contact by: _____
 (if not provided by above)

FIGURE 5.14

SITE SAFETY PLAN (Cont'd)

VI. Required Safety & Rescue Equipment (on site)

- Lights Fall Protection First Aid Kit Drinking Water Fire Extinguisher Tripod Other: _____
 Ladder Retrieval Lines Resuscitator Communication Method _____

VII. Comments or Special Work Procedures

VIII. Report All Injuries Immediately

IX. Control Measures

- Isolation & Lockout (identify items to be locked out)
- Establish Work Zones when completed
 - Hot Zone = Red Ribbon
 - Warm Zone = Yellow Ribbon
 - Cold Zone = Blue Ribbon
- Ventilation Natural Mechanical
- Continuous No Yes
- Flagman / Watchman
- Confined Space – Safety Watch
(See Exhibit "B" for Permit)
- Evacuation Routes – (Identify on Map)
 - Air Horn – Emergency
 - Primary Route
 - Secondary Route

X. Monitoring Results

	Zone														
Oxygen	Time														
	Level														
	By														
LEL	Time														
	Level														
	By														
Hydrogen Sulfide	Time														
	Level														
	By														
Benzene	Time														
	Level														
	By														
VOC	Time														
	Level														
	By														
	Time														
	Level														
	By														

FIGURE 5.14

SITE SAFETY PLAN (Cont'd)

	Time													
	Level													
	By													
	Time													
	Level													
	By													
	Time													
	Level													
	By													

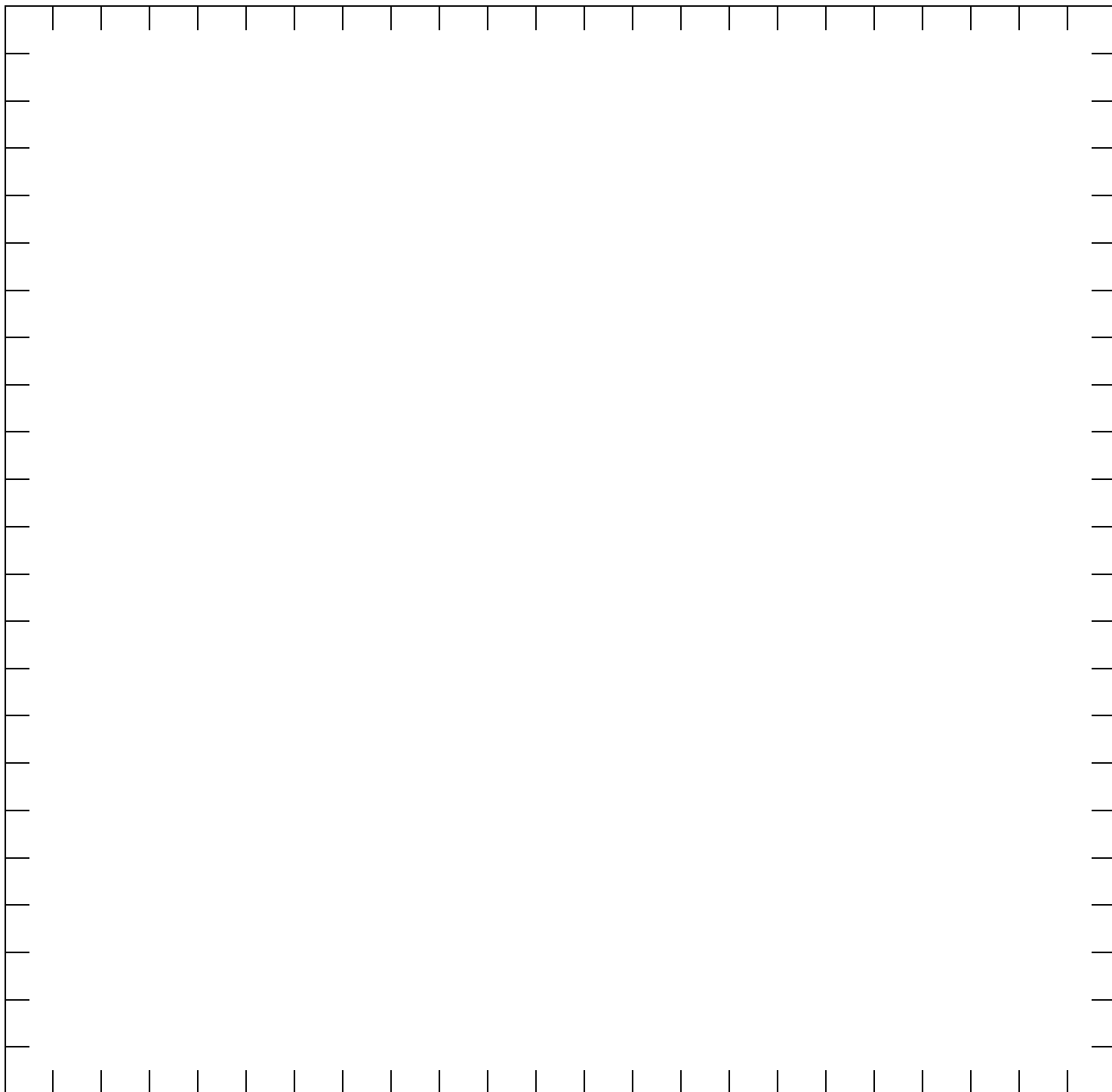
Equipment: Type: _____ Mfger: _____ Calibration / Expiration: _____
 Type: _____ Mfger: _____ Calibration / Expiration: _____

FIGURE 5.14

SITE SAFETY PLAN (Cont'd)

XI. Work Area Diagram Map

Please include wind direction, exclusion zone, support zone, decon area, evacuation routes and significant landmarks.



6.0 SPILL IMPACT CONSIDERATIONS

6.1 CRITICAL AREAS TO PROTECT

The critical areas to protect are classified as high, moderate, and low sensitivity to oil for non-coastal/inland environments. The Federal, State, and Local authorities will further clarify these categories at the time of the response. The categories are defined as follows:

HIGH SENSITIVITY
<ul style="list-style-type: none">• Areas which are high in productivity, abundant in many species, extremely sensitive, difficult to rehabilitate, or inhabited by threatened/endangered species.• Areas which consist of forested areas, brush/grassy areas, wooded lake areas, freshwater marshes, wildlife sanctuaries/refuges, and vegetated river/stream banks.

MODERATE SENSITIVITY
<ul style="list-style-type: none">• Areas of moderate productivity, somewhat resistant to the effects of oiling.• Areas which consist of degraded marsh habitat, clay/silt banks with vegetated margins, and gravel/cobble beaches.

LOW SENSITIVITY
<ul style="list-style-type: none">• Areas of low productivity, man-made structures, and/or high energy.• Areas which consist of gravel, sand, or clay material, barren/rocky riverbanks and lake edges, man-made structures, and concrete/compacted earthen drainage ditches.

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES

Environmental/Socio-economic sensitivities are of extreme importance when planning a response effort. The health and safety of the public and the environment, as well as the protection of the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the cost of the clean-up effort.

All environmental/socio-economic sensitivities are worthy of protection, but must be prioritized during a response effort. When making decisions on which areas to designate as collection areas and which to protect, the following sources may be consulted:

- U.S. Fish and Wildlife Service and related State agencies
- Applicable Area Contingency Plans
- Other industry and private experts

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES (Cont'd)

The environmental and socio-economic sensitivities in the vicinity of the Facility have been broken down into specific categories and identified in this Section. To further clarify the location of these sensitive areas, Environmental Sensitivity Maps are provided and continually updated within the company intranet system. A CD with current maps is included at the front of each binder. Updated CDs will be sent out to each plan holder annually if changes are made.

6.3 WILDLIFE PROTECTION AND REHABILITATION

The Company will work with Federal, State, and local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill, as necessary. Oversight of the Company's wildlife preservation activities and coordination with Federal, State, and Local agencies during an oil spill is the responsibility of the Incident Commander.

Special consideration should be given to the protection and rehabilitation of endangered species and other wildlife and their habitat in the event of an oil spill and subsequent response. Jurisdictional authorities should be notified and worked with closely on all response/clean-up actions related to wildlife protection and rehabilitation. Laws with significant penalties are in place to ensure appropriate protection of these species.

6.3.1 Endangered/Threatened Species

The U.S. Fish and Wildlife Service (USFWS) and related state agencies classify the status of various wildlife species in the potentially effected states. A summary of critical birds, reptiles, mammals, and plant species status as related to the Facility's operating areas (area of highest oil spill potential) is presented in Figures 6.2 to 6.7.

6.3.2 Wildlife Rescue

The Company will work with Federal, State, and Local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate wildlife affected by an oil spill, as the situation demands.

The following are items which should be considered for wildlife rescue and rehabilitation during a spill response:

- Bird relocation can be accomplished using a variety of deterrents, encouraging birds to avoid areas of spilled oil. Bird relocation can be accomplished by utilizing deterrent methods including:
 - Use of visual stimuli, such as inflatable bodies, owls, stationary figures, or helium balloons, etc.
 - Use of auditory stimuli, such as propane cannons, recorded sounds, or shell crackers.
 - Use of herding with aircraft, boats, vehicles, or people (as appropriate).
 - Use of capture and relocation.

6.3 WILDLIFE PROTECTION AND REHABILITATION (Cont'd)

6.3.3 Search and Rescue - Points to Consider

- **The Company's involvement should be limited to offering assistance as needed or requested by the agencies.**
- Prior to initiating any organized search and rescue plan, **authorization must be obtained from the appropriate federal/state agency.**
- **Initial search and rescue efforts, if needed, should be left up to the appropriate agencies.** They have the personnel, equipment, and training to immediately begin capturing contaminated wildlife.
- With or without authorization it must be anticipated that volunteer citizens will aid distressed/contaminated wildlife of their own. It is important to communicate that it may be illegal to handle wildlife without express authority from appropriate agencies. Provisions should be made to support an appropriate rehabilitator, however, **no support should be given to any unauthorized volunteer rescue efforts.**
- The regulatory agencies and response personnel should be provided the name and location of a qualified rehabilitator in the event contaminated wildlife is captured.
- Resources and contacts that can assist with wildlife rescue and rehabilitation are provided in Section 2.0. This list includes:
 - Outside rehabilitation organizations
 - Local regulatory agencies
 - Other resources

6.4 STAGING AREAS

When establishing personnel and equipment staging areas for a response to a Facility discharge, the following criteria should be evaluated:

- Access to waterborne equipment launching facilities and/or land equipment.
- Access to open space for staging/deployment of heavy equipment and personnel.
- Access to public services utilities (electricity, potable water, public phone, restroom and washroom facilities, etc.)
- Access to the environmental and socio-economically sensitive areas which are projected for impact.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT

General descriptions of various specific response techniques that may be applied during a response effort are discussed below. Company responders are free to use all or any combination of these methods as incident conditions require, provided they meet the appropriate safety standards and other requirements relative to the situation encountered. Data was obtained from reports, manuals and pamphlets prepared by the American Petroleum Institute, Environmental Protection Agency and the United States Coast Guard. The most effective cleanup of a product spill will result from an integrated combination of clean-up methods. Each operation should complement and assist related operations and not merely transfer spillage problems to areas where they could be more difficult to handle.

The spill should be assessed as soon as possible to determine the source, extent and location of travel. Terrain and other physical conditions downgradient of the spill site will determine the methods of control at a point in advance of the moving product. Often, the bulk of a spill can be contained at a single location or a few key locations in the immediate vicinity of the source point. When possible the execution of this type of initial containment strategy helps confine a spill to a relatively limited area.

6.5.1 Spill on Land (Soil Surfaces)

- **Confinement Methods**

Product can be trapped in ditches and gullies by earth dams. Where excavating machinery is available, dams can be bulldozed to contain lakes of product. Dams, small and large, should be effectively employed to protect priority areas such as inlets to drains, sewers, ducts and watercourses. These can be constructed of earth, sandbags, absorbents, planks or any other effective method. If time does not permit a large dam, many small ones can be made, each one holding a portion of the spill as it advances. The terrain will dictate the placement of the dams. If the spill is minor, natural dams or earth absorption will usually stop the product before it advances a significant distance. Cleanup is the main concern in such situations.

In situations where vapors from a spill present a clear and present danger to property or life (possible ignition because of passing automobiles, nearby houses, or work vehicles approaching the area), spraying the surface of the spill with dispersant will greatly reduce the release of additional vapors from the product. This method is especially adapted to gasoline spills on soil surfaces.

- **Removal Methods**

The recovery and removal of free product from soil surfaces is a difficult job. The best approaches at present seem to be:

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.1 Spill on Land (Soil Surfaces) (Cont'd)

- Removal with suction equipment to tank truck if concentrated in volumes large enough to be picked up. Channels can be formed to drain pools of product into storage pits. The suction equipment can then be used.
- Small pockets may have to be dipped up by hand.
- If practicable after removal of the bulk of the spill, controlled burning presents the possibility of a fast, simple, and inexpensive method of destruction of the remainder of the product. If all other options have been executed and the site is still unsafe for further activity because explosive vapors persist, the vapors may need to be intentionally ignited to prevent an accumulation sufficient to become an explosive mixture, provided the other requirements of these guidelines for controlled burning are met.

Intentional ignition to remove released product should be utilized only if all of the following conditions are met:

- Other steps and procedures have been executed and a determination has been made that this is the safest remaining method of control.
- Intentional burning will not unduly damage the pipeline, adjacent property, or the environment.
- Controlled burning is permitted by government authorities. Local government authorities to be contacted may include city council, county board of commissioners, city or county fire chiefs, the county forestry commission or firetower, and the local environmental protection agency. In seeking permission from these authorities, be prepared to convince them that adequate safety precautions have been and will be taken during the operation.
- Controlled burning is conducted with the consent of local landowners.
- Safety must always be a prime consideration when considering controlled burning of product. Sparks and heat radiation from large fires can start secondary fires and strong winds make fire control difficult. There must be no danger of the fire spreading beyond control limits. All persons must be at a safe distance from the edge of the inflammable area. Remember that all burning must be controlled burning.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.2 Spill on Lake or Pond (calm or slow-moving water)

- **Confinement Methods**

A lake or pond offers the best conditions for removal of product from water. Although the removal is no easy task, the lake or pond presents the favorable conditions of low or no current and low or no waves.

The movement of product on a lake or pond is influenced mainly by wind. The product will tend to concentrate on one shore, bank or inlet. Booms should be set up immediately to hold the product in the confined area in the event of a change in wind direction.

If the spill does not concentrate itself on or near a shore (no wind effect), then a sweeping action using boats and floating booms will be necessary. The essential requirement for this operation is that it be done very slowly. The booms should be moved at not more than 40 feet per minute. Once the slick is moved to a more convenient location (near shore), the normal operations of removal should begin.

If the slick is small and thin (rainbow effect) and not near the shoreline, an absorbent boom instead of a regular boom should be used to sweep the area very slowly and absorb the slick. The product may not have to be moved to the shoreline.

- **Removal Methods**

If the confined slick is thick enough, regular suction equipment may be used first; however, in most instances, a floating skimmer should be removed. If judged appropriate or useful, a surface collecting agent should be applied once the slick is isolated to facilitate the removal. The surface collecting agent will concentrate the product into a smaller area and make the floating skimmer work more efficiently. If the floating skimmer starts picking up excess water (slick becomes thin), do not stop using it if it is not removing any appreciable amount of product.

Additions of more surface collecting agent from time to time may improve the skimming efficiency of the skimmer. It will continue to concentrate the slick into a smaller area, thus making the film thickness greater. Drawing the boom closer to the bank as product is removed will also keep film of product thicker. However, when the slick becomes too thin, the skimmer should be stopped and an absorbent applied (with a boat if necessary) to remove the final amounts.

The floating skimmer (if speed is a must) or hand skimmers (if water is shallow enough) or both can be used to pick up the product-soaked absorbent. Before pumping the product-soaked absorbent with a floating skimmer, insure that the absorbent in question can be pumped and will not harm the pump.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.2 Spill on Lake or Pond (calm or slow-moving water) (Cont'd)

Several types are nonabrasive to pump internals. If the floating skimmer is used first, the product-soaked absorbent/water mixture should be pumped into a tank truck.

A better method of retrieving the product-soaked absorbent is to draw it in as close to the shore as possible with the booms used to confine the product initially. The absorbent can then be hand skimmed from the water surface and placed in drums, on plastic sheets or in lined roll-off boxes. It should then be disposed of by acceptable means.

The final rainbow on the surface can be removed with additions of more absorbent.

6.5.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks)

- **Confinement Methods**

The techniques used for product containment on fast-flowing shallow streams are quite different from the ones used on lakes, ponds, or other still bodies of water. The containment and removal processes require a calm stretch of water to allow the product to separate onto the surface of the water. If a calm stretch of water does not exist naturally, a deep slow-moving area should be created by damming. The dam can be constructed by using sandbags, planks or earth. If a dam is required, it should be situated at an accessible point where the stream has high enough banks. The dam should be constructed soundly and reinforced to support the product and water pressure.

- Underflow dam - The underflow dam is one method that can be used, especially on small creeks. The water is released at the bottom, of the dam using a pipe or pipes which are laid during construction of the dam. The flow rate through the pipe must be sufficient to keep the dam from overflowing. One method is to lay the pipe at an angle through the dam (while dam is being constructed) so that the height of the downstream end of the pipe will determine the height the water will rise behind the dam.
- Overflow dam – Another method of containment is the overflow type dam. The dam is constructed so that water flows over the dam, but a deep pool is created which slows the surface velocity of the water. Therefore, the condition of a calm stretch of water is met. The overflow dam may be used where larger flow rates (medium size creeks) of water are involved. With this type dam, a separate barrier (floating or stationary boom) must be placed across the pool created by the dam. The separate barrier arrests the surface layer of product.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

At the same time, the water is flowing under the barrier and over the top of the dam. The barrier should be placed at an angle of 45 % across the pool to decrease the effective water velocity beneath it. Also, it helps to concentrate the product at the bank and not all along the barrier. A second barrier should be placed approximately 10 to 15 feet downstream of the first one as a secondary back-up.

The stationary boom type barrier should be made of wood planks or other suitable material. The stationary boom should be soundly constructed and sealed against the bank. The ends of the planks can be buried in the banks of the stream and timber stakes driven into the stream bed for support as needed. The necessary length of the boom will be approximately 1-1/2 times the width of the waterway. The plank boom should extend six to eight inches deep into the water and about two inches or higher above the water level. If the increase in velocity under the stationary boom is causing release of trapped product, it should be moved upward slightly. At no time should barrier be immersed more than 20% of the depth of the pool at the barrier location; that is, if the pool created by damming is three feet deep, do not exceed an immersion depth of seven inches with the barrier at the position the barrier is installed.

Another method used with the underflow dam is having the pipe or pipes sized to carry only a portion of the flow needed. The pipe would be placed at the bottom of the dam and level with the creek bed. The remaining flow of the creek could be siphoned or preferably pumped around the dam from a point away from the dam and from the deepest portion of the pool. The pumping or siphoning can be controlled to maintain the desired water level at the dam. The key is the removal of water through or around the dam at the lowest point in the basin. This prevents the oil from escaping with the released water.

A floating boom can be used in place of the stationary type if the created pool's size (bank to bank) and depth will permit. Since changing the depth and/or length of a standard floating boom in a small stream is difficult, the use of the separation of product and water. The advantages of using a floating boom are the speed of deployment and the fact that there is not need for additional support as with the stationary boom.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

- Multiple Impoundments – Since emergency built dams (either underflow or overflow) are seldom perfect, a series of dams is usually required. The first one or two will trap the bulk and the ones that are downstream will trap the last traces of product. Precautions should be taken to ensure that the foundations of emergency dams are not washed away by the released water. If earth is used to construct an overflow dam, a layer of earth-filled bags should be placed on top of the dam so erosion will not take place.

- **Removal Methods**

Once the containment dams are constructed, the problem of removal of the product from the water surface should be the prime consideration. The removal must be continuous or else build-up of product behind the dams or booms might lead to product escaping the traps.

The type of removal procedures used depends largely on the amount of product being trapped in a given span of time, if the amount of product moving down the stream is of sufficient quantity, the first dam or fixed boom would quite possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and possibly some water to a tank truck or other holding tank. Separated water may be released from the bottom of the tank truck if it becomes necessary. The absorbents (straw, ground corncobs, or other stocked absorbent) could then be used at downstream dams or booms. It is inadvisable to place an absorbent in the stream prior to or at the first dam in anticipation of the arriving product. Let the product accumulate at the first dam and use the floating skimmer to recover the product.

Disposal of gross amount of product-soaked absorbent would not then be a problem. Follow directions on use of each absorbent. Some are designed to be placed on water before product arrives (straw and other new types); others are intended only to be placed on the product after it accumulates on the water (ground corncobs and others). Plastic sheets should be used to place the product-soaked absorbent on as it is hand skimmed from the water. Alternatively, the material may be placed in drums or lined roll-off boxes.

If the amount of product in the stream is minor, a straw-bale may be constructed to filter out the product. The slowing of the water would not be necessary, but several dams might be necessary to ensure complete removal. The downstream dams would also offer protection when the upstream bales are removed, releasing traces of product. Straw-bale dams can also be used downstream from underflow and overflow dams for added protection.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

Thus, the containment and removal of spilled product on small to medium fast-flowing streams might require a combination of underflow or overflow dams, fixed booms, skimmers, absorbents, and straw-bale dams to ensure a complete cleanup.

6.5.4 Spill on Large Streams and Rivers

- **Confinement Methods**

The containment techniques differ considerably on large streams and rivers versus small streams. First, the smooth calm area of water necessary for product-water separation must be found along the stream or river rather than making one as with small streams. Floating booms (rather than fixed booms or dams) must be used to trap the surfaced product.

Local conditions of current and wind must be considered when selecting the site for the boom. A point with a low water velocity near the bank, sufficient depth to operate the product removal equipment, and good access are required. The fact that wind may tend to concentrate the product against one bank must be considered. A smooth, undisturbed area of water is required immediately upstream of the boom to ensure that the product has opportunity to separate out onto the surface. The boom should be positioned where the current is at a minimum. It is more effective to boom at a wide, slow position than on a narrow, fast stretch of water.

If the boom is positioned straight across a river or stream, at right angles to the flow, surface water tends to dive beneath the barrier (boom) when current velocities exceed about ½ knot (0.8 ft/sec.). However, if the current of the entire river is ½ knot or less, then a boom can be positioned straight across the river or large stream, but angled slightly in relation of the banks. By placing the boom at an angle to the banks, product on the surface is diverted along the boom to the side of the river.

The current velocity is usually much slower near the river bank than in the center and the product will move along the boom toward the bank for removal. A water-tight seal between the bank and the boom is essential. A secondary boom should be set up immediately downstream of the first one to capture the amounts that escape the upstream boom. A boom can be employed parallel to the river flow at the bank to form the seal with the booms used to trap the product.

Where the current velocity of the chosen site exceeds ½ knot, the boom should be positioned in two smooth curves from a point of maximum velocity (usually the center of the river) to both banks.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.4 Spill on Large Streams and Rivers (Cont'd)

However, this double-boom required product to be removed from both sides of the river. To determine the appropriate angle of boom placement and support (mooring) needed to hold the booms in position, the current velocity should be measured by timing a floating object which is 80% submerged over a distance of 100 feet. A time of 60 seconds over this distance indicates a water current of approximately 1 knot. For currents from 1 to 2.5 knots (1.7 to 4.2 ft/sec.), the more the boom will have to be angled acute to the bank. The length of the boom will have to be such to reach the center of the river. For currents between $\frac{1}{2}$ and 1 knot (0.8 and 1.7 ft/sec.), the angle of employment can be enlarged.

The major load on the boom is taken by the terminal moorings, particularly the one in the center of the river. However, intermediate moorings are also required both to maintain the smooth curve of the boom to prevent breaking of the boom and to assist with preventing skirt deflection. The intermediate moorings are preferably positioned every 25 feet and must be adjusted to avoid the formation of indentations in the boom profile. These trap product in pockets, prevent its deflection to the bank, and also encourage diving currents. The moorings' ropes should be five times the water depth.

In certain situations, it might be advantageous to position booms to deflect the approaching spilled product to a slower moving area. Naturally, additional booms would have to be positioned around this slower moving area prior to deflecting the product to the area. This approach has been used along rivers which have lagoons, etc., with a very low current action. The recovery would take place in the lagoons and not along the river bank.

- **Removal Methods**

The product collected upstream of the floating booms in a large stream or river should be removed from the water surface as it accumulates. Regular suction equipment, a floating skimmer, and/or absorbents (including absorbent booms) should be used to remove the product as appropriate to the quantity being trapped in a given span of time. If the amount moving down the stream is of sufficient quantity, the primary floating boom would possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and some water to a tank truck or other holing tank.

The absorbents (type that can be placed on water before product arrival straw is an example) would then be used upstream of the secondary boom to absorb the underflow from the primary boom.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.4 Spill on Large Streams and Rivers (Cont'd)

An absorbent boom (Sea-Serpent) or other stocked absorbent boom can also be placed between the primary and secondary booms to help the other absorbents control the underflow from the primary boom. If the underflow from the primary boom is significant, then the type absorbent which can be placed on the water only after product is collected may be used. An example of this type of absorbent is ground corncobs. It is best to hand skim the saturated absorbents and place on plastic sheets. However, if the absorbent used can be pumped after product absorption and speed of removal is a necessity, the floating skimmer can be used to remove the product-soaked absorbent.

The disadvantage of pumping the product-soaked absorbent to a truck is the volume that will accumulate (skimmer will pump excess water) and the disposal problems associated with the large water/product-soaked absorbent mixture.

If the volume of product moving toward the boomed area is expected to be small, an absorbent (straw) should be placed in the river upstream of the primary and secondary booms. If regular booms are not necessary, a screen filter could be stretched across the river to contain the straw, or an absorbent boom could be constructed by tightly fastening hay bales together, forming a chain. Boats (either rented or furnished by contractors) would be necessary to retrieve the product-soaked absorbents.

6.5.5 Spill on Stream which Flows into Lake or Pond

There are certain locations along the pipeline where streams (small and large ones) flow into lakes or ponds at relatively short distances from the pipeline. It is conceivable that a spill that reached the streams in question could reach or almost reach the lakes before containment and recovery operations could be set up. If time permits for containment operations to be set up on the stream in question, it then would be handled as described above depending upon the stream size involved.

However, if product in the stream is near the lake site or if product is flowing into the lake with a significant amount yet to arrive, a different containment should be employed.

- **Confinement Methods**

Product on a stream flowing into a lake should be boomed as close to the entrance as possible. The boom should be positioned on the lake at an angle to the residential stream current so as to direct the surface water to a slower moving area. The area where the product is being deflected should be enclosed by booms to contain it.

6.5 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.5.5 Spill on Stream which Flows into Lake or Pond (Cont'd)

An additional boom for sweeping the product to the bank will be required. This area of containment should not have a current velocity of more than 1/2 knot (0.8 ft/sec.), preferably less.

- **Removal Methods**

The removal of product from the lake or pond's surface would be handled as described earlier.

For sizable releases, collected product will usually be pumped into tank trucks and transported to a storage facility. Tank trucks are available at several locations throughout.

6.5.6 Spill in a Mud or Tidal Flat Area

- **Confinement Method**

Shoreline boom lined with absorbent boom should be placed at the surf line to prevent oil from washing up onto the flat area. If oiling has already occurred the boom is used to prevent further oiling and keep oil that has impacted the flat from spreading.

- **Removal Methods**

Natural Recovery, Flooding and Sorbents are the three preferred methods. Any invasive type of recovery method poses a risk of driving the oil into the substrate of the flat and endangering the biologicals that live there. Invasive methods should only be used in order to protect more sensitive areas.

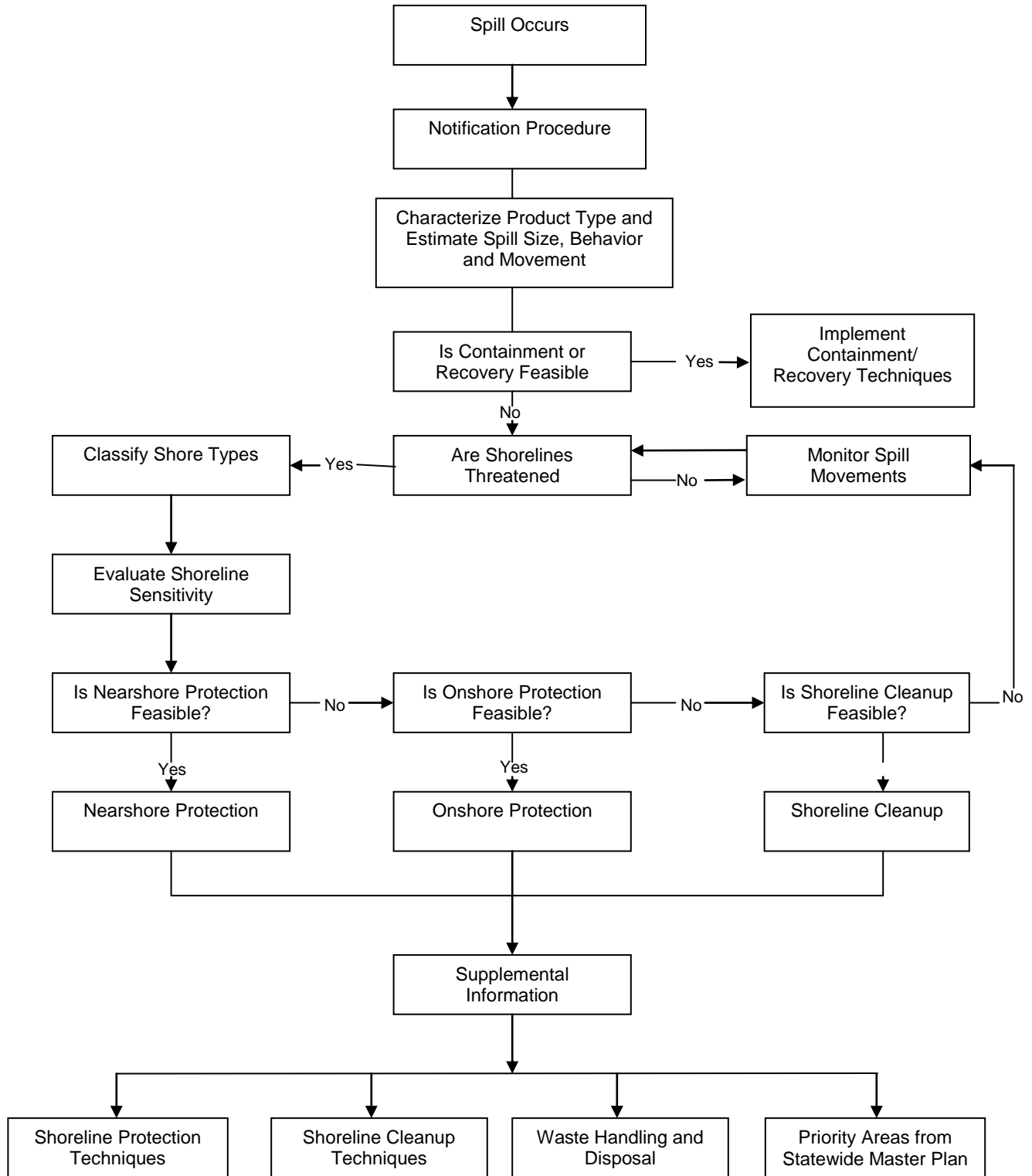
6.6 RESPONSE TACTICS FOR VARIOUS SHORELINES

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY
Developed / Un-forested land	<ul style="list-style-type: none"> ● This class includes towns, cities, farms, pastures, fields, reclaimed wetlands, and other altered areas ● Organisms and algae may be common in riprap structures and on pilings 	<ul style="list-style-type: none"> ● Oil would percolate easily between the gravel and boulders of riprap structures ● Oil would coat the intertidal areas of solid structures ● Biota would be damaged or killed under heavy accumulations 	<ul style="list-style-type: none"> ● May require high pressure spraying: ● To remove oil ● To prepare substrate for re-colonization of barnacle and oyster communities ● For aesthetic reasons
Freshwater Flat	<ul style="list-style-type: none"> ● Mud or organic deposits located along the shore or in shallow portions of non-tidal freshwater lakes and 	<ul style="list-style-type: none"> ● Oil is expected to be deposited along the shoreline ● Penetration of spilled oil into the water-saturated 	<ul style="list-style-type: none"> ● These areas require high priority for protection against oil contamination ● Cleanup of freshwater flats is

	<p>ponds</p> <ul style="list-style-type: none"> • They are exposed to low wave and current energy • They are often areas of heavy bird use 	<p>sediments of the flat will not occur</p> <ul style="list-style-type: none"> • When sediments are contaminated, oil may persist for years 	<p>nearly impossible because of soft substrate</p> <ul style="list-style-type: none"> • Cleanup is usually not even considered because of the likelihood of mixing oil deeper into the sediments during the cleanup effort • Passive efforts, such as sorbent boom can be used to retain oil as it is naturally removed
Fresh Marsh	<ul style="list-style-type: none"> • Found along freshwater ponds and lakes • These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, needle and broad-leaved deciduous scrubs and shrubs, and broad-leaved evergreen scrubs and shrubs • Birds and mammals extensively use fresh marshes for feeding and breeding purposes 	<ul style="list-style-type: none"> • Small amounts of oil will contaminate the outer marsh fringe only; natural removal by wave action can occur within months • Large spills will cover more area and may persist for decades • Oil, particularly the heavy fuel oils, tends to adhere readily to marsh grasses 	<ul style="list-style-type: none"> • Marshes require the highest priority for shoreline protection • Natural recovery is recommended when: • A small extent of marsh is affected • A small amount of oil impacts the marsh fringe • The preferred cleanup method is a combination of low-pressure flushing, sorption, and vacuum pumping performed from boats • Any cleanup activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots • Oil wrack and other debris may be removed by hand
Swamp	<ul style="list-style-type: none"> • Swamps are freshwater wetlands having varying water depths with vegetation types ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include: scrubs, shrubs, evergreen trees, and hardwood forested woodlands • Birds and mammals use swamps during feeding and breeding activities 	<ul style="list-style-type: none"> • Even small amounts of spilled oil can spread through the swamp • Large spills will cover more area and may persist for decades since water-flushing rates are low • Oil, particularly the heavy fuel oils, will adhere to swamp vegetation • Unlike mangroves, the roots of swamp forest trees are not exposed; thus, little damage to trees is expected. Any underbrush vegetation, however, would be severely impacted 	<ul style="list-style-type: none"> • No cleanup recommended under light conditions • Under moderate to heavy accumulations, to prevent chronic oil pollution of surrounding areas placement of sorbent along fringe swamp forest (to absorb oil as it is slowly released) may be effective under close scientific supervision • Proper strategic boom placement may be highly effective in trapping large quantities of oil, thus reducing oil impact to interior swamp forests • Oil trapped by boom can be reclaimed through the use of skimmers and vacuums

Open water	<ul style="list-style-type: none"> • Have ocean like waves and currents • Weather changes effect on-water conditions • River mouths present problems • Thermal stratification occurs 	<ul style="list-style-type: none"> • Most organisms are mobile enough to move out of the spill area • Aquatic birds are vulnerable to oiling • Human usage (such as transportation, water intakes, and recreational activities) may be restricted 	<ul style="list-style-type: none"> • Booming, skimming, vacuuming, and natural recovery are the preferred cleanup methods • Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills • Cleanup options include physical herding, sorbents, and debris/vegetation removal
Large rivers	<ul style="list-style-type: none"> • May have varying salinities, meandering channels, and high flow rates • May include manmade structures (such as dams and locks) • Water levels vary seasonally • Floods generate high suspended sediment and debris loads 	<ul style="list-style-type: none"> • Fish and migratory birds are of great concern • Under flood conditions, may impact highly sensitive areas in floodplains • Human usage may be high • When sediments are contaminated, oil may persist for years 	<ul style="list-style-type: none"> • Booming, skimming, and vacuuming are the preferred cleanup methods • Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills • Cleanup options include natural recovery, physical herding, sorbents, and debris/vegetation removal
Small lakes and ponds	<ul style="list-style-type: none"> • Water surface can be choppy • Water levels can fluctuate widely • May completely freeze in winter • Bottom sediments near the shore can be soft and muddy • Surrounding area may include wet meadows and marshes 	<ul style="list-style-type: none"> • Wildlife and socioeconomic areas likely to be impacted • Wind will control the oil's distribution 	<ul style="list-style-type: none"> • Booming, skimming, vacuuming, and sorbents are the preferred cleanup methods • Should not use containment booming, vacuuming, sorbents, and skimming on gasoline spills • Cleanup options include physical herding, sorbents, and debris/vegetation removal
Small rivers and streams	<ul style="list-style-type: none"> • Wide range of water bodies - fast flowing streams to slow moving bayous with low muddy banks and fringed with vegetation • May include waterfalls, rapids, log jams, mid-channel bars, and islands • Weathering rates may be slower because spreading and evaporation are restricted 	<ul style="list-style-type: none"> • Usually contaminate both banks and the water column, exposing a large number of biota to being oiled • Water intakes for drinking water, irrigation, and industrial use likely to be impacted 	<ul style="list-style-type: none"> • Booming, skimming, vacuuming, sorbents, barriers, and berms are the preferred cleanup methods • Should not use containment booming, sorbents, vacuuming, and skimming on gasoline spills • Cleanup options include physical herding, natural recovery, debris removal, vegetation removal, and in-situ burn

**FIGURE 6.1
ON WATER RESPONSE FLOWCHART**



6.7 VULNERABILITY ANALYSIS

The Company has identified High Consequence Areas (HCA) as part of their Integrity Management Plan required by 49 CFR 195. Environmental Sensitivity Maps are provided and continually updated within the company intranet system. A CD with current maps is included at the front of each binder. Updated CDs will be sent out to each plan holder annually if changes are made.

The thorough examination of published Area Contingency Plans (ACPs) was conducted to identify sensitive areas in all the response zones.

6.8 ALTERNATIVE RESPONSE STRATEGIES

There are no pre-approved response options for inland spills within the United States. Any plans to use dispersants or in situ burn by the Company will be submitted to the Federal On-Scene Coordinator for Regional Response Team approval prior to such action being taken.

FIGURE 6.2

ENDANGERED/THREATENED SPECIES LISTING - NEBRASKA

The following is a listing of the endangered and threatened animals and plants and wildlife species of special concern in the State of Nebraska.

Common Name	Scientific Name	State Status	Federal Status
Birds - 6 species			
Eskimo Curlew	<i>Numenius borealis</i>	Endangered	Endangered
Whooping Crane	<i>Grus americana</i>	Endangered	Endangered
Interior Least Tern	<i>Sterna antillarum athalassos</i>	Endangered	Endangered
Bald Eagle	<i>Haliaeetus leucophalus</i>	Threatened	Threatened
Piping Plover	<i>Charadrius melodus</i>	Threatened	Threatened
Mountain Plover	<i>Charadrius montanus</i>	Threatened	Candidate
Mammals - 5 species			
Black-footed Ferret	<i>Mustela nigripes</i>	Endangered	Endangered
Swift Fox	<i>Vulpes velox</i>	Endangered	
River Otter	<i>Lutra canadensis</i>	Threatened	
Southern Flying Squirrel	<i>Glaucomys volans</i>	Threatened	
Black-tailed Prairie Dog	<i>Cynomys ludovicianus</i>		Candidate
Fish - 7 species			
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered	Endangered
Topeka Shiner	<i>Notropis topeka</i>	Endangered	Endangered
Sturgeon chub	<i>Macrhybopsis gelida</i>	Endangered	
Blacknose shiner	<i>Notropis heteropis</i>	Endangered	
Lake sturgeon	<i>Acipenser fulvescens</i>	Threatened	
Northern Redbelly Dace	<i>Phoxinus eos</i>	Threatened	
Finescale Dace	<i>Phoxinus neogaeus</i>	Threatened	
Insects - 2 species			
American Burying Beetle	<i>Nicrophorus americanus</i>	Endangered	Endangered
Salt Creek Tiger Beetle	<i>Cincindela nevadica lincolniana</i>	Endangered	Candidate
Reptiles - 1 species			
Massasauga	<i>Sistrurus catenatus</i>	Threatened	Threatened
Mussels - 1 species			
Scaleshell Mussel	<i>Leptodea leptodon</i>	Endangered	Endangered
Plants - 7 species			

Hayden's (blowout) penstemon	<i>Penstemon haydenii</i>	Endangered	Endangered
Colorado Butterfly Plant	<i>Gaura neomexicana coloradensis</i>	Endangered	Threatened
Saltwort	<i>Salicornia rubra</i>	Endangered	
Western Prairie Fringed Orchid	<i>Platanthera praeclara</i>	Threatened	Threatened
Ute Lady's Tresses	<i>Spiranthes diluvialis</i>	Threatened	Threatened
Ginseng	<i>Panax quinquefolium</i>	Threatened	
Small White Lady's Slipper	<i>Cypripedium candidum</i>	Threatened	

FIGURE 6.3

ENDANGERED/THREATENED SPECIES LISTING - IOWA

The following is a listing of the endangered and threatened animals and plants and wildlife species of special concern in the State of Iowa.

Endangered Mammals	
Indiana Bat	<i>Myotis sodalis</i>
Plains Pocket Mouse	<i>Perognathus flavescens</i>
Red-backed Vole	<i>Clethrionomys gapperi</i>
Spotted Skunk	<i>Spilogale putorius</i>
Endangered Birds	
Red-shouldered Hawk	<i>Buteo lineatus</i>
Northern Harrier	<i>Circus cyaneus</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Piping Plover	<i>Charadrius melodus</i>
Common Barn Owl	<i>Tyto alba</i>
Least Tern	<i>Sterna antillarum</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
King Rail	<i>Rallus elegans</i>
Short-eared Owl	<i>Asio flammeus</i>
Endangered Fish	
Lake Sturgeon	<i>Acipenser fulvescens</i>
Pallid Sturgeon	<i>Scaphirhynchus albus</i>
Pugnose Shiner	<i>Notropis anogenus</i>
Weed Shiner	<i>Notropis texanus</i>
Pearl Dace	<i>Semotilus margarita</i>
Freckled Madtom	<i>Noturus nocturnus</i>
Bluntnose Darter	<i>Etheostoma chlorosomum</i>
Least Darter	<i>Etheostoma microperca</i>
Endangered Reptiles	
Yellow Mud Turtle	<i>Kinosternon flavescens</i>
Wood Turtle	<i>Clemmys insculpta</i>
Great Plains Skink	<i>Eumeces obsoletus</i>
Copperbelly Water Snake	<i>Nerodia erythrogaster neglecta</i>
Western Hognose Snake	<i>Heterodon nasicus</i>

Copperhead	Agkistrodon contortrix
Prairie Rattlesnake	Crotalus viridis
Massasauga Rattlesnake	Sistrurus catenatus
Endangered Amphibians	
Blue-spotted Salamander	Ambystoma laterale
Crawfish Frog	Rana areolata
Endangered Butterflies	
Dakota Skipper	Hesperia dactotae
Ringlet	Coenonympha tullia
Endangered Land Snails	
Iowa Pleistocene Snail	Discus macclintocki
Minnesota Pleistocene	Ambersnail Novisuccinea new species A
Iowa Pleistocene	Ambersnail Novisuccinea new species B
Frigid Ambersnail	Catinella gelida
Briarton Pleistocene	Vertigo Vertigo briarensis
Bluff Vertigo	Vertigo meramecensis
Iowa Pleistocene Vertigo	Vertigo new species
Endangered Fresh Water Mussels	
Spectacle Case	Cumberlandia monodonta
Slippershell	Alasmidonta viridis
Buckhorn	Tritogonia verrucosa
Ozark Pigtoe	Fusconaia ozarkensis
Bullhead	Plethobasus cyphus
Ohio River Pigtoe	Pleurobema sintoxia
Slough Sandshell	Lampsilis teres teres
Yellow Sandshell	Lampsilis teres anodontoides
Higgin's-eye Pearly Mussel	Lampsilis higginsi
Threatened Mammals	
Least Shrew	Cryptotis parva
Southern Bog Lemming	Synaptomys cooperi
Threatened Birds	
Long-eared Owl	Asio otus
Henslow's Sparrow	Ammodramus henslowii
Threatened Fish	
Chestnut Lamprey	Ichthyomyzon castaneus
American Brook Lamprey	Lampetra appendix
Grass Pickere	I Esox americanus
Blacknose Shiner	Notropis heterolepis
Topeka Shiner	Notropis topeka
Western Sand Darter	Ammocrypta clara
Black Redhors	e Moxostoma duquesnei
Burbot Lota lota	
Orangethroat Darter	Etheostoma spectabile
Threatened Reptiles	
Slender Glass Lizard	Ophisaurus attenuatus
Common Musk Turtle	Sternotherus odoratus
Blanding's Turtle	Emydoidea blandingii
Ornate Box Turtle	Terrapene ornata
Diamondback Water Snake	Nerodia rhombifera
Western Worm Snake	Carphophis amoenus vermis
Speckled Kingsnake	Lampropeltis getulus
Threatened Amphibians	
Mudpuppy	Necturus maculosus

Central Newt	<i>Notophthalmus viridescens</i>
Threatened Butterflies	
Powesheik Skipperling	<i>Oarisma powesheik</i>
Byssus Skipper	<i>Problema byssus</i>
Mulberry Wing	<i>Poanes massasoit</i>
Silvery Blue	<i>Glaucopsyche lygdamus</i>
Baltimore	<i>Euphydryas phaeton</i>
Threatened Snails	
Midwest Pleistocene Vertigo	<i>Vertigo hubrichti</i>
Occult Vertigo	<i>Vertigo occulta</i>
Threatened Fresh Water Mussels	
Cylinder	<i>Anodontoides ferussacianus</i>
Strange Floater	<i>Strophitus undulatus</i>
Creek Heelsplitter <i>Lasmigona compressa</i>	
Purple Pimpleback	<i>Cyclonaias tuberculata</i>
Butterfly	<i>Ellipsaria lineolata</i>
Ellipse	<i>Venustaconcha ellipsiformis</i>
Endangered Plants	
Pale false foxglove	<i>Agalinus skinneriana</i>
Blue giant-hyssop	<i>Agastache foeniculum</i>
Bearberry	<i>Arctostaphylos uva-ursi</i>
Black chokeberry	<i>Aronia melanocarpa</i>
Eared milkweed	<i>Asclepias engelmanniana</i>
Mead's milkweed	<i>Asclepias meadii</i>
Narrow-leaved milkweed	<i>Asclepias stenophylla</i>
Ricebutton aster	<i>Aster dumosus</i>
Large-leaved aster	<i>Aster macrophyllus</i>
Schreber's aster	<i>Aster schreberi</i>
Fern-leaved false foxglove	<i>Aureolaria pedicularia</i>
Matricary grape fern	<i>Botrychium matricariifolium</i>
Poppy mallow	<i>Callirhoe triangulata</i>
Cordroot sedge	<i>Carex chordorrhiza</i>
Large-bracted corydalis	<i>Corydalis curvisiliqua</i>
Silky prairie-clover	<i>Dalea villosa</i>
Swamp-loosestrife	<i>Decodon verticillatus</i>
Northern panic-grass	<i>Dichanthelium boreale</i>
Roundleaved sundew	<i>Drosera rotundifolia</i>
False mermaid	<i>Floerkea proserpinacoides</i>
Bog bedstraw	<i>Galium labradoricum</i>
Povertygrass	<i>Hudsonia tomentosa</i>
Northern St. Johnswort	<i>Hypericum boreale</i>
Pineweed	<i>Hypericum gentianoides</i>
Winterberry Ilex	<i>verticillata</i>
Black-based quillwort	<i>Isoetes melanopoda</i>
Water-willow	<i>Justicia americana</i>
Dwarf dandelion	<i>Krigia virginica</i>
Cleft	<i>conobea Leucospora multifida</i>
Whiskbroom parsley	<i>Lomatium foeniculaceum</i>
Running clubmoss	<i>Lycopodium clavatum</i>
Bog clubmoss	<i>Lycopodium inundatum</i>
Annual skeletonweed	<i>Lygodesmia rostrata</i>
Water marigold	<i>Megalodonta beckii</i>
Northern lungwort	<i>Mertensia paniculata</i>

Bigroot pricklypear	<i>Opuntia macrorhiza</i>
Clustered broomrape	<i>Orobanche fasciculata</i>
Ricegrass	<i>Oryzopsis pungens</i>
Cinnamon fern	<i>Osmunda cinnamomea</i>
Purple cliffbrake	<i>Pellaea atropurpurea</i>
Arrow arum	<i>Peltandra virginica</i>
Pale green orchid	<i>Platanthera flava</i>
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>
Clammyweed	<i>Polansia jamesii</i>
Crossleaf milkwort	<i>Polygala cruciata</i>
Purple milkwort	<i>Polygala polygama</i>
Jointweed	<i>Polygonella articulata</i>
Douglas' knotweed	<i>Polygonum douglasii</i>
Three-toothed cinquefoil	<i>Potentilla tridentata</i>
Canada plum	<i>Prunus nigra</i>
Frenchgrass	<i>Psoralea onobrychis</i>
Pink shinleaf	<i>Pyrola asarifolia</i>
Prickly rose	<i>Rosa acicularis</i>
Meadow spikemoss	<i>Selaginella eclipses</i>
Rough-leaved goldenrod	<i>Solidago patula</i>
Bog goldenrod	<i>Solidago uliginosa</i>
Yellow-lipped ladies-tresses	<i>Spiranthes lucida</i>
Pickering morning-glory	<i>Stylisma pickeringii</i>
Rough-seeded fumeflower	<i>Talinum rugospermum</i>
Waxy meadowrue	<i>Thalictrum revolutum</i>
Long beechfern	<i>Thelypteris phegopteris</i>
Large-leaved violet	<i>Viola incognita</i>
Rusty woodsia	<i>Woodsia ilvensis</i>
Yellow-eyed grass	<i>Xyris torta</i>
Northern wild monkshood	<i>Aconitum noveboracense</i>
Round-stemmed false foxglove	<i>Agalinus gattingerii</i>
Nodding wild onion	<i>Allium cernuum</i>
Fragrant false indigo	<i>Amorpha nana</i>
Virginia snakeroot	<i>Aristolochia serpentaria</i>
Woolly milkweed	<i>Asclepias lanuginosa</i>
Showy milkweed	<i>Asclepias speciosa</i>
Forked aster	<i>Aster furcatus</i>
Rush aster	<i>Aster junciformis</i>
Flax-leaved aster	<i>Aster linariifolius</i>
Water parsnip	<i>Berula erecta</i>
Kittentails	<i>Besseya bullii</i>
Bog birch	<i>Betula pumila</i>
Pagoda plant	<i>Blephilia ciliata</i>
Leathery grapefern	<i>Botrychium multifidum</i>
Little grapefern	<i>Botrychium simplex</i>
Sweet Indian-plantain	<i>Cacalia suaveolens</i>
Poppy mallow	<i>Callirhoe alcaeoides</i>
Pipsissewa	<i>Chimaphila umbellata</i>
Golden saxifrage	<i>Chrysosplenium iowense</i>
Dayflower	<i>Commelina erecta</i>
Spotted coralroot	<i>Corallorhiza maculata</i>
Bunchberry	<i>Cornus canadensis</i>
Golden corydalis	<i>Corydalis aurea</i>
Pink corydalis	<i>Corydalis sempervirens</i>

Showy lady's-slipper	Cypripedium reginae
Slim-leaved panic-grass	Dichanthelium linearifolium
Jeweled shooting star	Dodecatheon amethystinum
Glandular wood fern	Dryopteris intermedia
Marginal shield fern	Dryopteris marginalis
Woodland horsetail	Equisetum sylvaticum
Slender cottongrass	Eriophorum gracile
Yellow trout lily	Erythronium americanum
Queen of the prairie	Filipendula rubra
Blue ash	Fraxinus quadrangulata
Black huckleberry	Gaylussacia baccata
Oak fern	Gymnocarpium dryopteris
Green violet	Hybanthus concolor
Twinleaf	Jeffersonia diphylla
Creeping juniper	Juniperus horizontalis
Intermediate pinweed	Lechea intermedia
Hairy pinweed	Lechea villosa
Prairie bush clover	Lespedeza leptostachya
Twinflower	Linnaea borealis
Western parsley	Lomatium orientale
Wild lupine	Lupinus perennis
Tree clubmoss	Lycopodium dendroideum
Rock clubmoss	Lycopodium porophilum
Hairy waterclover	Marsilea vestita
Bog buckbean	Menyanthes trifoliata
Winged monkeyflower	Mimulus alatus
Yellow monkeyflower	Mimulus glabratus
Partridge berry	Mitchella repens
Pinesap	Monotropa hypopithys
Small sundrops	Oenothera perennis
Little pricklypear	Opuntia fragilis
Royal fern	Osmunda regalis
Philadelphia panic-grass	Panicum philadelphicum
Slender beardtongue	Penstemon gracilis
Hooker's orchid	Platanthera hookeri
Northern bog orchid	Platanthera hyperborea
Western prairie fringed orchid	Platanthera praeclara
Purple fringed orchid	Platanthera psycodes
Pink milkwort	Polygala incarnata
Silverweed	Potentilla anserina
Shrubby cinquefoil	Potentilla fruticosa
Pennsylvania cinquefoil	Potentilla pennsylvanica
One-sided shinleaf	Pyrola secunda
Meadow beauty	Rhexia virginica
Beaked rush	Rhynchospora capillacea
Northern currant	Ribes hudsonianum
Shining willow	Salix lucida
Bog willow	Salix pedicellaris
Low nutrush	Scleria verticillata
Buffaloberry	Shepherdia argentea
Scarlet globemallow	Sphaeralcea coccinea
Slender ladies-tresses	Spiranthes lacera
Oval ladies-tresses	Spiranthes ovalis
Hooded ladies-tresses	Spiranthes romanzoffiana

Spring ladies-tresses	<i>Spiranthes vernalis</i>
Rosy twisted-stalk	<i>Streptopus roseus</i>
Fameflower	<i>Talinum parviflorum</i>
Large arrowgrass	<i>Triglochin maritimum</i>
Small arrowgrass	<i>Triglochin palustre</i>
Low sweet blueberry	<i>Vaccinium angustifolium</i>
Velvetleaf blueberry	<i>Vaccinium myrtilloides</i>
False hellebore	<i>Veratrum woodii</i>
Kidney-leaved violet	<i>Viola renifolia</i>
Oregon woodsia	<i>Woodsia oregana</i>

FIGURE 6.4

ENDANGERED/THREATENED SPECIES LISTING - KANSAS

The following is a listing of the endangered/threatened and specially classified species in the State of Kansas.

ANIMALS	
COMMON NAME	SCIENTIFIC NAME
Bat, gray	<i>Myotis grisescens</i>
Bat, Indiana	<i>Myotis sodalis</i>
Crane, whooping	<i>Grus americana</i>
Curlew, Eskimo	<i>Numenius borealis</i>
Eagle, bald	<i>Haliaeetus leucocephalus</i>
Ferret, black-footed	<i>Mustela nigripes</i>
Madtom, Neosho	<i>Noturus placidus</i>
Plover, piping	<i>Charadrius melodus</i>
Shiner, Arkansas River	<i>Notropis girardi</i>
Shiner, Topeka	<i>Notropis topeka</i>
Sturgeon, pallid	<i>Scaphirhynchus albus</i>
Tern, least	<i>Sterna antillarum</i>
Vireo, black-capped	<i>Vireo atricapillus</i>

PLANTS	
COMMON NAME	SCIENTIFIC NAME
Milkweed, Mead's	<i>Asclepias meadii</i>
Orchid, western prairie fringed	<i>Platanthera praeclara</i>

FIGURE 6.5

ENDANGERED/THREATENED SPECIES LISTING – MINNESOTA

MAMMALS**Threatened**

Spilogale putorius (Linnaeus).....eastern spotted skunk

Special Concern

Canis lupus (Linnaeus)gray wolf
Cervus elaphus Linnaeus.....elk
Cryptotis parva (Say)least shrew
Felis concolor Linnaeusmountain lion
Microtus ochrogaster (Wagner)prairie vole
Microtus pinetorum (Le Conte)woodland vole
Mustela nivalis Linnaeusleast weasel
Myotis septentrionalis (Merriam)northern myotis
Perognathus flavescens Merriam.....plains pocket mouse
Phenacomys intermedius Merriamheather vole
Pipistrellus subflavus (F. Cuvier)eastern pipistrelle
Sorex fumeus G.M. Millersmokey shrew
Synaptomys borealis (Richardson)northern bog lemming
Thomomys talpoides (Richardson).....northern pocket gopher

BIRDS**Endangered**

Ammodramus bairdii (Audubon).....Baird's sparrow
Ammodramus henslowii (Audubon)Henslow's sparrow
Anthus spragueii (Audubon).....Sprague's pipit
Calcarius ornatus (Townsend)chestnut-collared
longspur
Charadrius melodus Ord.piping plover (T)
Rallus elegans Audubonking rail
Speotyto cunicularia (Molina)burrowing owl

Threatened

Cygnus buccinator Richardson.....trumpeter swan
Falco peregrinus Tunstall.....peregrine falcon
Lanius ludovicianus Linnaeusloggerhead shrike
Phalaropus tricolor (Vieillot).....Wilson's phalarope
Podiceps auritus (Linnaeus)horned grebe
Sterna hirundo Linnaeus.....common tern

Special Concern

Ammodramus nelsoni Allen.....Nelson's sharp-tailed
sparrow
Asio flammeus (Pontoppidan)short-eared owl
Buteo lineatus (Gmelin).....red-shouldered hawk
Coturnicops noveboracensis (Gmelin)yellow rail
Dendroica cerulea (Wilson)cerulean warbler
Empidonax virescens (Vieillot)Acadian flycatcher
Gallinula chloropus (Linnaeus).....common moorhen
Haliaeetus leucocephalus (Linnaeus)bald eagle
Larus pipixcan (Wagler).....Franklin's gull
Limosa fedoa (Linnaeus)marbled godwit
Pelecanus erythrorhynchos Gmelin.....American white pelican
Seiurus motacilla (Vieillot)Louisiana waterthrush
Sterna forsteri NuttallForster's tern

<i>Tympanuchus cupido</i> (Linnaeus)	greater prairie-chicken
<i>Wilsonia citrina</i> (Boddaert)	hooded warbler

AMPHIBIANS AND REPTILES

Endangered

<i>Acris crepitans</i> Green	northern cricket frog
<i>Sistrurus catenatus</i> (Rafinesque)	massasauga

Threatened

<i>Clemmys insculpta</i> (LeConte).....	wood turtle
<i>Crotalus horridus</i> Linnaeus.....	timber rattlesnake
<i>Emydoidea blandingii</i> (Holbrook)	Blanding's turtle

Special Concern

<i>Apalone mutica</i> (LeSueur)	smooth soft shell
<i>Chelydra serpentina</i> (Linnaeus)	snapping turtle
<i>Coluber constrictor</i> Linnaeus	racer
<i>Elaphe obsoleta</i> (Say).....	rat snake
<i>Eumeces fasciatus</i> (Linnaeus).....	five-lined skink
<i>Hemidactylum scutatum</i> (Temminck & Schlegel)	four-toed salamander
<i>Heterodon nasicus</i> Baird & Girard	western hognose snake
<i>Pituophis catenifer</i> (Blainville).....	gopher snake
<i>Tropidoclonion lineatum</i> (Hallowell)	lined snake

FISH

Threatened

<i>Polyodon spathula</i> (Walbaum)	paddlefish
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Special Concern

<i>Acipenser fulvescens</i> Rafinesque	lake sturgeon
<i>Alosa chrysochloris</i> (Rafinesque).....	skipjack herring
<i>Ammocrypta asprella</i> (Jordan).....	crystal darter
<i>Aphredoderus sayanus</i> (Gilliams).....	pirate perch
<i>Coregonus kiyi</i> (Koelz).....	kiyi
<i>Coregonus zenithicus</i> (Jordan & Evermann)	shortjaw cisco
<i>Cycleptus elongatus</i> (Lesueur).....	blue sucker
<i>Erimystax x-punctata</i> (Hubbs & Crowe)	gravel chub
<i>Etheostoma microperca</i> Jordan & Gilbert	least darter
<i>Fundulus sciadicus</i> Cope.....	plains topminnow
<i>Ichthyomyzon fossor</i> Reighard & Cummins	northern brook lamprey
<i>Ichthyomyzon gagei</i> Hubbs & Trautman	southern brook lamprey
<i>Ictiobus niger</i> (Rafinesque)	black buffalo
<i>Morone mississippiensis</i> Jordan and Eigenmann.....	yellow bass
<i>Notropis amnis</i> Hubbs and Green.....	pallid shiner
<i>Notropis anogenus</i> Forbes	pugnose shiner
<i>Notropis nubilus</i> (Forbes)	Ozark minnow
<i>Notropis topeka</i> (Gilbert).....	Topeka shiner (E)
<i>Noturus exilis</i> Nelson.....	slender madtom
<i>Percina evides</i> (Jordan & Copeland)	gilt darter

MOLLUSKS

Endangered

<i>Arcidens confragosus</i> (Say)	rock pocketbook
<i>Elliptio crassidens</i> (Lamarck).....	elephant-ear
<i>Fusconaia ebena</i> (I. Lea).....	ebonyshell
<i>Lampsilis higginsii</i> (I. Lea)	Higgins eye (E)
<i>Lampsilis teres</i> (Rafinesque)	yellow sandshell
<i>Novasuccinea</i> n. sp. Minnesota B Hoagland & Davis	Iowa Pleistocene ambersnail
<i>Plethobasus cyphus</i> (Rafinesque)	sheepnose

<i>Quadrula fragosa</i> (Conrad)	winged mapleleaf (E)
<i>Quadrula nodulata</i> (Rafinesque)	wartyback
<i>Vertigo hubrichti hubrichti</i> (Pilsbry)	Midwest Pleistocene vertigo

Threatened

<i>Actinonaias ligamentina</i> (Lamarck).....	mucket
<i>Alasmidonta marginata</i> Say.....	elktoe
<i>Cumberlandia monodonta</i> (Say).....	spectaclecase
<i>Cyclonaias tuberculata</i> (Rafinesque)	purple wartyback
<i>Ellipsaria lineolata</i> (Rafinesque).....	butterfly
<i>Epioblasma triquetra</i> (Rafinesque).....	snuffbox
<i>Megalonaias nervosa</i> (Rafinesque)	washboard
<i>Novasuccinea</i> n. sp. Minnesota A Hoagland & Davis	Minnesota Pleistocene ambersnail
<i>Pleurobema coccineum</i> (Conrad)	round pigtoe
<i>Quadrula metanevra</i> (Rafinesque)	monkeyface
<i>Simpsonaias ambigua</i> (Say).....	salamander mussel
<i>Tritogonia verrucosa</i> (Rafinesque).....	pistolgrip
<i>Venustaconcha ellipsiformis</i> (Conrad).....	ellipse
<i>Vertigo hubrichti variabilis</i> n. subsp.	variable Pleistocene vertigo
<i>Vertigo meramecensis</i> Van Devender.....	bluff vertigo

Special Concern

<i>Elliptio dilatata</i> (Rafinesque)	spike
<i>Lasmigona compressa</i> (I. Lea).....	creek heelsplitter
<i>Lasmigona costata</i> (Rafinesque).....	fluted-shell
<i>Ligumia recta</i> (Lamarck)	black sandshell
<i>Obovaria olivaria</i> (Rafinesque).....	hickorynut

JUMPING SPIDERS

Special Concern

<i>Habronattus texanus</i> Griswold	a species of jumping spider
<i>Marpissa grata</i> (Gertsch)	a species of jumping spider
<i>Metaphidippus arizonensis</i> (Peckham & Peckham).....	a species of jumping spider
<i>Paradamoetas fontana</i> (Levi).....	a species of jumping spider
<i>Phidippus apacheanus</i> Chamberlin & Gertsch	a species of jumping spider
<i>Phidippus pius</i> Scheffer.....	a species of jumping spider
<i>Sassacus papenhoei</i> Peckham & Peckham.....	a species of jumping spider
<i>Tutelina formicaria</i> (Emerton).....	a species of jumping spider

LEAFHOPPERS

Special Concern

<i>Aflexia rubranura</i> (DeLong).....	red-tailed prairie leafhopper
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DRAGONFLIES

Special Concern

<i>Ophiogomphus anomalis</i> Harvey.....	extra-striped snaketail
<i>Ophiogomphus susbehcha</i> Vogt & Smith.....	St. Croix snaketail

BUTTERFLIES AND MOTHS

Endangered

<i>Erynnis persius</i> (Scudder).....	persius dusky wing
<i>Hesperia comma assiniboia</i> (Lyman)	assiniboia skipper
<i>Hesperia uncas</i> W.H. Edwards.....	uncas skipper
<i>Lycæides melissa samuelis</i> Nabokov.....	Karner blue (E)
<i>Oeneis uhleri varuna</i> , (W.H. Edwards)	Uhler's arctic

Threatened

<i>Hesperia dacotae</i> (Skinner)	dakota skipper
<i>Hesperia ottoe</i> W.H. Edwards	ottoe skipper
<i>Oarisma garita</i> (Reakirt)	garita skipper

Special Concern

<i>Atrytone arogos</i> (Boisduval & Leconte).....	arogos skipper
<i>Erebia disa mancinus</i> Doubleday & Hewitson.....	disa alpine
<i>Hesperia leonardus</i> Harris.....	leonardus skipper
<i>Lycæides idas nabokovi</i> Masters	Nabokov's blue
<i>Oarisma powesheik</i> (Parker).....	powesheik skipper
<i>Pyrgus centaureae freija</i> (Warren)	grizzled skipper
<i>Schinia indiana</i> (J.B. Smith).....	phlox moth
<i>Speyeria idalia</i> (Drury).....	regal fritillary

CADDISFLIES

Endangered

<i>Chilostigma itasca</i> Wiggins	headwaters chilosigman
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Special Concern

<i>Agapetus tomus</i> Ross	a species of caddisfly
<i>Asynarchus rossi</i> Leonard & Leonard	a species of caddisfly
<i>Ceraclea brevis</i> (Etnier)	a species of caddisfly
<i>Ceraclea vertreesi</i> (Denning)	a species of caddisfly
<i>Hydroptila metoeca</i> Blickle & Morse.....	a species of caddisfly
<i>Hydroptila novicola</i> Blickle & Morse	a species of caddisfly
<i>Hydroptila tortosa</i> Ross.....	a species of caddisfly
<i>Oxyethira ecornuta</i> Morton	a species of caddisfly
<i>Oxyethira itasca</i> Monson & Holzenthal	a species of caddisfly
<i>Polycentropus milaca</i> Etnier.....	a species of caddisfly
<i>Protophila talola</i> Denning.....	a species of caddisfly
<i>Setodes guttatus</i> (Banks).....	a species of caddisfly

TIGER BEETLES

Endangered

<i>Cicindela fulgida fulgida</i> Say	a species of tiger beetle
<i>Cicindela limbata nympha</i> Casey	a species of tiger beetle

Threatened

<i>Cicindela denikei</i> W.J. Brown	a species of tiger beetle
<i>Cicindela fulgida westbournei</i> Calder	a species of tiger beetle
<i>Cicindela lepida</i> Dejean	a species of tiger beetle

Special concern

<i>Cicindela hirticollis rhodensis</i> Calder	a species of tiger beetle
<i>Cicindela macra macra</i> Leconte.....	a species of tiger beetle
<i>Cicindela patruela patruela</i> Dejean.....	a species of tiger beetle
<i>Cicindela splendida cyanocephalata</i> Eckhoff	a species of tiger beetle

VASCULAR PLANTS

Endangered

<i>Agalinis auriculata</i> (Michx.) Blake, Scrophulariaceae.....	eared false foxglove
<i>Agalinis gattingeri</i> (Sm.) Sm. ex Britt., Scrophulariaceae	round-stemmed false foxglove

<i>Asclepias stenophylla</i> Gray, Asclepiadaceae	narrow-leaved milkweed
<i>Astragalus alpinus</i> L., Fabaceae	alpine milk-vetch
<i>Bartonia virginica</i> (L.) B.S.P., Gentianaceae	Virginia bartonia
<i>Botrychium gallicomontanum</i> Farrar & Johnson-Groh, Ophioglossaceae.....	Frenchman's Bluff moonwort
<i>Botrychium oneidense</i> (Gilbert) House, Ophioglossaceae.....	blunt-lobed grapefern
<i>Botrychium pallidum</i> W.H. Wagner, Ophioglossaceae	pale moonwort
<i>Cacalia suaveolens</i> L., Asteraceae	sweet-smelling Indian-plantain
<i>Caltha natans</i> Pallas ex Georgi, Ranunculaceae.....	floating marsh-marigold
<i>Carex formosa</i> Dewey, Cyperaceae.....	handsome sedge
<i>Carex pallescens</i> L., Cyperaceae.....	pale sedge
<i>Carex plantaginea</i> Lam., Cyperaceae.....	plantain-leaved sedge
<i>Castilleja septentrionalis</i> Lindl., Scrophulariaceae	northern paintbrush
<i>Cheilanthes lanosa</i> (Michaux) D.C. Eaton, Pteridaceae.....	hairy lip-fern
<i>Chrysosplenium iowense</i> Rydb., Saxifragaceae.....	Iowa golden saxifrage
<i>Cristatella jamesii</i> T. & G., Capparidaceae.....	James' polanisia
<i>Dodecatheon meadia</i> L., Primulaceae	prairie shooting star
<i>Draba norvegica</i> Gunn., Brassicaceae.....	Norwegian whitlow-grass
<i>Eleocharis wolfii</i> Gray, Cyperaceae	Wolf's spike-rush
<i>Empetrum eamesii</i> Fern. & Wieg., Empetraceae	purple crowberry
<i>Empetrum nigrum</i> L., Empetraceae	black crowberry
<i>Erythronium propullans</i> Gray, Liliaceae	dwarf trout lily (E)
<i>Escobaria vivipara</i> (Nutt.) Buxbaum, Cactaceae	ball cactus
<i>Fimbristylis puberula</i> (Michx.) Vahl var. <i>interior</i> (Britt.) Kral, Cyperaceae	hairy fimbristylis
<i>Glaux maritima</i> L., Primulaceae.....	sea milkwort
<i>Hydrastis canadensis</i> L., Ranunculaceae.....	golden-seal
<i>Iodanthus pinnatifidus</i> (Michx.) Steud., Brassicaceae.....	purple rocket
<i>Isoetes melanopoda</i> Gay & Dur., Isoetaceae	blackfoot quillwort
<i>Lechea tenuifolia</i> Michx., Cistaceae.....	narrow-leaved pinweed
<i>Lesquerella ludoviciana</i> (Nutt.) S. Wats., Brassicaceae	bladder pod
<i>Listera auriculata</i> Wieg., Orchidaceae.....	auricled twayblade
<i>Malaxis paludosa</i> (L.) Sw., Orchidaceae.....	bog adder's-mouth
<i>Marsilea vestita</i> Hooker & Greville, Marsileaceae.....	hairy water clover
<i>Montia chamissoi</i> (Ledeb. ex Spreng.) Greene, Portulacaceae.....	montia
<i>Oryzopsis hymenoides</i> (R. & S.) Ricker ex Piper, Poaceae	Indian ricegrass
<i>Osmorhiza berteroi</i> H. & A., Apiaceae	Chilean sweet cicely
<i>Oxytropis viscida</i> Nutt., Fabaceae	sticky locoweed
<i>Paronychia fastigiata</i> (Raf.) Fern., Caryophyllaceae	forked chickweed
<i>Parthenium integrifolium</i> L., Asteraceae.....	wild quinine
<i>Platanthera flava</i> (L.) Lindl. var. <i>herbiola</i> (R. Br.) Ames & Correll, Orchidaceae.....	tubercled rein-orchid
<i>Platanthera praeclara</i> Sheviak & Bowles, Orchidaceae	western prairie fringed orchid (T)
<i>Polemonium occidentale</i> Greene ssp. <i>lacustre</i> Wherry, Polemoniaceae	western Jacob's-ladder
<i>Polygala cruciata</i> L., Polygalaceae	cross-leaved milkwort
<i>Polystichum braunii</i> (Spencer) Fee, Dryopteridaceae	Braun's holly fern
<i>Potamogeton bicupulatus</i> Fern., Potamogetonaceae.....	snailseed pondweed
<i>Potamogeton diversifolius</i> Raf., Potamogetonaceae.....	diverse-leaved pondweed
<i>Psoralidium tenuiflora</i> (Pursch) Rydb., Fabaceae	slender-leaved scurf pea
<i>Sagina nodosa</i> (L.) fenzl ssp. <i>borealis</i> Crow, Caryophyllaceae	knotty pearlwort
<i>Saxifraga cernua</i> L., Saxifragaceae	nodding saxifrage
<i>Scleria triglomerata</i> Michx., Cyperaceae.....	tall nut-rush
<i>Sedum integrifolium</i> (Raf.) A. Nels. ssp. <i>leedyi</i> (Rosend. & Moore) Clausen,	

Crassulaceae	Leedy's roseroot (T)
<i>Selaginella selaginoides</i> (L.) Link, Selaginellaceae	northern spikemoss
<i>Senecio canus</i> Hook., Asteraceae	gray ragwort
<i>Talinum rugospermum</i> Holzinger, Portulacaceae	rough-seeded fameflower
<i>Tofieldia pusilla</i> (Michx.) Pers., Liliaceae.....	small false asphodel
<i>Xyris torta</i> Sm., Xyridaceae.....	twisted yellow-eyed grass

VASCULAR PLANTS

Threatened

<i>Achillea sibirica</i> Ledeb., Asteraceae	Siberian yarrow
<i>Allium cernuum</i> Roth, Liliaceae	nodding wild onion
<i>Allium schoenoprasum</i> L. var. <i>sibiricum</i> (L.) Hartm., Liliaceae.....	wild chives
<i>Ammophila breviligulata</i> Fern., Poaceae	beachgrass
<i>Arabis holboellii</i> Hornem. var. <i>retrofracta</i> (Graham) Rydb., Brassicaceae.....	Holboell's rockcress
<i>Arnica lonchophylla</i> Greene, Asteraceae.....	long-leaved arnica
<i>Arnoglossum plantagineum</i> Raf., Asteraceae	tuberous Indian-plantain
<i>Asclepias hirtella</i> (Pennell) Woodson, Asclepiadaceae.....	prairie milkweed
<i>Asclepias sullivantii</i> Engelm., Asclepiadaceae	Sullivant's milkweed
<i>Asplenium trichomanes</i> L., Aspleniaceae	maidenhair spleenwort
<i>Aster shortii</i> Lindl., Asteraceae	Short's aster
<i>Aureolaria pedicularia</i> (L.) Raf., Scrophulariaceae	fernleaf false foxglove
<i>Besseyia bullii</i> (Eaton) Rydb., Scrophulariaceae	kitten-tails
<i>Botrychium lanceolatum</i> (S.G. Gmelin) Angstr., Ophioglossaceae.....	triangle moonwort
<i>Botrychium lunaria</i> (L.) Sw., Ophioglossaceae	common moonwort
<i>Botrychium rugulosum</i> W.H. Wagner, Ophioglossaceae.....	St. Lawrence grapefern
<i>Carex careyana</i> Torr. ex Dewey, Cyperaceae	Carey's sedge
<i>Carex conjuncta</i> Boott, Cyperaceae	jointed sedge
<i>Carex davisii</i> Schwein. & Torr., Cyperaceae.....	Davis' sedge
<i>Carex festucacea</i> Schkuhr ex Willd., Cyperaceae	fescue sedge
<i>Carex garberi</i> Fern., Cyperaceae.....	Garber's sedge
<i>Carex jamesii</i> Schwein., Cyperaceae.....	James' sedge
<i>Carex katahdinensis</i> Fern., Cyperaceae.....	Katahdin sedge
<i>Carex laevivaginata</i> (Kukenth.) Mackenzie, Cyperaceae.....	smooth-sheathed sedge
<i>Carex laxiculmis</i> Schwein., Cyperaceae.....	spreading sedge
<i>Carex sterilis</i> Willd., Cyperaceae	sterile sedge
<i>Crassula aquatica</i> (L.) Schoenl., Crassulaceae	pigmyweed
<i>Crataegus douglasii</i> Lindl., Rosaceae	black hawthorn
<i>Cyperus acuminatus</i> Torr. & Hook., Cyperaceae	short-pointed umbrella- sedge
<i>Cypripedium arietinum</i> R. Br., Orchidaceae.....	ram's-head lady's-slipper
<i>Diplazium pycnocarpon</i> (Spreng.) M. Broun, Dryopteridaceae	narrow-leaved spleenwort
<i>Dryopteris marginalis</i> (L.) Gray, Dryopteridaceae.....	marginal shield-fern
<i>Eleocharis nitida</i> Fern., Cyperaceae.....	neat spike-rush
<i>Eleocharis olivacea</i> Torr., Cyperaceae.....	olivaceous spike-rush
<i>Eleocharis rostellata</i> Torr., Cyperaceae	beaked spike-rush
<i>Eupatorium sessilifolium</i> L., Asteraceae	upland boneset
<i>Floerkea proserpinacoides</i> Willd., Limnanthaceae	false mermaid
<i>Heteranthera limosa</i> (Sw.) Willd., Pontederiaceae	mud plantain
<i>Huperzia porophila</i> (Lloyd & Underwood) Holub, Lycopodiaceae	rock clubmoss
<i>Lespedeza leptostachya</i> Engelm., Fabaceae	prairie bush clover (T)
<i>Melica nitens</i> (Scribn.) Nutt. ex Piper, Poaceae.....	three-flowered melic
<i>Moehringia macrophylla</i> (Hook.) Fenzl, Caryophyllaceae	large-leaved sandwort
<i>Napaea dioica</i> L., Malvaceae	glade mallow

<i>Nymphaea leibergii</i> (Morong) Boivin, Nymphaeaceae	small white waterlily
<i>Paronychia canadensis</i> (L.) Wood, Caryophyllaceae.....	Canadian forked chickweed
<i>Phegopteris hexagonoptera</i> (Michx.) Fee, Thelypteridaceae	broad beech-fern
<i>Plantago elongata</i> Pursh, Plantaginaceae.....	slender plantain
<i>Poa paludigena</i> Fern. & Wieg., Poaceae.....	bog bluegrass
<i>Polystichum acrostichoides</i> (Michx.) Schott, Dryopteridaceae	Christmas fern
<i>Rhynchospora capillacea</i> Torr., Cyperaceae	hair-like beak-rush
<i>Rotala ramosior</i> (L.) Koehne, Lythraceae	tooth-cup
<i>Rubus chamaemorus</i> L., Rosaceae	cloudberry
<i>Salicornia rubra</i> Nelson, Chenopodiaceae	red saltwort
<i>Saxifraga paniculata</i> P. Mill., Saxifragaceae	encrusted saxifrage
<i>Scleria verticillata</i> Muhl., Cyperaceae	whorled nut-rush
<i>Scutellaria ovata</i> Hill, Lamiaceae.....	ovate-leaved skullcap
<i>Shinnersoseris rostrata</i> (Gray) S. Tomb, Asteraceae	annual skeletonweed
<i>Silene nivea</i> (Nutt.) Muhl. ex Otth., Caryophyllaceae	snowy campion
<i>Subularia aquatica</i> L., Brassicaceae.....	awlwort
<i>Sullivantia sullivantii</i> (Torr. & Gray) Britt., Saxifragaceae	reniform sullivantia
<i>Vaccinium uliginosum</i> L., Ericaceae.....	alpine bilberry
<i>Valeriana edulis</i> Nutt. var. <i>ciliata</i> (Torr. & Gray) Cronq., Valerianaceae.....	valerian
<i>Viola lanceolata</i> L., Violaceae	lance-leaved violet
<i>Viola nuttallii</i> Pursh, Violaceae	yellow prairie violet
<i>Woodsia glabella</i> R. Br., Dryopteridaceae	smooth woodsia
<i>Woodsia scopulina</i> D.C. Eat., Dryopteridaceae.....	Rocky Mountain woodsia

VASCULAR PLANTS

Special Concern

<i>Adoxa moschatellina</i> L., Adoxaceae.....	moschatel
<i>Agrostis geminata</i> Trin., Poaceae	twin bentgrass
<i>Androsace septentrionalis</i> L. ssp. <i>puberulenta</i> (Rydb.) G.T. Robbins, Primulaceae.....	northern androsace
<i>Antennaria parvifolia</i> Nutt., Asteraceae	small-leaved pussytoes
<i>Aristida purpurea</i> Nutt. var. <i>longiseta</i> (Steud.) Vasey, Poaceae	red three-awn
<i>Aristida tuberculosa</i> Nutt., Poaceae.....	sea-beach needlegrass
<i>Asclepias amplexicaulis</i> Sm., Asclepiadaceae.....	clasping milkweed
<i>Asplenium platyneuron</i> (L.) Britt., Aspleniaceae.....	ebony spleenwort
<i>Astragalus flexuosus</i> (Hook.) Dougl., Fabaceae	slender milk-vetch
<i>Astragalus missouriensis</i> Nutt., Fabaceae	Missouri milk-vetch
<i>Bacopa rotundifolia</i> (Michx.) Wettst., Scrophulariaceae	water-hyssop
<i>Baptisia alba</i> (L.) Bent., Fabaceae.....	white wild indigo
<i>Baptisia bracteata</i> Muhl. ex Ell. var. <i>leucophaea</i> (Nutt.) Kartesz & Gandhi, Fabaceae	plains wild indigo
<i>Botrychium campestre</i> W.H. Wagner & Farrar, Ophioglossaceae	prairie moonwort
<i>Botrychium minganense</i> Victorin, Ophioglossaceae.....	Mingan moonwort
<i>Botrychium mormo</i> W.H. Wagner, Ophioglossaceae	goblin fern
<i>Botrychium simplex</i> E. Hitchc., Ophioglossaceae.....	least moonwort
<i>Buchloe dactyloides</i> (Nutt.) Engelm., Poaceae	buffalo grass
<i>Calamagrostis lacustris</i> (Kearney) Nash, Poaceae.....	marsh reedgrass
<i>Calamagrostis montanensis</i> Scribn. ex Vasey, Poaceae	plains reedgrass
<i>Calamagrostis purpurascens</i> R. Br., Poaceae	purple reedgrass
<i>Callitriche heterophylla</i> Pursh, Callitrichaceae	larger water-starwort
<i>Carex annectens</i> Bickn., Cyperaceae	yellow-fruited sedge
<i>Carex crus-corvi</i> Shuttlw. ex Kunze, Cyperaceae	raven's foot sedge
<i>Carex exilis</i> Dew., Cyperaceae.....	coastal sedge
<i>Carex flava</i> L., Cyperaceae	yellow sedge
<i>Carex hallii</i> Olney, Cyperaceae.....	Hall's sedge
<i>Carex michauxiana</i> Boeckl., Cyperaceae	Michaux's sedge

<i>Carex obtusata</i> Lilj., Cyperaceae	blunt sedge
<i>Carex praticola</i> Rydb., Cyperaceae.....	prairie sedge
<i>Carex scirpoidea</i> Michx., Cyperaceae.....	northern singlespike sedge
<i>Carex supina</i> Willd. ex Wahlenb. var. <i>spaniocarpa</i> (Steud.) Boivin, Cyperaceae	weak arctic sedge
<i>Carex typhina</i> Michx., Cyperaceae.....	cattail sedge
<i>Carex woodii</i> Dew., Cyperaceae.....	Wood's sedge
<i>Carex xerantica</i> Bailey, Cyperaceae	dry sedge
<i>Chamaesyce missurica</i> (Raf.) Shinnery, Euphorbiaceae.....	Missouri spurge
<i>Cirsium hillii</i> (Canby) Fern., Asteraceae	Hill's thistle
<i>Cladium mariscoides</i> (Muhl.) Torr., Cyperaceae.....	twig-rush
<i>Claytonia caroliniana</i> Michx., Portulacaceae.....	Carolina spring-beauty
<i>Cymopterus acaulis</i> (Pursh) Raf., Apiaceae	wild parsley
<i>Cypripedium candidum</i> Muhl., Orchidaceae	small white lady's- slipper
<i>Dalea candida</i> Willd., var. <i>oligophylla</i> (Torr.) Shinnery, Fabaceae	western white prairie- clover
<i>Decodon verticillatus</i> (L.) Ell., Lythraceae.....	waterwillow
<i>Deschampsia flexuosa</i> (L.) Trin., Poaceae.....	slender hairgrass
<i>Desmanthus illinoensis</i> (Michx.) MacM., Fabaceae.....	prairie mimosa
<i>Desmodium cuspidatum</i> (Muhl. ex Willd.) DC. ex Loud. var. <i>longifolium</i> (Torr. & Gray) Schub., Fabaceae.....	big tick-trefoil
<i>Desmodium nudiflorum</i> (L.) DC., Fabaceae	stemless tick-trefoil
<i>Diarrhena obovata</i> (Gleason) Brandenburg, Poaceae	American beakgrass
<i>Dicentra canadensis</i> (Goldie) Walp., Fumariaceae	squirrel-corn
<i>Draba arabisans</i> Michx., Brassicaceae	rock whitlow-grass
<i>Drosera anglica</i> Huds., Droseraceae.....	English sundew
<i>Drosera linearis</i> Goldie, Droseraceae	linear-leaved sundew
<i>Dryopteris goldiana</i> (Hook.) Gray, Dryopteridaceae	Goldie's fern
<i>Eleocharis parvula</i> (Roemer & J.A. Schultes) Link ex Bluff, Nees & Schauer, Cyperaceae	dwarf spike-rush
<i>Eleocharis quinqueflora</i> (F.X. Hartmann) Schwarz, Cyperaceae.....	few-flowered spike-rush
<i>Eryngium yuccifolium</i> Michx., Apiaceae.....	rattlesnake-master
<i>Euphrasia hudsoniana</i> Fern. & Wieg., Scrophulariaceae.....	Hudson Bay eyebright
<i>Fimbristylis autumnalis</i> (L.) Roemer & J.A. Schultes, Cyperaceae	autumn fimbristylis
<i>Gaillardia aristata</i> Pursh, Asteraceae.....	blanket-flower
<i>Gentiana affinis</i> Griseb., Gentianaceae	northern gentian
<i>Gentianella amarella</i> (L.) Borner ssp. <i>acuta</i> (Michx.) Gillett, Gentianaceae.....	felwort
<i>Hamamelis virginiana</i> L., Hamamelidaceae.....	witch-hazel
<i>Helianthus nuttallii</i> Torr. & Gray ssp. <i>rydbergii</i> (Br.) Long, Asteraceae	Nuttall's sunflower
<i>Helictotrichon hookeri</i> (Scribn.) Henr., Poaceae	oat-grass
<i>Hudsonia tomentosa</i> Nutt., Cistaceae	beach-heather
<i>Hydrocotyle americana</i> L., Apiaceae	American water- pennywort
<i>Jeffersonia diphylla</i> (L.) Pers., Berberidaceae.....	twinleaf
<i>Juglans cinerea</i> L., Juglandaceae	butternut
<i>Juncus marginatus</i> Rostk., Juncaceae.....	marginated rush
<i>Juncus stygius</i> L. var. <i>americanus</i> (Buch.) Hulten, Juncaceae	bog rush
<i>Juniperus horizontalis</i> Moench, Cupressaceae.....	creeping juniper
<i>Leersia lenticularis</i> Michx., Poaceae.....	catchfly grass
<i>Limosella aquatica</i> L., Scrophulariaceae.....	mudwort
<i>Listera convallarioides</i> (Sw.) Nutt. ex Ell., Orchidaceae.....	broad-lipped twayblade
<i>Littorella uniflora</i> (L.) Aschers., Plantaginaceae.....	American shore-plantain
<i>Luzula parviflora</i> (Ehrh.) Desv. ssp. <i>melanocarpa</i> (Michx.) Hamet-Ahti, Juncaceae.....	small-flowered woodrush
<i>Lysimachia quadrifolia</i> L., Primulaceae	whorled loosestrife

<i>Machaeranthera pinnatifida</i> (Hook.) Shinners, Asteraceae	cutleaf ironplant
<i>Malaxis monophyllos</i> (L.) Sw. var. <i>brachypoda</i> (Gray) Morris & Eames, Orchidaceae	white adder's-mouth
<i>Minuartia dawsonensis</i> (Britt.) House, Caryophyllaceae	rock sandwort
<i>Muhlenbergia uniflora</i> (Muhl.) Fern., Poaceae	one flowered muhly
<i>Najas gracillima</i> (A. Braun ex Engelm.) Magnus, Najadaceae	slender naiad
<i>Najas marina</i> L., Najadaceae.....	sea naiad
<i>Oenothera rhombipetala</i> Nutt. ex Torr. & Gray, Onagraceae	rhombic-petaled evening primrose
<i>Opuntia macrorhiza</i> Engelm., Cactaceae	plains prickly pear
<i>Orobanche fasciculata</i> Nutt., Orobanchaceae	clustered broomrape
<i>Orobanche ludoviciana</i> Nutt., Orobanchaceae	Louisiana broomrape
<i>Orobanche uniflora</i> L., Orobanchaceae.....	one-flowered broomrape
<i>Osmorhiza depauperata</i> Phil., Apiaceae	blunt-fruited sweet cicely
<i>Panax quinquefolius</i> L., Araliaceae	American ginseng
<i>Pellaea atropurpurea</i> (L.) Link, Adiantaceae	purple cliff-brake
<i>Phacelia franklinii</i> (R.Br.) Gray, Hydrophyllaceae	Franklin's phacelia
<i>Pinguicula vulgaris</i> L., Lentibulariaceae.....	butterwort
<i>Platanthera clavellata</i> (Michx.) Luer, Orchidaceae	club-spur orchid
<i>Poa wolfii</i> Scribn., Poaceae	Wolf's bluegrass
<i>Polygonum careyi</i> (Olney), Polygonaceae.....	Carey's smartweed
<i>Polygonum viviparum</i> L., Polygonaceae.....	alpine bistort
<i>Polytaenia nuttallii</i> DC., Apiaceae	prairie-parsley
<i>Potamogeton vaginatus</i> Turcz., Potamogetonaceae.....	sheathed pondweed
<i>Potamogeton vaseyi</i> Robbins, Potamogetonaceae	Vasey's pondweed
<i>Prenanthes crepidinea</i> Michx., Asteraceae	nodding rattlesnake-root
<i>Pyrola minor</i> L., Pyrolaceae	small shi leafl
<i>Ranunculus lapponicus</i> L., Ranunculaceae.....	Lapland buttercup
<i>Rhynchospora fusca</i> (L.) Ait. f., Cyperaceae.....	sooty-colored beak-rush
<i>Rorippa sessiliflora</i> (Nutt.) A.S. Hitchc., Brassicaceae.....	sessile-flowered cress
<i>Rudbeckia triloba</i> L., Asteraceae	three-leaved coneflower
<i>Ruppia maritima</i> L., Ruppiales	ditch-grass
<i>Salix maccalliana</i> Rowlee, Salicaceae.....	Maccall's willow
<i>Salix pellita</i> (Anderss.) Anderss. ex Schneid., Salicaceae	satiny willow
<i>Sanicula trifoliata</i> Bickn., Apiaceae.....	beaked snakeroot
<i>Schedonnardus paniculatus</i> (Nutt.) Trel., Poaceae.....	tumblegrass
<i>Scirpus clintonii</i> Gray, Cyperaceae.....	Clinton's bulrush
<i>Senecio indecorus</i> Greene, Asteraceae	elegant groundsel
<i>Silene drummondii</i> Hook., Caryophyllaceae.....	Drummond's campion
<i>Solidago mollis</i> Bartl., Asteraceae.....	soft goldenrod
<i>Solidago sciaphila</i> Steele, Asteraceae	cliff goldenrod
<i>Sparganium glomeratum</i> Laest., Sparganiaceae	clustered bur-reed
<i>Stellaria longipes</i> Goldie, Caryophyllaceae.....	long-stalked chickweed
<i>Symphoricarpos orbiculatus</i> Moench, Caprifoliaceae.....	coralberry
<i>Tephrosia virginiana</i> (L.) Pers., Fabaceae.....	goat's-rue
<i>Torreyochloa pallida</i> (Torr.) Church, Poaceae	Torrey's manna-grass
<i>Trillium nivale</i> Riddell, Liliaceae	snow trillium
<i>Trimorpha acris</i> (L.) Nesom var. <i>asteroides</i> (Anderz. ex Bess.) Nesom, Asteraceae	bitter fleabane
<i>Trimorpha lonchophylla</i> (Hook.) Nesom, Asteraceae	shortray fleabane
<i>Triplasis purpurea</i> (Walt.) Champm., Poaceae	purple sand-grass
<i>Tsuga canadensis</i> (L.) Carr., Pinaceae.....	eastern hemlock
<i>Utricularia purpurea</i> Walt., Lentibulariaceae	purple-flowered bladderwort
<i>Utricularia resupinata</i> B.D. Greene ex Bigelow, Lentibulariaceae.....	lavender bladderwort
<i>Verbena simplex</i> Lehm., Verbenaceae.....	narrow-leaved vervain
<i>Vitis aestivalis</i> Michx., Vitaceae.....	silverleaf grape

Waldsteinia fragarioides (Michx.) Tratt., Rosaceae.....barren strawberry
Woodsia alpina (Bolton) Gray, Dryopteridaceae.....alpine woodsia
Xyris montana Ries, Xyridaceae.....montane yellow-eyed
 grass

LICHENS

Endangered

Buellia nigra (Fink) Shearda species of lichen
Caloplaca parvula Wetm.....a species of lichen
Dermatocarpon moulinsii (Mont.) Zahlbr.a species of lichen
Leptogium apalachense (Tuck.) Nyl.....a species of lichen
Lobaria scrobiculata (Scop.) DC.a species of lichen
Parmelia stictica (Del.) Nyl.....a species of lichen
Pseudocyphellaria crocata (L.) Vain.a species of lichen
Umbilicaria torrefacta (Lightf.) Schrad.a species of lichen

Threatened

Cetraria oakesiana Tuck.a species of lichen
Coccocarpia palmicola (Sprengel) Arvid & Gallowaya species of lichen
Parmelia stuppea Tayl.....a species of lichen

Special concern

Anaptychia setifera Ra.s.a species of lichen
Cetraria aurescens Tuck.a species of lichen
Cladonia pseudorangiformis Asah.a species of lichen
Lobaria quercizans Michx.....a species of lichen
Peltigera venosa (L.) Hoffm.....a species of lichen
Sticta fuliginosa (Dicks.) Ach.....a species of lichen

MOSSES

Endangered

Schistostegia pennata (Hedw.) Web. & Mohr.....luminous moss

Special Concern

Bryoxiphium norvegicum (Brid.) Mitt.sword moss
Tomenthypnum falcifolium (Ren. ex Nich.) Tuom.....a species of moss

FUNGI

Endangered

Fuscoboletinus weaverae A.H. Smith & Shaffer.....a species of fungus
Psathyrella cystidiosa (Peck) A.H. Smitha species of fungus
Psathyrella rhodospora Weaver & A.H. Smith.....a species of fungus

Special concern

Laccaria trullisata (Ellis)a species of fungus
Lactarius fuliginellus A.H. Smith & Heslera species of fungus
Lysurus cruciatus (Lepr. & Mont.) Lloyd.....a species of fungus

FIGURE 6.6

ENDANGERED/THREATENED SPECIES LISTING – SOUTH DAKOTA

The following is a listing of the endangered/threatened and specially classified species in the State of South Dakota.

ANIMALS	
Common Name	Scientific Name
American Burying Beetle	<i>Nicrophorus americanus</i>
Scaleshell	<i>Leptodea leptodon</i>
Higgins Eye	<i>Lampsilis higginsii</i>
Dakota skipper	<i>Hesperia dacotae</i>
Banded killifish	<i>Fundulus diaphanous</i>
Blacknose shiner	<i>Notropis heterolepis</i>
Finescale dace	<i>Phoxinus neogaeus</i>
Longnose sucker	<i>Catostomus catostomus</i>
Northern redbelly dace	<i>Phoxinus eos</i>
Pallid sturgeon	<i>Scaphirhynchus albus</i>
Pearl dace	<i>Margariscus margarita</i>
Sicklefin chub	<i>Macrhybopsis meeki</i>
Sturgeon chub	<i>Macrhybopsis gelida</i>
Topeka shiner	<i>Notropis topeka</i>
Eastern hognose snake	<i>Heterodon platirhinus</i>
False map turtle	<i>Graptemys pseudogeographica</i>
Lined snake	<i>Tropidoclonion lineatum</i>
American dipper	<i>Cinclus mexicanus</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Eskimo curlew	<i>Numerius borealis</i>
Interior least tern	<i>Sterna antillarum athalassos</i>
Osprey	<i>Pandion haliaetus</i>
Peregrine falcon	<i>Falco peregrines</i>
Piping plover	<i>Charadrius melodus</i>
Whooping crane	<i>Grus Americana</i>
Black-footed ferret	<i>Mustela nigripes</i>
Gray wolf	<i>Canis lupus</i>
River otter	<i>Lontra Canadensis</i>
Swift fox	<i>Vulpes velox</i>

PLANTS	
Common Name	Scientific Name
Orchid, western prairie fringed	<i>Platanthera praeclara</i>

FIGURE 6.7**ENDANGERED/THREATENED SPECIES LISTING – NORTH DAKOTA**

The following is a listing of the endangered/threatened and specially classified species in the State of North Dakota.

ANIMALS	
Common Name	Scientific Name
Black-footed ferret	<i>Mustela nigripes</i>
Gray wolf	<i>Canis lupus</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Interior least tern	<i>Sterna antillarum athalassos</i>
Peregrine falcon	<i>Falco peregrines</i>
Piping plover	<i>Charadrius melodus</i>
Pallid sturgeon	<i>Scaphirhynchus albus</i>

PLANTS	
Common Name	Scientific Name
Orchid, western prairie fringed	<i>Platanthera praeclara</i>

APPENDIX A

GENERAL INFORMATION

PAGE

DOT/PHMSA 49 CFR Part 194 Cross ReferenceA-2

**DOT/PHMSA 49 CFR PART 194
CROSS REFERENCE**

Section 194.105	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	... determine the worst case discharge ... provide methodology, including calculations, used to arrive at the volume.	App F
(b)	The worst case discharge is the largest volume, in barrels, of the following:	----
(b)(1)	... maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour, plus the largest line drainage volume after shutdown of the line section(s) ...; or	App F
(b)(2)	The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels, based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken; or	App F
(b)(3)	If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.	App F
(b)(4)	Operators may claim prevention credits for breakout tank secondary containment and other specific spill prevention measures as follows:...	App F
Section 194.107	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each response plan must plan for resources for responding, to the maximum extent practicable, to a worst case discharge, and to a substantial threat of such a discharge.	Section 5, App B
(b)	An operator must certify in the plan ... reviewed NCP and each applicable ACP...	Foreword Ack. & Plan Approval, Section 1.5
(b)(1)	As a minimum to be consistent with the NCP as a facility response plan must:	----
(b)(1)(i)	Demonstrate an operator's clear understanding of the function of the Federal response structure...	Section 4, App H
(b)(1)(ii)	Establish provisions to ensure the protection of safety at the response site; and	Section 4.10, 5.2
(b)(1)(iii)	Identify the procedures to obtain any required Federal and State permissions for using alternative response strategies such as in-situ burning and dispersants...	Section 6.8
(b)(2)	As a minimum, to be consistent with the applicable ACP the plan must:	----
(b)(2)(i)	Address the removal of a worst case discharge and the mitigation or prevention of a substantial threat of a worst case discharge;	Section 3.0, App F, E
(b)(2)(ii)	Identify environmentally and economically sensitive areas;	Section 6.0
(b)(2)(iii)	Describe the responsibilities of the operator and operator and of Federal, State and local agencies in removing a discharge and in mitigating or preventing a substantial threat of a discharge; and	Section 4.8, 4.10
(b)(2)(iv)	Establish the procedures for obtaining an expedited decision on use of dispersants or other chemicals.	Section 6.8
(c)	Each response plan must include:	----
(c)(1)	A core plan consisting of ...	----
(c)(1)(i)	An information summary as required in Section 194.113,	Fig 1.1
(c)(1)(ii)	Immediate notification procedures,	Section 2.0
(c)(1)(iii)	Spill detection and mitigation procedures,	Section 3.0, App H
(c)(1)(iv)	The name, address, and telephone number of the oil spill response organization, if appropriate,	App B
(c)(1)(v)	Response activities and response resources,	Section 3.0, App B

**DOT/PHMSA 49 CFR PART 194
CROSS REFERENCE (Cont'd)**

Section 194.107	BRIEF DESCRIPTION	LOCATION in PLAN
(c)(1)(vi)	Names and telephone numbers of Federal, state, and local agencies which the operator expects to have pollution control responsibilities or support,	Figs 2.4, 2.5, 2.6
(c)(1)(vii)	Training procedures,	Section 4.5
(c)(1)(viii)	Equipment testing,	Section 4.6
(c)(1)(ix)	Drill program – an operator will satisfy the requirement for a drill program by following the National Preparedness for Response Exercise Program (PREP) guidelines. An operator choosing not to follow PREP guidelines must have a drill program that is equivalent to PREP. The operator must describe the drill program in the response plan and OPS will determine if the program is equivalent to PREP.	Section 4.6
(c)(1)(x)	Plan review and update procedures;	Section 1.4
(c)(2)	An appendix for each response zone that includes the information required in paragraph (c)(1)(i)-(ix) of this section and the worst case discharge calculations that are specific to that response zone. An operator submitting a response plan for a single response zone does not need to have a core plan and a response zone appendix. The operator of a single response zone onshore pipeline shall have a single summary in the plan that contains the required information in Section 194.113.7; and.	Fig 1.1
(c)(3)	A description of the operator's response management system including the functional areas of finance, logistics, operations, planning, and command. The plan must demonstrate that the operator's response management system uses common terminology and has a manageable span of control, a clearly defined chain of command, and sufficient trained personnel to fill each position.	Section 4.0
Section 194.111	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each operator shall maintain relevant portions of its response plan at the operator's headquarters and at other locations from which response activities may be conducted, for example, in field offices, supervisor's vehicles, or spill response trailers.	Foreword Distribution List
Section 194.113	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	The information summary for the core plan, required by Section 194.107, must include:	----
(a)(1)	The name and address of the operator.	Fig 1.1
(a)(2)	For each response zone which contains one or more line sections that meet the criteria for determining significant and substantial harm as described in Section 194.103, a listing and description of the response zones, including county(s) and state(s).	Fig 1.1
(b)	The information summary for the response zone appendix, required in Section 194.107, must include:	----
(b)(1)	The information summary for the core plan.	Fig 1.1
(b)(2)	The names or titles and 24-hour telephone numbers of the qualified individual(s) and at least one alternate qualified individual(s);	Fig 1.1
(b)(3)	The description of the response zone, including county(s) and state(s), for those zones in which a worst case discharge could cause substantial harm to the environment.	Fig 1.1
(b)(4)	A list of line sections for each pipeline contained in the response zone, identified by milepost or survey station number, or other operator designation.	Fig 1.1
(b)(5)	The basis for the operator's determination of significant and substantial harm.	Fig 1.1
(b)(6)	The type of oil and volume of the worst case discharge.	Fig 1.1

**DOT/PHMSA 49 CFR PART 194
CROSS REFERENCE (Cont'd)**

Section 194.115	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each operator shall identify and ensure, by contract or other approved means, the resources necessary to remove, to the maximum extent practicable, a worst case discharge and to mitigate or prevent a substantial threat of a worst case discharge.	Section 5.0, App B
(b)	An operator shall identify in the response plan the response resources which are available to respond within the time specified, after discovery of a worst case discharge, or to mitigate the substantial threat of such a discharge.	Section 5.0, App B
Section 194.117	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each operator shall conduct training to ensure that:	-----
(a)(1)	All personnel know --	-----
(a)(1)(i)	Their responsibilities under the response plan	Section 4.5, App B
(a)(1)(ii)	The name and address of, and the procedure for contacting, the operator on a 24-hour basis	Section 2.0, Fig 2.2
(a)(1)(iii)	The name of, and procedures for contacting, the qualified individual on a 24-hour basis	Fig 1.1, Section 2.0, Figs 2.2, 2.5
(a)(2)	Reporting personnel know --	-----
(a)(2)(i)	The content of the information summary of the response plan.	Fig 1.1
(a)(2)(ii)	The toll-free telephone number of the National Response Center	Fig 2.3, Fig. 2.5
(a)(2)(iii)	The notification process	Section 2.0, Fig. 2.4
(a)(3)	Personnel engaged in response activities know --	-----
(a)(3)(i)	The characteristics and hazards of the oil discharged	Section 3.0
(a)(3)(ii)	The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions or failures, and the appropriate corrective actions.	Section 3.0
(a)(3)(iii)	The steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity, or environmental damage	Section 3.0
(a)(3)(iv)	The proper firefighting procedures and use of equipment, fire suits, and breathing apparatus	Section 3.0
(b)	Each operator shall maintain a training record for each individual that has been trained as required by this section. These records must be maintained in the following manner as long as the individual is assigned duties under the response plan	-----
(b)(1)	Records for operator personnel must be maintained at the operator's headquarters	Section 4.5
(b)(2)	Records for personnel engaged in response, other than operator personnel, shall be maintained as determined by the operator.	Section 4.5
(b)(3)	Nothing in this section relieves an operator from the responsibility to ensure that all response personnel are trained to meet the OSHA standards for emergency response operations in 29 CFR 1910.120 ...	Section 4.5

**DOT/PHMSA 49 CFR PART 194
CROSS REFERENCE (Cont'd)**

Section 194.119	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each owner shall submit two copies...	Distribution
(b)	...PHMSA will notify the operator of any alleged deficiencies...	-----
(c)	The operator...may petition PHMSA for reconsideration within 30 days...	-----
(d)	...PHMSA will approve the Response Plan...	-----
(e)	...The operator may submit a certification to PHMSA...that the operator has obtained, through contract or other approved means, the necessary private personnel and equipment to record, to the maximum extent practicable, to a worst case discharge...	-----
(f)	...PHMSA may require an operator to provide a copy of the response plan to the OSC...	-----

APPENDIX B

RESPONSE RESOURCES

USCG CLASSIFIED OIL SPILL ORGANIZATIONS (OSROs)

HAZ-MAT Response	B-2
West Central Environmental Consultants (WCEC)	B-2

PIPELINE EMERGENCY CONTRACTORS

Pipeline Emergency Contractors	B-3
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COMPANY OWNED EQUIPMENT

Company Owned Spill Response Equipment	B-5
West Central Environmental Consultants (WCEC) Contract	B-20
HAZ-MAT Response Contract	B-40

Cold Weather Oil Spill Response Procedure

West Central Environmental Consultants (WCEC) Procedure	B-78
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The Company has identified sufficient response resources, by contract or other approved means to respond to a worst case discharge in each Response Zone identified in this Plan.

The following U.S. Coast Guard listed OSROs have been contracted to respond to spills originating from Company pipelines:

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Environment Type	Facility Classification Level				High Volume Port	Contract Responsibility
		MM	W1	W2	W3		
HAZ-MAT Response <i>Main Office</i> 1203C South Parker Olathe, Kansas 66061 800-229-5252	Rivers/Canals	X	X	X	X		This contractor is to provide the properly trained manpower and equipment to perform containment, clean up and proper disposal of spill material per the instructions of the QI
	Inland	X	X	X			
West Central Environmental Consultants (WCEC) <i>Main Office</i> 14 Green River Road P.O. Box 594 Morris, MN 56267 USA 800-422-8356 (320) 589-2039 FAX: (320) 589-2814 <i>Fridley Office</i> PO Box 32064 7871 Hickory St. NE Fridley, MN 55432 Business Office – 763.571.4944 Emergency – 952.980.3247	Rivers/Canals	X					
	Inland						
	Rivers/Canals	X					
	Inland						

PIPELINE EMERGENCY CONTRACTORS

I. Emergency Response Contractors

1. **CRA** – Conestoga-Rovers Associates
13431 Cullen Boulevard
Houston, Texas 77047
(713) 734-3090 - Fax: (713) 734-3391
2. **Excavators** - Walker Excavating
Le Mars, IA 712-546-6707 or 712-540-2018
3. **Excavators** - Kern's Electric
Rock Rapids, IA 712-472-3391 or 712-472-2356
4. **Excavators** - Porter Construction
Norfolk, NE 402-371-2900
5. **Excavators** - Koch Excavating
Columbus, NE 402-564-6116

II. Pipeline Repair Contractors

1. **Minnesota Limited**
PO Box 410
18640 200th St.
Big Lake, MN 55309
Business – 763.262.7000
Emergency – 612.709.2588
2. **Savage Services**
1515 W 6th Avenue
El Dorado, Kansas 67042
316-321-3184
3. **Blackburn Construction Inc.**
2200 W 6th Avenue
El Dorado, Kansas 67042
316-321-5358

III. Truck/Vacuum Service Contractors

1. **Transport Company** - Sioux Tank Lines
Orange City, IA 800-373-4129
2. **Vacuum truck** - Jackson Pumping Service
Sioux City, IA 712-276-7990 or 712-251-5590
3. **Transport Company** - Popkes Car Care
Rock Rapids, IA 712-472-3969 or 712-470-4100
4. **Vacuum Truck** - Ace Septic
Sioux Falls, SD 605-366-0690 or 605-360-0690 or 605-338-6009
5. **Transport Company** - Central Transport Co.
Norfolk, NE 402-371-9517
6. **Vacuum Truck** - Weiland
Columbus, NE 402-564-5048
7. **Transport Company** - Cummings and Sons
Schuyler, NE 402-352-3001

- 8. **Vacuum Truck** - Weiland
Columbus, NE 402-564-5048

- 9. **Transport Company** - Wayne Transport
14345 Conley Ave.
Rosemount, MN 55068
Business – 651.438.3519
Emergency – 800.999.2963
- 10. WCEC – See above
- 11. Albert Hogoboom Oil Field Trucking Service
767 Oil Hill Road
El Dorado, Kansas 67042
316-321-1397 Office
- 12. Groendyke Transport Inc.
2701 E 4th
Hutchinson, Kansas 67501
620-662-7281.1

IV. Stopples & Hot Tap Contractors

- 1. Minnesota Limited
PO Box 410
18640 200th St.
Big Lake, MN 55309
Business – 763.262.7000
Emergency – 612.709.2588

- 2. TDW
5727 South Lewis
Tulsa, OK 74105
800-828-1988

V. X-Ray Contractors

- 1. Team Industrial Services
1920 Oakcrest Ave.
Roseville, MN 55113
Business – 651.633.7616
Emergency – 651.335.8093 – [REDACTED]
Emergency – 651.335.8083 – [REDACTED]

COMPANY- OWNED RESPONSE EQUIPMENT

The Company has 9 spill trailers, strategically located throughout the Central East Region. They are located:

- █ [Redacted]
- █ [Redacted]
- █ [Redacted]
- █ [Redacted]
- █ [Redacted]
- █ [Redacted]
- █ [Redacted]

SPILL RESPONSE TRAILER INVENTORY LIST

Trailer License Plate Number [Redacted]

- Location**
- [Redacted]
 - [Redacted]
 - [Redacted]
 - [Redacted]
 - [Redacted]

<u>Quantity</u>	<u>Equipment or Supplies Description</u>
1	Kaneb Pipe Line Emergency Manual
20 ft	1 – 20’ sections with 6” diameter floatation logs and 10” skirt
1	Gasoline Powered Generator
4	300 Watt Quartz Flood Lights
2	50’ Long Extension Cords
42	Bags of Absorbent Pads (17” x 19”)
1	55 Gallon Drum w/Sorbent Wringers
1	Lot of Miscellaneous Hand Tools
1	Lot of Miscellaneous Hex Head Bolts and Nuts
1	5 Gallon Gasoline Can
2	Shovels
9	Steel T-Type Posts
2	Rubbermaid Trash Cans
1	Box Trash Bags (for spent sorbent material)
1	20’ Extension Ladder
6	300 Watt Quartz Flood Light Replacement Bulbs
1	100 Watt Extra Incandescent Light Bulb
1	5 Gallon Drinking Water cooler
1	Roll Electric Fence Wire (17 gauge)
1	Box 20’ x 50’ 4-Ply Plastic Sheeting
1	Log Chain
6	Safety Cones
3	Bags Nails
1	Oil Can
2	Rolls of No. 9 Wire
3	Pairs of 5-Buckle Over Shoes
3	Pairs Hip Waders
2	Pairs of Chest Waders

1	Flashlight with Extra Batteries
2	Hammers
1	Roll of "Caution" Tape
**	Ropes Various Sizes
2	Rolls Duct Tape
4	Rolls Electrical Tape
20	Respirators (Half Face Piece) w/6 Cartridges
1	Safety Fence
**	Various Pipe Fittings w / Couplers (2" to 3")
1	Box 3M Paper Dust Masks
1	50 Amp hart-Lock Electrical Outlet
1	Box of markers (Red, Black, Blue, and Green)
4	PVC Rain Suits
4	Rolls of Teflon Tape
7	Quarts of Oil
1	Flashing Light
3	3" Hoses (20' long)
4	2" Hoses (20' long)
1	Roll Wire Screen
1	Hand Saw
1	Bolt Cutter
1	Electrical Pig Tail Wire (for trailer)
4	Body Harnesses
	1 – Life Line
	1 – Carrying Case
1	Fire Extinguisher
1	Wind Sock
3	Bags Oil Dry

SPILL RESPONSE TRAILER INVENTORY LIST

Trailer License Plate Number [REDACTED]

Location [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

Quantity	Equipment or Supplies Description
1	Kaneb Pipe Line Company Emergency Manual
200 ft	Acme "OK Corral" Containment Boom, consisting of the following: 3- 10' sections with 6" diameter floatation logs and 10" skirt 6- 20' sections with 6" diameter floatation logs and 10" skirt 7- 50' sections with 6" diameter floatation logs and 10" skirt
1	Acme Model FS400ASK-39GT-Floating Tunnel Skimmer equipped with 2" discharge and 1.7HP Air Motor - Skimmer Capacity: 9,000 GPH
1	Acme Model FS150A-39G4-Floating Wash-Down Pump complete with 50' of 1½" hose, quick couplers and spray nozzle-Skimmer Capacity: 12,000 GPH - 5 hp 3" diaphragm Pumps – 4,500 GPH
3	3/8" Diameter x 50' long air hoses with quick coupler
7	Boxes of 5" diameter x 10' Long Sorbent Booms (4 to box)
3	Bags of 10" diameter x 10' Long Sorbent Booms
6	Bags of Absorbent Pads (17" x 19")
3	Rolls of 38" x 144' Absorbent material
12	Steel T-Type Posts
1	Steel Fence Post Driver
1	10' x 12' Plastic Tarp
3	Rolls of No. 9 Wire
24	Protective Suits
3	3" Hoses (20' Long)
4	2" Hoses (20' Long)
1	Fire Extinguisher
1	Dip Net
1	Wind Sock
1	Electrical Pig Tail Wire (For Trailer)

SPILL RESPONSE TRAILER INVENTORY LIST

Location [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

Quantity	Size	Item
20	each	Steel fence posts
2	each	5000 ft rolls of barbed wire
1	case	Sorbent acme boom (4" x 4")
2	bundle	Sorbent pads type 156 17" X 19" 100 pads per bundle
3	each	Large rolls clear plastic
2	bundle	Absorbent pads
12	each	Boom tie bridles
400	feet	4" x 4" containment boom
1	each	Diaphragm pump (Diesel)
1	each	2400 gal fast tank
100	feet	3" suction hose
150	feet	3" discharge hose
1	each	Skimmer head (Manta Ray)
6	each	Life jackets
3	rolls	5/8" rope (600')
1	each	Suction hose screen
1	each	Fence post driver
4	each	Shovels
2	each	20# fire extinguishers
1	each	1st aid kit
6	each	3M half masks
6	each	Replacement cartridges for half masks

SPILL RESPONSE TRAILER INVENTORY LIST**Location**

Item	Quantity
Shovel, Spade	5
Shovel, Spade with Long Handle	2
Shovel, Scoop	2
Squeegee	1
Stinger (3"x10" Hard Suction)	1
Shovel, Snow Shovel (Short Aluminum)	2
Shovel, Coal	2
Water Cooler (6 gal)	1
Wire, Mechanics (Roll)	2
Warning Cone	7
Tools, Misc	1
Spill Trailer (Continental Cargo)	1
Absorbent Pads (18"x18" Bundle)	6
Absorbent Pads (3" x 200')	3
Absorbent Pillows (bag)	1
Spill Pads (9' roll)	2
Tow Bridles	12
Floor Dry (50 lb Bags)	8
Light Plant /stand	1
Mobile Light	1
Cotton Web (19"x100')	1
Fire Extinguishers – 20#	4
Sledge Hammer	1
Poly Rope – 5/8" x 100'	1
Extension cords	3
Rain Suits	2
Rubber Boots	4pr
Goggles	5
Nitrile Gloves	5pr
Flashlights	3
Bolt Cutter	1
Pry Bars	2
Crow Bars	2
Duct Tape	2
Straw Bales	4
Cotton Mops	2
Brooms	3
Extension Ladder (20')	1
Traffic Barriers	3

Ground Rods	3
Leaf Rakes	2
Air Hose (3/8" x 50')	1
Steel Drop Tube	1
Bentonite Drain Plugs (box)	1
Plug-a-dike (pails)	2
Barrier Tape (100' roll)	1
Tyvek Coveralls	8
Oil Sorbent – Type 270 - Bale	1
Respirators–Half-mask – 3M 7503	7

████████████████████ SPILL RESPONSE TRAILER INVENTORY LIST

Location ██████████
 ██████████
 ██████████
 ██████████
 ██████████

Item	Quantity
Absorbent Pads (18"x18" Bundle)	5
Absorbent Boom (18")	300 ft
Absorbent Boom	40 ft
Floating boom	150 ft
Diaphragm pump (Diesel)	1
Fast Tank (2000 Gallon with Case)	1
Hoses (3"x20' Discharge)	3
Hoses (3"x25' flat discharge)	3
Hose (3"x12' Hard Suction)	2
Personal Flotation	4
Oars	1 pr.
Skimmer Head (Skate/Ray Type)	1
Poly Rope – 3/8" x 100'	4
Poly Rope – 5/8" x 100'	2
Buckets (5 gal)	2

SPILL RESPONSE TRAILER INVENTORY LIST**Location**

Quantity	Item
2	Absorbent pads (bags)
24	Boom tow bridles
1	Broom
3	Boots, hip
1000 ft	Boom, Containment (20 – 50 foot sections)
12	Cones, Safety Orange
1	Come-along
1	Diaphragm pump (diesel,3")
1	55 gallon Drum
3	Extension Cords
1	Fast Tank (2400 gallon)
2	gas cans 5gal
2	garbage can
100 ft	3" hose for diaphragm
150 ft	3" hose discharge
3	Respirators (half mask)
1	Skimmer head
1	spade
1	wire stretcher
1	rake

SPILL RESPONSE TRAILER INVENTORY LIST**Location**

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Quantity**Description**

Quantity	Description
	[REDACTED] Pipeline Spill Response Trailer -20' tandem axle
700 ft.	Acme O.K. Corral Boom 4" Flotation, 6" skirt, 3/8" chain ballast, Jaton
Fabric	
9	Quick Latch Towing Bridles w/8' of 1/2" poly rope
300 ft.	Acme Super Boom 2 1/2" Boom 2 1/2" Flotation, 4" skirt 1/4" chain Ballast Jaton
	Fabric (6-50' sections)
2	5"X40' Sorbent Boom
6	Towing Bridles for 2 1/2" Boom (chains in box with boom couplers)
11	Couplers for 2 1/2" Boom
4	12" Hard Skinned Mooring Buoys
4	Inflatable Marker Buoys 9" X 14"
3	Danforth Style Anchors

Rope

2	600' Lengths of Rope on 2 Spools
2	200' Lengths of Rope on 1 Spool
1	300' Lengths of Rope on 1 Spool
3	175' Lengths of Rope on 1 Spool
3	100' Lengths of Rope on 1 Spool
	Miscellaneous Lengths of Rope
1	30 lb. Fire Extinguisher
2	33 Gal. plastic Cans
11	Work Vest Life Jackets
20	Steel Post Driver
2	Shovels
50	Quick Connectors
1	Steel Post Extractor
1	Bolt Cutter
1	55 Gal. Drum w/ wringer
1	10' X 100' Roll Back plastic
2	Bales of Sorbent Pads
	Garbage Bags
	Rubber Gloves
	Bow and Arrows
	Rubber De-con tub with 2 vinyl mats

SPILL RESPONSE TRAILER INVENTORY LIST

Location [Redacted]
 [Redacted]
 [Redacted]
 [Redacted]
 [Redacted]

Item	Quantity
Fire Extinguisher	1
Work vest Life jackets	4
Steel Fence Posts	4
Fence Post Driver	1
Push Broom	1
Shovels	2
Quick Connectors	11
Absorbent Pads (bundle)	2
Containment Boom	1000 feet
Boom Tow Bridles	24
Diaphragm pump 3" Diesel	1
Suction Hose - 3"	100 feet
Discharge Hose - 3"	150 feet
Manta Ray Skimmer Head	1
Fast Tank 2400 gallon	1
Pulley	1
Wind Sock with post	1
Yellow caution tape	1 roll
Orange work vest	1
Hard Hats	4
Throw-able Life Preservers	2
Hose Mobile (for rope)	1
Rope 300 ft	1
Rope 200 ft	1
Rope 100 ft	2

Rope 12 ft	3
Rope 10 ft	3
Rope 6 ft	4
Plastic Trash Bags	1 roll
Absorbent Roll	1
14' Trailer	1
32 gallon trash can	1

SPILL RESPONSE TRAILER INVENTORY LIST**Location**

[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

Quantity**Equipment or Supplies Description**

1	Eagle Body 8' X 12' Van Trailer
2	Fire Extinguisher, 30# ABC
1	Sensidyne Gas Monitor (Benzene and Petroleum Tubes)
1 Box	50pr. Ear Plugs
7 pk.	3M 7000 series Respirator Cartridges
2 Rolls	Caution Tape
6	Traffic Cones
1	Waterless Hand Cleaner
1 Box	Wipe Rags
4 Pr	Rubber Gloves and Liners
1	Plug-N', (5 Gallon Pail)
2	Rain Suits
8	Ponchos
11 Pr.	Rubber Boots (Knee High – 4 Extra Large, 2 Large) (2 pr Chest Waders) (3 pr. Hip Waders)
5	Hard Hats
24	Tyvek Coveralls
2	Chemical Goggles
8 pr	Safety Glasses
1	First Aid Kit
1 Lot	Misc. Small Tools
4	2-Way Radios
2	Flashlights
1	Shovel, (Round Point)
1	Shovel, (Spade)
5	Safety Hat Covers (Orange)
1	Orange Safety Vest
1	Leaf Rake
1	Pitch Fork
1	Single Side Axe
1	Weed Chopper
1	Hack Saw
1 Package	Square Hack Saw Blades
14	D-Rings
2	Rope, 3/4" Poly.
3	Rope, 1/2" Poly
10	T Type Fence Posts
2	Steel Post Drivers
1	55 Gallon Plastic Barrel
2 Boxes	Trash Bags
1 Roll	6 mil. Polypropylene Sheeting
1	Plastic Kiddies Pool
1	Plastic Wash Tub
2 Rolls	Duct Tape
2 Rolls	Chicken Wire, 3' X 50'

1	Patay Pump, Model DD120 (Capacity: Approx. 25 gpm)
1	Vacuum Skimmer, (Acme Model FSV-5)
1	Roller Square, (Manual Model K JX2)
2	Oil Mop, (Model JS-50)
40 Feet	1 ½" Vacuum Hose
50 Feet	1 ½" Discharge Hose
2	5 ½" x 12" x 80' Large Containment Booms
1	2 ½" x 4" x 10' Small Containment Boom
1	2 ½" x 4" x 15' Small Containment Boom
7 Bales	Sorbent Pads
7 Bales	Sorbent Boom
1	Bow and Arrow Combo (w/poly fish line)
	1 Water Cooler

EMERGENCY RESPONSE TRAILER INVENTORY LIST

<u>Equipment</u>	<u>Quantity</u>
Drum Skimmer	1
Air Compressor	1
Decon Pool	1
Peristaltic Pump	1
Mini Boom	250'
Boom Towing Bridles	6
Mooring Buoys	3
Marker Buoys	3
Sphagsorb	30 bags
5" Absorbent Boom	6 bags
16"X20" Absorbent Pads	4 bags
Chest Waders	5 pair
FR Rain Wear	6 pair
Road Side Reflective Safety Vests	6 vests
Pitch Forks	2
Shovel	1
Rakes	2
Sledge Hammer	1
Large Carabineers	2
Medium Size Carabineers	18
Vertical Ascenders	10
Brass Snap Hooks	23
22# Anchors	4
Ladder	1
T-Posts	30
T-Post Drivers	2
T-Pullers	1
Grounded Extension Cords	3
3/8" X 100' Purple Rope (Black Bag)	5
3/8" X 150' Blue Rope (Blue Bags)	4
3/8" X 200' Red Rope (Red Bags)	4
Near Shore Bag with Misc. Ropes and Equipment Black Bag	1
Far Shore Bag with Misc. Ropes and Equipment Black Bag	1
3/8" X 250' Orange Rope (Orange Bags)	4

3/8" X 300' Black Rope (Black Bag)	4
3/8" X 400' Green Rope (Green Bag)	3
3/8" X 500' Yellow Rope (Yellow Bags)	3
1/4" X 1000' Trolley Line	1
1/4" X 1000' Trolley Line	1
10# ABC Fire Extinguishers	2
Hand Cleaner	1
Black Plastic	1
Open Top Barrel with Lid	1
55 gallon Open Top Decon Drum	1
Heavy Duty Trash Bags	2
Dawn Dish Soap	3 gallons
Soft Wash Brush (Personnel)	2
Equipment Wash Brush	2
Barricade Tape	1 roll
Safety Gas Can 5 Gallon	1
Safety Gas Can 2.5 Gallon Pre Mix	3
Motor Oil 5-30	2 quarts
Starting Fluid	1
Safety Road Cones	15
Spare Clevis	8
Flexible 4" X 50' Hose	1
Ground/Bond Rods 6'	4
50' Ground/Bond Cables	2
100' Ground/Bond Cable	1
Bolt Cutter	1
1' 1/2" Hose for Wash Pump	1
Chicken Wire	1 roll
Misc. Hand Tools in Tool Box	1
Anchor Plates	2
Spare Wash Pump Motor	1
Range Finder	1
Pre Mix for Mixed Gas	3
Generator	1
Boat Motors	2
Leaf Blowers	2
Wash Pump	1
Chainsaw	1
Weed Eater	1

BOOM TRAILER INVENTORY LIST

<u>Equipment</u>	<u>Quantity</u>
Containment Boom (Yellow)	15
Boom Towing Bridles	30
40# Anchors	8
Marking buoys	9
Mooring Buoys	9
T-posts	40
T-post Drivers	2
Medium Carabineers	10
250' rope bags	4

OSRO CONTRACTS

West Central Environmental Consultants, Inc.



REC'D OCT 30 2006

Valero Logistics Operations, L.P.

P.O. BOX 691470 San Antonio, Texas 78269-1470
One Valero Way • San Antonio, Texas 78249-1616

October 25, 2006

Mr. Douglas Stahman
West Central Environmental Consultants
14 Green River Road
Morris, MN 56267

Dear Mr. Stahman:

Attached is your file copy of the Master Work Agreement between **West Central Environmental Consultants (WCEC)**, and **Valero Logistics Operations, L.P. and Kaneb Pipeline Operating Partnership, L.P.** that was recently signed by both companies.

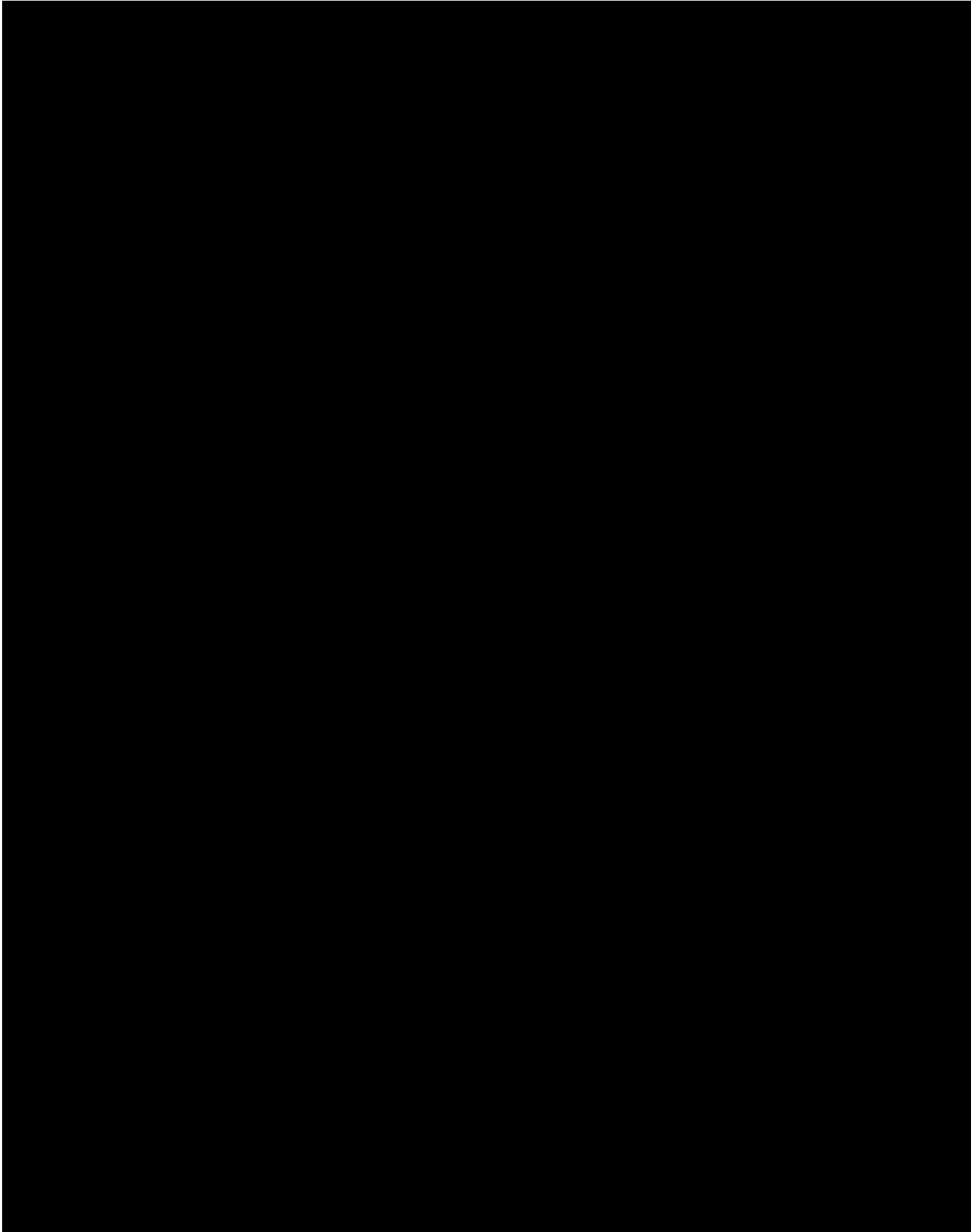
If you have any questions concerning this agreement, please call me at 210-345-3260.

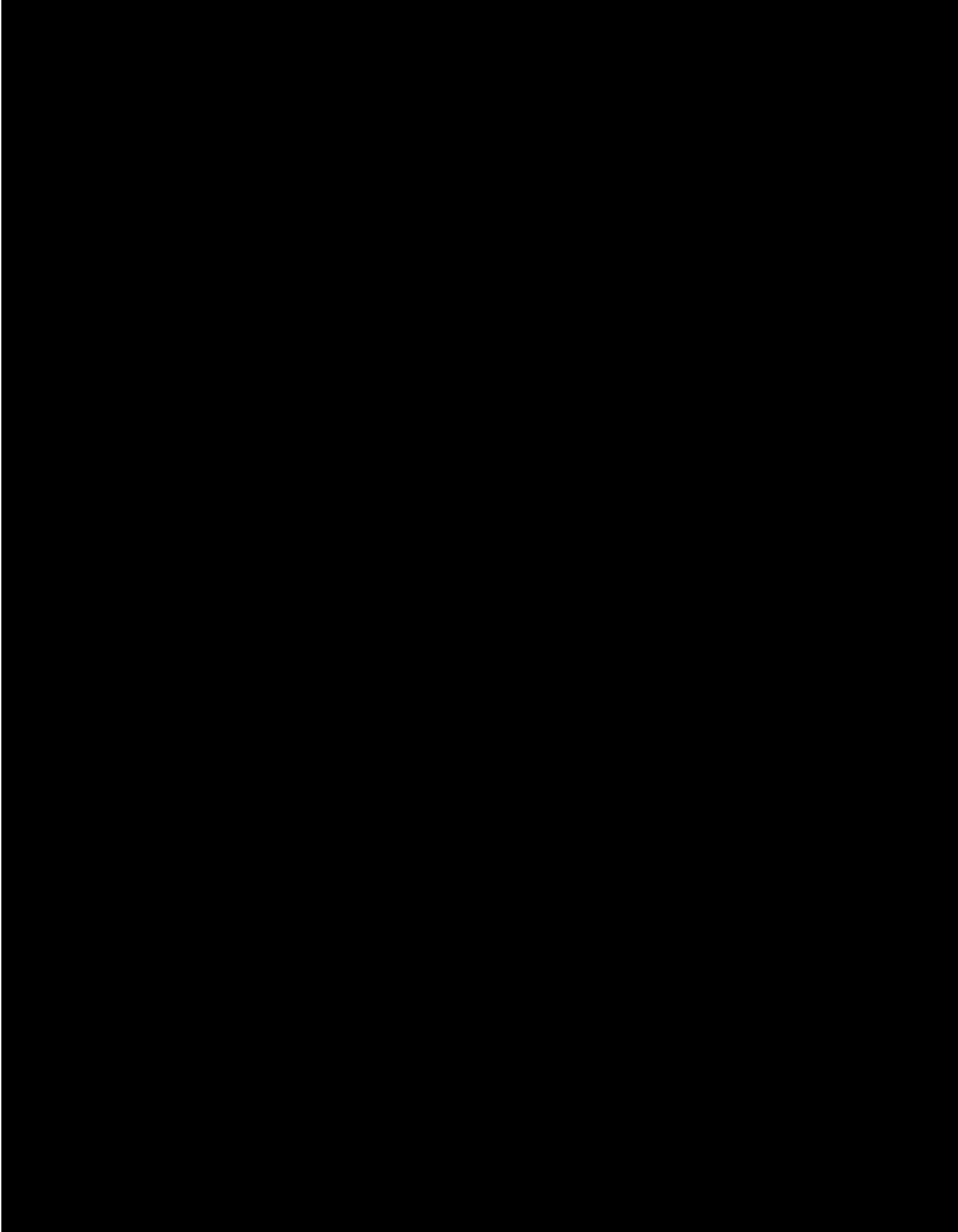
Sincerely,

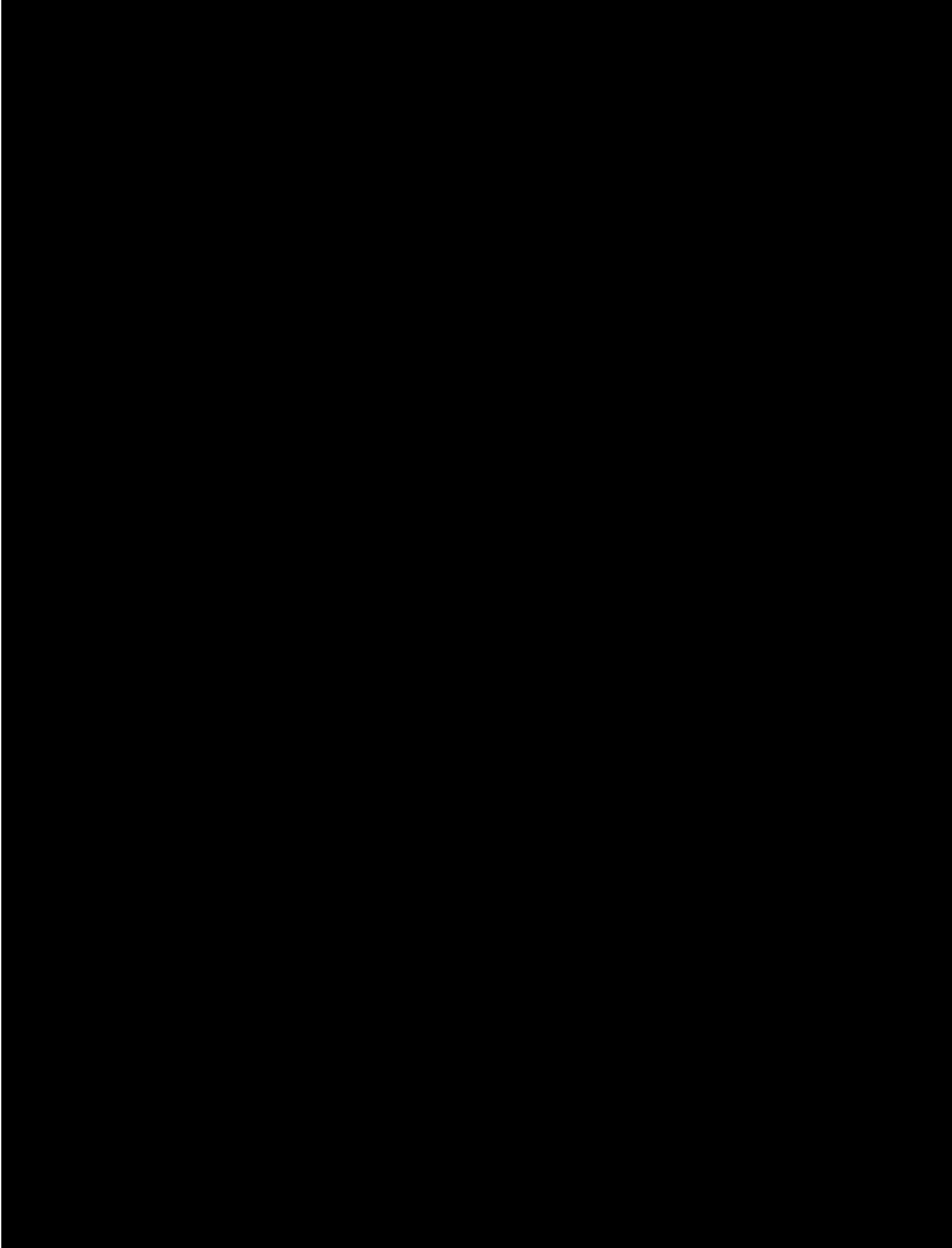
A handwritten signature in cursive script, appearing to read "Cokie Reddy".

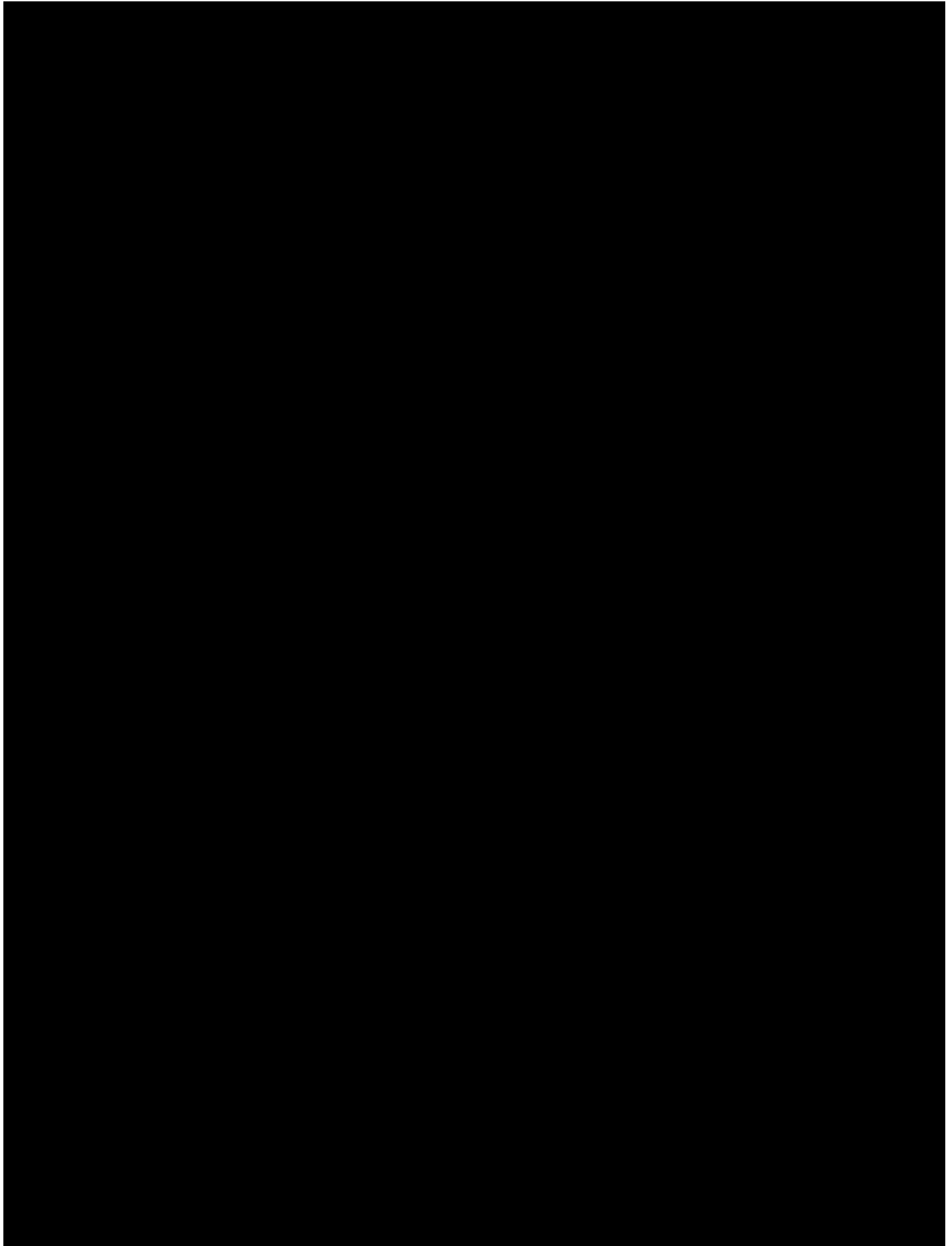
Cokie Reddy
Contracts Coordinator

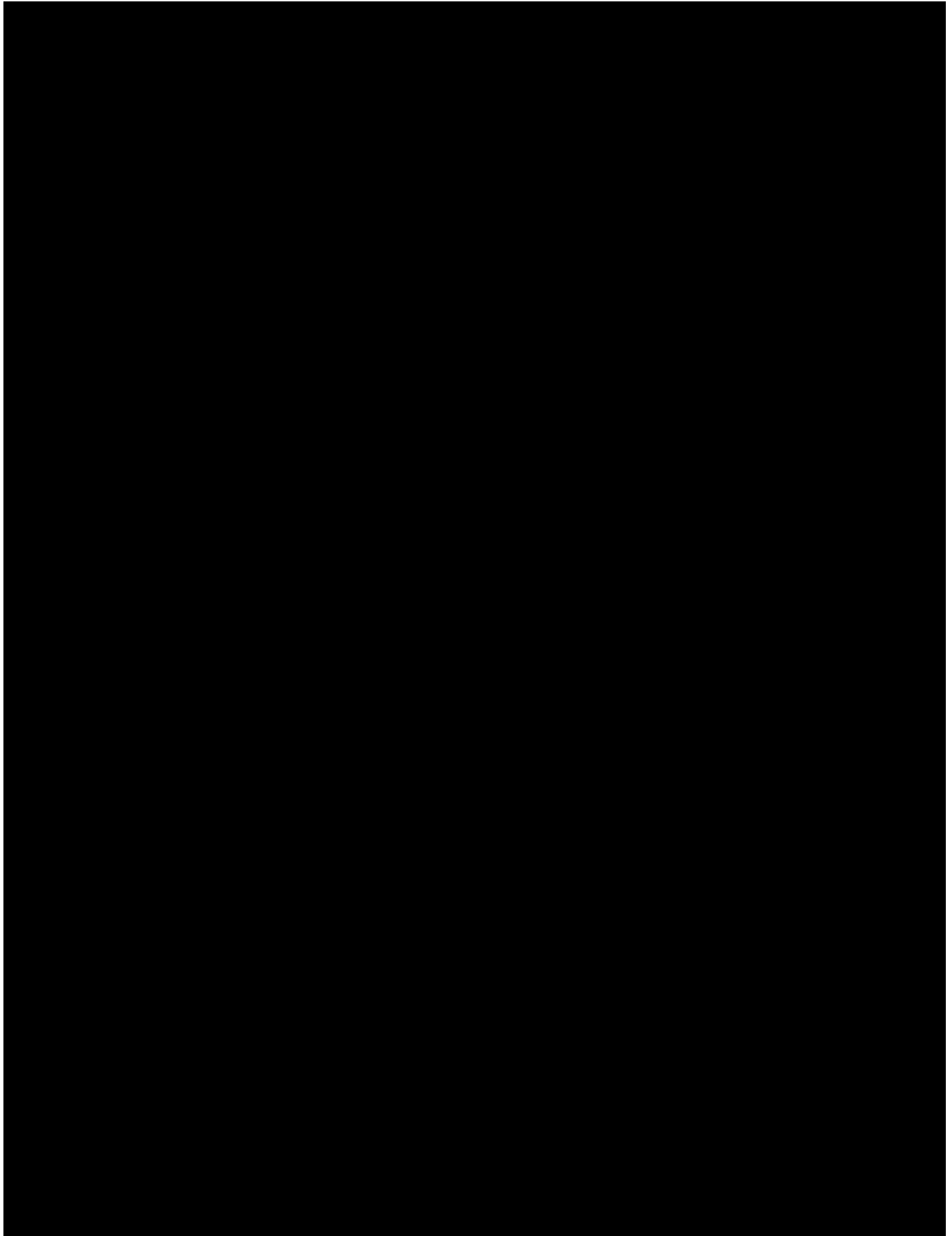
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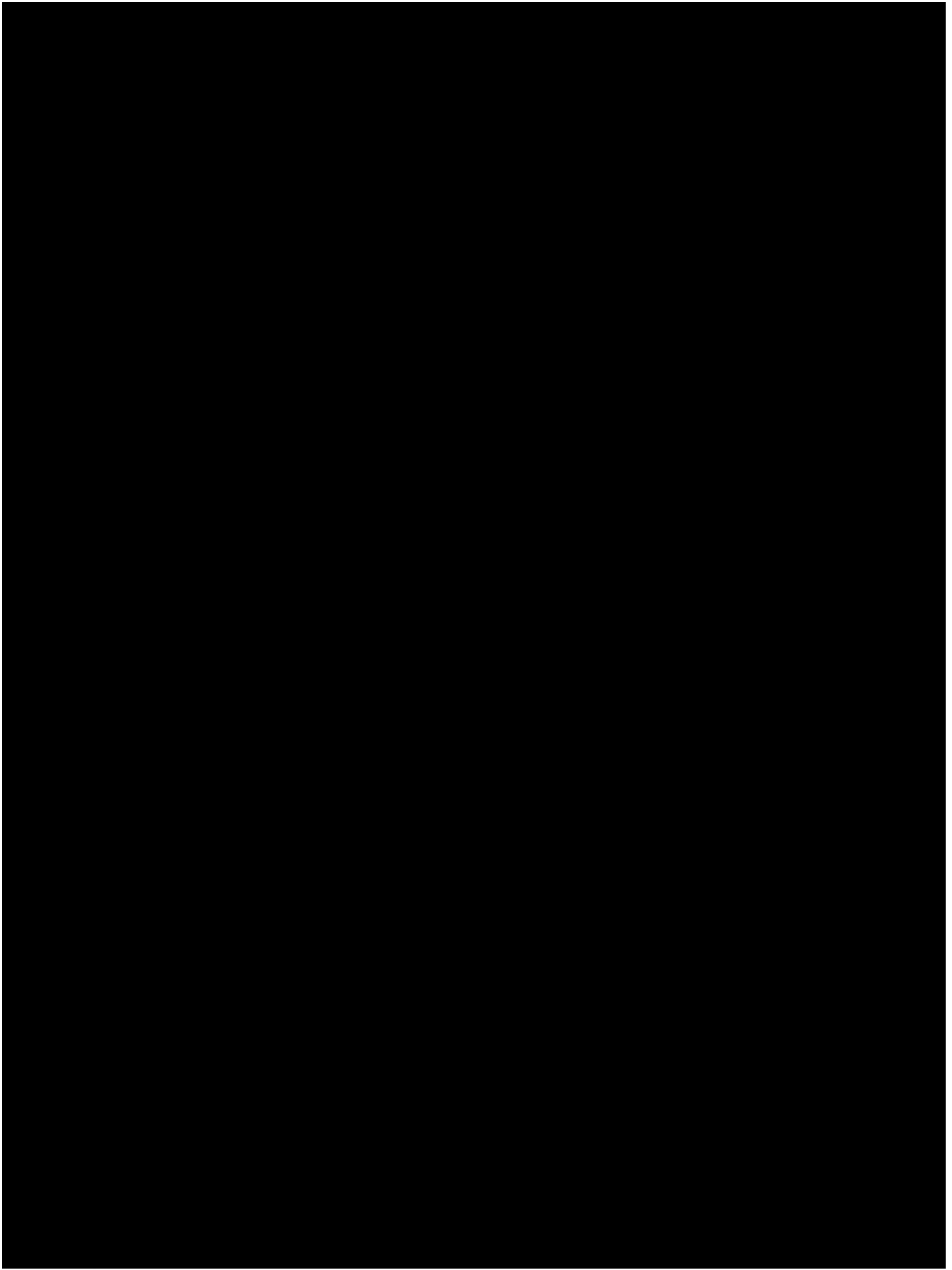


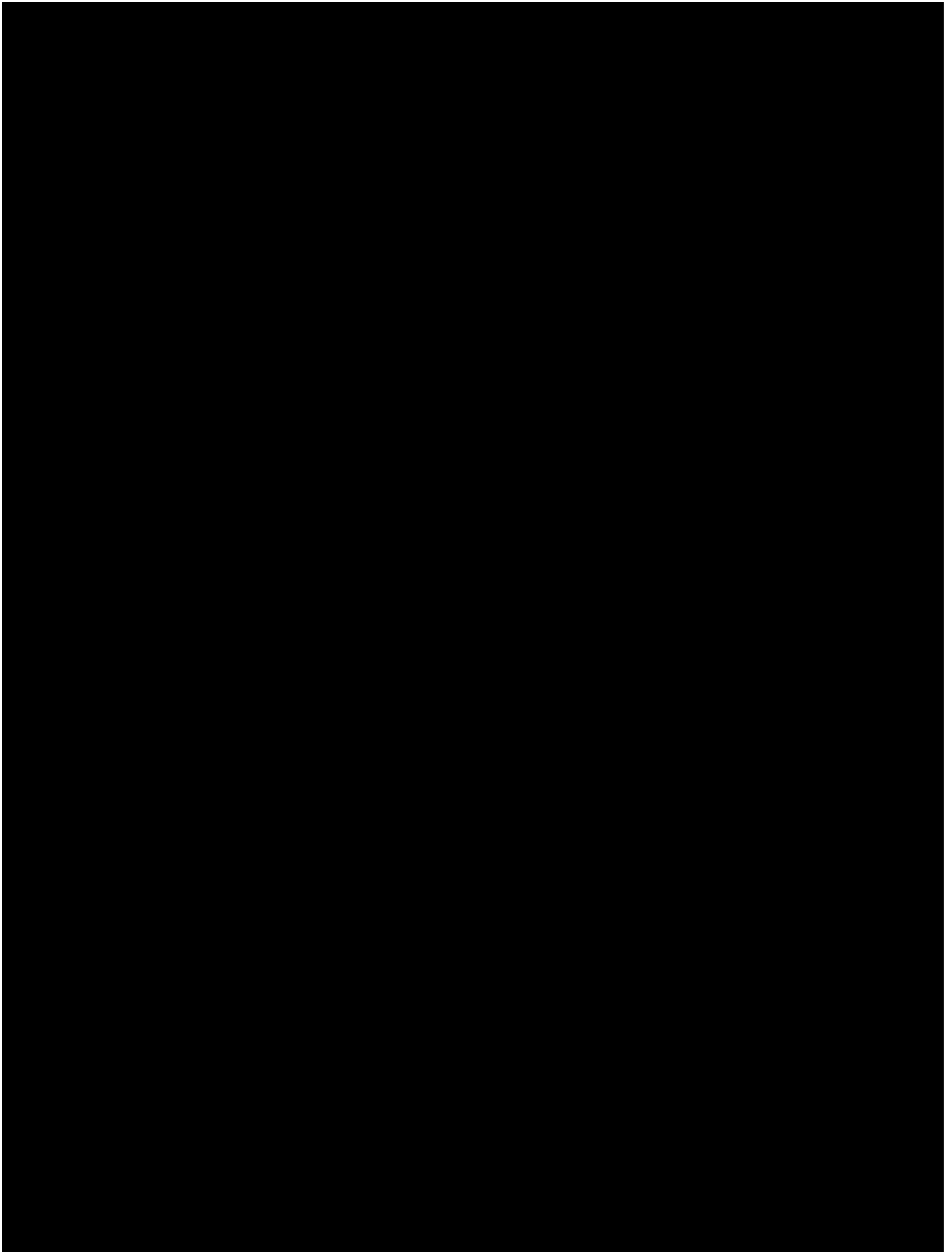


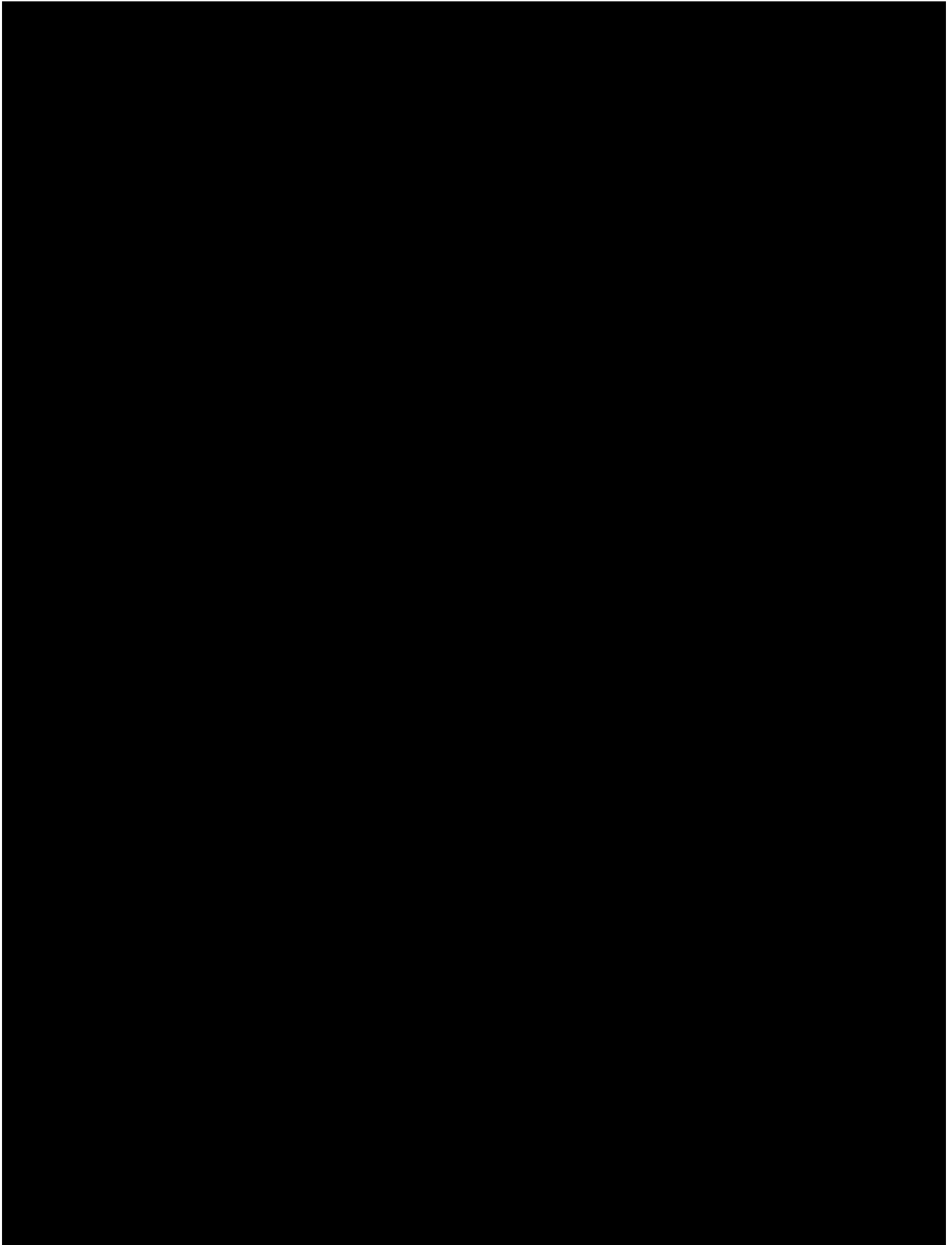


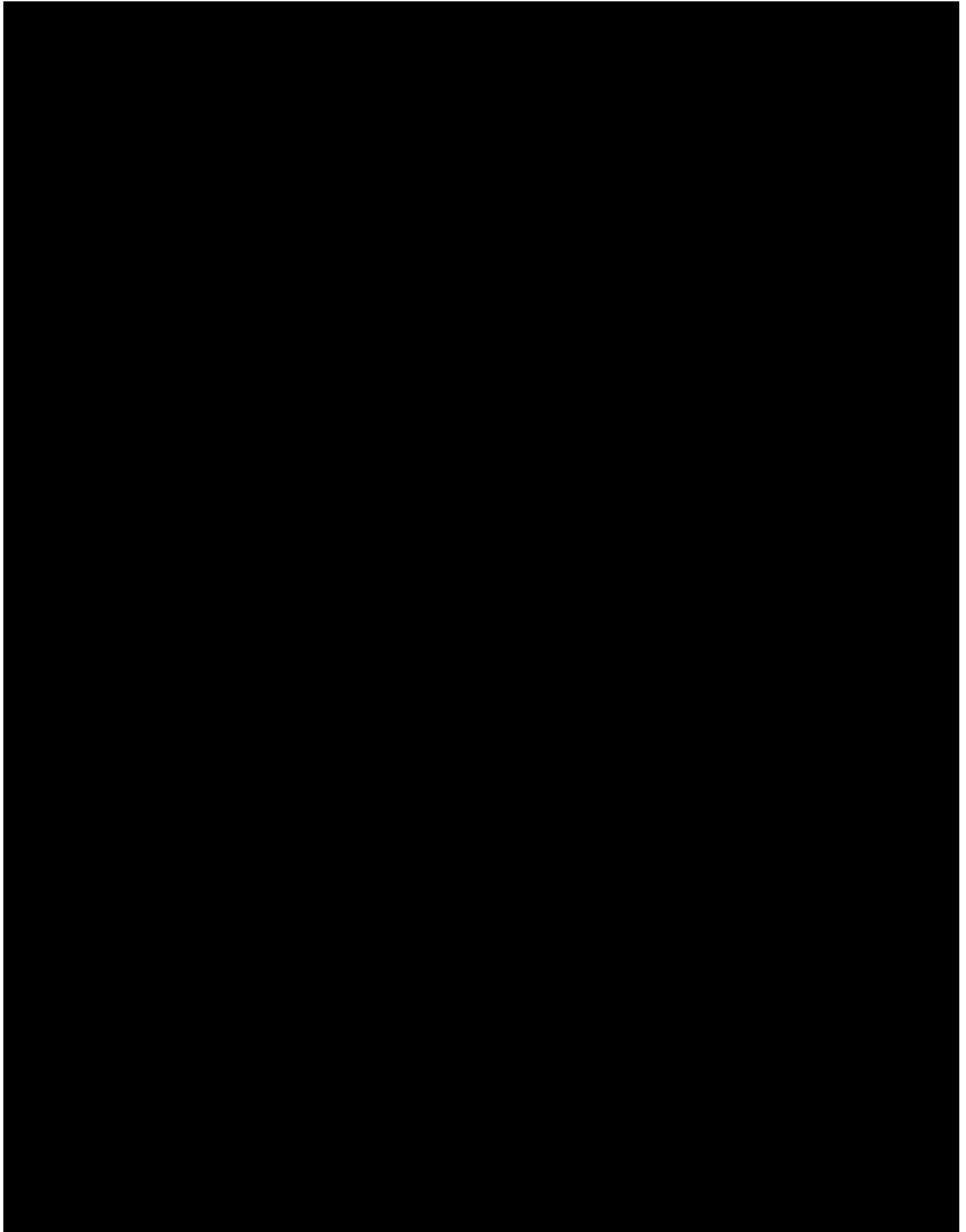


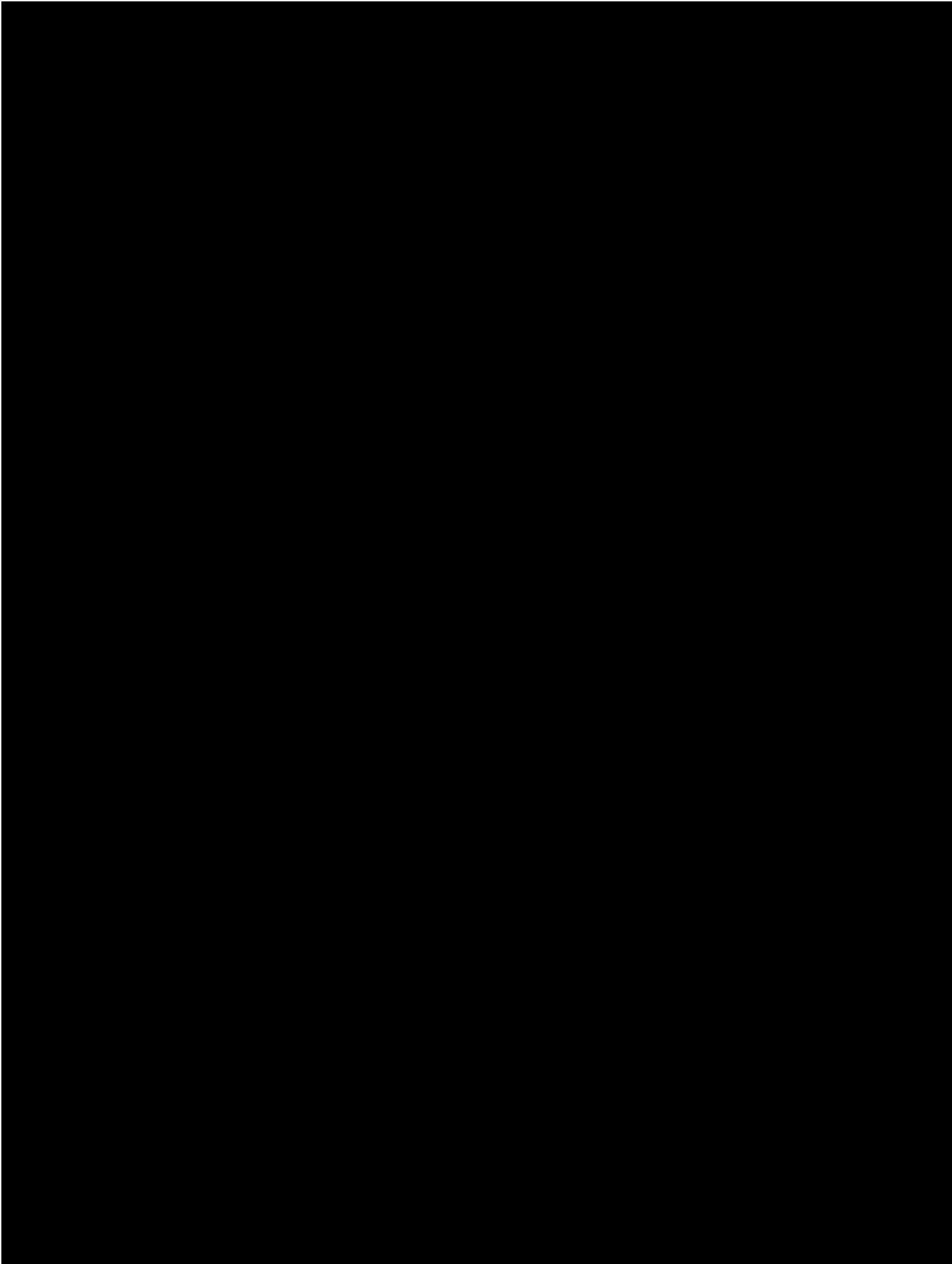


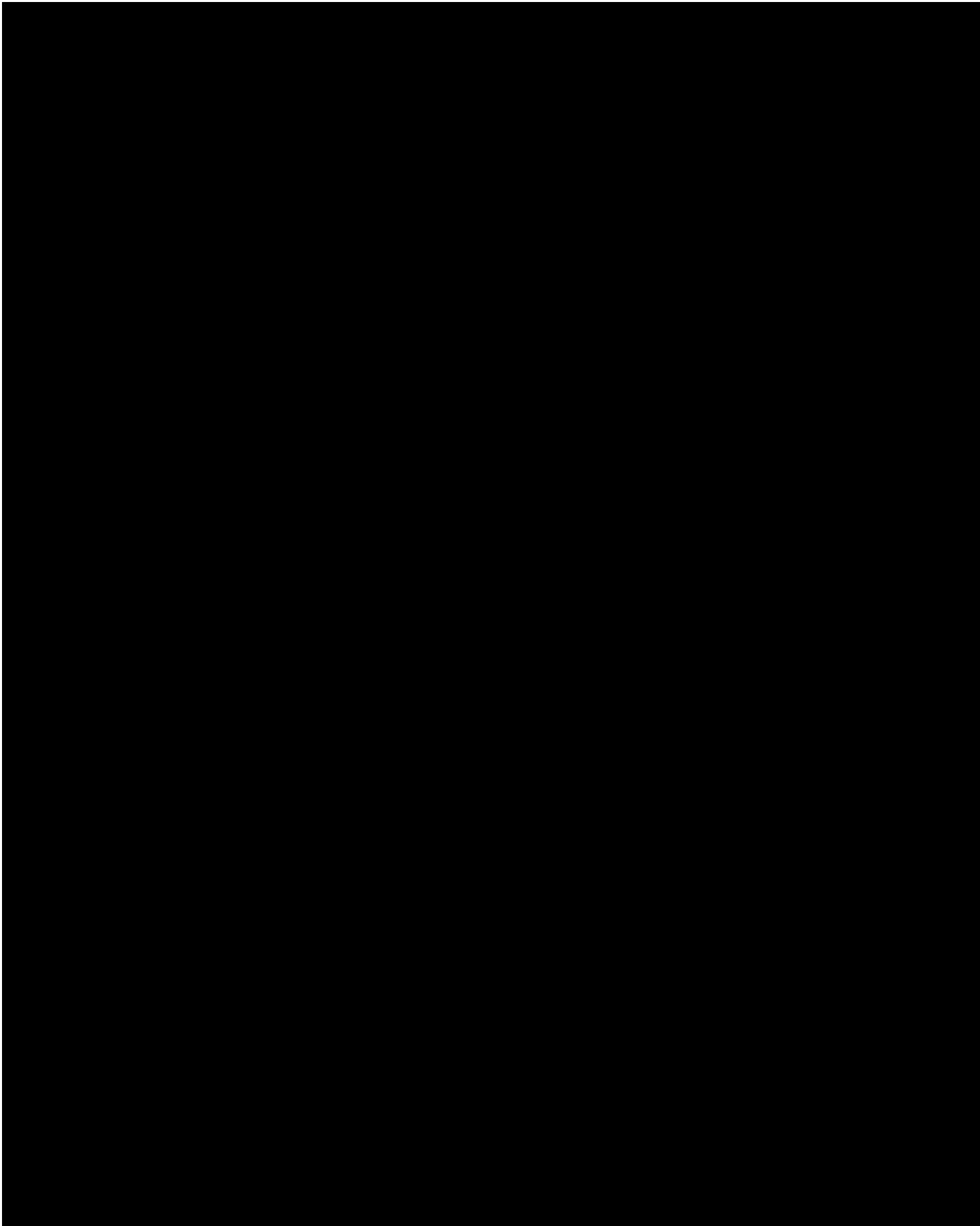


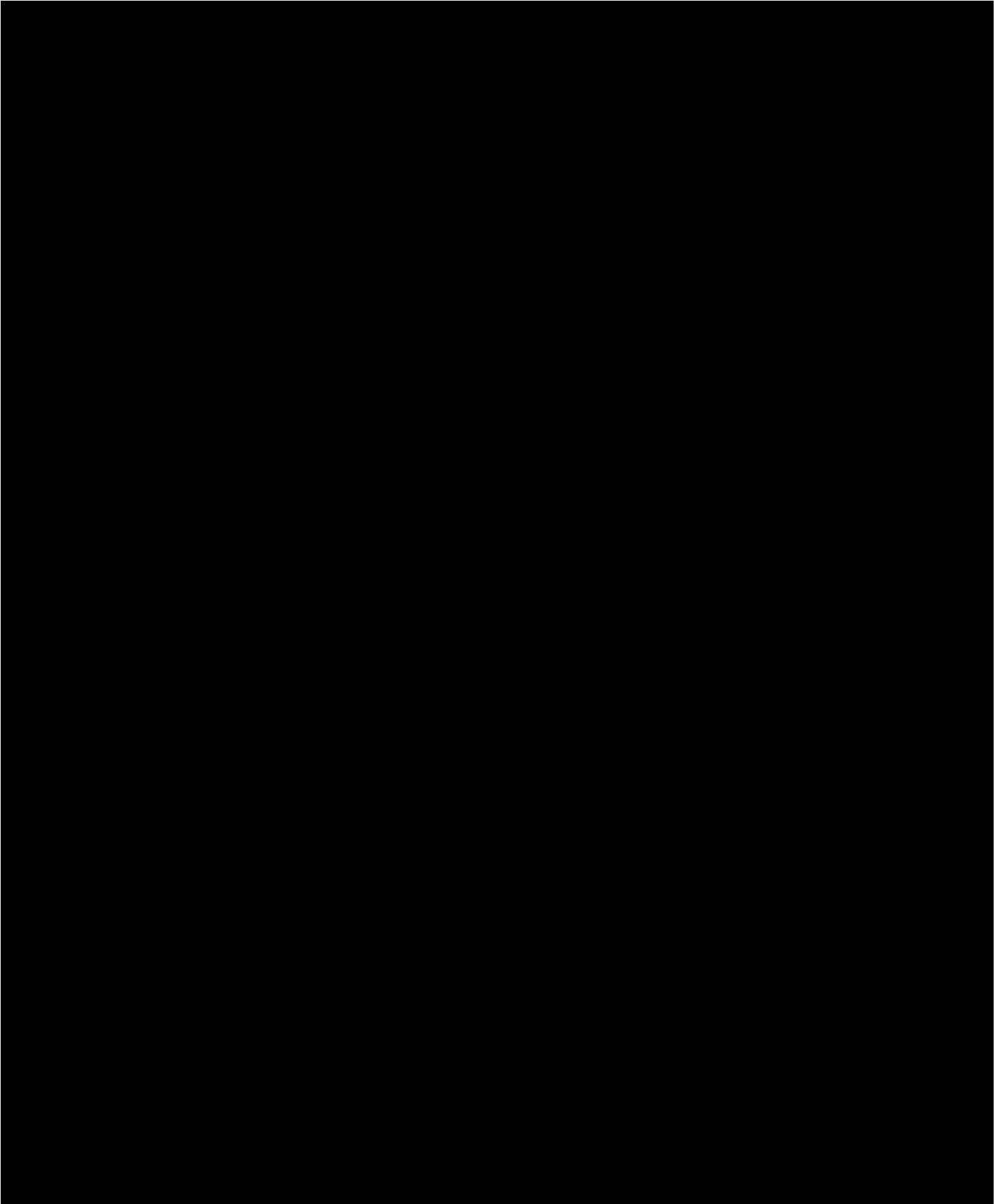


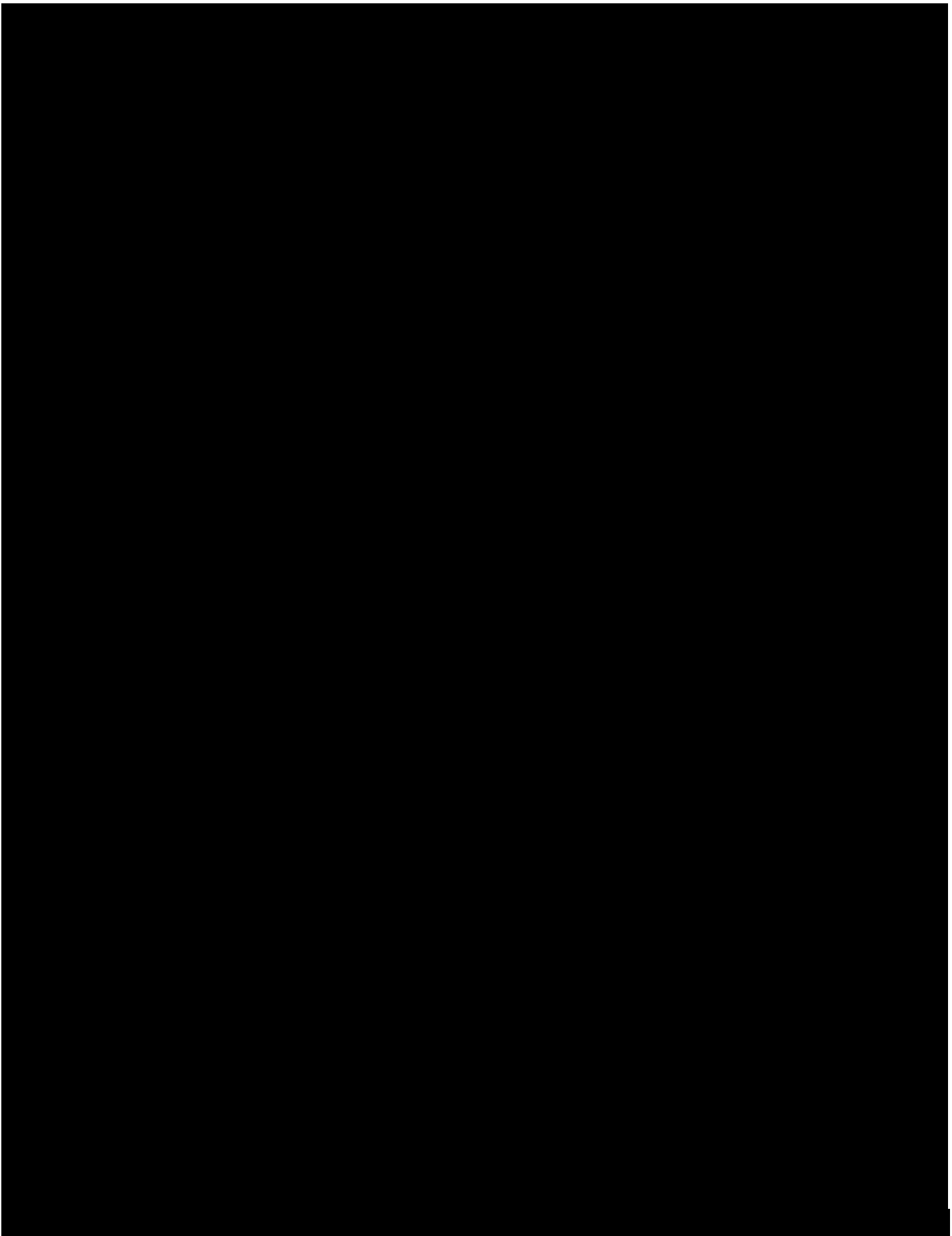


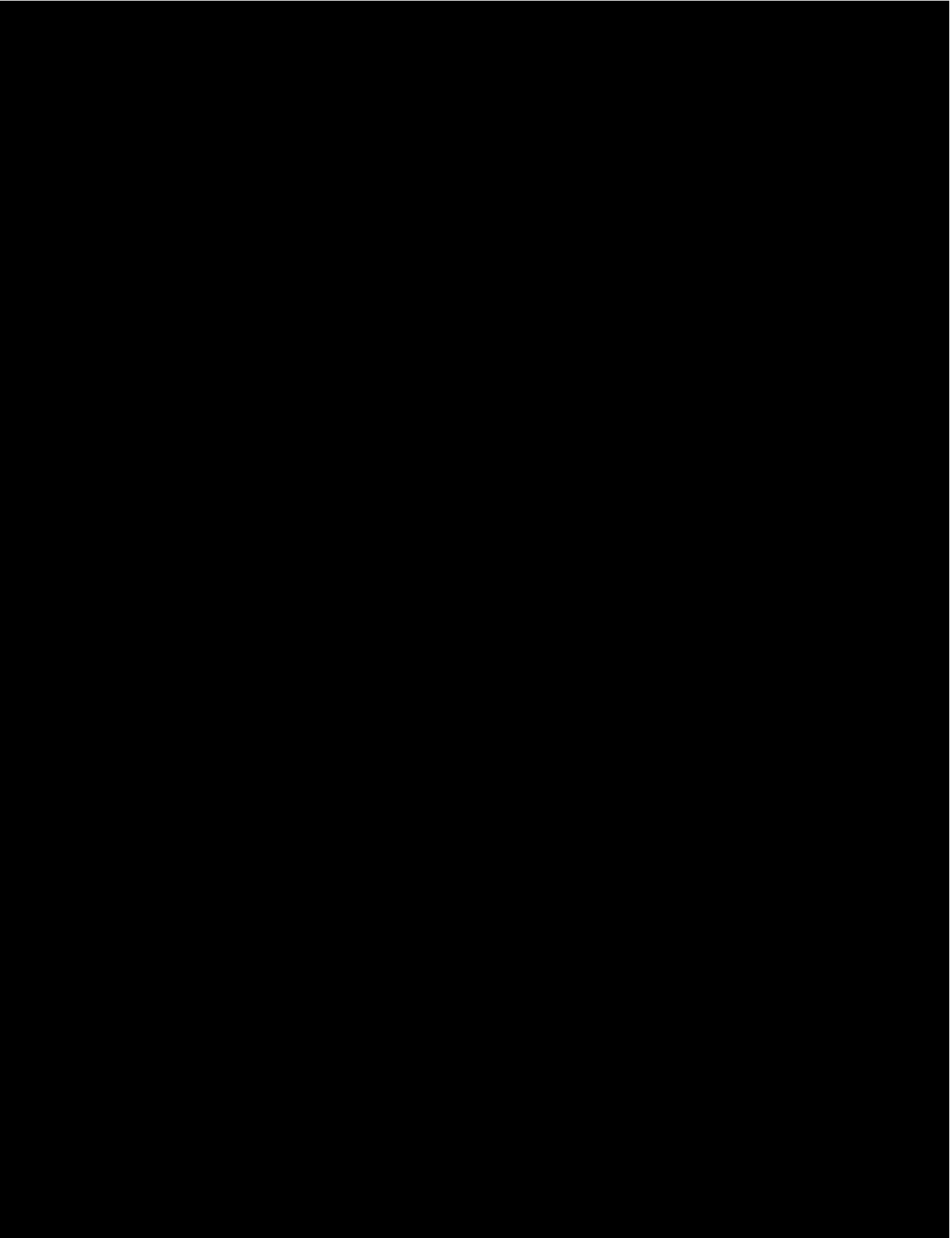


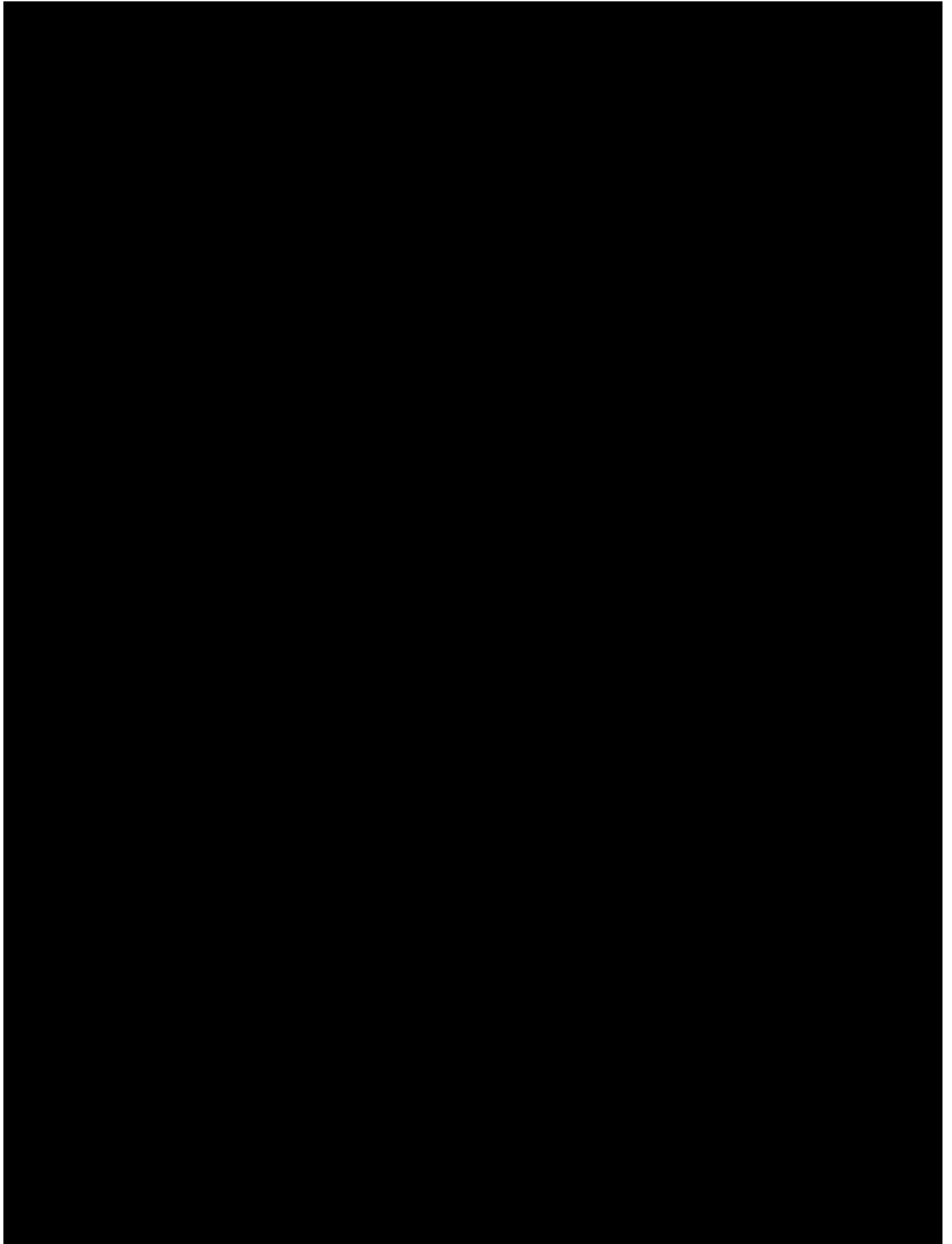


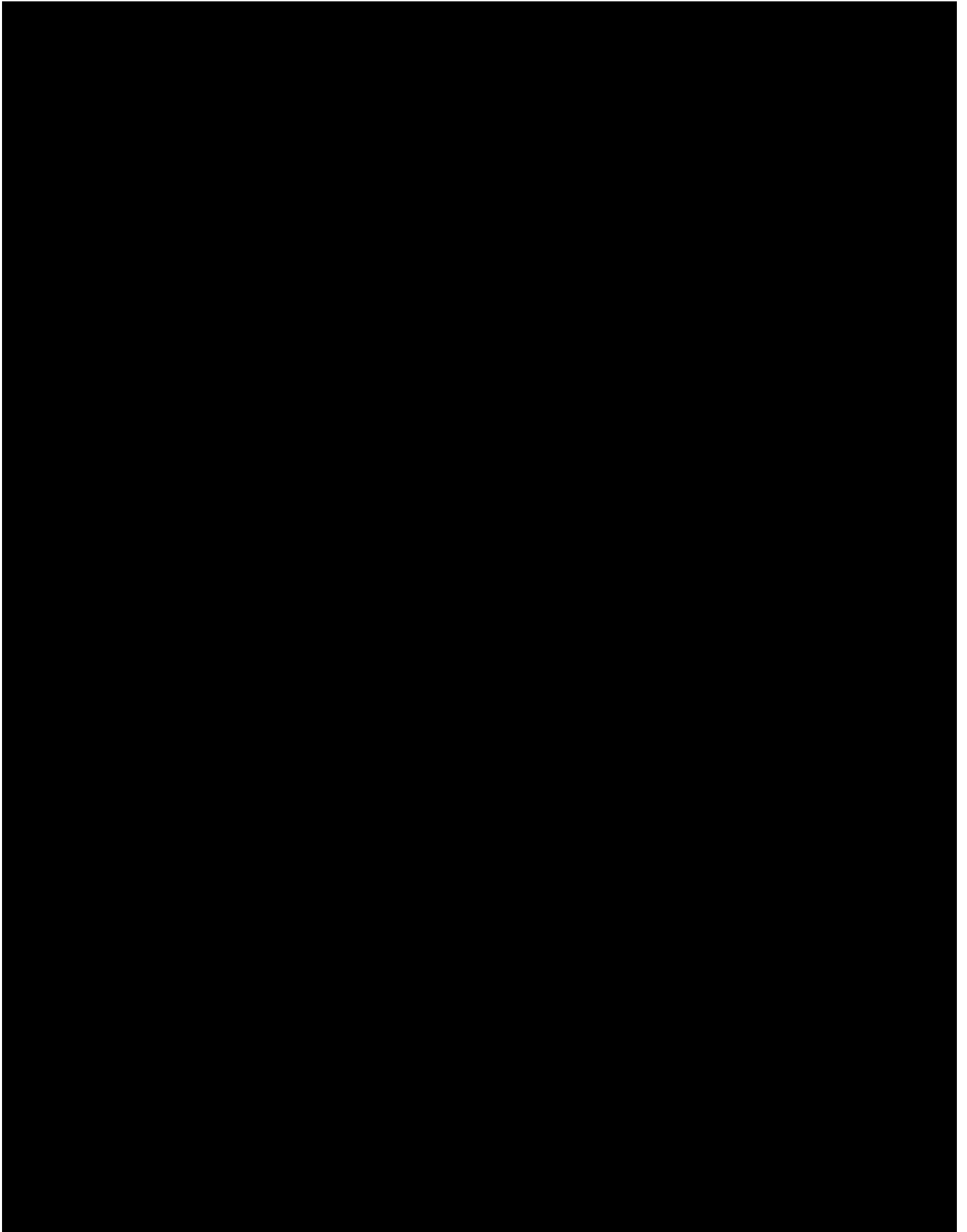


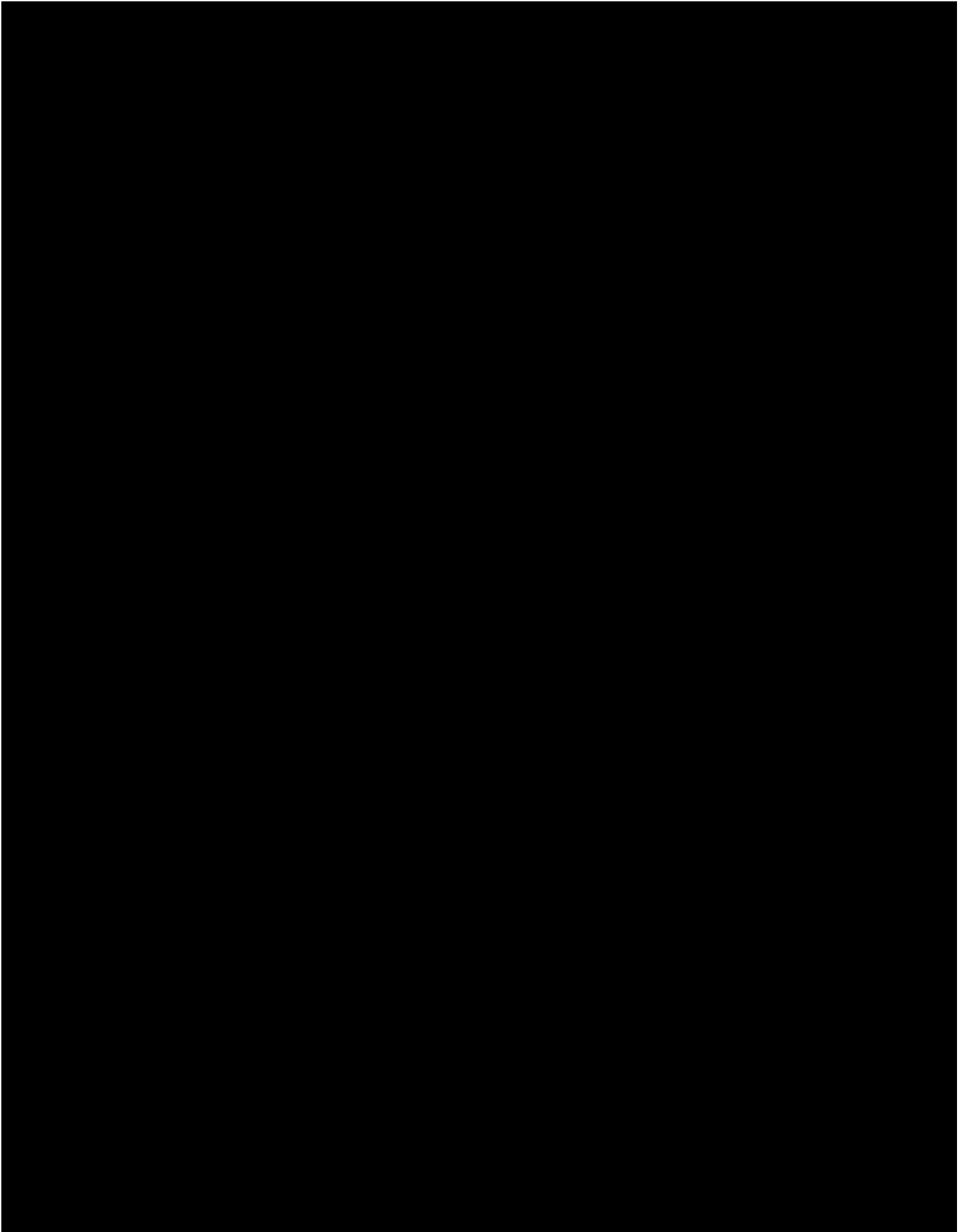


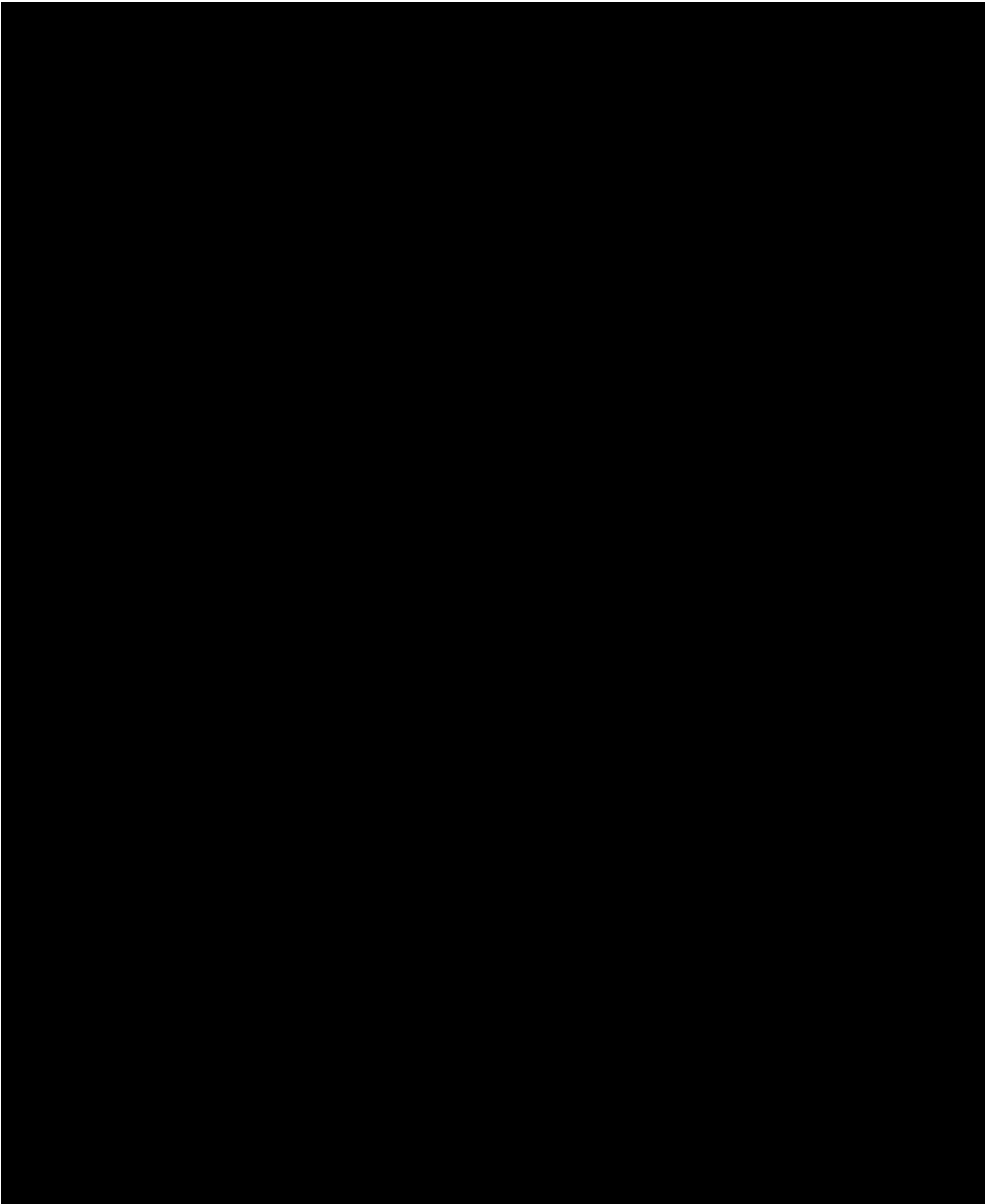












Haz-Mat Response, Inc.
Contract/Equipment List



Kristen McCartney
Paralegal

November 12, 2007

Haz-Mat Response, Inc
Attn: Mr. John W. Stockdale
1203C South Parker Street
Olathe, KS 66061

Re: NuStar Logistics and Haz-Mat Response Master Work Agreement

Dear Mr. Stockdale:

Enclosed please find an original of the Master Work Agreement between Haz-Mat Response and NuStar Logistics Operations, L.P. that was recently executed by both companies

If you have any questions concerning this Agreement, please call me at [REDACTED]

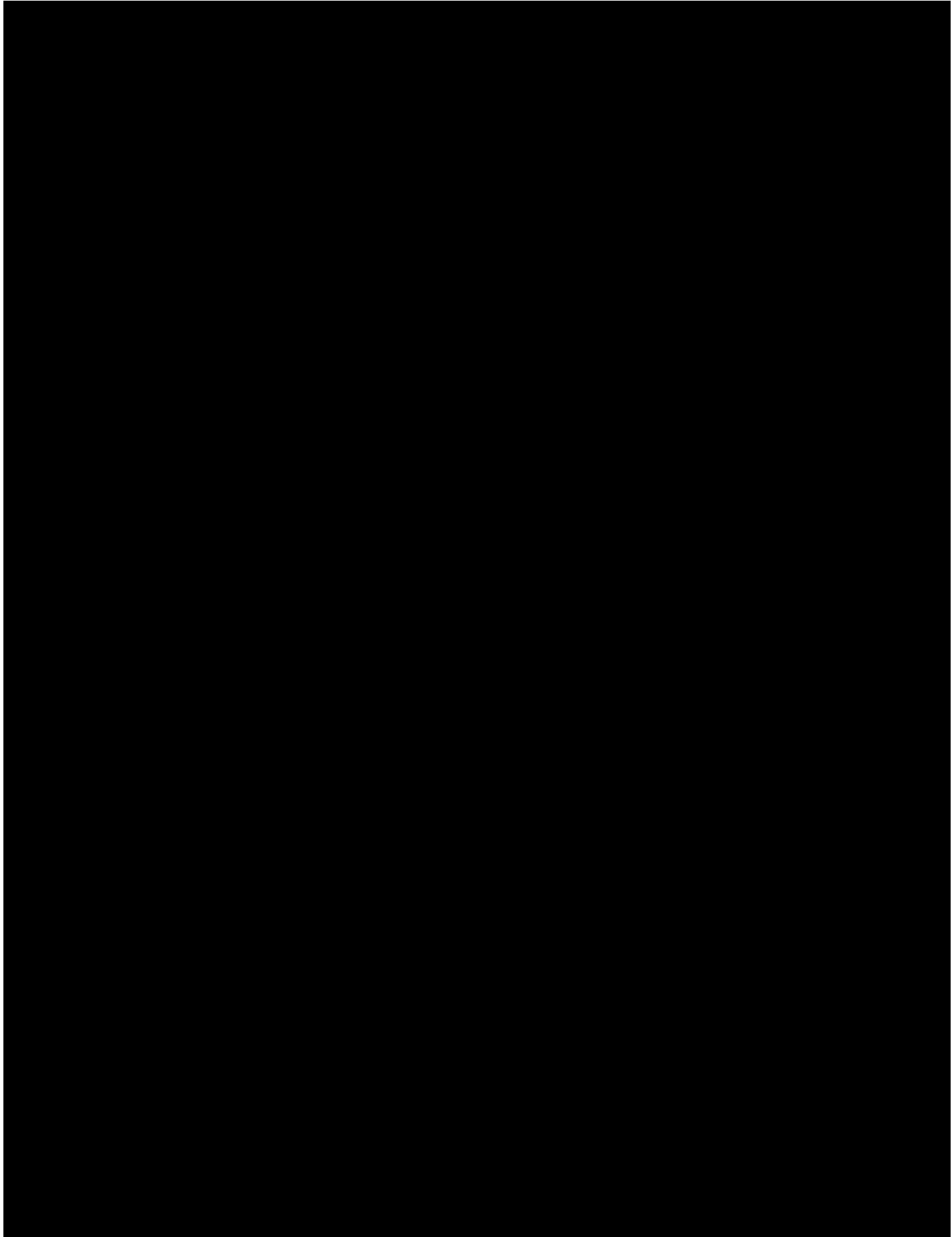
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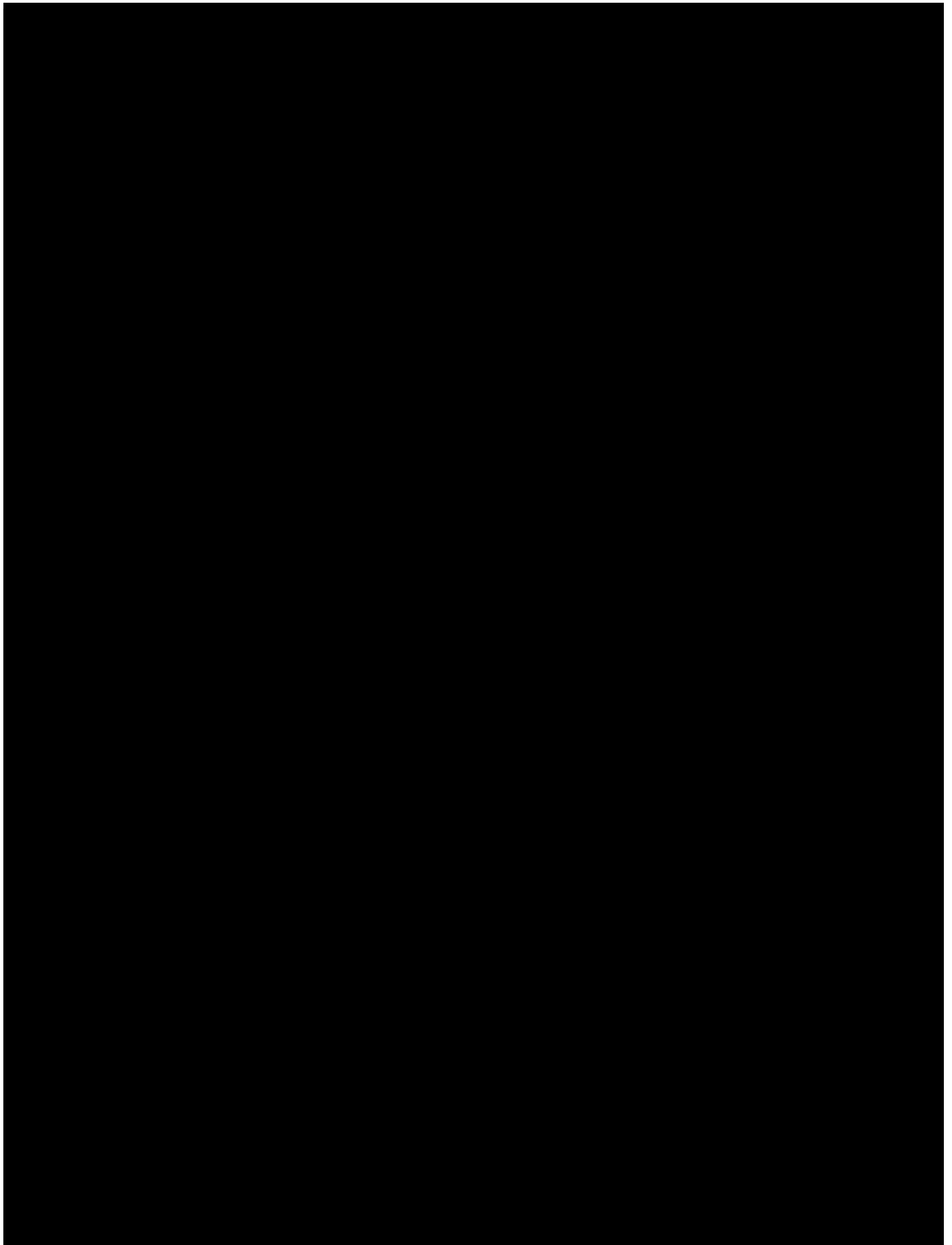
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Paralegal

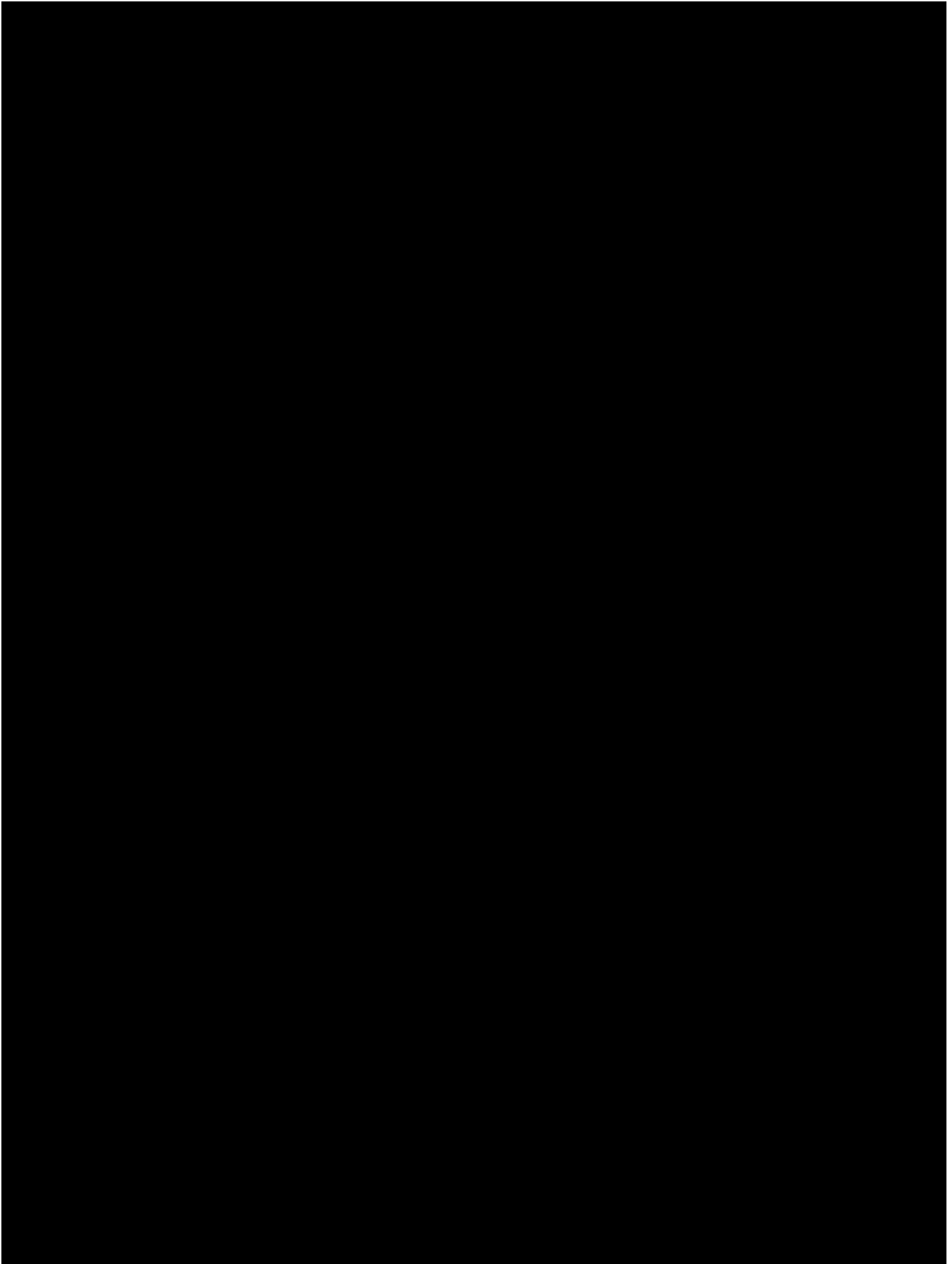
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Enclosure

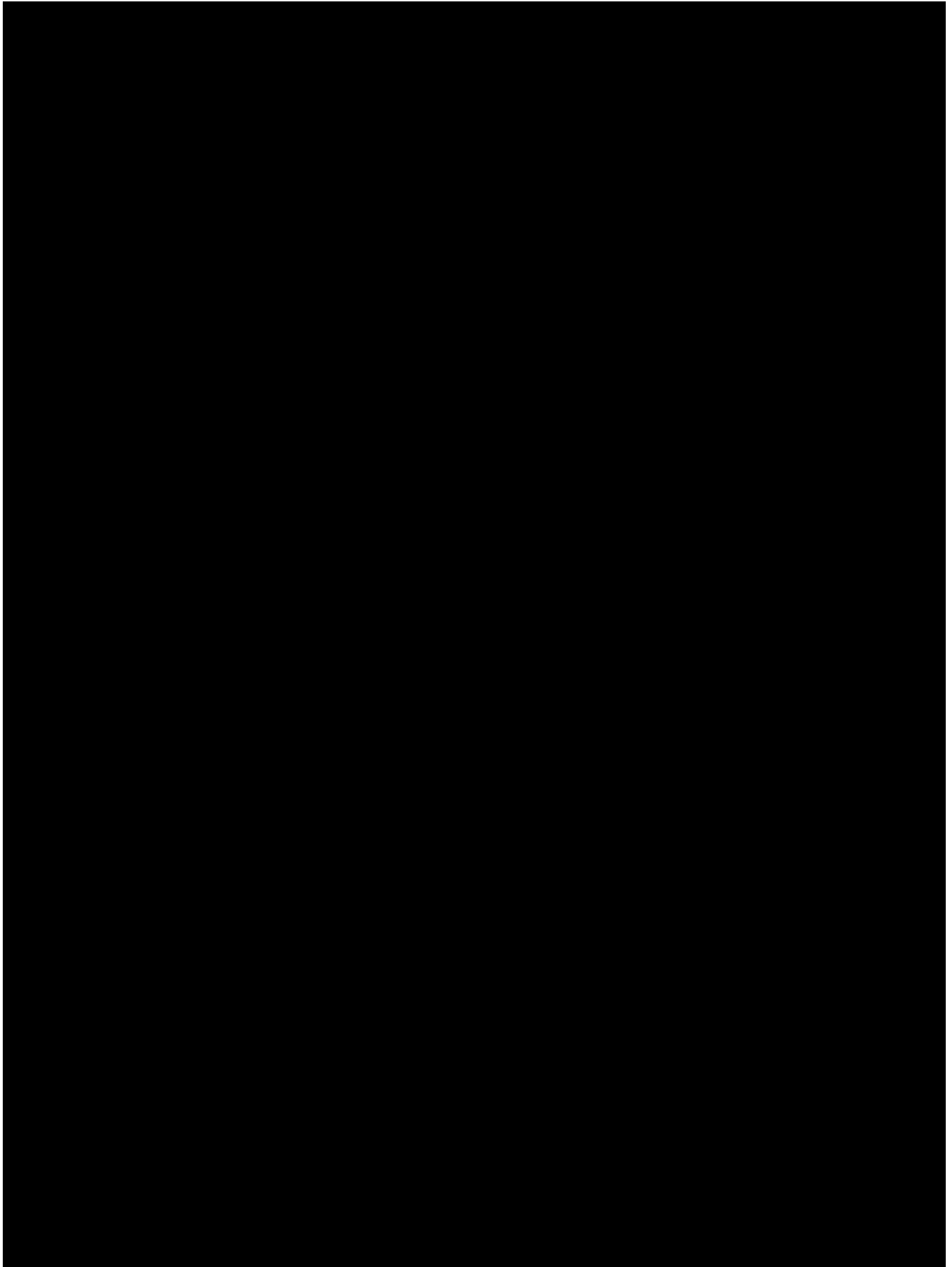


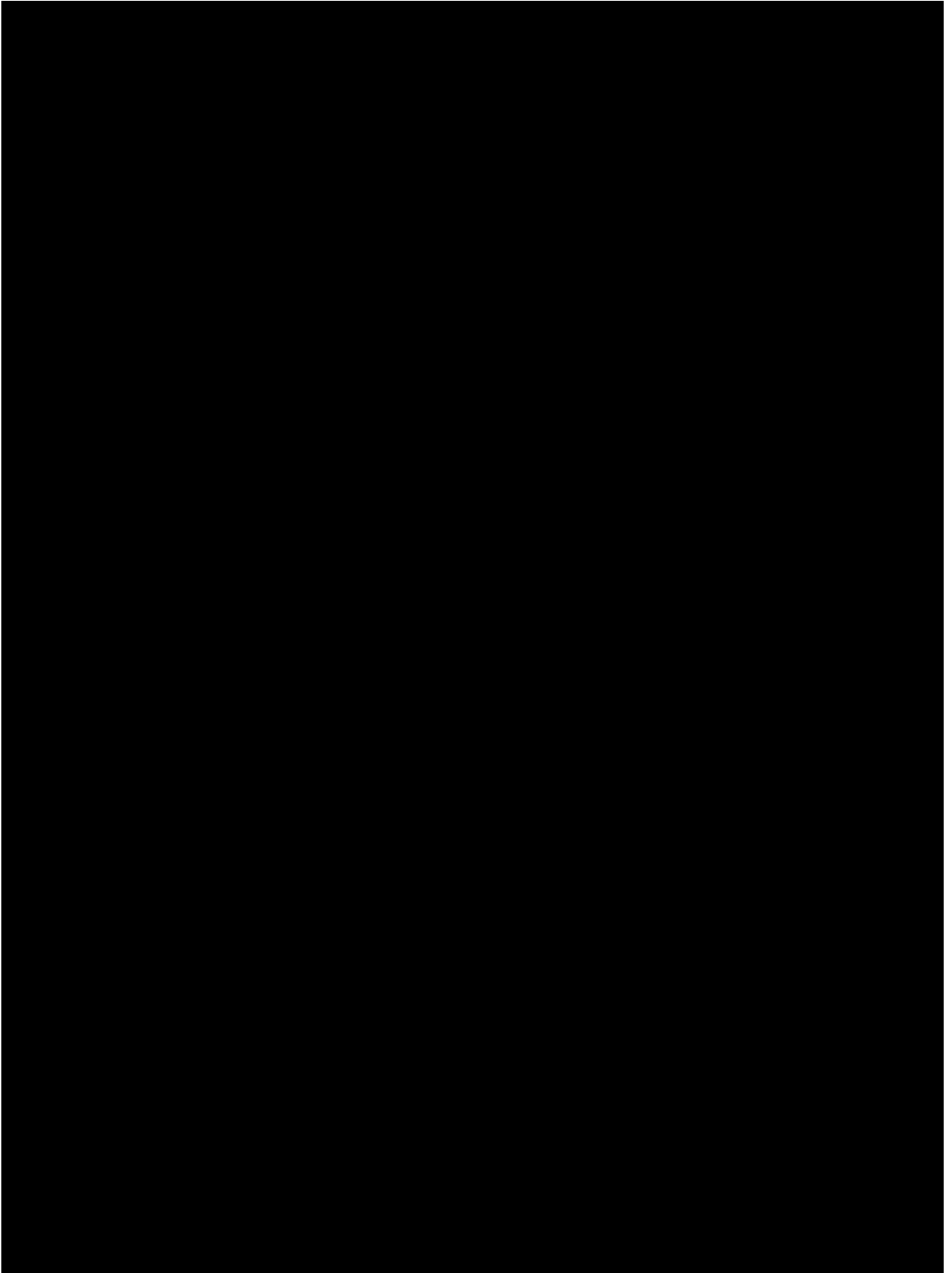
P O Box 781609 • San Antonio, Texas 78278 • [REDACTED]

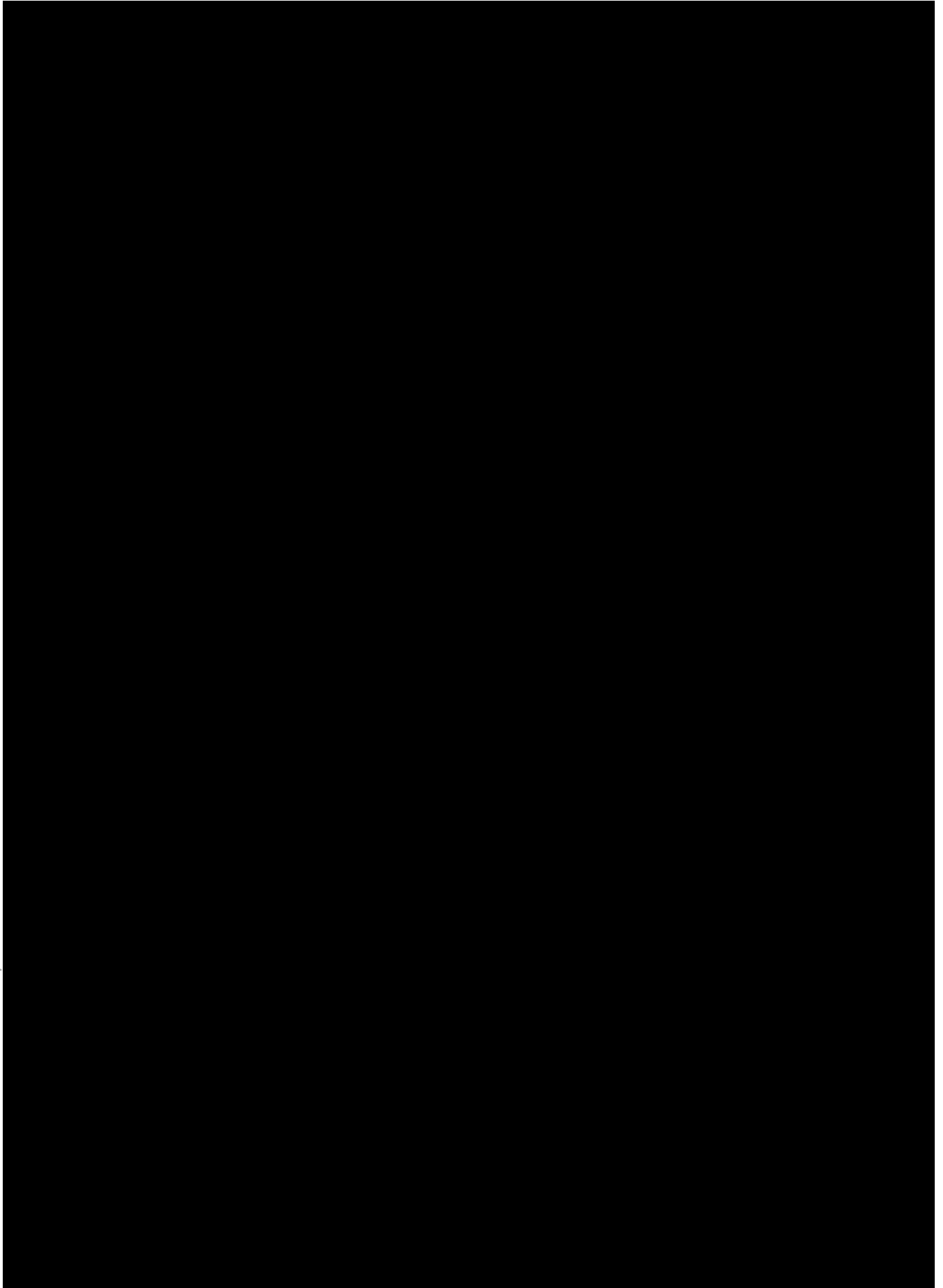


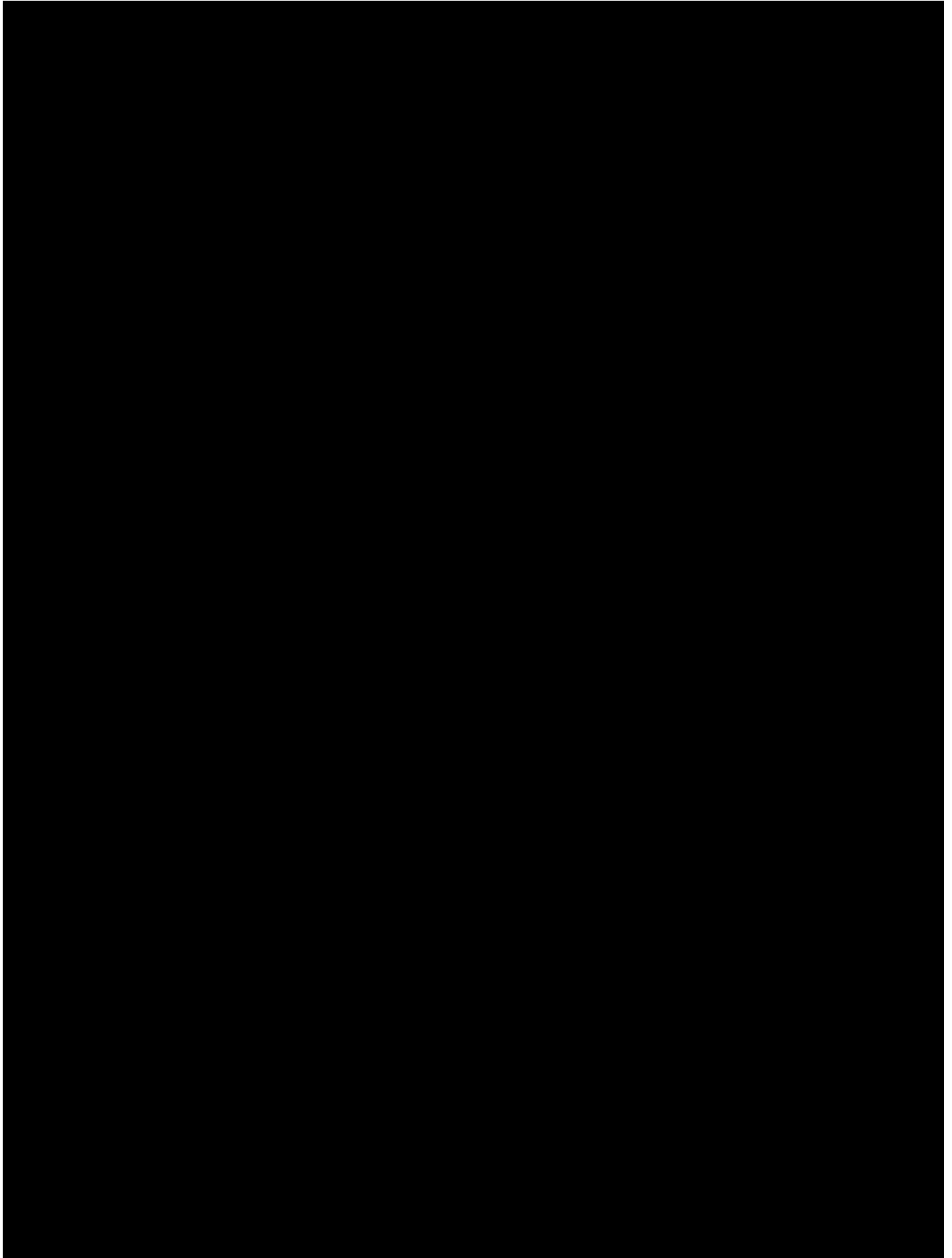


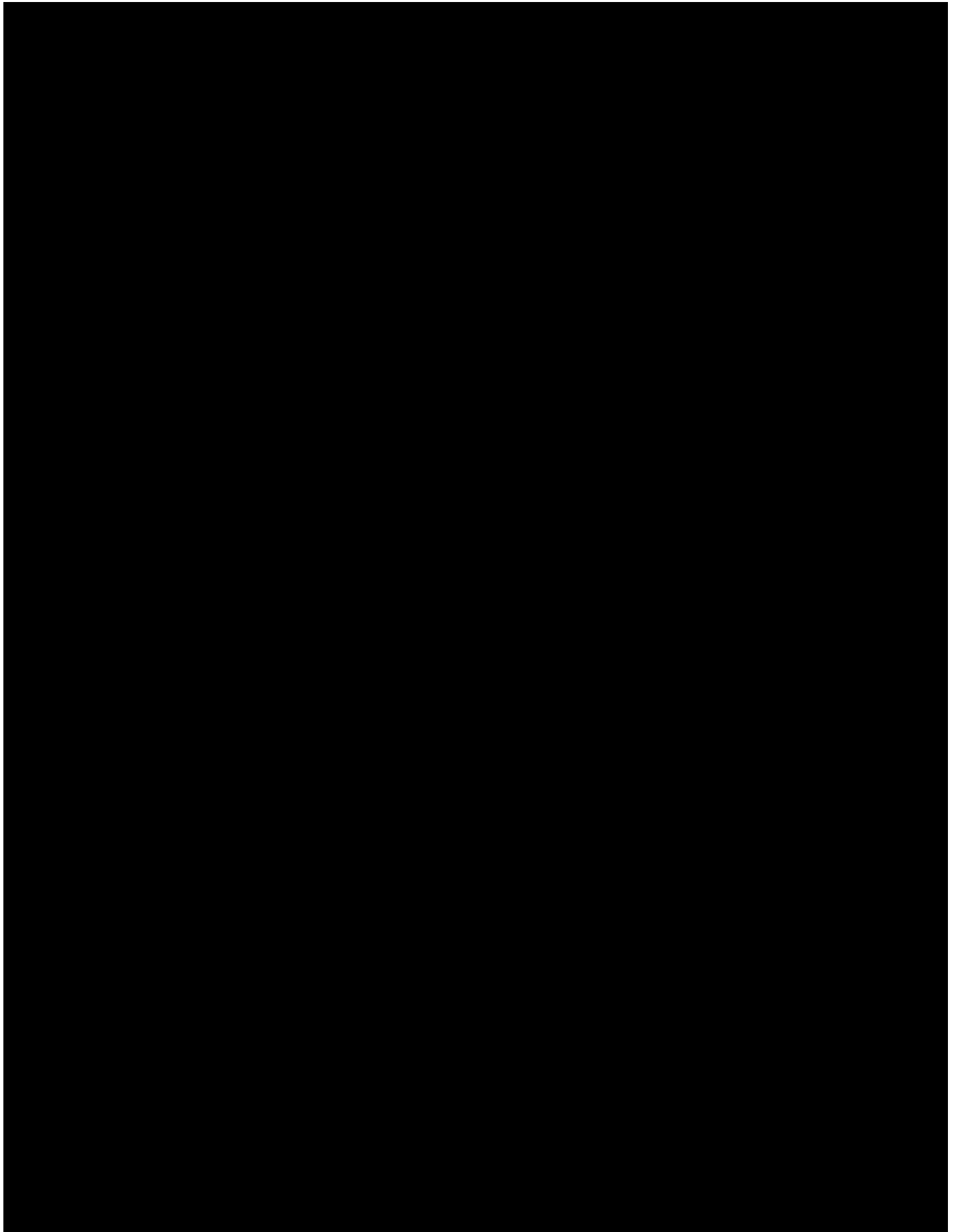


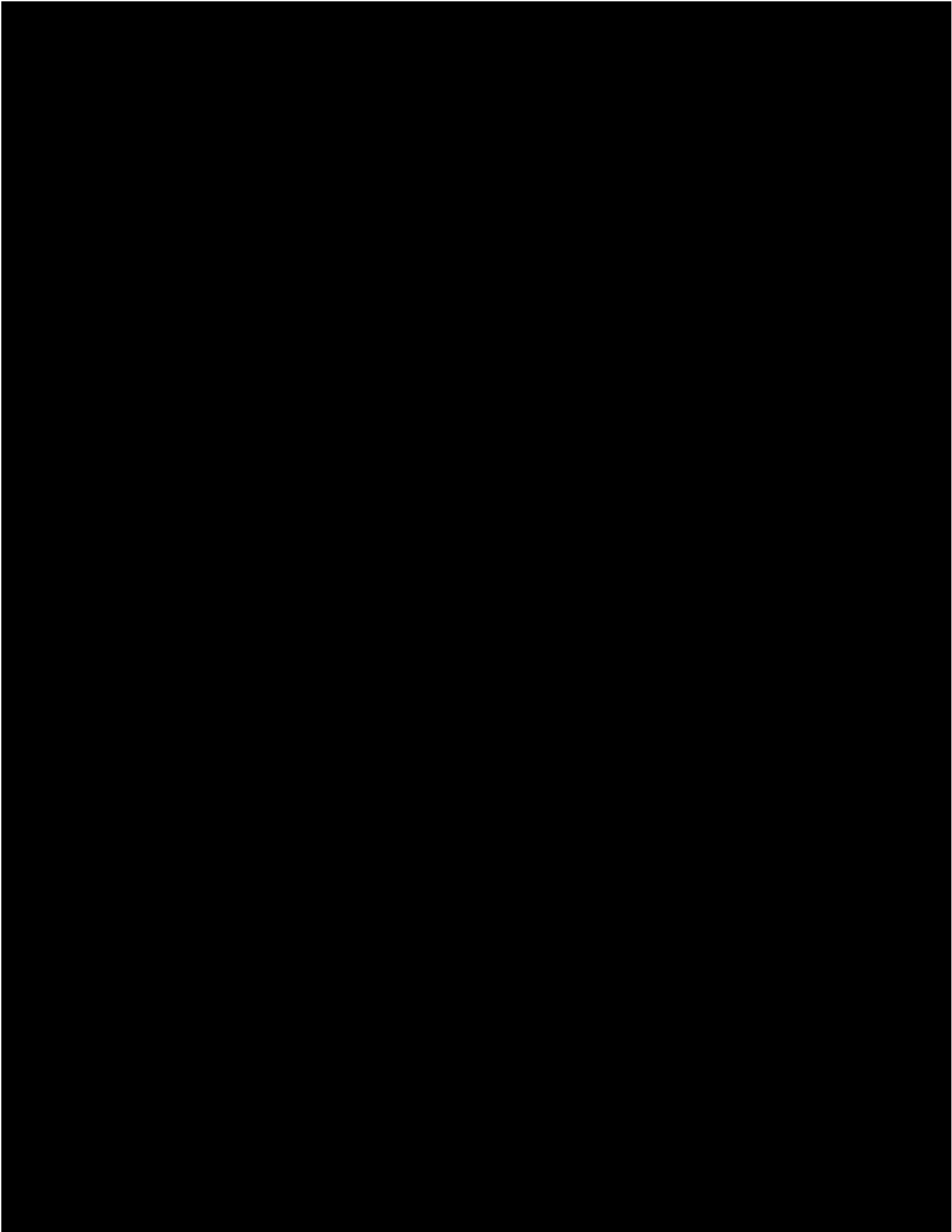


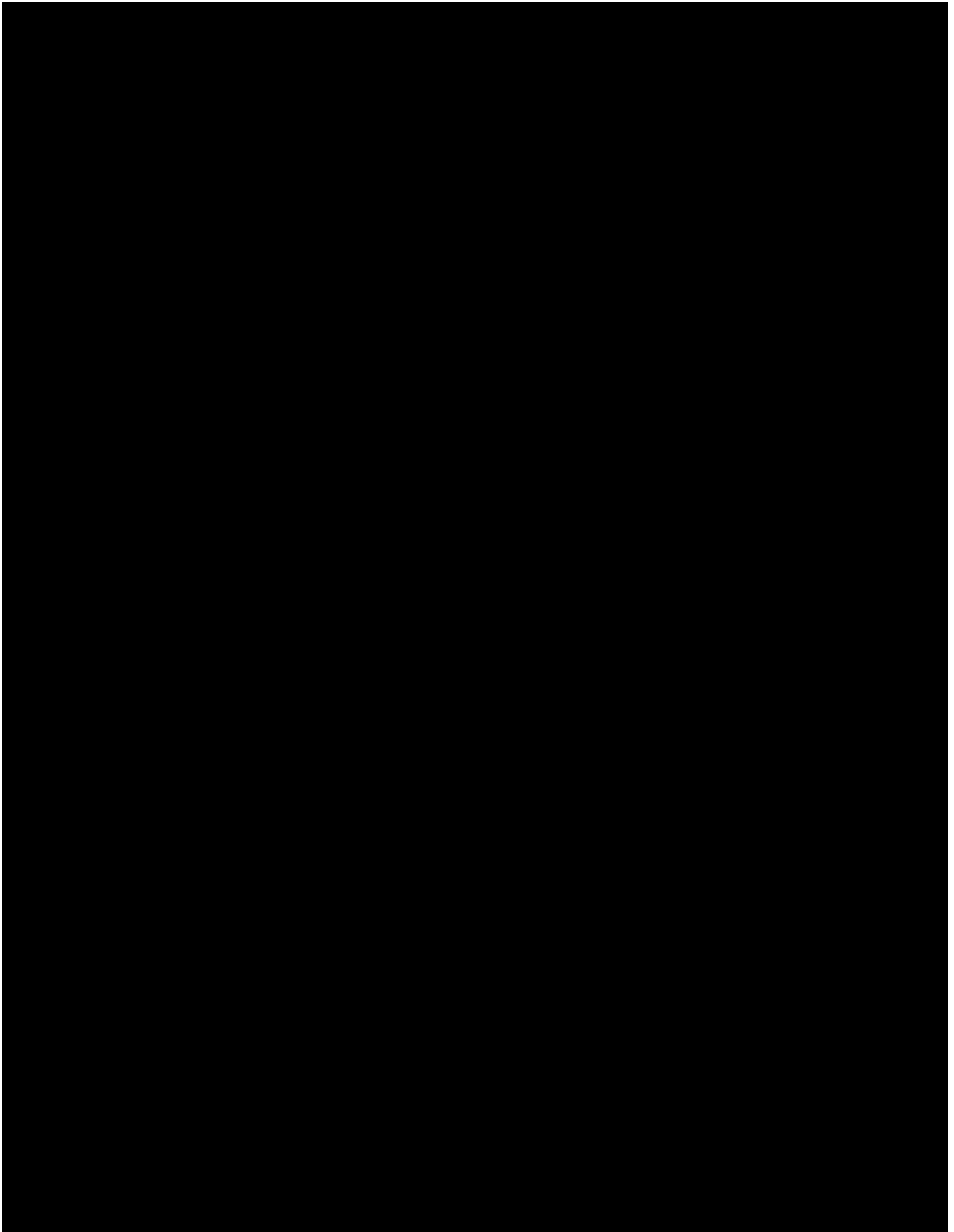


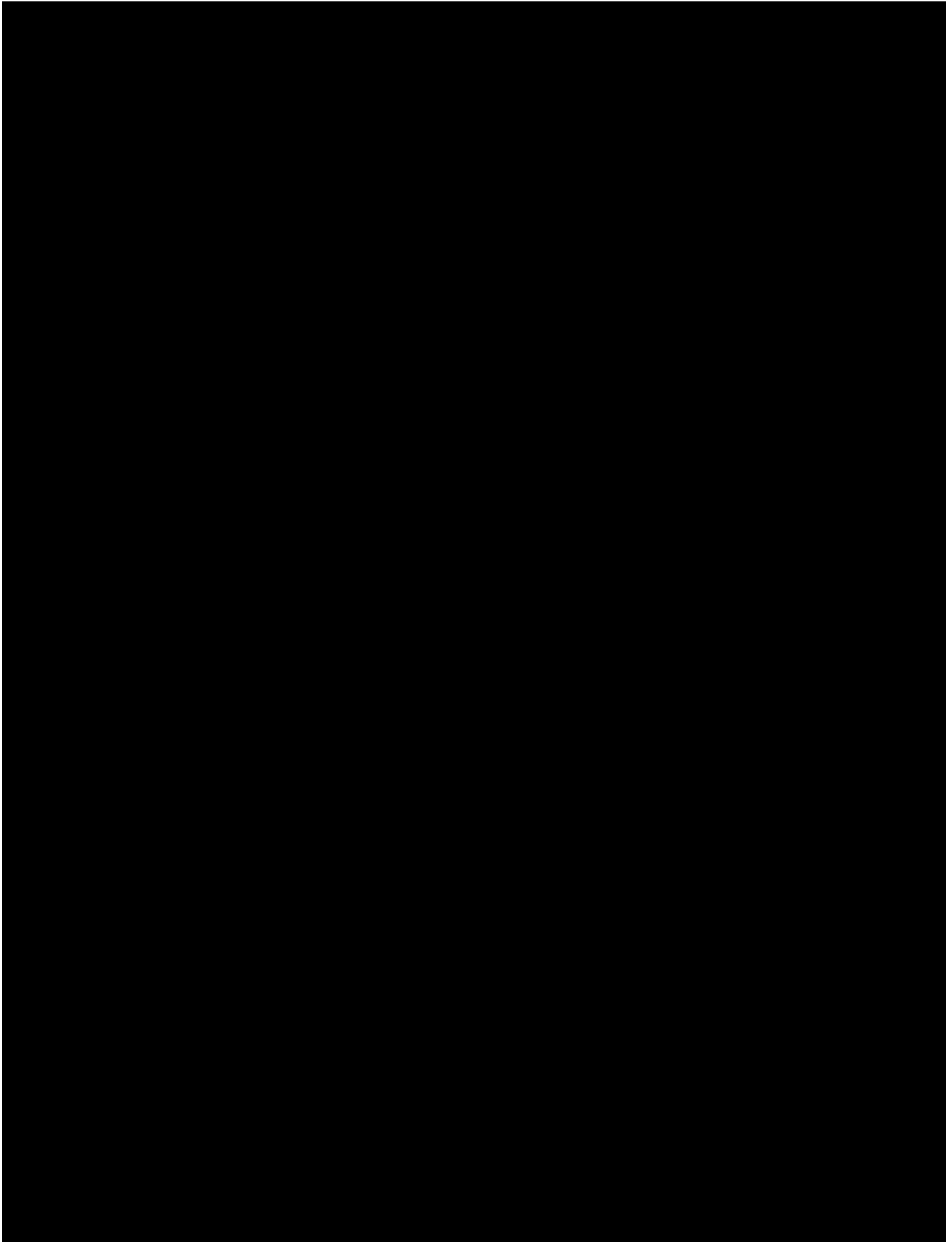


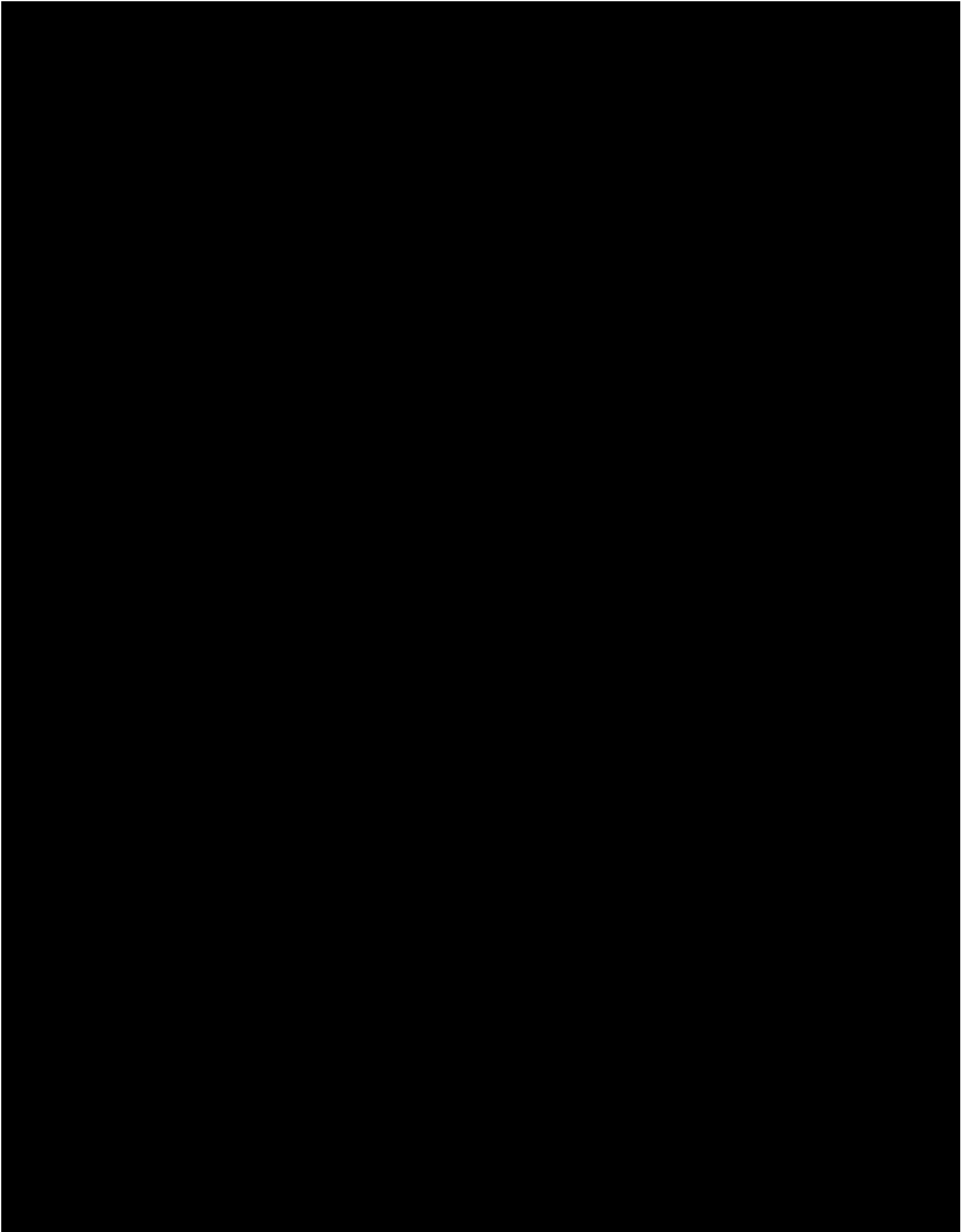


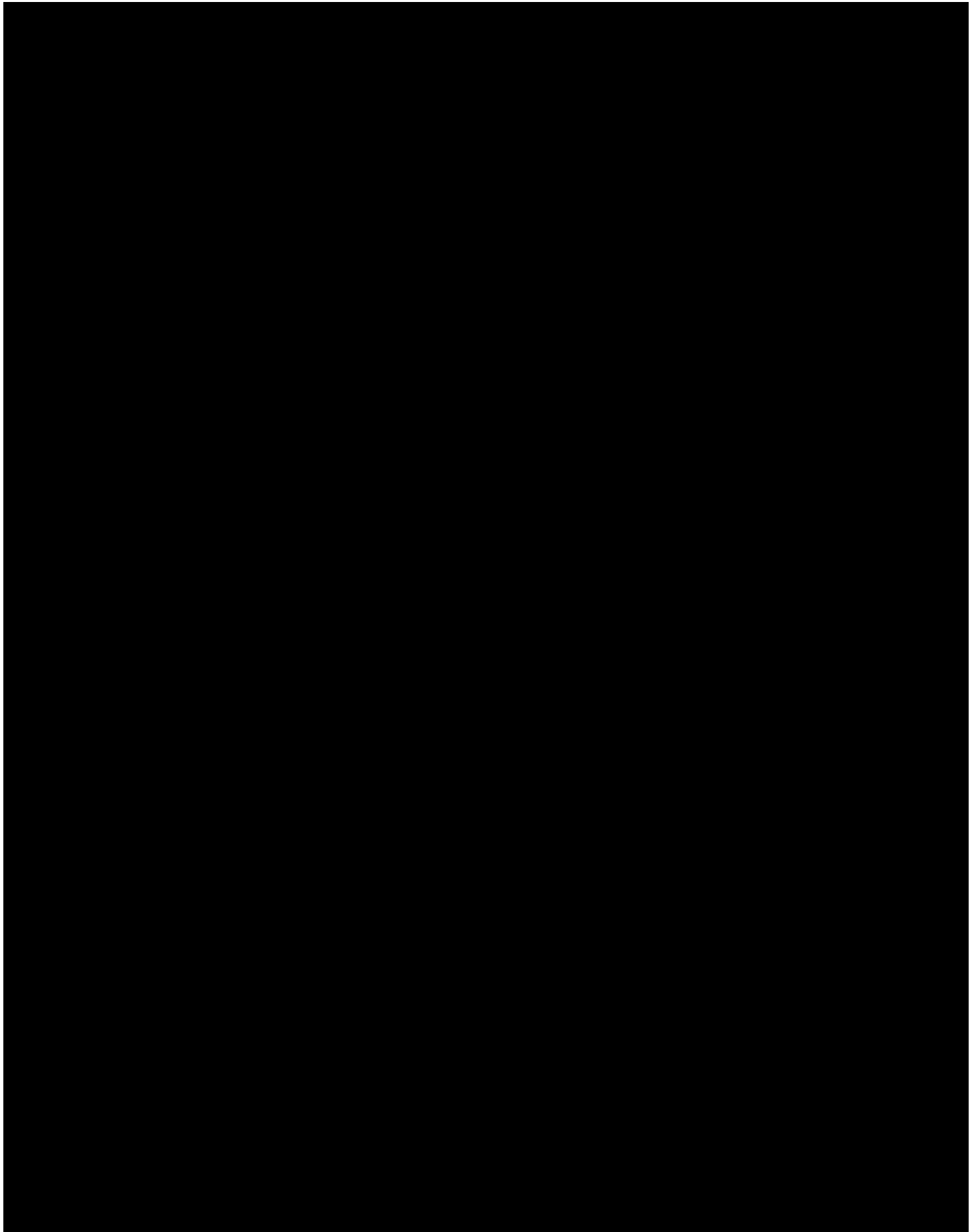


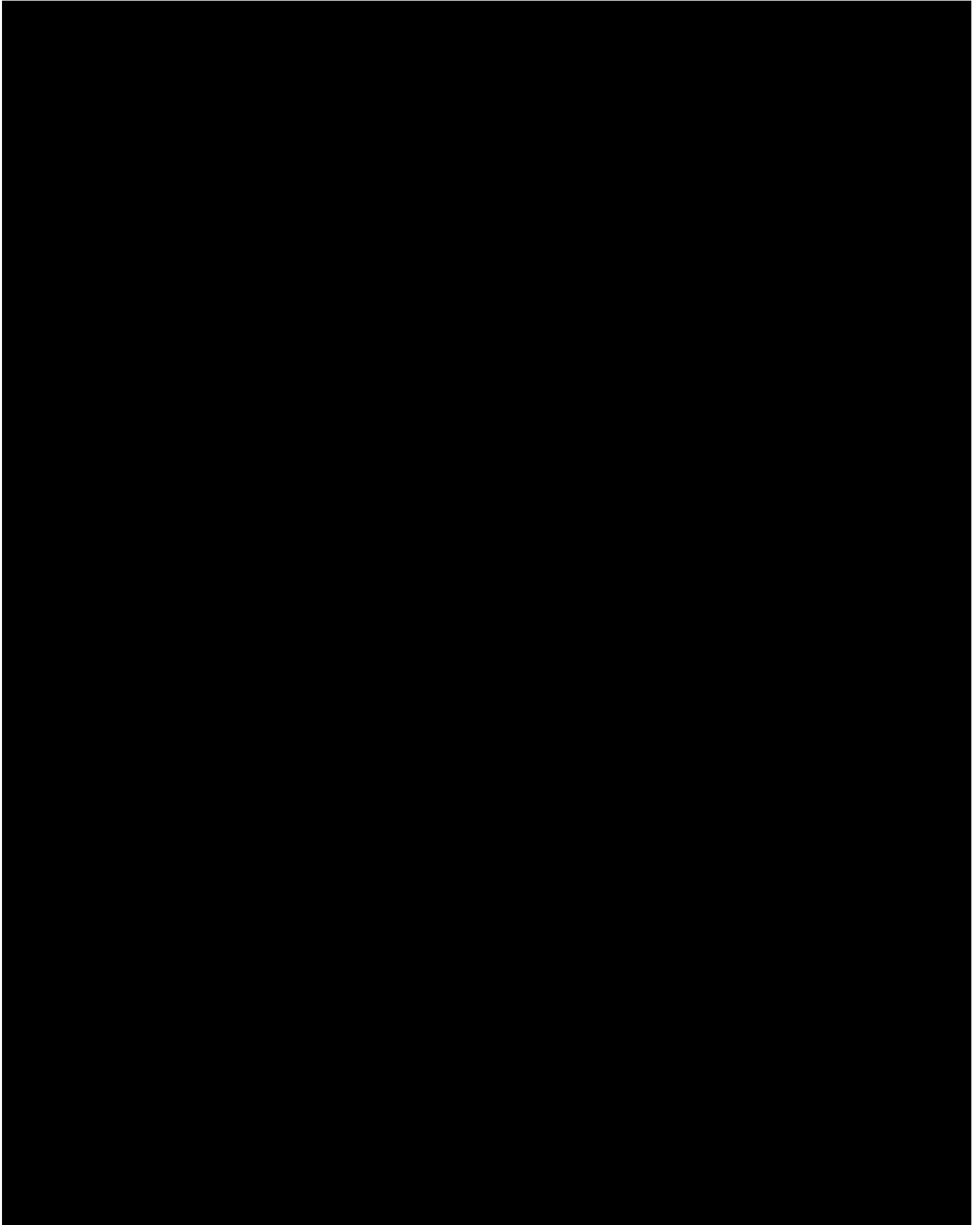


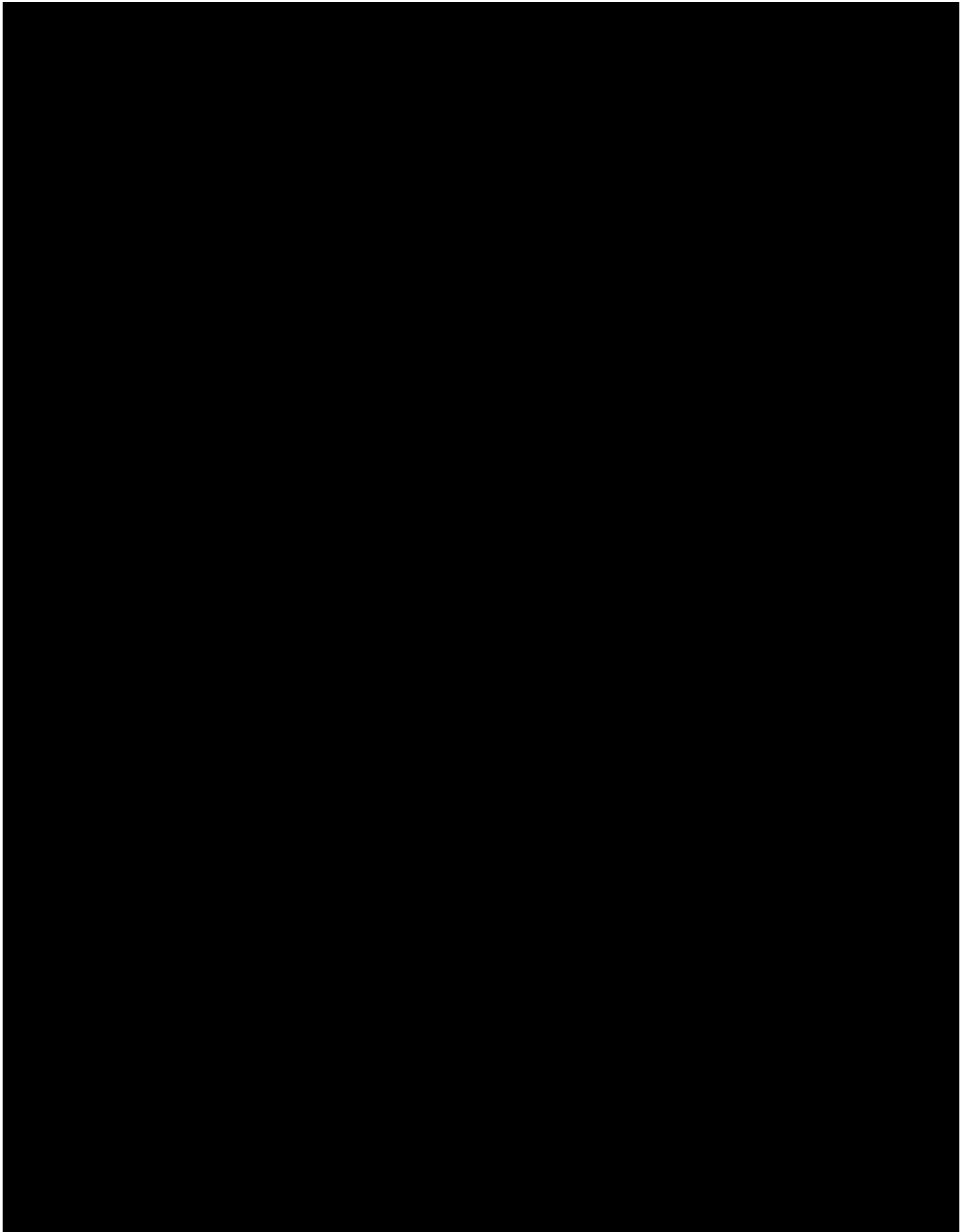


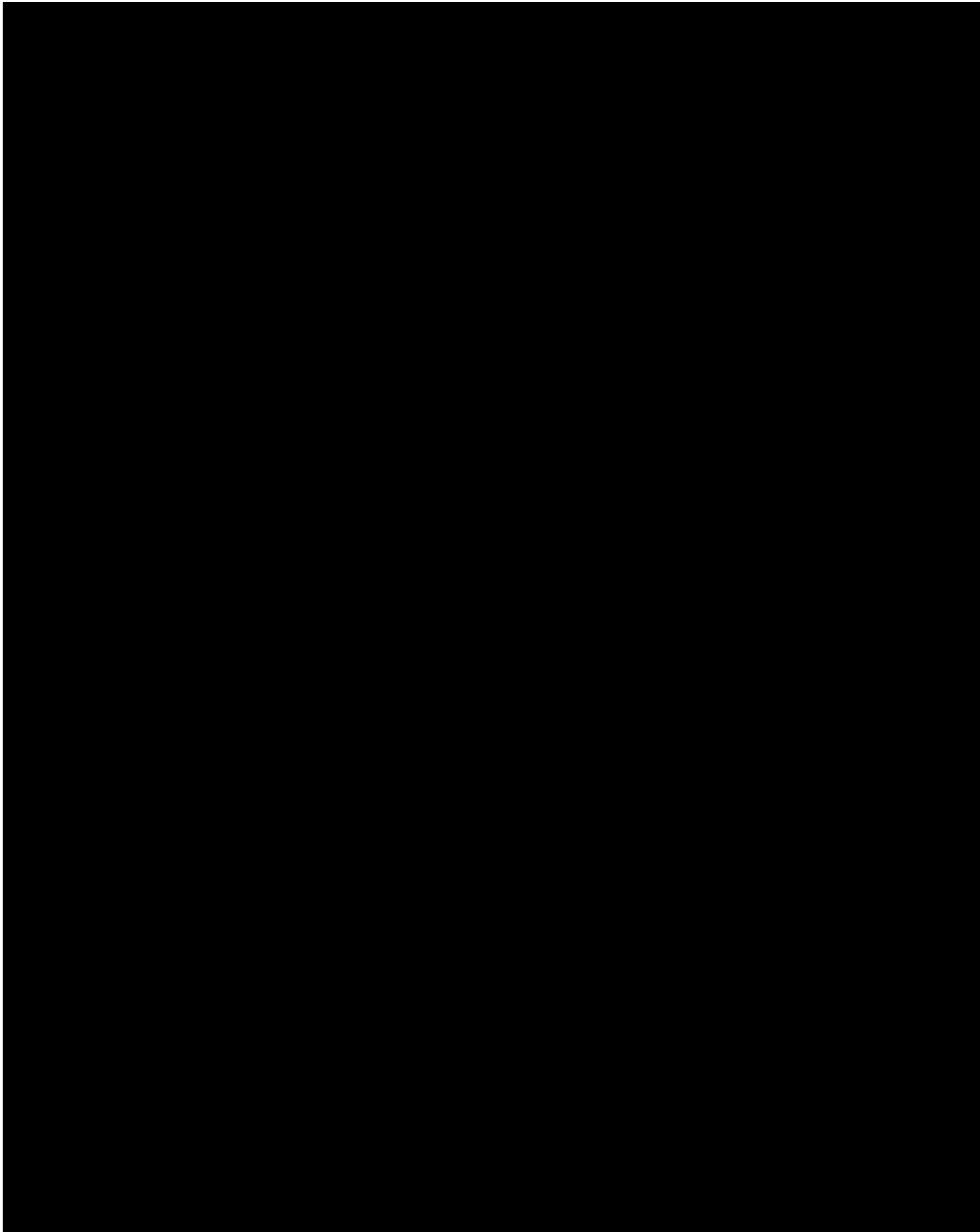


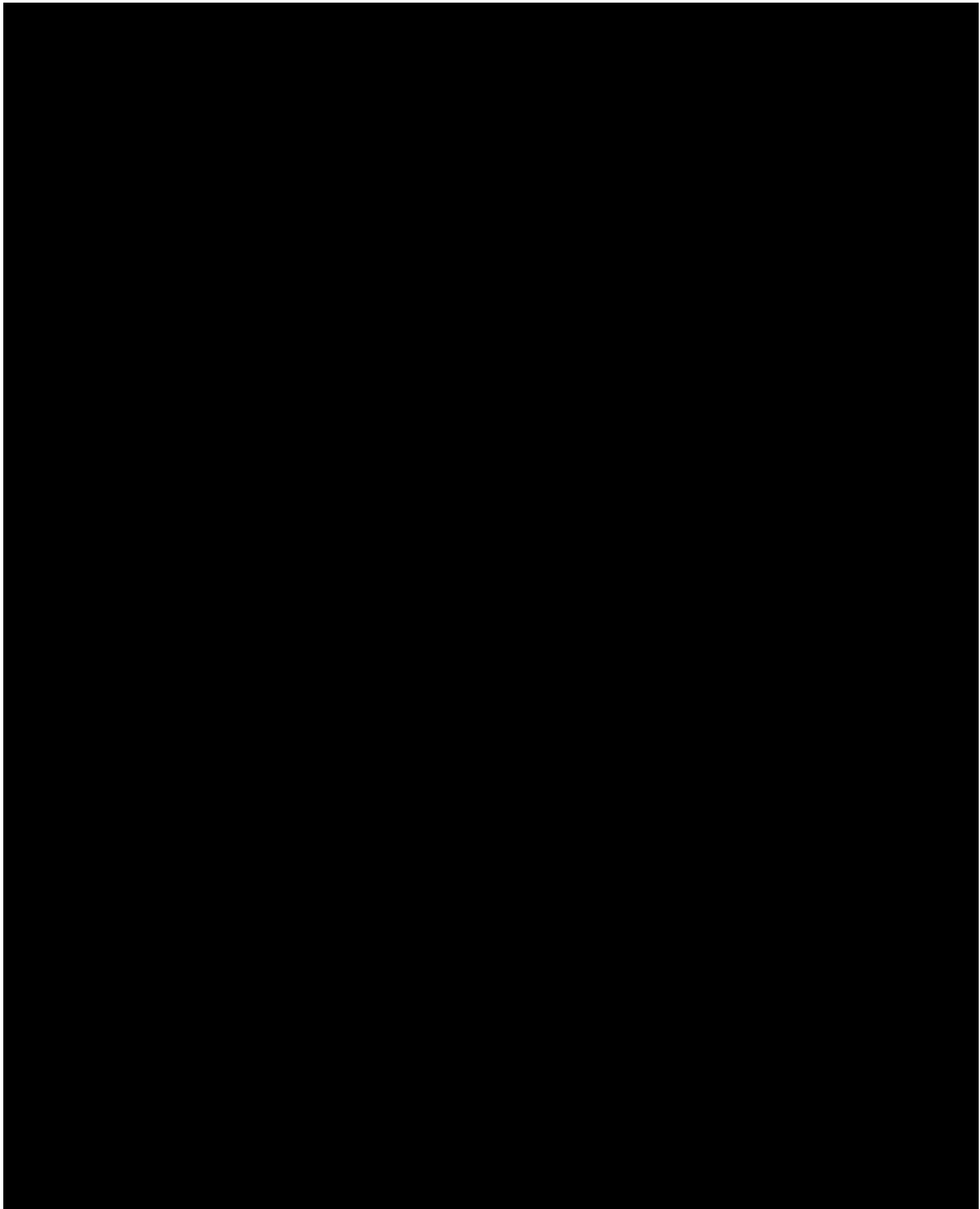


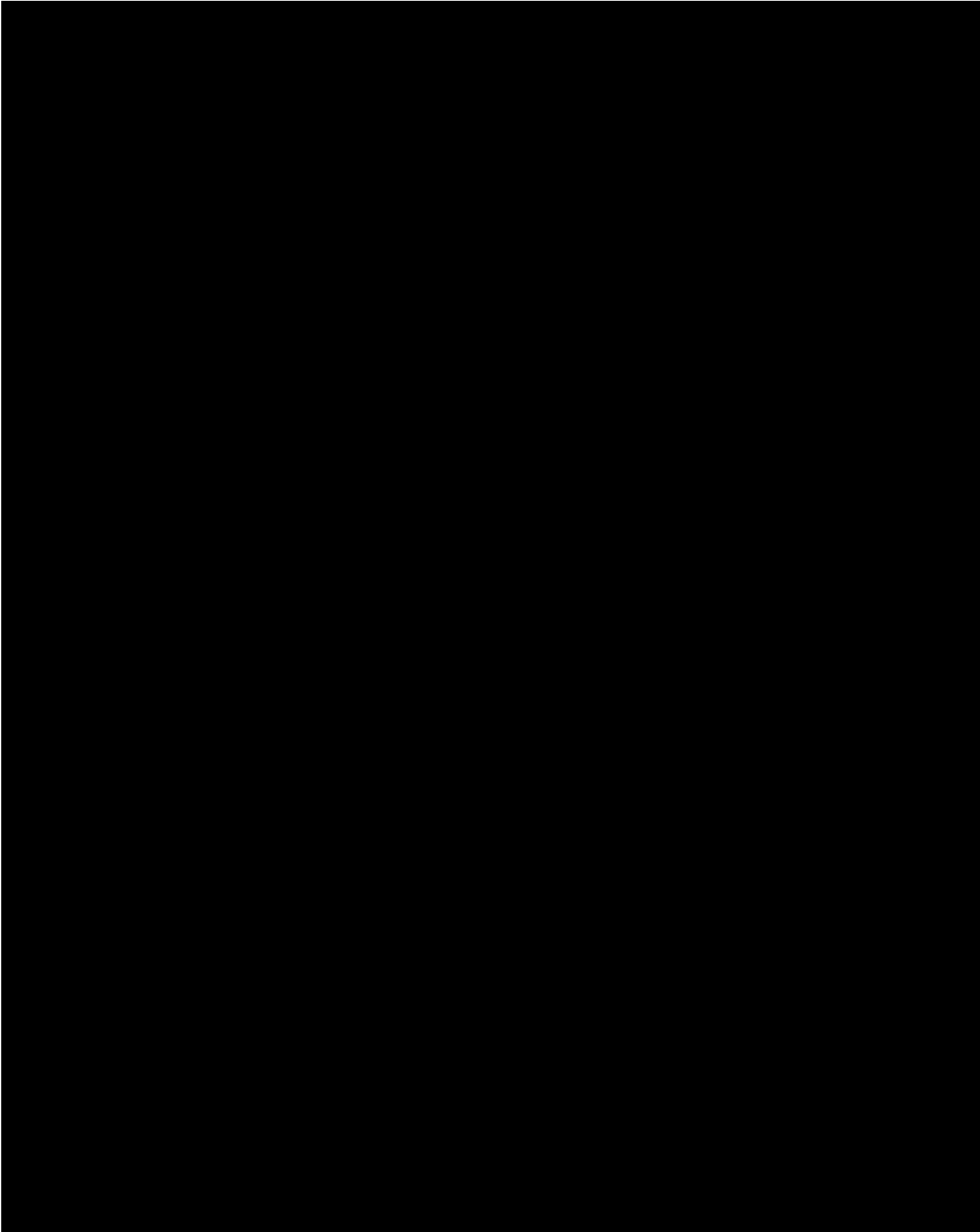


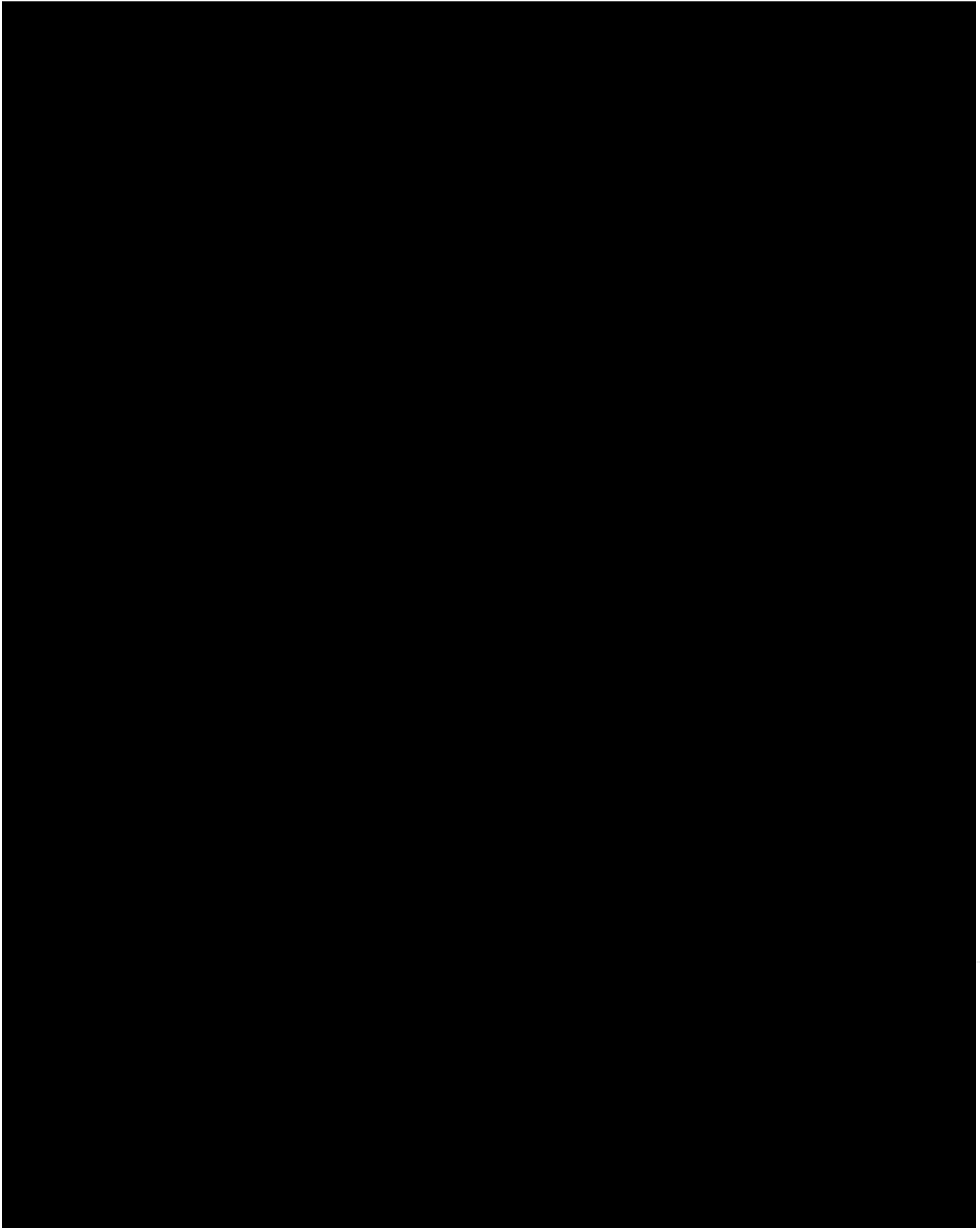


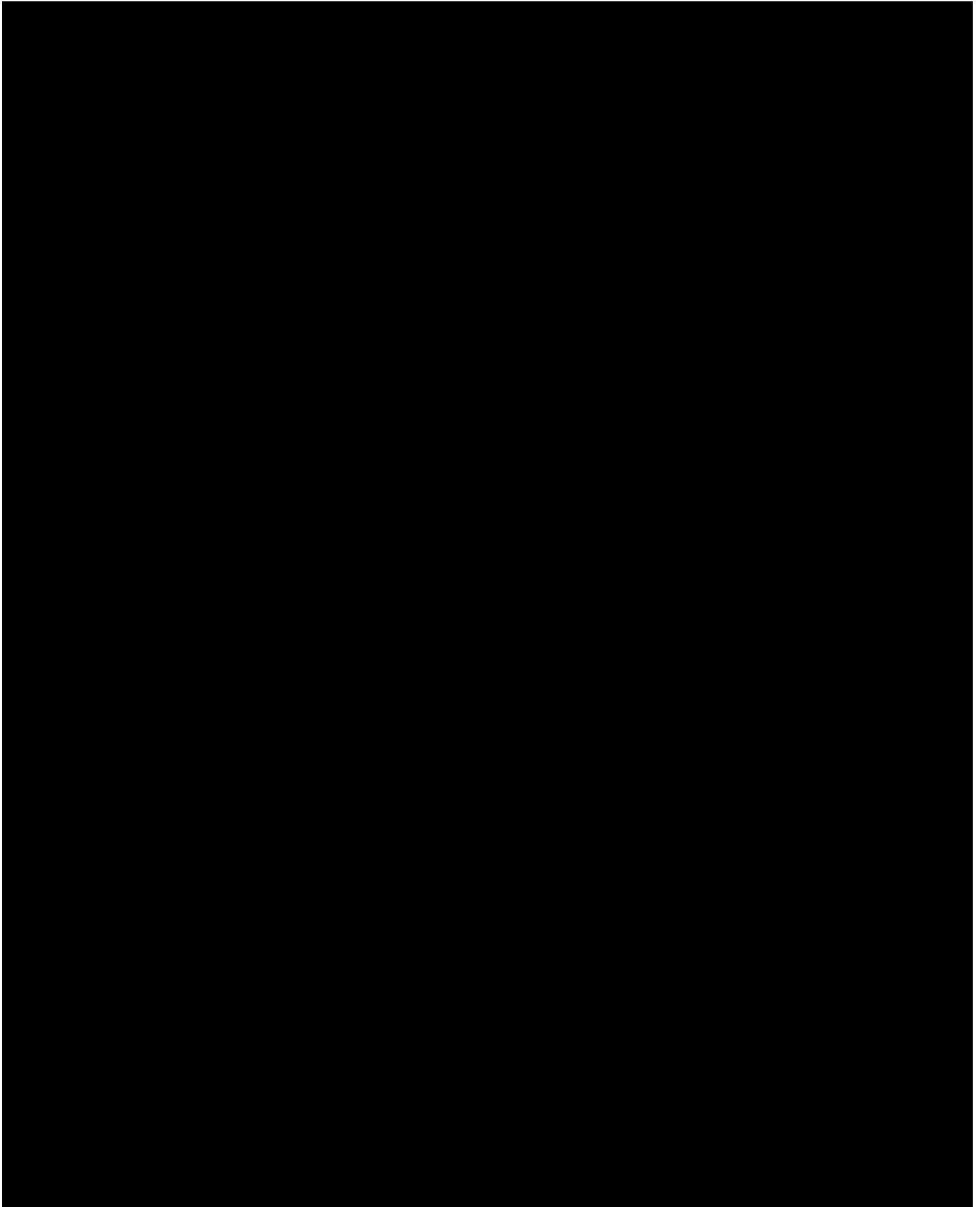


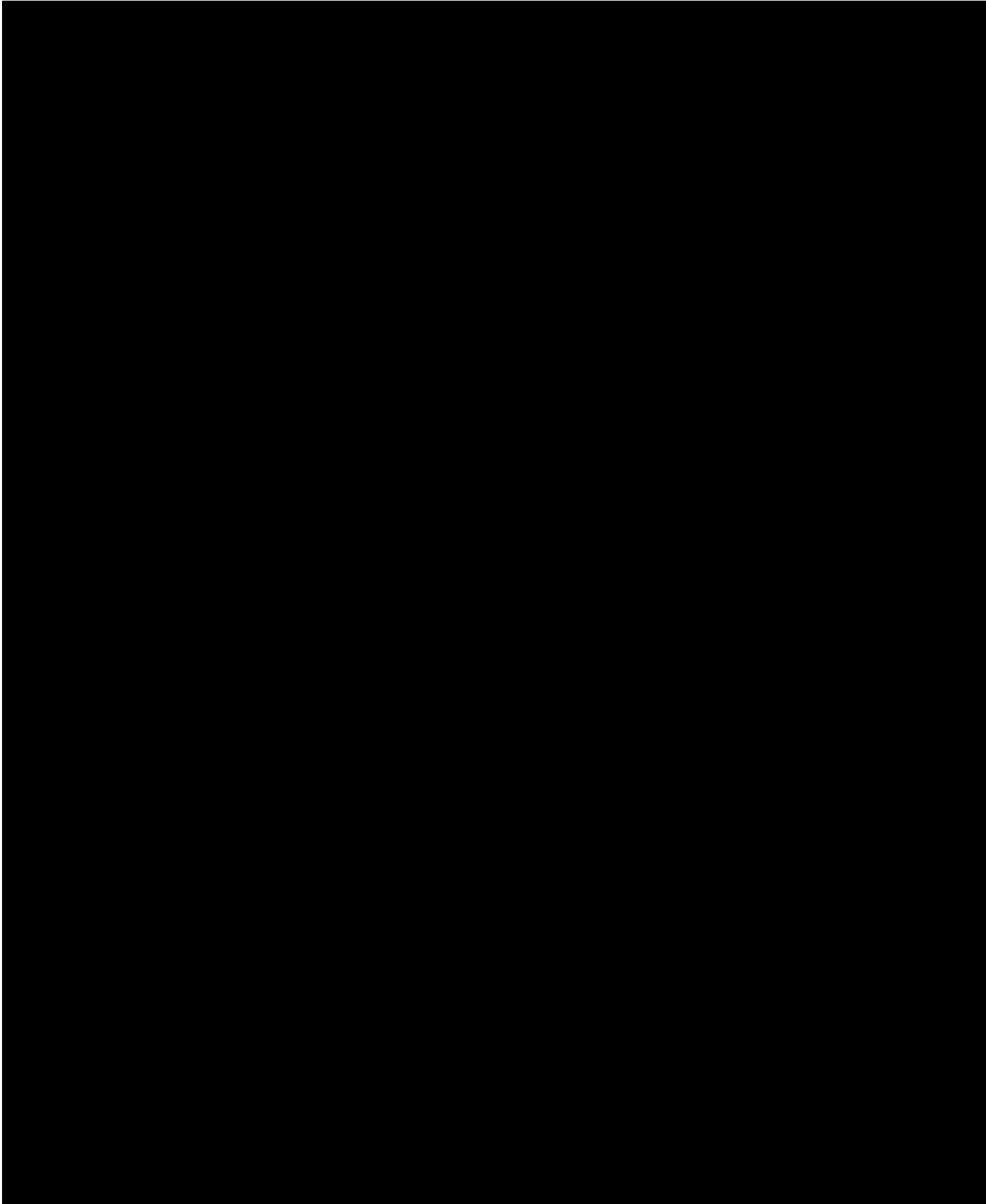


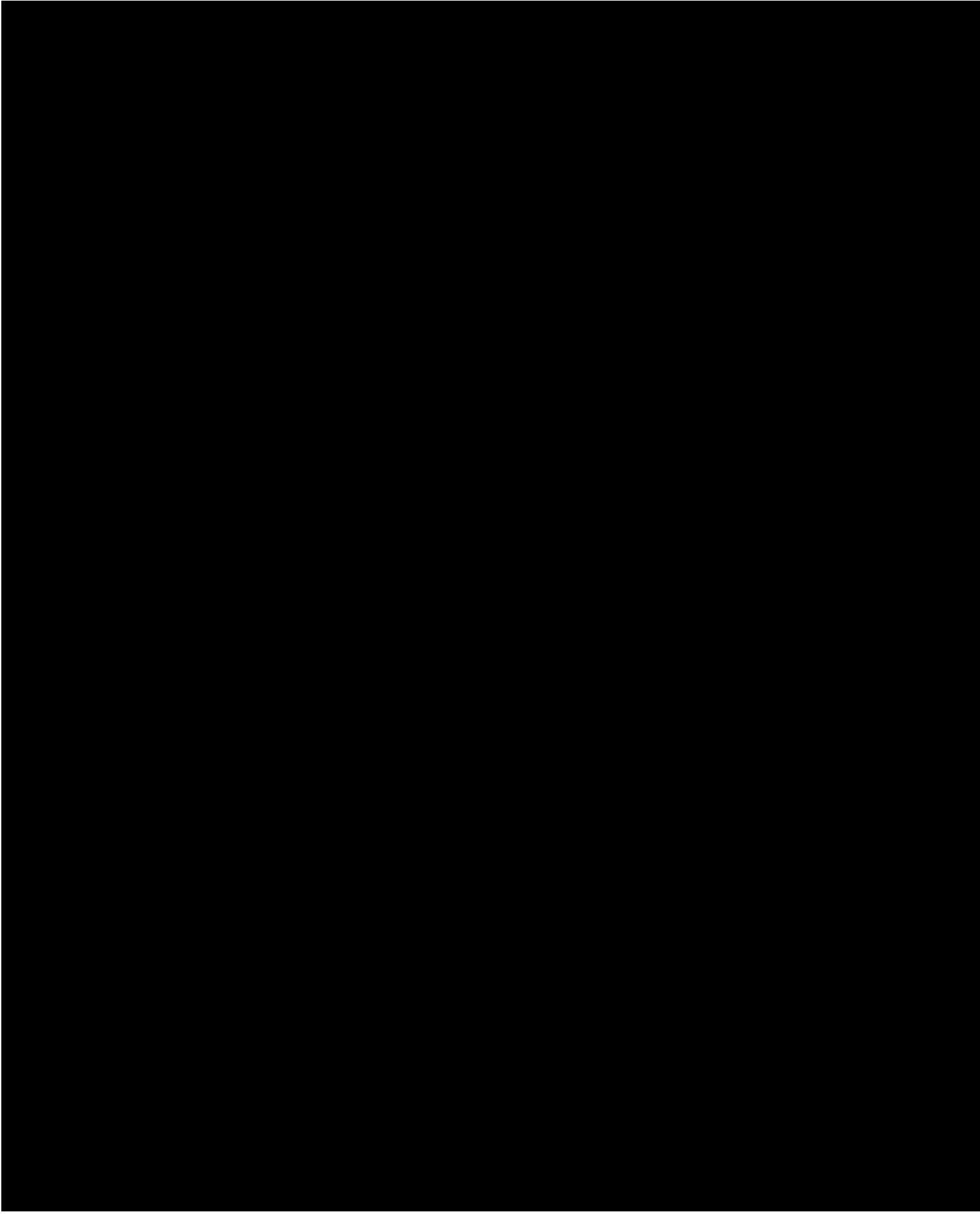


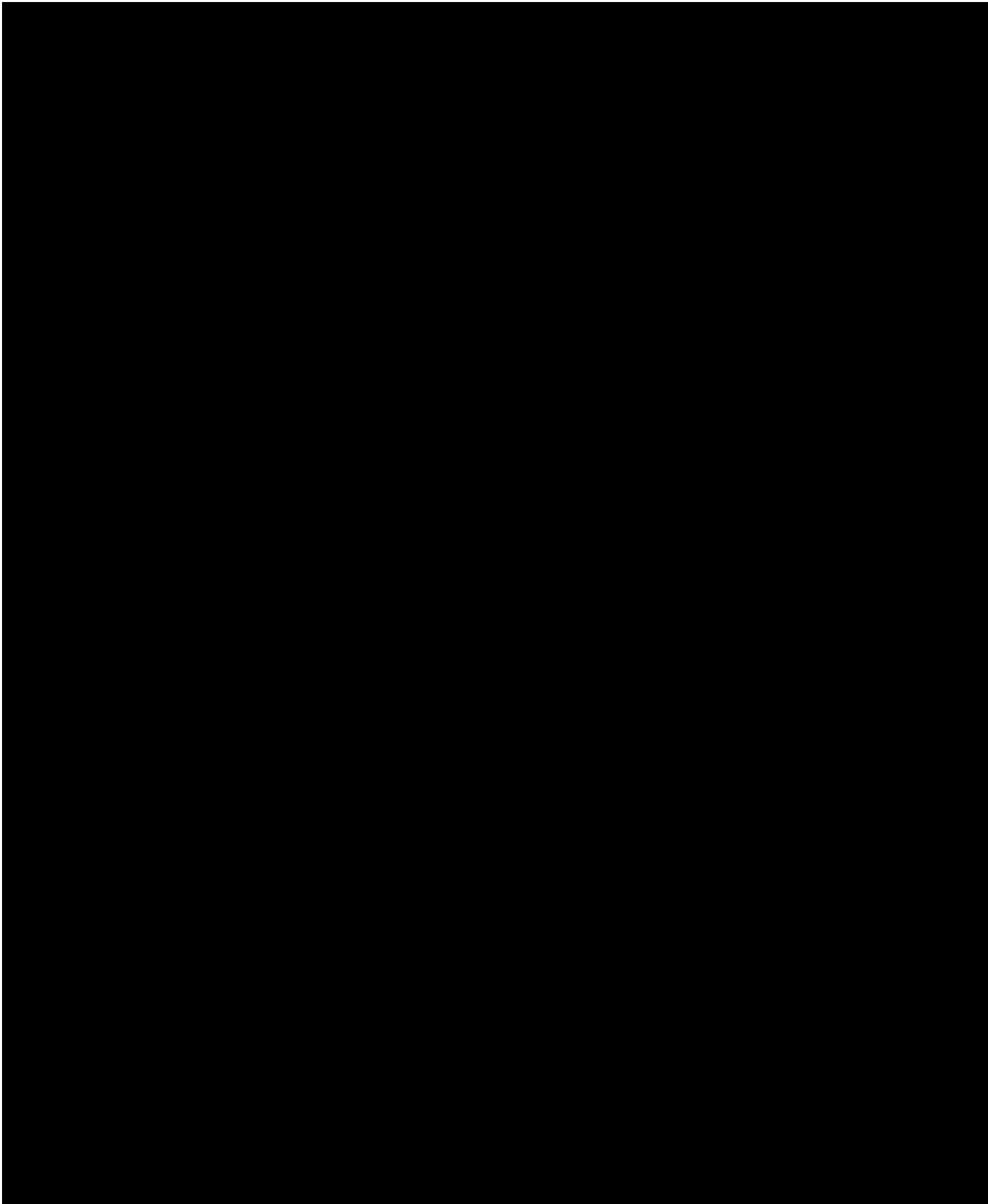


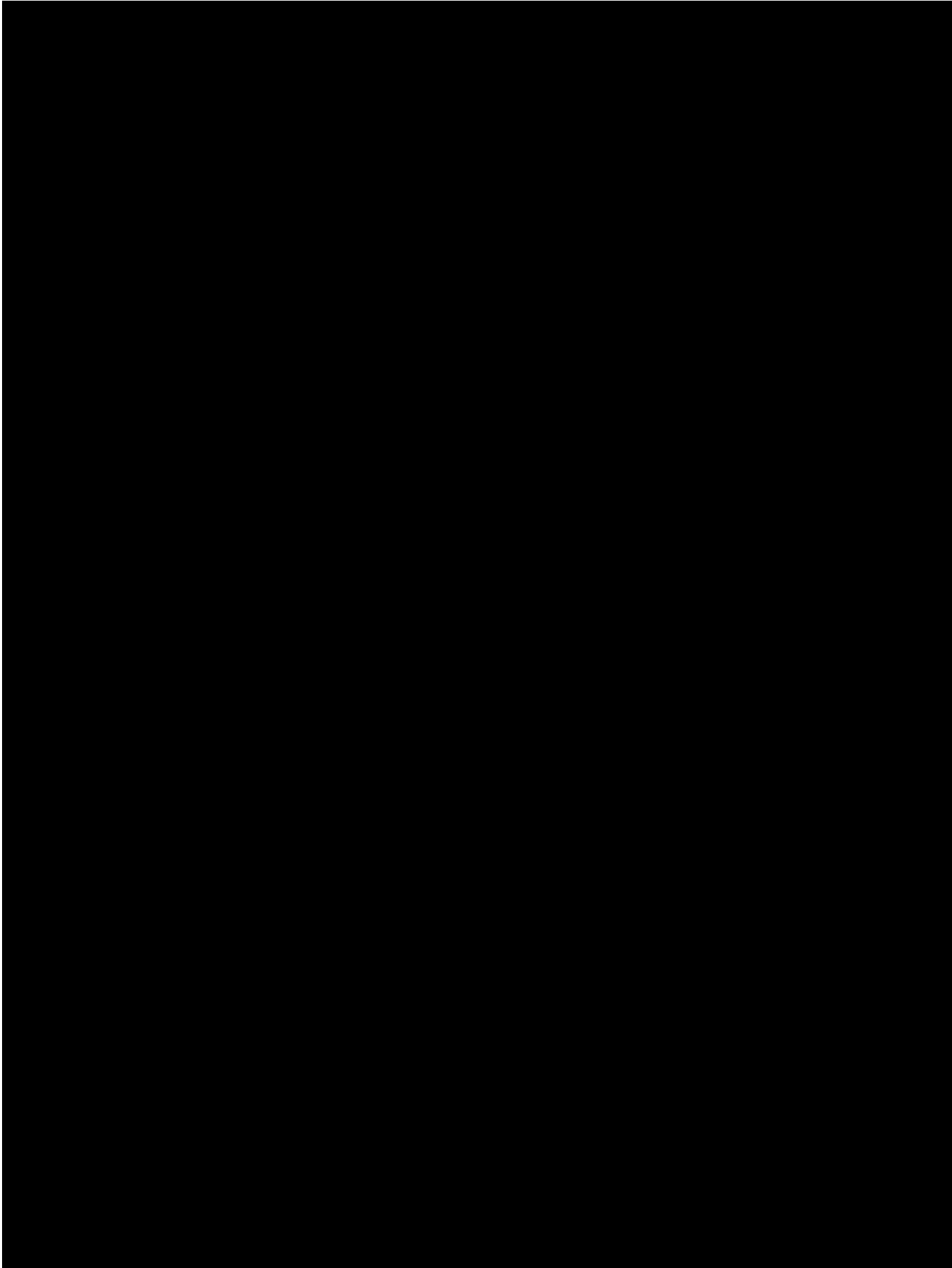


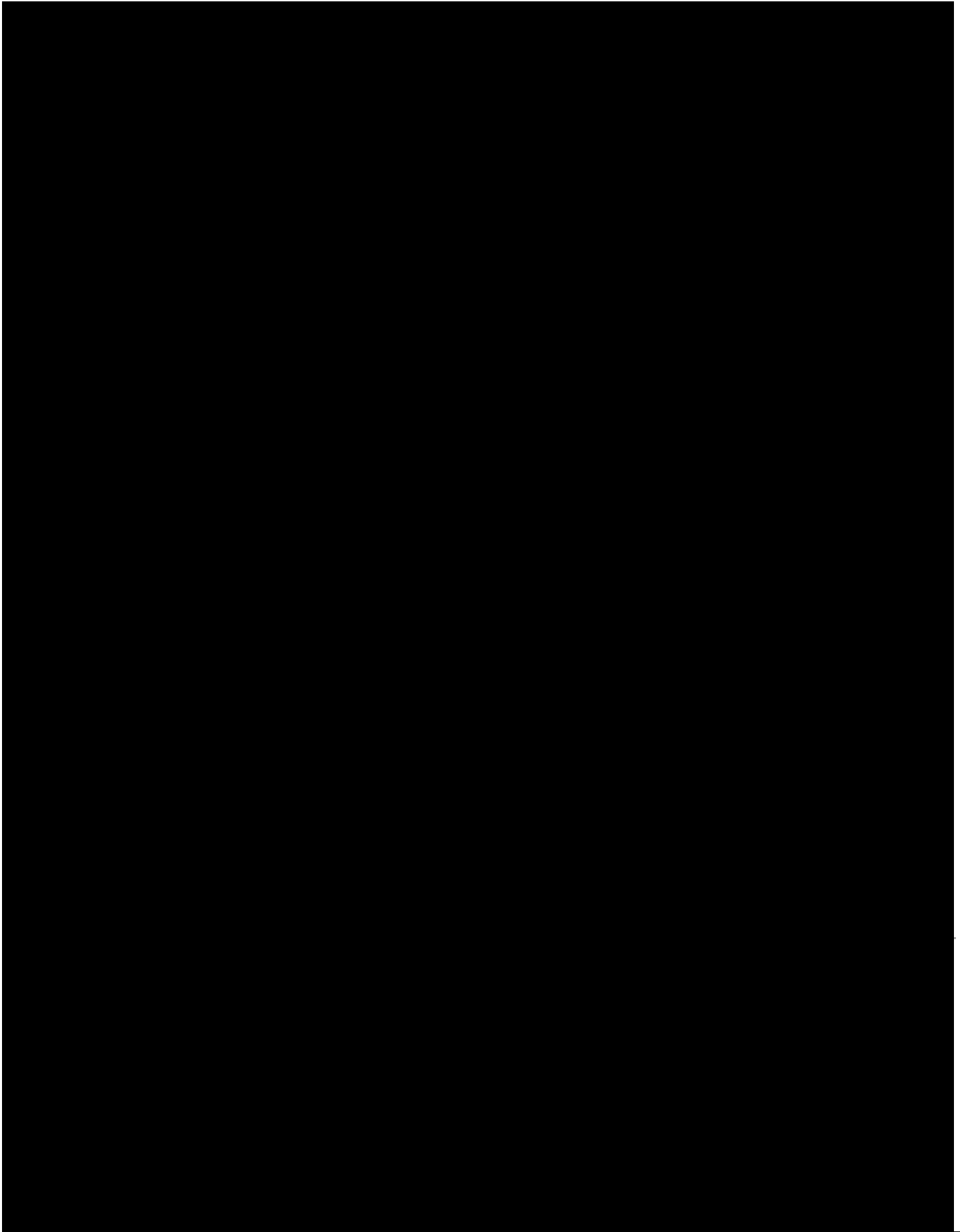


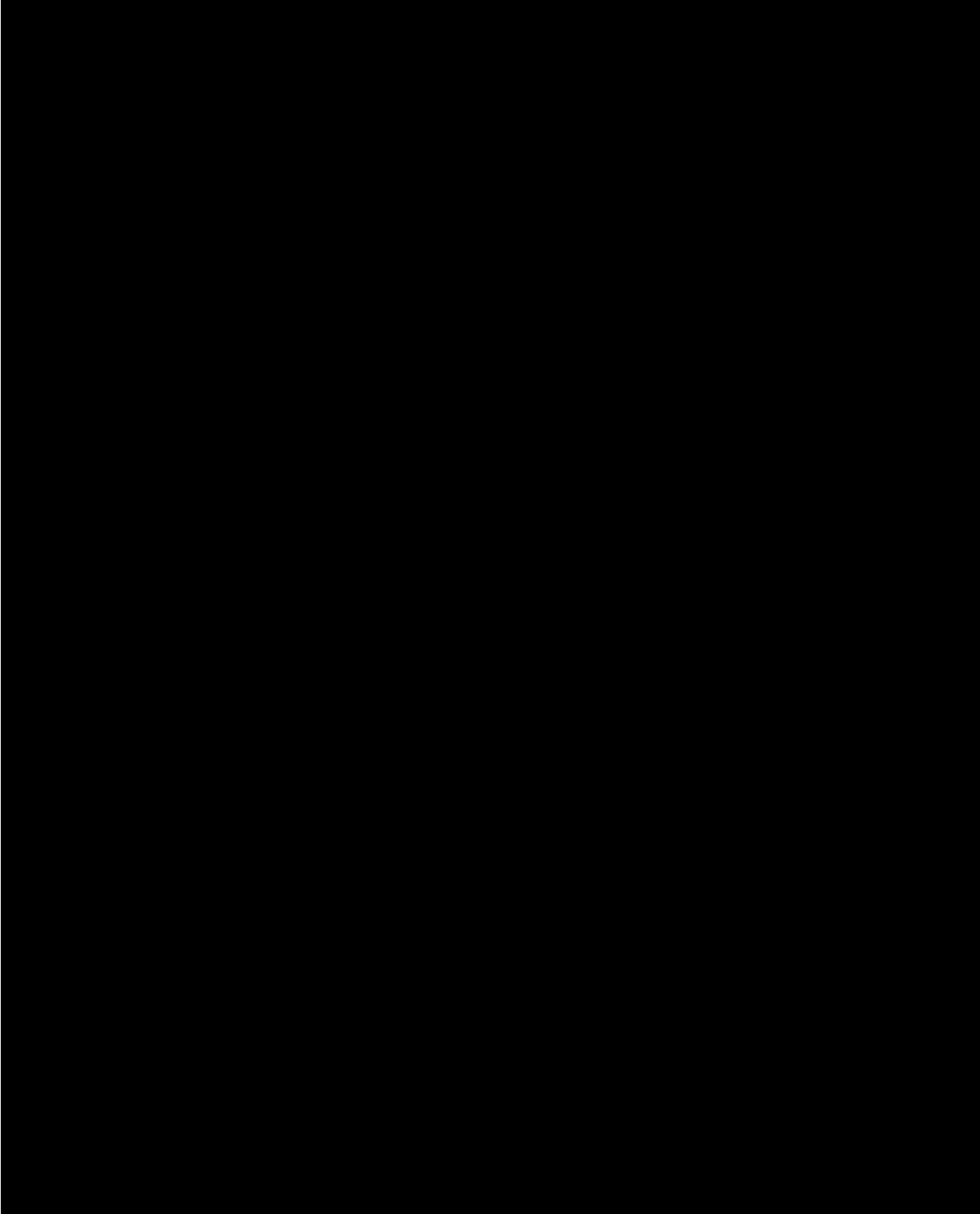


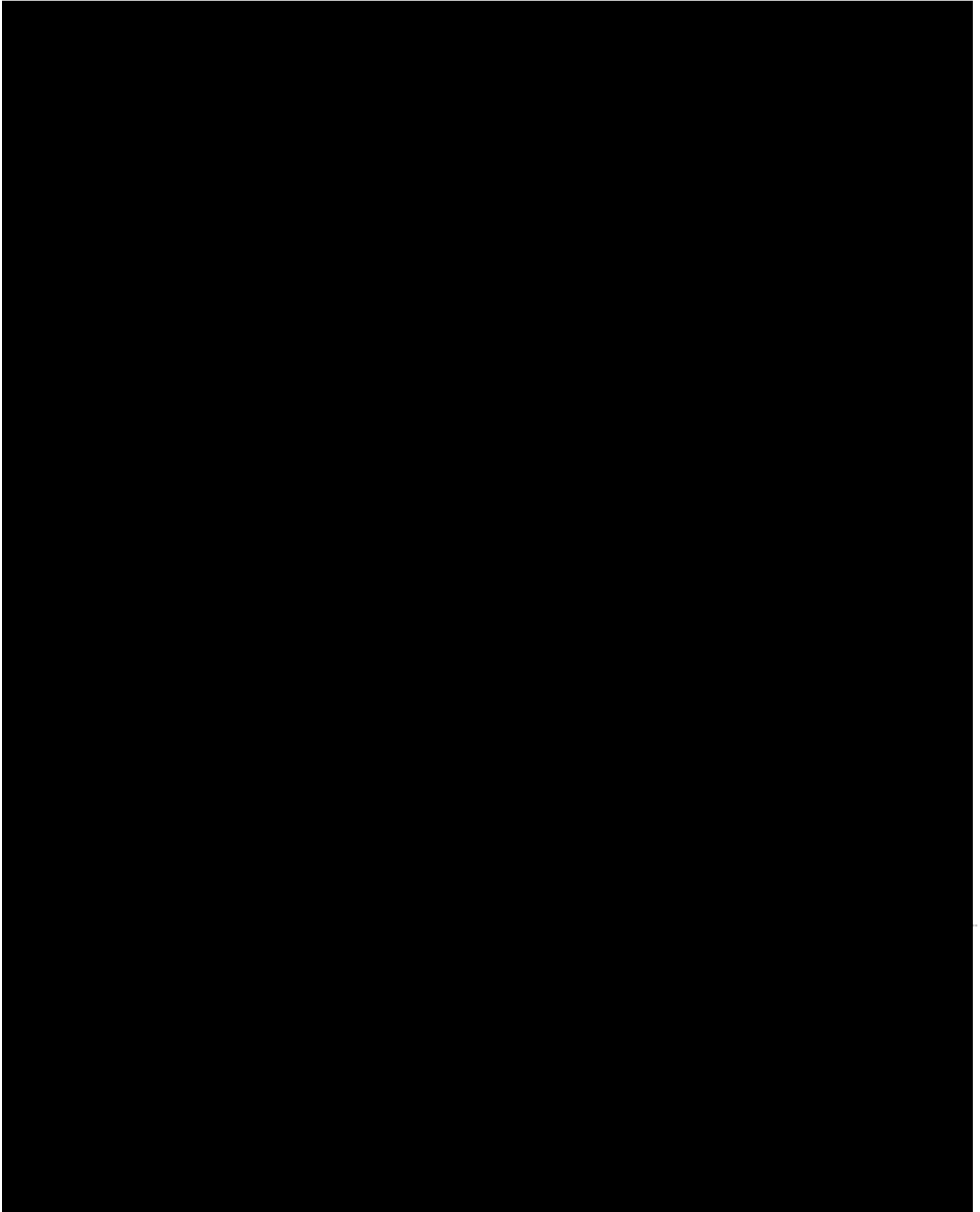


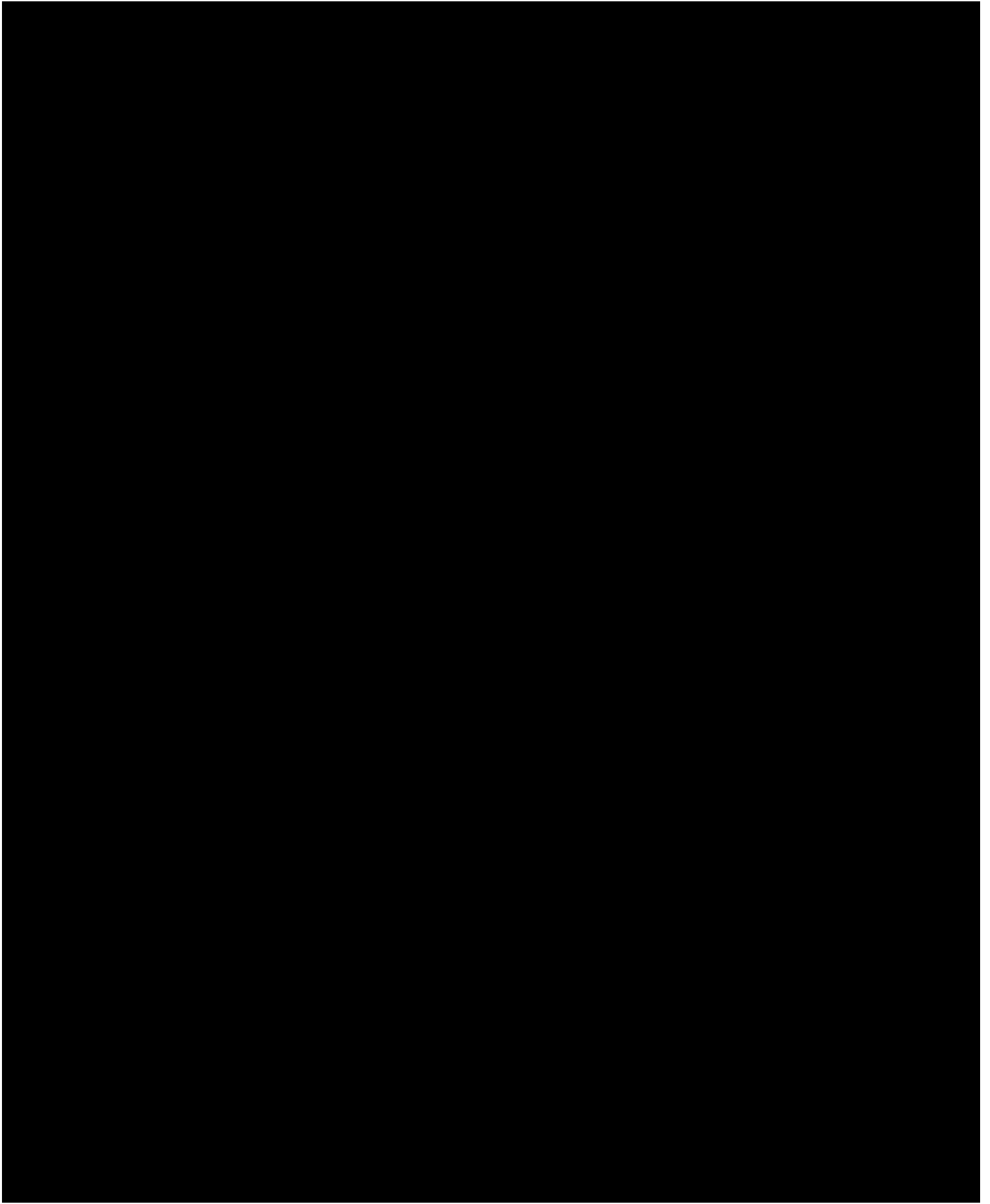


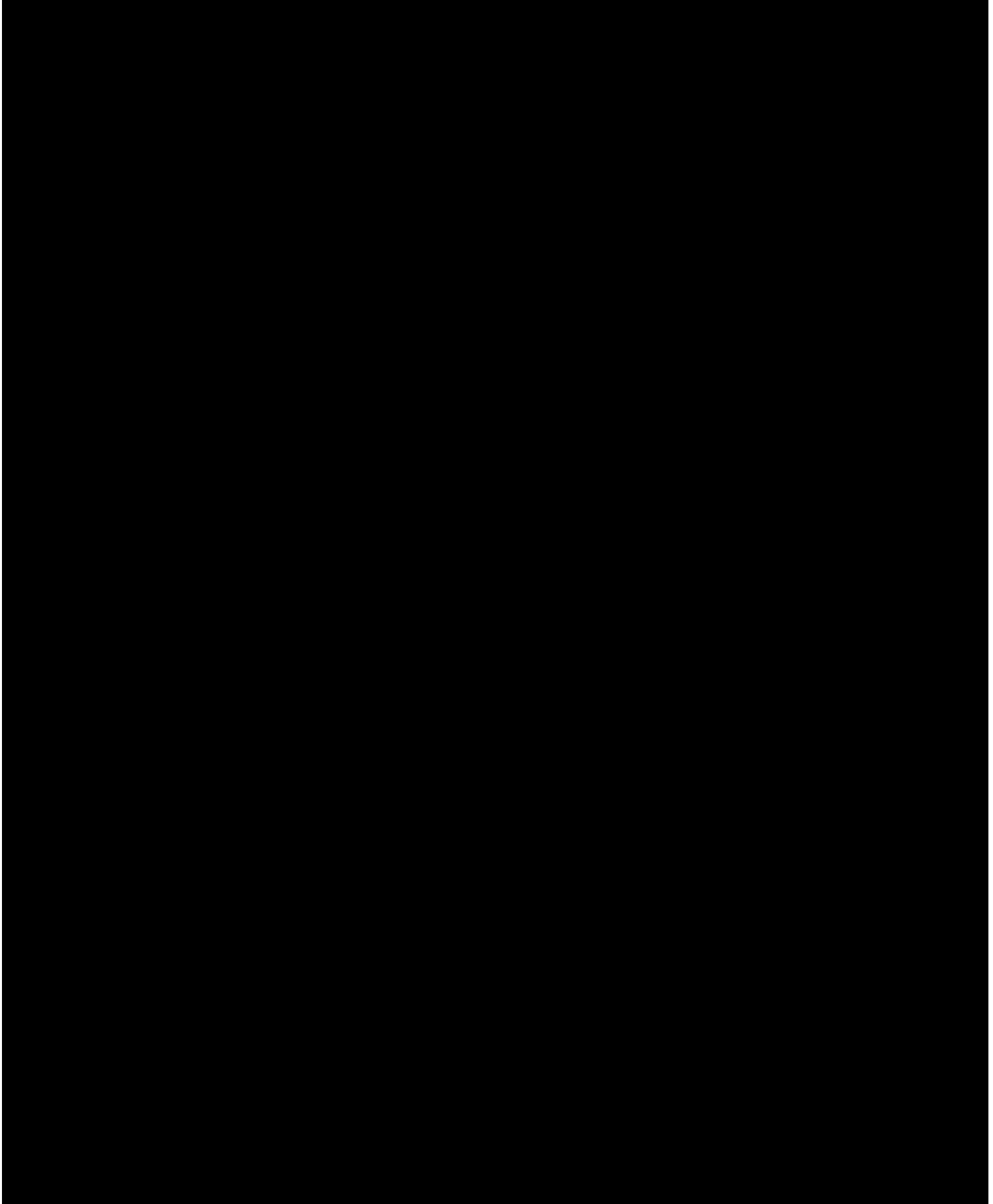


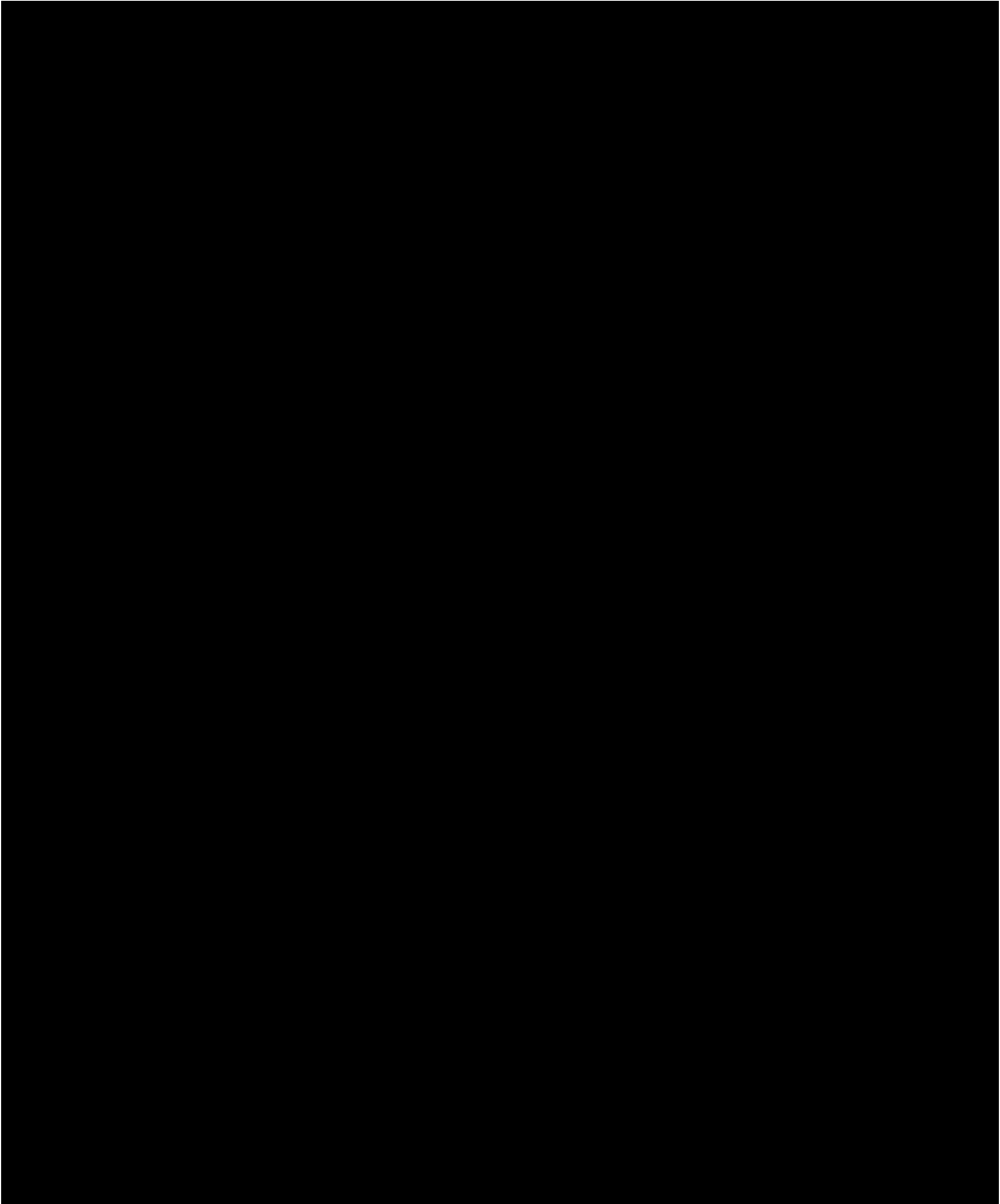


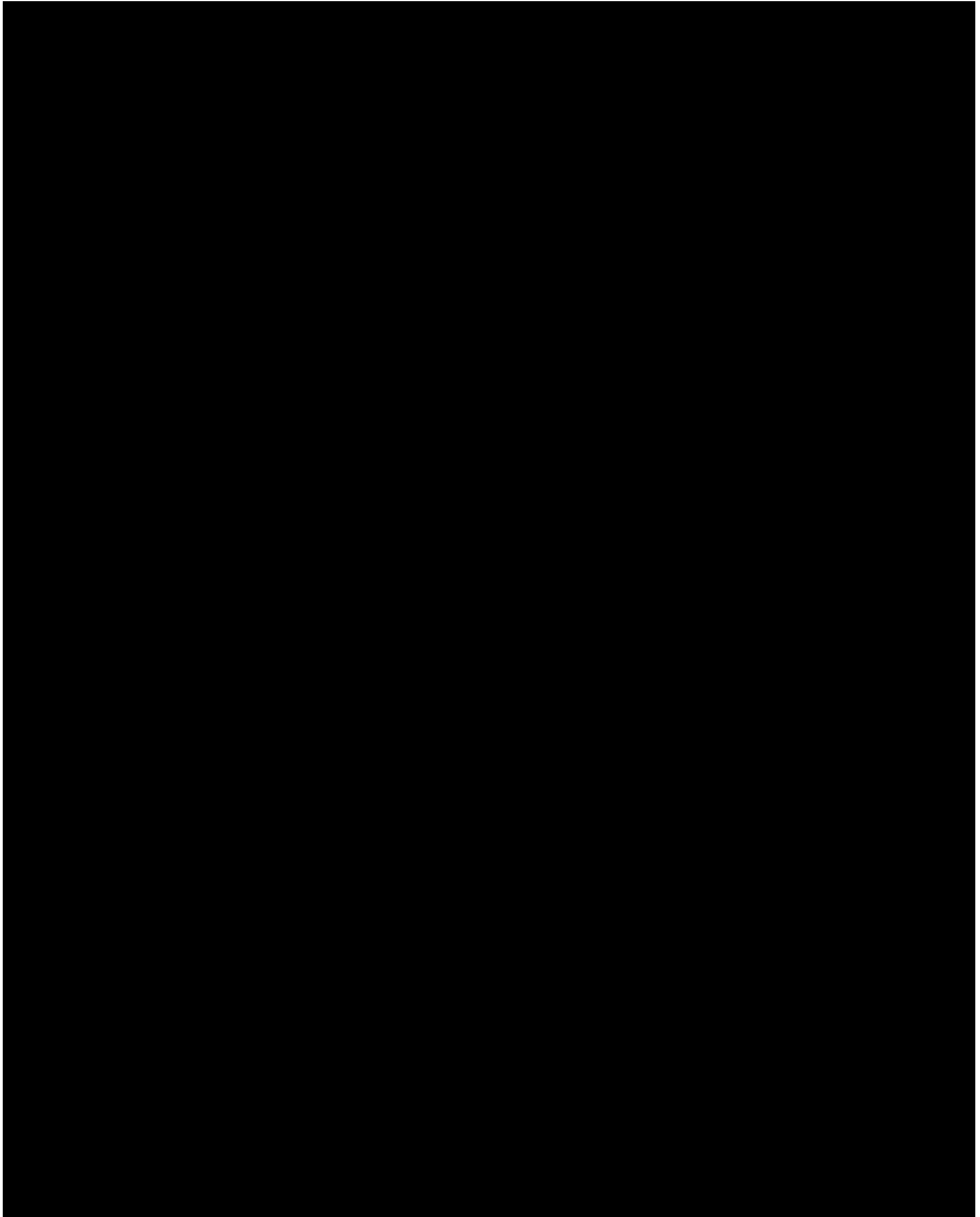


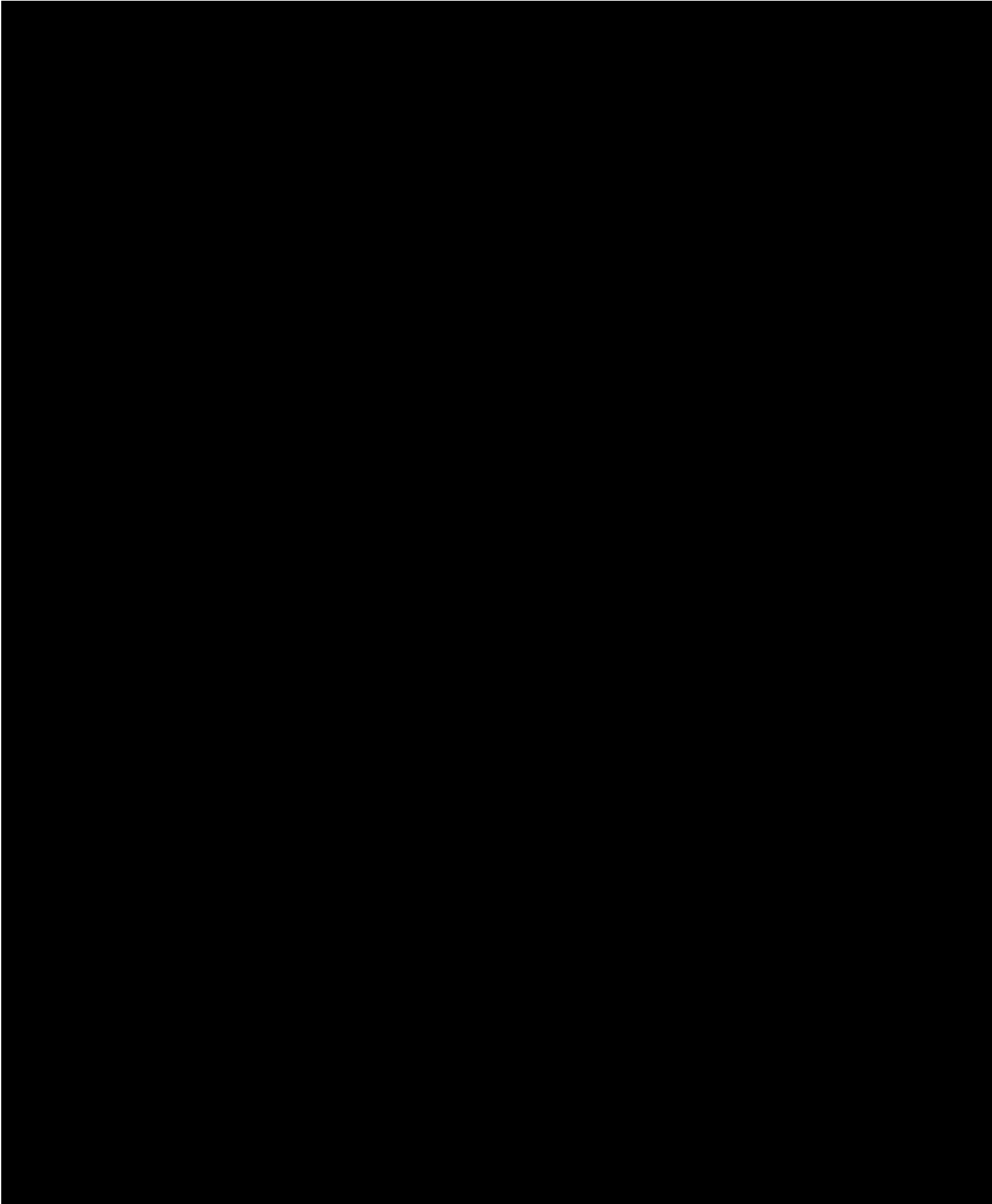


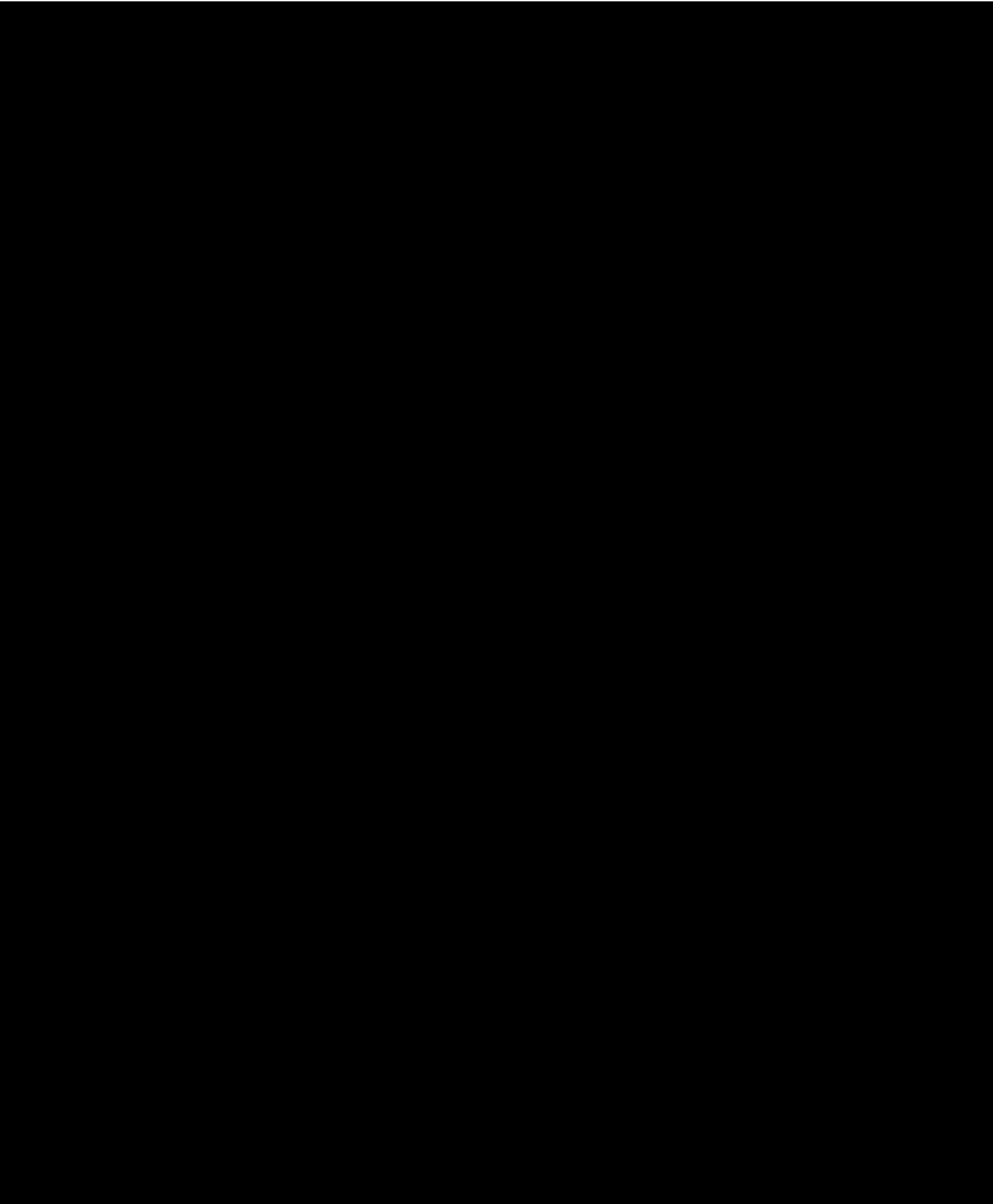


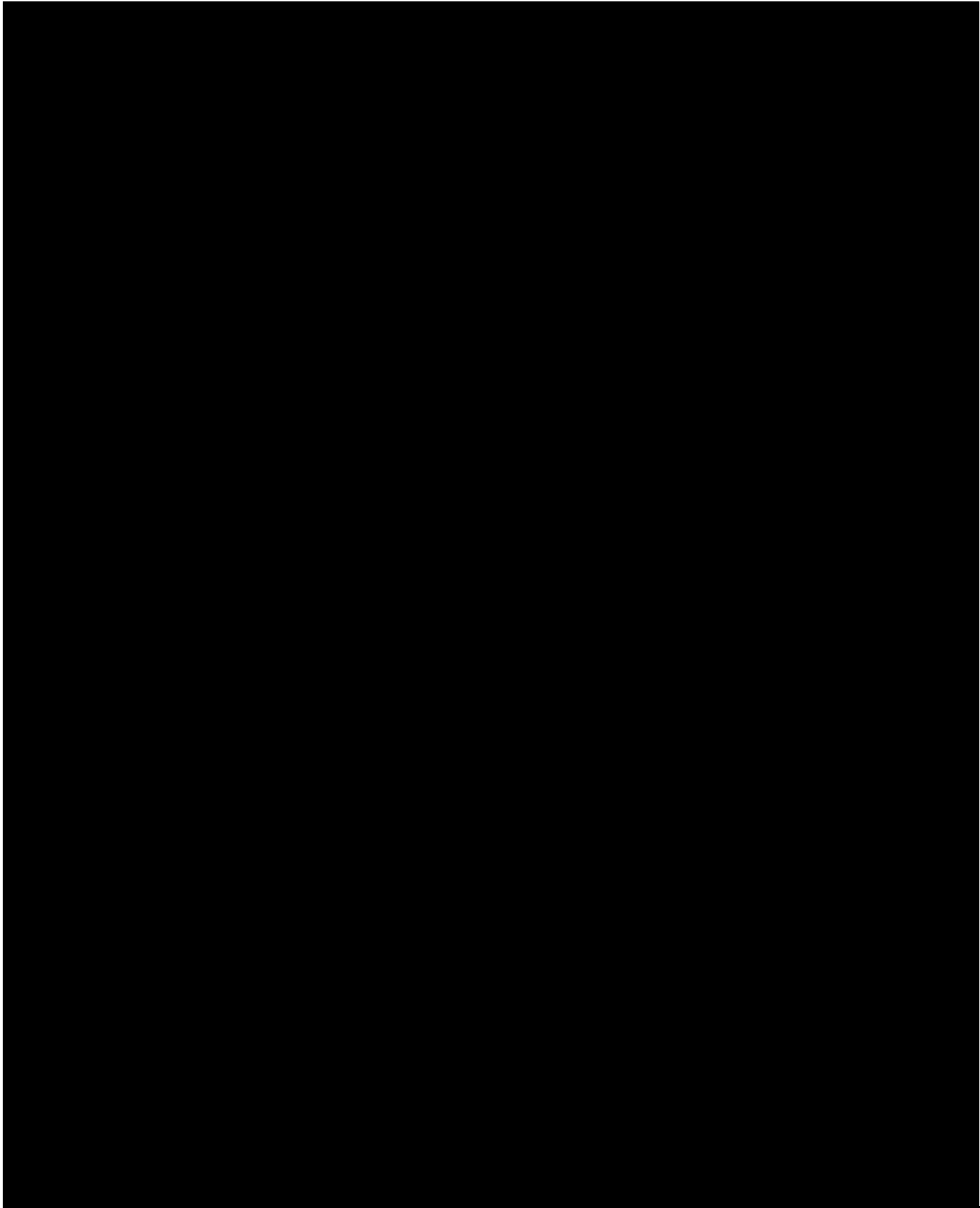


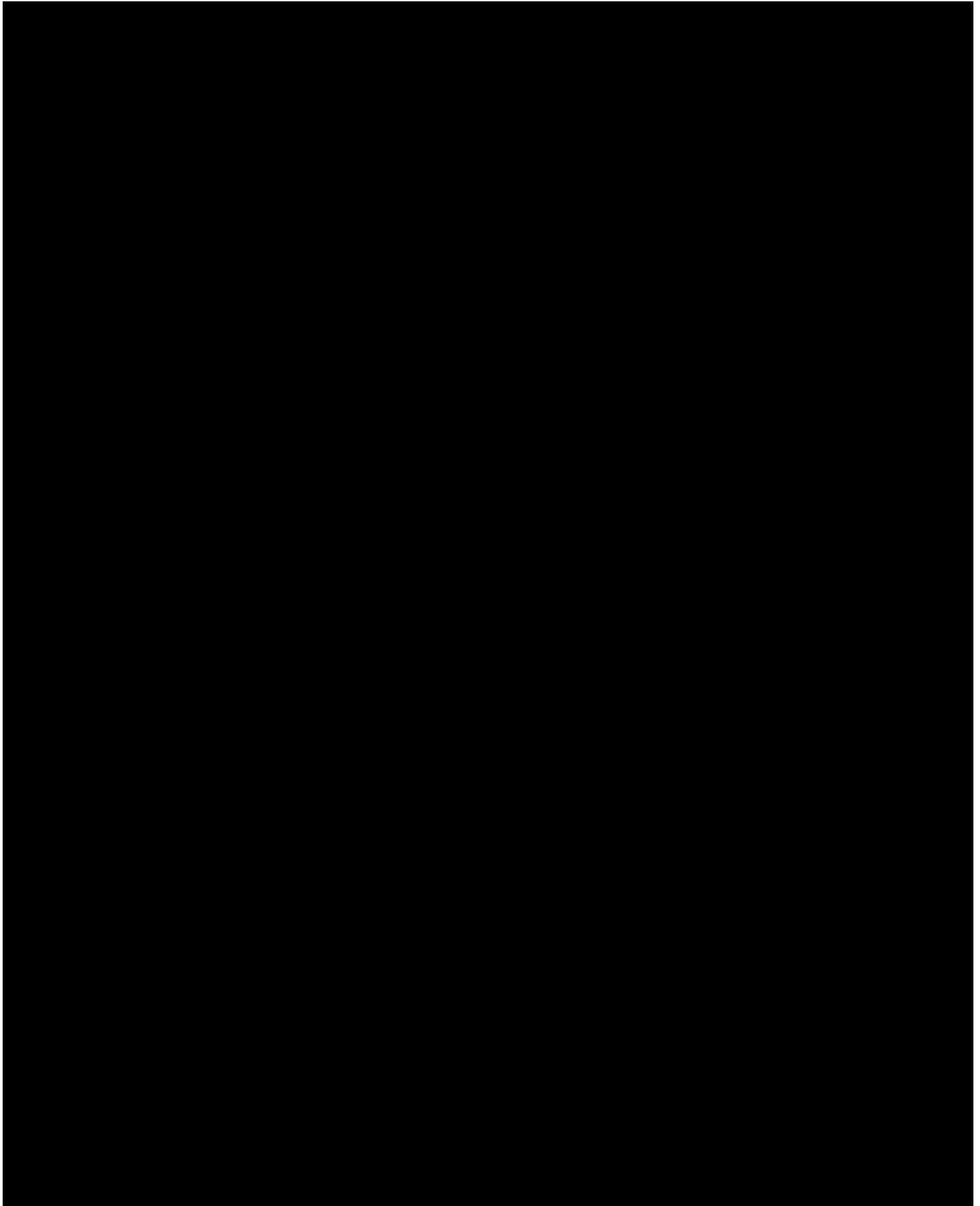


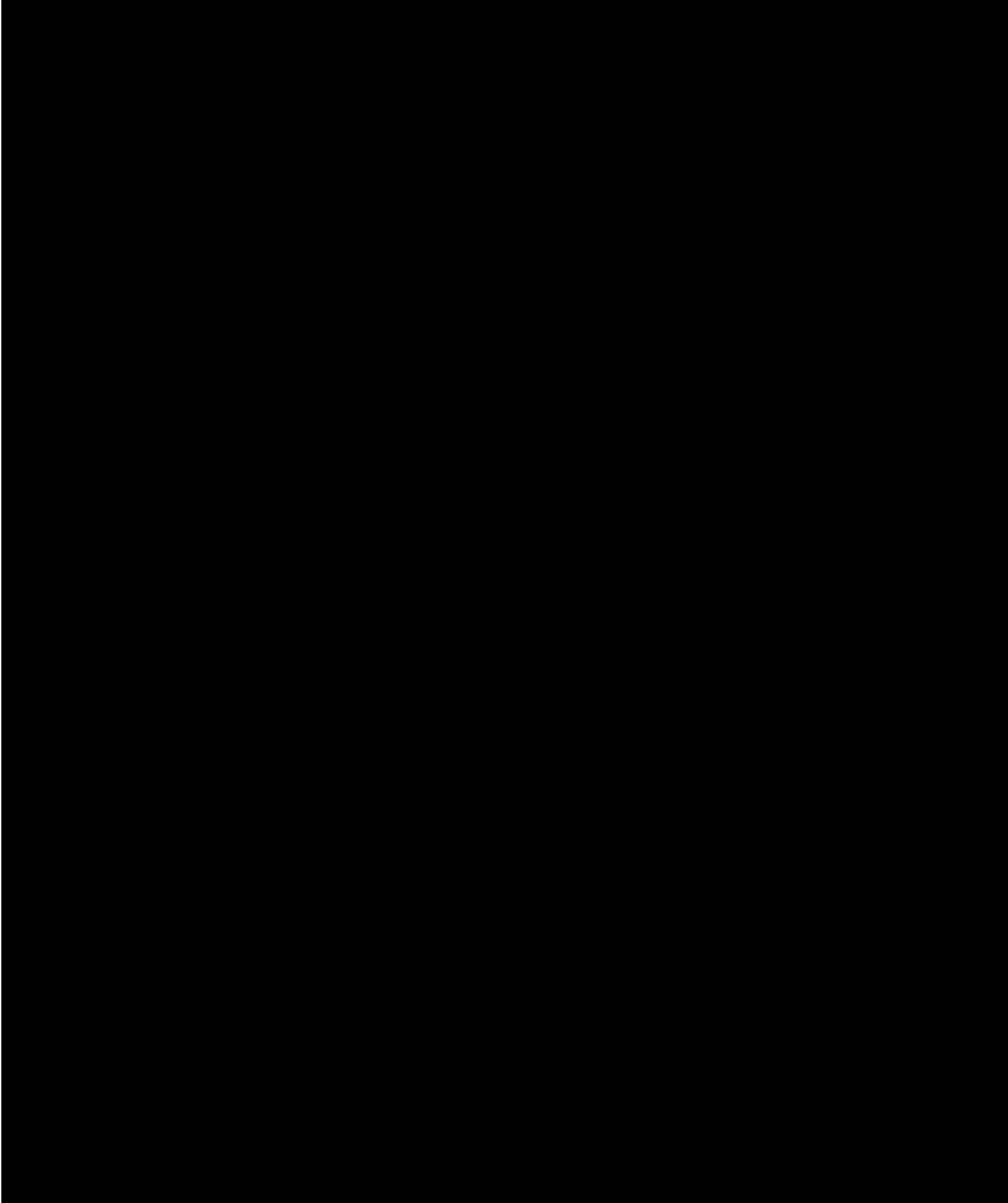












Cold Weather Oil Spill Response Standard Operating Procedures

Prepared by: West Central
Environmental Consultants, Inc.
14 Green River Road
Morris, MN 56267

July 2016

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1 Introduction

This training guide briefly details the operational protocols and standard operating procedures (SOPs) for cold weather oil spill response. WCEC's goal is to provide highly responsive services which effectively achieve project objectives while maintaining safety. This document represents the most current WCEC procedures and will be modified to reflect emerging technologies, evolving tactics, and refined procedures as appropriate. In addition to the operational specifics and tactics presented herein, WCEC personnel will operate all related equipment in a manner consistent with the manufacturer's instructions and specifications.

2 Cold Weather Considerations and Personal Protective Equipment

Personnel are required to wear proper personal protective equipment (PPE), follow job safety rules, and have the appropriate experience and certifications to carry out their job functions satisfactorily.

2.1 PPE for Cold Weather Response

These PPE recommendations are for the health and safety of site workers in a cold weather response by limiting exposure to extreme temperatures. Actual PPE will be chosen on a response-specific basis including how extreme the cold weather is along with other job site hazards. Special attention should be given to protection of the face, head, hands, wrists, and feet when determining proper PPE for a cold weather response.

2.1.1 Eye and Face

Personnel shall wear eye protection when working onsite. All eye protection must meet the requirements of ANSI Z87.1. Safety glasses shall have side shields. In extremely cold conditions, where face protection is used, eye protection must be separated from the nose and mouth to prevent exhaled moisture from fogging and frosting eye shields or glasses. Select protective eye wear that is appropriate for the work you are doing and for protection against ultraviolet light from the sun, glare from the snow, blowing snow/ice crystals, and high winds at cold temperatures. Personnel may wear contact lenses if the lenses are used in conjunction with approved eye protection equipment. Prior to removal of eye protection, measures for decontamination must be in place when deemed necessary for site activities.

2.1.2 Head Protection

A hood may be worn under the hard hat. It should be large enough to pull down over the ears. OR Use a knit mask to cover the face and mouth (if needed). In construction areas or other areas where an overhead hazard is or could be present, personnel shall also wear hard hats. Personnel shall wear hard hats that comply with ANSI Z89.1 "American National Standard – Protective Headwear for Industrial Workers." These are Class E hard hats.

2.1.3 Foot Protection

Employees shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, objects piercing the sole, or where exposed to electrical hazards. Protective footwear shall meet the requirements of ASTM F-2412-2005, "Standard Test Methods for Foot Protection and ASTM F-2413-2005, "Standard Specification for Performance Requirements for Protective Footwear" and any additional standards associated with the person's job, i.e. chemical exposure, electrical exposure. Extreme cold weather

boots not meeting the ANSI Z41 Standard are permitted in cold weather conditions for those individuals who must work outdoors for extended periods. Shoes with heels are recommended for personnel whose jobs require them to climb ladders with round rung steps. Anti-slip devices are required for outside work where snow or ice is present.

Cold weather boots should be insulated and waterproof. Felt-lined, rubber bottomed, leather-topped boots with removable felt insoles are best suited for heavy work in cold since leather is porous, allowing the boots to "breathe" and let perspiration evaporate. Leather boots can be "waterproofed" with some products that do not block the pores in the leather. However, if work involves standing in water or slush, the waterproof boots must be worn. While these protect the feet from getting wet from cold water in the work environment, they also prevent the perspiration to escape. The insulating materials and socks will become wet more quickly than when wearing leather boots and increase the risk for frostbite.

Wear the right thickness of socks for your boots. If they are too thick, the boots will be "tight," and the socks will lose much of their insulating properties when they are compressed inside the boot. The foot would also be "squeezed" which would slow the blood flow to the feet and increase the risk for cold injuries. If the socks are too thin, the boots will fit loosely and may lead to blisters.

You may prefer to wear one pair of thick, bulky socks or two pairs - one inner sock of silk, nylon, or thin wool and a slightly larger, thick outer sock. Liner socks made from polypropylene will help keep feet dry and warmer by wicking sweat away from the skin. However, as the outer sock becomes damper, its insulation properties decrease. If work conditions permit, have extra socks available so you can dry your feet and change socks during the day. If two pairs of socks are worn, the outer sock should be a larger size so that the inner sock is not compressed.

2.1.4 Hand Protection

Gloves with gauntlets should be used to prevent exposed skin areas between the jacket and gloves. Several pairs of extra gloves should be available so you can change when gloves are wet.

2.1.5 Protective Clothing

Employees shall wear protective clothing as determined by a workplace hazard assessment. For cold weather, employees should dress in layers to provide better insulation. For extreme cold weather, employees should wear at least three layers of loose fitting clothing. Do not wear tight fitting clothing.

Inner Layer - wool, silk or synthetic to keep moisture away from the body; cotton is not recommended. (Unlike wool and synthetic fibers, cotton tends to get damp/wet quickly and loses its insulating properties.)

Middle layer - wool or synthetic to provide insulation even when wet.

Outer layer - wind and rain protection layer that allows some ventilation to prevent overheating.

2.2 Cold Weather Safety Considerations and Prevention

- A Health and Safety (H&S) Plan is required for each response, which will be updated as site conditions change.
- The H&S Plan for working in cold weather will be reviewed each day even if there are no changes.
- Make sure each crew member watches each other for signs of person getting too cold.
- Hydrate – During cold weather, staying hydrated can help to keep you from getting hypothermia.
- Have designated heated areas to have breaks to get warm (ex: trailer) or take breaks inside vehicles with heaters as conditions warrant.
- Keep moving by exercising big muscles (arms, legs) to keep warm.
- Protect extremities on body – wear protective warm gloves and heavy socks in cold weather conditions.
- Warm, sweet drinks and soups should be taken to the work site to provide caloric intake and fluid volume.
- Taking certain medication or drugs such as nicotine, or caffeine because of their diuretic circulatory effects can increase susceptibility to cold.
- Workers with a cold, or flu, or certain diseases, such as diabetes, heart, vascular, and thyroid problems may be more susceptible to the winter elements.
- Becoming exhausted or immobilized, especially due to injury, can speed up the effects of cold weather.
- Supervisors will take into account weather and ambient temperatures whenever assigning tasks to minimize cold weather-induced stresses.

2.2.1 High Wind Conditions

For any outside work scheduled when the wind speed exceeds 40 mph or when the wind chill is in the 5-minute frost bite section of the Wind Chill Chart, a Safety Time Out/Task Hazard Assessment should be held to determine if the work is of such a high priority that it should be performed in such severe conditions. The best defense against cold related injuries is to prioritize and limit outside work during temperature and wind chill extremes and use the correct PPE.



Wind Chill Chart



		Temperature (°F)																		
		Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63	
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72	
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77	
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81	
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84	
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87	
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89	
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91	
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93	
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95	
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98		

Frostbite Times: 30 minutes 10 minutes 5 minutes

Wind Chill (°F) = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})
Where, T= Air Temperature (°F) V= Wind Speed (mph) Effective 11/01/01

THRESHOLD LIMIT VALUES WORK/WARM-UP SCHEDULE FOR FOUR-HOUR SHIFT *											
Air Temperature Sunny Sky		No Noticeable Wind		5 mph Wind		10 mph Wind		15 mph Wind		20 mph Wind	
°C (approx)	°F (approx)	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks
-26° to -28°	-15° to -19°	(Norm breaks) 1		(Norm breaks) 1		75 min.	2	55 min.	3	40 min.	4
-29° to -31°	-20° to -24°	(Norm breaks) 1		75 min.	2	55 min.	3	40 min.	4	30 min.	5
-32° to -34°	-25° to -29°	75 min.	2	55 min.	3	40 min.	4	30 min.	5	↓ Non-emergency work should cease ↓	
-35° to -37°	-30° to -34°	55 min.	3	40 min.	4	30 min.	5	↓ Non-emergency work should cease ↓			
-38° to -39°	-35° to -39°	40 min.	4	30 min.	5	↓ Non-emergency work should cease ↓					
-40° to -42°	-40° to -44°	30 min.	5	↓ Non-emergency work should cease ↓							
-43° to below	-45° & below	↓ Non-emergency work should cease ↓									

2.3 Effects of Cold Weather

2.3.1 Cold Stress

Cold stress can occur when the core body temperature drops below 95.0°F. Move affected employee to a heat source and seek medical attention. Symptoms include:

- Lethargy
- Confusion

2.3.2 Hypothermia

Hypothermia is the lowering of the body core temperature to the point where it is no longer functioning properly (typically 95°F or lower). Typically, it is only a concern if you have been in cold water or outdoors without proper protection for an extended period of time. Hypothermia is insidious, and left untreated, may result in collapse and death. It is important to note that most hypothermia cases are reported during cool weather.

Symptoms include:

- Shaking or shivering
- Weakness or lethargy
- Numbness
- Poor coordination, stumbling or incoherence
- Thickness of speech
- Drowsiness
- Loss of memory
- Low pulse rate

Treatment: Bring affected employee inside and wrap them in blankets to retain body heat. Do not expose them to any direct heat sources like fireplaces, radiators, or heating pads. Call 911 and transport as soon as possible to a medical facility.

2.3.3 Frostbite

Frostbite occurs when soft tissue freezes. It may range from minor injury (“frost nip”) to complete freezing of an extremity. While severe cases can result in amputation, most cause no permanent damage if the skin is warmed up carefully. Watch co-workers for signs of frostbite. Symptoms include:

- Areas of redness, usually in exposed ear lobes, cheeks, nose, fingers or toes
- Blisters
- Numbness
- gray or white Blackness
- Tingling, throbbing, and/or swelling of affected area upon re-warming

Treatment:

- Move the numb part of the body to increase blood supply.
- Go indoors immediately.
- Do not rub the affected area in effort to warm it up, as it may cause tissue damage.

- Place the affected area in warm (NOT hot) water.
- Transport as soon as possible to a medical facility.

2.4 Decontamination - Cold Weather Operations

Several decontamination areas may need to be set up depending on the activities and locations involved. Heavily contaminated equipment should be stored in containment devices and transported off site for decontamination or disposal.

If decontamination is necessary for a responder in temperatures below 35°F, the cold weather decontamination method should be followed:

- Outdoor Collection and Assessment - Remove any contaminated outer garments as soon as possible.
- Dry Decon – Remove additional harmful substances by blotting with paper towels, dirt, sand, flour or oil absorbent.
- Transport – Responder disrobes and is transported to an indoor facility for indoor decon.
- Indoor Decon – Wet decontamination is performed at a hospital, indoor shower, or indoor swimming pool.

3 Source Containment Techniques

3.1 Ice & Snow Berming and Barrier Techniques

3.1.1 Diversion Berms:

- Construct berms using manual labor or earth moving equipment by forming materials or placing sandbags in windrows or ridges parallel to the desired path of oil flow.
- If onsite materials are used, excavate from the downhill side of the berm (or on the side away from oil flow).
- Maintain sufficient buffer between berm and excavation to ensure berm integrity.
- Periodically check for berm erosion, leakage, or adequate height.
- Optional:

3.1.2 Containment Berms

- Low barriers used to contain surface oil flow on relatively flat or low slope terrain or wetlands.
- Use available materials – earth, gravel, sandbags, snow, ice or sorbents
- Construct berms using manual labor or earth moving equipment by forming materials or placing sandbags in windrows or ridges in a “U” or horseshoe shape.
- The width of the berm opening should exceed that of the leading edge of the oncoming oil.
- The berm height and size of containment area is dependent on the quantity of oil.

3.1.3 Frozen Winter Berms

- A low frozen berm created on slower moving winter ice.

- Create by spraying a mixed water/ice on the surface of the ice to inhibit the movement of oil.
- The water/ice mixture can also be sprayed on top of an ice cover to create additional insulation to form an under-ice depression to more effectively hold oil.

3.1.4 Bubble Barriers

- Used to contain oil while letting floating ice pass and where floatable booms would hinder the movement of ships
- Most successful when there is a low current
- Create by pumping compressed air through openings that occur at regular intervals in a submerged pipe.
- Periodically check pipe air holes for blockage such as from silt, organisms, etc.
- Generally immune to high temperatures of burning oil.

3.1.5 Net Barriers

- Used to divert oil flowing underneath ice to a collection area for recovery.
- Cut slot in ice large enough to accommodate the barrier.
- Barriers can be conventional boom, plywood, steel sheeting or wood planks.
- Place barrier in slot at least 6-12 inches into the water and allow to freeze.
- Make a collection area along the shoreline or bank by removing ice from a large area or excavating unfrozen ground.
- Recover oil via skimmer or vacuum device.
- Periodically check barrier to make sure it is still in place.
- If necessary, add additional containment barriers along the edge of the collection area to prevent backflow of oil under ice.

3.2 Ice Slotting

3.2.1 General Procedures:

- Test ice thickness.
- Determine location of ice slots to contain product from migrating downstream.
- Cut a slot at a 30° angle to the current.
 - Slot width should be about 1 ½ times the ice thickness and wide enough for an oil skimmer.
 - Slot should be cut with a slight J curve angle at the upstream side to provide current flow toward the shoreline recovery area.
 - Length of slot will be determined by width of river and position of slot deployment.
- Cut ice into blocks and push under ice on downstream side.
- Remove ice chips from the slot and position skimmer or vacuum device at the downstream end to recover oil on its surface. Oil is diverted along the back edges of the slot.
- Cut a second slot just downstream from first slot and extending from the opposite shore.
- If the oil has solidified, it will have to be shoveled out manually.
- Barrier (plywood) extending down into the water level may be fixed to the back edge of the slot to increase the holding capacity and prevent entrainment.

3.2.2 Equipment

Trenching machine, chain saw or other ice cutting tools, ice auger, crane for lifting out ice blocks (if required), and hand tools.

3.2.3 Tips

- Removing ice blocks:
 - Auger holes at the center of each block.
 - Cut ice with the saw on a slight angle so that the block surface area is greater on top than the bottom.
 - A ditch witch can be used to cut one side of the slot if ice thickness is sufficient. Finish construction with chain saw. A back hoe with ice cleats may also be used to construct an ice slot.
 - Use a “T-bar” with chain and tractor or hand winch with frame to remove blocks.
 - The first block may have to be chipped apart to speed the process.
 - Remove blocks from slot area. Blocks near slot reduce ice bearing capacity and compress ice surface.
- Pushing ice blocks under and downstream
 - Block sides must be on appropriate angle to overcome pinching or jamming.
 - Water depth under the ice must be adequate.
 - Use pails.
 - Barricade opening until ice has reformed to depth of existing ice.

3.3 Ice Trenching

3.3.1 General Procedures:

- Test ice to make sure it is strong enough to support responders and equipment.
- Consider other effects of trenching, such as environmental damage,
- Excavate trench at right angles to the flow of the oil.
- The trench should be angled slightly down sloped (or in the direction of the surface water flow) to avoid excessive oil pooling in the trench.
- The depth of the trench should be determined based on water table, rock layers or wetlands.
- The downstream side of the trench should be lined with an impermeable material such as plastic sheeting to reduce seepage to ground water or flow into adjacent uncontaminated soil.
- If a trench is used to direct flow from a depression to a lower depression, it should be excavated so that it provides a downward slope of at least ½ inch to a 1 inch per foot of length and should be lined with plastic sheeting.

3.3.2 Equipment

Backhoe, trenching machine, or hand tools.

3.3.3 Tips

- Periodically check for adequate flow, leakage and blockages caused by trench walls.

- Optional: Partially flood trench with water to inhibit oil permeation into sediments and stimulate flow towards recovery device.

4 Surface and Subsurface Oil Removal

4.1 Oil Skimmers

- Test ice to make sure it is strong enough to support responders and equipment.
- Determine the location, viscosity and thickness of oil to be recovered (in snow; in water with or without ice; on, in or under solid ice).
- Decide appropriate skimmer (oleophilic, weir, vacuum or mechanical) for the type of recovery.
- Set up storage location or storage tanks for recovered oil.
- Use boom to contain and concentrate oil for recovery in open water, water with up to 10% ice, or possibly in water with a larger concentration of ice (up to 70%) with active ice management.
- Containment may not be necessary if ice concentration is >70% and oil is accessible.
- If booming is not an option, determine other techniques to contain oil (such as slotting, trenching or berming) that can be combined with skimming.
- Consider specialized pumps or heated storage tanks for heavy, viscous oils.
- Obtain approval from authorized agency for decanting recovered water from storage tank, if applicable.
- A carbon filtration system should be considered, if applicable.

5 In-Situ Burning

5.1 Basics of In-Situ Burning

If oil is of sufficient thickness, in-situ burning will be considered as a primary response technique in large remote winter spills due to the time necessary to mobilize containment and recovery equipment to the spill site. Safety, air quality and the possibility of an uncontrollable fire must be considered before deciding to use in-situ burning techniques. A burn will only be initiated if the technique has been approved by the appropriate regulatory agency.

5.2 Igniters

The oil spill and other site conditions will be evaluated to determine the most appropriate igniter to use. Potential igniters include the heli-torch, hand-held igniters, laser igniters, and gelled fuel.

5.3 Fire-Resistant Containment Boom

Fire-resistant containment boom may be used in open water or water with low ice concentrations to collect and contain an oil slick to a thickness necessary for in-situ burning. Boom used in such situations will meet ASTM standards for fire-resistant boom (ASTM F2152).

APPENDIX C

EVACUATION PLAN

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C.1 EMERGENCY EVACUATION PROCEDURES

Minimizing employee and public exposure to hazardous substances is the highest priority activity at a pipeline emergency site. Often this must be done by notifying and/or evacuating employees and nearby residents (or assisting local officials with this activity) and/or by halting or diverting traffic on roads and railroads from the emergency area.

This section is a general procedure for response to a vapor cloud or other hazardous vapor release situation and is intended for use in conjunction with Fire Plans, Site Specific Plans, Site Safety & Health Plans, and other plans and procedures applicable to the work area.

In the event that a hazardous vapor situation is detected, evacuation of all people affected area may be the highest priority course of action depending on the circumstances. Large-scale evacuations may require the efforts of entire Response Team and/or assistance from local emergency responders, again depending on site conditions. Phone numbers for local emergency responders are located in Section 2.0.

C.1.A Isolation of Potential Emergency Site

For all potential emergency situations, isolation of the area affected by employees and the general public will always be an immediate priority. Since each emergency is different, the size of the area to be isolated and the method of isolation will vary on a case by case basis.

In general, fenced pipeline installations such as tank farms, delivery terminals and pump stations can be isolated by controlling traffic at the installation's main gate. For situations on the pipeline right-of-way, the response team must quickly determine the size of the area potentially affected and work closely with local responders to make every effort to control all access to the area by road, rail or footpath.

In general, a potential emergency situation will be most easily isolated through the prompt enlistment of help from local responders (police, fire, etc.) to help control an area other than a fenced pipeline facility. Section 2.0 contains listings of how to contact these personnel.

C.1.B Pipeline Facility Evacuations

It is often difficult to determine when the quantity of vapors present constitute a hazard severe enough to warrant shutdown of operations and maintenance and the evacuation of the work site or facility, even when hazardous atmosphere detectors are in use.

Employees must ultimately use their own judgment based on the available information, in addition to previous experience and training, in making this decision.

[NOTE] *In all cases these judgments should be conservative, and should always err on the side of safety and caution.*

[NOTE] *The protection of human life must always take precedence over the protection of physical property or equipment.*

C.1 EMERGENCY EVACUATION PROCEDURES (Cont'd)

C.1.C Remote System Locations; Right-of-Way Locations

- The Controller or appropriate supervisor responsible for the remote location or line section will immediately shut down the appropriate lines and isolate the location to the extent possible by closing the appropriate remotely controlled block valves.
- The Controller or appropriate supervisor will notify the QI to start the response to the event. Dependent on the situation, the QI will send the appropriate personnel to the affected location to investigate. If an event is reported from the right-of-way, the QI will contact the appropriate pipeline operator who will be responsible for closing manual line block valves.
- Personnel responding to the affected location should always make an initial assessment of the site at a safe distance from the likely source point of the release. If the source point cannot be isolated without entering a vapor cloud or other hazardous situation, the investigating personnel should stay out of the hazardous area. A call for immediate assistance should be made to the Controller and to the QI to begin notification of the appropriate members of the SMT, who are properly equipped to approach and isolate a release of this nature.
- The QI has responsibility for contacting the appropriate local officials for assistance in evacuating and isolating all persons from the affected area and controlling traffic and spectators if needed.

C.2 EVACUATIONS INVOLVING THE GENERAL PUBLIC

C.2.A Specific Procedure

- The Company's acting On-Scene Commander first assesses the incident and determines it is necessary to evacuate the public from the immediate affected area (local officials should be included in this decision making if time permits).
- Coordination of evacuation efforts is the responsibility of the On-Scene Commander, or the person assigned as the SMT's Liaison Officer.
- If the incident involves injured persons, refer to "Medical Emergencies" in Section 3.0.
- Local authorities such as the police, highway patrol and fire departments should be pressed into service assisting an evacuation, with the Company's On-Scene Commander or Liaison Officer acting as direct liaison to these officials.

C.2 EVACUATIONS INVOLVING THE GENERAL PUBLIC (Cont'd)

C.2.A Specific Procedure (Cont'd)

- All nearby occupied dwellings should then be visited and the inhabitants informed of the dangers as soon as possible. Evacuation instructions to residents must insist that all open flames including pilot lights and gas burners be extinguished if possible.
- Conduct evacuation on foot if necessary.
- Warn all evacuees against activities such as smoking, operating motor vehicles, using spark-producing appliances, etc. The Company should attempt to render whatever assistance is necessary to the evacuees.
- Keep the QI and/or Safety Officer informed of any evacuation efforts so they may pass along the latest information regarding such actions to other support personnel.
- In the interest of safety, the media and other members of the general public may need to be utilized to quickly inform people in the immediate area of an ongoing evacuation effort.
- Members of the press should be advised that electronic equipment such as camera lights and flashes can be potential sources of ignition when explosive vapors are present.

C.2.B Traffic Control

If an incident occurs near a road or railroad, local traffic may need to be halted or diverted from the immediate area. The assistance of local authorities should be solicited to enforce any necessary detours of local traffic until the hazardous situation can be stabilized. Railroads should be notified so they can halt rail traffic.

C.2.C Notification of Public Officials

The Company must be prepared to coordinate the Company's response to emergencies with public officials as appropriate. The QI or other appointee will interface with public officials on the appropriate seniority levels who are concerned about an emergency response in progress. The QI will meet directly with onsite incident commanders from other agencies in order to best coordinate response efforts. The Liaison Officer will act as Company liaison with various local emergency responders during the incident. The Environmental Situation Chief will act as liaison with federal and state-level environmental responders if necessary. The Safety Officer shall act as liaison with OSHA representatives if necessary.

APPENDIX D

RESPONSE ACTION CRITIQUE

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In the event of a discharge covered under this Plan, The Company will review the plan to evaluate and validate its effectiveness. Input on the effectiveness of the Plan will be sought from management, Facility personnel, the Spill Management Team, regulatory agencies, and others as deemed necessary. Based on the review, amendments to the Plan may be necessary.

APPENDIX E

DISPOSAL PLAN

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OVERVIEW

A major oil spill response would generate significant quantities of waste materials ranging from oily debris and sorbent materials to sanitation water and used batteries. All these wastes need to be classified and separated (i.e., oily, liquid, etc.), transported from the site, and treated and/or disposed of at approved disposal sites. Each of these activities demands that certain health and safety precautions be taken, which are strictly controlled by federal and state laws and regulations. This section provides an overview of the applicable state regulations governing waste disposal, and a discussion of various waste classification, handling, transfer, storage, and disposal techniques. It is the responsibility of the Company's Disposal Specialist to manage waste disposal needs during an oil spill cleanup.

WASTE CLASSIFICATION

Oily - Liquid Wastes

Oily liquid wastes (i.e., oily water and emulsions) that would be handled, stored, and disposed of during response operations are very similar to those handled during routine storage and transfer operations. The largest volume of oily liquid wastes would be produced by recovery operations (e.g., through the use of vacuum devices or skimmers). In addition, oily water and emulsions would be generated by vehicle operations (e.g., spent motor oils, lubricants, etc.), and equipment cleaning operations.

Non-Oily - Liquid Wastes

Response operations would also produce considerable quantities of non-oily liquid wastes. Water and other non-oily liquid wastes would be generated by the storage area and stormwater collection systems, vessel and equipment cleaning (i.e., water contaminated with cleaning agents), and office and field operations (i.e., sewage, construction activities).

Oily - Solid/Semi-Solid Wastes

Oily solid/semi-solid wastes that would be generated by containment and recovery operations include damaged or worn-out booms, disposable/soiled equipment, used sorbent materials, saturated soils, contaminated beach sediments, driftwood, and other debris.

Non-Oily - Solid/Semi-Solid Wastes

Non-oily solid/semi-solid wastes would be generated by emergency construction operations (e.g., scrap, wood, pipe, and wiring) and office and field operations (i.e., refuse).

WASTE HANDLING

A primary concern in the handling of recovered oil and oily debris is contaminating unaffected areas or recontaminating already cleaned areas. Oily wastes generated during the response operations would need to be separated by type and transferred to temporary storage areas and/or transported to disposal sites. Proper handling of oil and oily wastes is imperative to ensure personnel health and safety.

WASTE HANDLING (Cont'd)

Safety Considerations

Care should be taken to avoid or minimize direct contact with oily wastes. All personnel handling or coming into contact with oily wastes will wear protective clothing. A barrier cream can be applied prior to putting on gloves to further reduce the possibility of oily waste absorption. Safety goggles are to be worn by personnel involved in waste handling activities where splashing might occur. Any portion of the skin exposed to oily waste should be washed with soap and water as soon as possible. Decontamination zones will be set up during response operations to ensure personnel are treated for oil exposure.

Waste Transfer

During response operations, it may be necessary to transfer recovered oil and oily debris from one point to another several times before the oil and oily debris are ultimately recycled, incinerated or disposed of at an appropriate disposal site. Depending on the location of response operations, any or all of the following transfer operations may occur:

- From portable skimmers into flexible bladder tanks.
- Directly into the storage tank of a vacuum device.
- From portable skimmers to a tank truck.
- From a tank truck to a processing system (e.g., oil/water separator).
- From a processing system to a recovery system and/or incinerator.
- Directly into impermeable bags that, in turn, are placed in impermeable containers.
- From containers to trucks.

There are four general classes of transfer systems that may be employed to affect oily waste transfer operations:

- **Pumps:** Rotary pumps, such as centrifugal pumps, may be used when transferring large volumes of oil, but they may not be appropriate for pumping mixtures of oil and water. The extreme shearing action of centrifugal pumps tends to emulsify oil and water, thereby increasing the viscosity of the mixture and causing low, inefficient transfer rates.

The resultant emulsion would also be more difficult to separate into oil and water fractions. Lobe or "positive displacement" pumps work well on heavy, viscous oils, and do not emulsify the oil/water mixture. Double-acting piston and double acting diaphragm pumps are reciprocating pumps that may also be used to pump oily wastes.

- **Vacuum Systems:** A vacuum truck may be used to transfer viscous oils but they usually pick up a very high water/oil ratio.
- **Belt/Screw Conveyors:** Conveyors may be used to transfer oily wastes containing a large amount of debris. These systems can transfer weathered debris laden oil either horizontally or vertically for short distances (i.e., 10 feet) but are bulky and difficult to set up and operate.

WASTE HANDLING (Cont'd)

Waste Transfer (Cont'd)

- **Wheeled Vehicles:** Wheeled vehicles may be used to transfer liquid wastes or oily debris to storage or disposal sites. These vehicles have a limited transfer volume (i.e., 100 barrels) and require good site access.

Table E-1 provides a comparative evaluation of 16 types of transfer systems that could be available for transfer operations.

WASTE STORAGE

Interim storage of recovered oil, oily and non-oily waste should be considered to be an available means of holding the wastes until a final management method is selected. In addition, the segregation of wastes according to type would facilitate the appropriate method of disposal. The storage method used would depend upon:

- The type and volume of material to be stored.
- The duration of storage.
- Access.

During an oil spill incident, the volume of oil that can be recovered and dealt with effectively depends upon the available storage capacity. Typical short-term storage options are summarized in Table E-2. The majority of these options can be used either onshore or offshore. If storage containers such as bags or drums are used, the container must be clearly marked and/or color-coded to indicate the type of material/waste contained and/or the ultimate disposal option. Bladder or pillow tanks are acceptable, if the available space can support the weight of both the container and the product.

Use of any site for storage is dependent on the approval of the local authorities. The following elements affect the choice of a potential storage site:

- Geology.
- Ground water.
- Soil type.
- Flooding.

WASTE STORAGE (Cont'd)

- Surface water.
- Slope.
- Type of material.
- Capacity of site.
- Climatic factors.
- Land use.
- Toxic air emissions.
- Security of site.
- Access to site.
- Public accessibility.

Temporary storage sites should use the best achievable technology to protect the environment and human health. They should be set up to prevent leakage, contact, and subsequent absorption of oil by the soil. The sites should be bermed (1 to 1.5 meters high) and double lined with plastic or visqueen sheets 6-10 millimeters or greater in thickness, without joints, prior to receiving loose and bagged debris. The edges of the sheet should be weighted with stones or earth to prevent damage by wind, and the sheet should be placed on a sand layer or an underfelt thick enough to prevent piercing. A reinforced access area for vehicles at the edge of the site should be provided. In addition, the oily debris should be covered by secured visqueen or tarps and an adequate stormwater runoff collection system for the size and location of the site would be utilized.

Oily debris can be hauled to approved temporary storage sites in visqueen lined trucks or other vehicles. Burnable, non-burnable, treatable and re-usable materials can be placed in well defined separate areas at temporary storage sites.

When the last of the oily debris leaves a temporary storage site, the ground protection should be removed and disposed of with the rest of the oily debris. Any surrounding soil which has become contaminated with oil should also be removed for disposal or treatment. If the soils were removed for treatment, they may be replaced if testing proves acceptable levels have been achieved. Treatment and remediation is encouraged when feasible. The temporary storage should be returned to its original condition.

WASTE DISPOSAL

Techniques for Disposal of Recovered Oil

Recovery, reuse, and recycling are the best choices for remediation of a spill, thereby reducing the amount of oily debris to be bermed onsite or disposed of at a solid waste landfill. Treatment is the next best alternative, Landfilling is the last option. Final disposal at a solid or dangerous waste landfill is the least environmentally sound method of dealing with a waste problem such as oily debris.

WASTE DISPOSAL (Cont'd)

During an oil spill incident, the Company representative will consult with the federal and state On Scene Coordinators (OSCs) to identify the acceptable disposal methods and sites appropriately authorized to receive such wastes. The Company maintains a list of approved disposal sites that satisfy local, state, and federal regulations and company requirements. This identification of suitable waste treatment and disposal sites will be prepared by a Disposal Specialist of the Company's Response Team in the form of an Incident Disposal Plan which must then be authorized by the U.S. Coast Guard and/or the EPA. An Incident Disposal Plan should include predesignated interim storage sites, segregation strategies, methods of treatment and disposal for various types of debris, and the locations/contacts of all treatment and disposal site selections. Onsite treatment/disposal is preferred.

In order to obtain the best overall Incident Disposal Plan, a combination of methods should be used. There is no template or combination of methods that can be used in every spill situation. Each incident should be reviewed carefully to ensure an appropriate combination of disposal methods is employed.

The different types of wastes generated during response operations will require different disposal methods. To facilitate the disposal of wastes, they should be separated by type for temporary storage, transport and disposal. Table E-3 lists some of the options that are available to segregate oily wastes. The table also depicts methods that can be employed to separate free and/or emulsified water from the oily liquid waste.

The following is a brief discussion of some disposal techniques available for recovered oil and oily debris.

Recycling

This technique entails removing water from the oil and blending the oil with uncontaminated oil. Recovered oil can be shipped to refineries provided that it is exempt from hazardous waste regulations. There it can be treated to remove water and debris, and then blended and sold as a commercial product.

The Company's Disposal Specialist is responsible for ensuring that all waste materials are disposed of at a Company internally approved disposal site.

Landfill Disposal

This technique entails burying the recovered oil in an approved landfill in accordance with regulatory procedures. Landfill disposal of free liquids is prohibited by federal law in the United States.

With local health department approval, non-burnable debris which consists of oiled plastics, gravel and oiled vegetation, and other organic material may be transported to a licensed, lined, approved municipal or private landfill and disposed of in accordance with the landfill guidelines and regulations. Landfill designation should be planned only for those wastes that have been found to be unacceptable by each of the other disposal options (e.g., waste reduction, recycling, energy recovery). Wastes are to be disposed of only at Company-approved disposal facilities. The Company's Disposal Specialist is responsible for ensuring that all waste materials are disposed of at a Company internally approved disposal site. Disposal at a non-approved facility would require approval by the Company's Disposal Specialist prior to sending any waste to such a facility.

**TABLE E-1
COMPARATIVE EVALUATION OF OIL SPILL TRANSFER SYSTEMS**

CHARACTERISTICS OF TRANSFER SYSTEMS	CENTRIFUGAL PUMP	LOBE PUMP	GEAR PUMP	INTERMESHING SCREW	VALVE PUMP	FLEXIBLE IMPELLER	SCREW/AUGER PUMP	PROGRESSING CAVITY	PISTON PUMP	DIAPHRAGM PUMP	AIR CONVEYOR	VACUUM TRUCK	PORTABLE VACUUM PUMP	CONVEYOR BELT	SCREW CONVEYOR	WHEELED VEHICLES
High Viscosity Fluids	1	5	5	5	3	2	5	5	5	3	5	4	4	5	4	5
Low Viscosity Fluids	5	2	2	2	3	4	1	3	3	4	5	5	5	1	1	5
Transfer Rate	5	2	1	1	3	4	1	2	2	3	4	5	3	2	2	2
Debris Tolerance																
◦ Silt/Sand	5	3	1	1	1	4	5	5	3	4	5	5	5	5	5	5
◦ Gravel/Particulate	5	2	1	1	1	2	5	3	2	3	5	5	4	5	4	5
◦ Vegetation	2	3	4	3	2	2	4	4	3	3	4	4	3	5	4	5
Tendency to Emulsify Fluids	1	4	3	3	3	3	5	5	2	5	5	5	5	5	5	5
Ability to Run Dry	5	3	2	1	2	3	4	3	3	2	5	5	5	4	3	
Ability to Operate Continuously	5	3	2	2	2	3	3	3	4	4	3	3	3	3	2	4
Self Priming	1	3	2	2	2	5	1	5	4	4	5	5	5	5	5	
Suction/Head	2	3	2	2	3	4	1	5	5	2	5	4	3			
Back Pressure/Head	1	5	5	5	4	3	4	5	2	4	1	1	1	3	3	
Portability	5	3	3	2	4	4	3	2					2	1	1	
Ease of Repair	5	3	2	2	3	4	3	2	3	5	1	1	2	3	2	3
Cost	5	B	2	2	3	3	1	2	3	5	1	1	2	2	2	3
Comments	E,J	B	B	B,J		F	A	B	B,D	A,C,D	F,G,I	F,G,I	F,G			G,H,I

KEY TO RATINGS:

5 = Best; 1 = Worst

KEY TO COMMENTS:

- A. Normally require remote power sources, thus are safe around flammable fluids.
- B. Should have a relief valve in the outlet line to prevent bursting hoses.
- C. Air powered units tend to freeze up in sub-freezing temperatures.
- D. Units with work ball valves are difficult to prime.
- E. Some remotely powered types are designed to fit in a tanker's butterworth hatch.
- F. Can also pump air at low pressure.
- G. Transfer is batch-wise rather than continuous.
- H. Waste must be in separate container for efficient transfer.
- I. Transportable with its own prime mover.
- J. High shear action tends to emulsify oil and water mixtures.

Table E-2

TEMPORARY STORAGE METHODS

CONTAINER	ONSHORE	OFFSHORE	SOLIDS	LIQUIDS	NOTES
Barrels	x	x	x	x	May require handling devices. Covered and clearly marked.
Tank Trucks	x	x		x	Consider road access.
Dump/Flat Bed Trucks	x		x		May require impermeable liner and cover. Consider flammability of vapors at mufflers.
Oil Storage Tanks	x	x		x	Consider problems of large volumes of water in oil.
Bladders	x	x		x	May require special hoses or pumps for oil transfer.

Table E-3
OILY WASTE SEPARATION AND DISPOSAL METHODS

TYPE OF MATERIAL	SEPARATION METHODS	DISPOSAL METHODS
LIQUIDS		
Non-emulsified oils	Gravity separation of free water	Incineration Use of recovered oil as refinery/ production facility feedstock
Emulsified oils	Emulsion broken to release water by: <ul style="list-style-type: none"> ● heat treatment ● emulsion breaking ● chemicals ● mixing with sand ● centrifuge ● filter/belt press 	Use of recovered oil as refinery/ production facility feedstock
SOLIDS		
Oil mixed with sand	Collection of liquid oil leaching from sand during temporary storage Extraction of oil from sand by washing with water or solvent Removal of solid oils by sieving	Incineration Use of recovered oil as refinery/ production facility feedstock Direct disposal Stabilization with inorganic material Degradation through land farming or composting
Oil mixed with cobbles or pebbles	Screening Collection of liquid oil leaching from materials during temporary storage Extraction of oil from materials by washing with water or solvent	Incineration Direct Disposal Use of recovered oil as refinery/ production facility feedstock
Oil mixed with wood, vegetation and sorbents	Screening Collection of liquid oil leaching from debris during temporary storage Flushing of oil from debris with water	Incineration Direct disposal Degradation through land farming or composting for oil mixed with vegetation or natural sorbents
Tar balls	Separation from sand by sieving	Incineration Direct disposal

APPENDIX F

WORST CASE DISCHARGE ANALYSIS AND SCENARIOS

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Response Zone 2	F-7
Response Zone 3	F-10

INTRODUCTION

This appendix identifies potential causes for oil discharges and discusses the response efforts that are necessary for successful mitigation. Included in this appendix are hypothetical scenarios for various types of spills that have the potential to occur along the system. It is anticipated that the Company will respond to spills in a consistent manner regardless of the location. Therefore, the guidelines discussed in this appendix will apply to all spills whenever possible.

DOT-PHMSA requires that pipeline operators calculate a worst-case discharge amount for each response zone. The calculations and descriptions are as follows:

DOT-PHMSA Discharge Volume Calculation

Worst Case Discharge

The largest volume (Bbls) of the following:

Pipeline's maximum release time (hrs), plus the maximum shutdown response time (hrs), multiplied by the maximum flow rate (bph), plus the largest line drainage volume after shutdown of the line section.

-- OR --

Largest foreseeable discharge for the line section is based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective action or preventive action taken.

-- OR --

Capacity of the single largest breakout tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system.

Under PHMSA's current policy, operators are allowed to reduce the worst-case discharge volume derived from 49 CFR 194.105(b)(3) by no more than 75% if an operator is taking certain spill prevention measures for their breakout tanks and presents supporting information in the response plan. An operator can reduce the worst-case discharge volume based on breakout tanks in the response zones as follows:

SPILL PREVENTION MEASURES	PERCENT REDUCTION ALLOWED
Secondary containment capacity greater than 100% capacity of tank and designed according to NFPA 30	50%
Tank built, rebuilt, and repaired according to API Std 620/650/653	10%
Automatic high-level alarms/shutdowns designed according to NFPA/API RP 2350	5%
Testing/cathodic protection designed according to API Std 650/651/653	5%
Tertiary containment/drainage/treatment per NFPA 30	5%*
Maximum allowable credit or reduction	75%

*Note: The facilities do not have tertiary containment.

The worst-case discharge for each response zone was based on the largest volume of the three criteria given above.

The Company has determined the worst-case discharge volume to be a catastrophic tank failure in each response zone utilizing 30 percent of the volume of the largest tank in each zone.

Scenario Types

The occurrence of a Worst-Case Discharge (WCD) could be the result of any number of scenarios along the pipeline system including:

- Tank overfill and/or failure.
- Piping rupture.
- Piping leak, under pressure and not under pressure.
- Explosion or fire.
- Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers).

The response actions to each of these scenarios are outlined in Section 3.1 and Figure 3.1. The response resources are identified in a quick reference format in Figure 5.1 with additional detail on equipment and manpower provided in Appendix C. Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in Figures 2.2 and 2.5.

The two WCD locations with equal volumes are at [REDACTED]
[REDACTED]

The maximum release time (R) is based on the capabilities of the SCADA/Automation System.

The maximum shutdown time (S) is an estimate based on the capabilities of the SCADA/Automation System.

The maximum pumping rate (P) of the pipeline.

The largest line drainage volume (D) for the U.S. system is based on a break at the station locations listed above. The calculation considers the location of block valves and assumes that the sections of pipe that are located in topographical depressions (except for the break location) will remain full of oil.

$$[(R+S) \times P] + D = \text{WCD Pipeline Release Volume}$$

[REDACTED] = [REDACTED] bbls

Zone 1 Pipeline Release Volume = [REDACTED] bbls, therefore:

The DOT/PHMSA WCD volume for this plan is: [REDACTED]
[REDACTED]
[REDACTED] bbls

RESPONSE CAPABILITY SCENARIOS (Cont'd)**Response Zone 1 – Southern Area - Worst Case Discharge = _____ bbls*****Response Requirement***

The Company has identified sufficient response resources, by contract or other approved means, to respond to a worst-case discharge to the maximum extent practicable. These response resources include:

Resources capable of arriving at the Facility within the applicable response tier requirements for non-high-volume areas (Tier 1 = 12 hours; Tier 2 = 36 hours; Tier 3 = 60 hours).

Resources capable of oil recovery in inclement weather conditions (i.e. heavy rain, snow, ice).

Notes:

Contracted and Company owned equipment and manpower resources are detailed in Appendix C.

Telephone references are provided in Figures 2.2 and 2.5.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Response Zone 2 – Central System - Worst Case Discharge = _____ bbls

Response Zone 2**Description**

The types of materials that could be discharged are Diesel or Gasoline.

The line sections with the highest throughput and largest drainage volume between block valves on pump stations were chosen to calculate the pipeline worst case discharge. Although the entire discharge volume of each line was used for the worst-case discharge, in an actual spill event, it would take days to drain the line completely. The line would be sealed early in the response effort. All the breakout tanks in the pipeline system are within adequate secondary containment, therefore, the discharge volumes for the largest tank was determined by adjusting the total tank volume downward by 70% per the company guidelines.

Considering the volume of release from a line break compared to that of historic discharge in the zone and to the volumes released from a tank failure, the tank failure was found to represent the worst-case scenario.

The maximum historic discharge is not applicable for WCD covered by this plan. Given below are the tank and pipeline WCD calculations for this plan.

Tank Volume Calculation

LOCATION	VOLUME (BBLS)
████████████████████	██████

The worst-case tank volume is calculated as follows:

Largest tank x Credit for containment tank standards = Tank standards credit

The Company has implemented all the spill prevention measures, listed on the previous page, except tertiary containment. Therefore, the percent reduction allowed for credit equals 70% and the worst-case discharge volume is 30% of the total volume.

████████████████████

Line Segment Volume

A LVR (Liquid Volume Release) analysis has been completed for each 100-foot section of the pipeline, taking into account the pipeline's maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour (bph), plus the largest line drainage volume after shutdown of the line section. The drain down volume is determined based on the pipeline elevation. For the 8" mainline between Norfolk and Yankton, the following calculations were used:

Pipeline Maximum release Time ¹	0.25 hrs
Maximum Shutdown time ²	0.25 hrs
Maximum flow rate ³	██████ bph
Largest line drainage volume ⁴	██████ bbls

The WCD locations with equal WCD volumes are at [REDACTED]
[REDACTED]

The maximum release time (R) is based on the capabilities of the SCADA/Automation System.

The maximum shutdown time (S) is an estimate based on the capabilities of the SCADA/Automation System.

The maximum pumping rate (P) of the pipeline.

The largest line drainage volume (D) for the U.S. system is based on a break at each station location above. The calculation considers the location of block valves and assumes that the sections of pipe that are located in topographical depressions (except for the break location) will remain full of oil.

$$[(R+S) \times P] + D = \text{WCD Pipeline Release Volume}$$

[REDACTED]

Zone 2 Pipeline Release Volume = [REDACTED] therefore:

The DOT/PHMSA WCD volume for this plan is: [REDACTED]
[REDACTED]
[REDACTED]

RESPONSE CAPABILITY SCENARIOS (Cont'd)**Response Zone 2 – Central System - Worst Case Discharge = _____*****Response Requirement***

The Company has identified sufficient response resources, by contract or other approved means, to respond to a worst-case discharge to the maximum extent practicable. These response resources include:

Resources capable of arriving at the Facility within the applicable response tier requirements for non-high-volume areas (Tier 1 = 12 hours; Tier 2 = 36 hours; Tier 3 = 60 hours).

Resources capable of oil recovery in inclement weather conditions (i.e. heavy rain, snow, ice).

Notes:

Contracted and Company owned equipment and manpower resources are detailed in Appendix C.

Telephone references are provided in Figures 2.2 and 2.5.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Response Zone 3 – North System - Worst Case Discharge = [REDACTED]

Response Zone 3

Description

The types of materials that could be discharged are Diesel or Gasoline.

The line sections with the highest throughput and largest drainage volume between block valves on pump stations were chosen to calculate the pipeline worst case discharge. Although the entire discharge volume of each line was used for the worst-case discharge, in an actual spill event, it would take days to drain the line completely. The line would be sealed early in the response effort. All the breakout tanks in the pipeline system are within adequate secondary containment, therefore, the discharge volumes for the largest tank was determined by adjusting the total tank volume downward by 70% per the company guidelines.

Considering the volume of release from a line break compared to that of historic discharge in the zone and to the volumes released from a tank failure, the tank failure was found to represent the worst-case scenario.

The maximum historic discharge is not applicable for WCD covered by this plan. Given below are the tank and pipeline WCD calculations for this plan.

Tank Volume Calculation

LOCATION	VOLUME (BBLs)
[REDACTED]	[REDACTED]

The worst-case tank volume is calculated as follows:

Largest tank x Credit for containment tank standards = Tank standards credit

The Company has implemented all of the spill prevention measures, listed on the previous page, except tertiary containment. Therefore, the percent reduction allowed for credit equals 70% and the worst-case discharge volume is 30% of the total volume.

[REDACTED]

Line Segment Volume

A LVR (Liquid Volume Release) analysis has been completed for each 100-foot section of the pipeline, taking into account the pipeline's maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour (bph), plus the largest line drainage volume after shutdown of the line section. The drain down volume is determined based on the pipeline elevation. For the Jamestown East to Moorhead 10", the following calculations were used:

Pipeline Maximum release Time ¹	0.25 hrs
Maximum Shutdown time ²	0.25 hrs
Maximum flow rate ³	[REDACTED] bph
Largest line drainage volume ⁴	[REDACTED] bbls

The WCD locations with equal WCD volumes is at [REDACTED]
[REDACTED]

Maximum release time (R) is based on the capabilities of the SCADA/Automation System.

The maximum shutdown time (S) is an estimate based on the capabilities of the SCADA/Automation System.

The maximum pumping rate (P) of the pipeline.

The largest line drainage volume (D) for the U.S. system is based on a break at Station 155,340.8. The calculation considers the location of block valves and assumes that the sections of pipe that are located in topographical depressions (except for the break location) will remain full of oil.

$$[(R+S) \times P] + D = \text{WCD Pipeline Release Volume}$$

Zone 3 Pipeline Release Volume = [REDACTED] therefore:

The DOT/PHMSA WCD volume for this plan is: [REDACTED]
[REDACTED]
[REDACTED]

RESPONSE CAPABILITY SCENARIOS (Cont'd)**Response Zone 3 – North System - Worst Case Discharge = _____*****Response Requirement***

The Company has identified sufficient response resources, by contract or other approved means, to respond to a worst-case discharge to the maximum extent practicable. These response resources include:

Resources capable of arriving at the Facility within the applicable response tier requirements for non-high-volume areas (Tier 1 = 12 hours; Tier 2 = 36 hours; Tier 3 = 60 hours).

Resources capable of oil recovery in inclement weather conditions (i.e. heavy rain, snow, ice).

Notes:

Contracted and Company owned equipment and manpower resources are detailed in Appendix C.

Telephone references are provided in Figures 2.2 and 2.5.

APPENDIX G

EMERGENCY PREPLANNING

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EMERGENCY PREPLANNING

G.1 PIPELINE LEAK DETECTION SYSTEMS

Leak detection is accomplished by personnel surveillance. All pipelines are inspected periodically during field surveillance. Any leak will be repaired immediately.

G.1.A Automated Detection

The pipelines are equipped with pressure and flow monitors, which exercise local control and transmit data to Pipeline Control. These systems are set to alarm or shut down on preset deviations of pressure flow. In case of an alarm, Pipeline Control personnel will take the appropriate actions in accordance with operating procedures. A summary of the operating procedures is provided below.

Trained personnel in Pipeline Control will monitor the SCADA system for the following parameters:

- Flow rates
- Pressure
- Valve positions

G.1.A.1 SCADA System 10-Second Data Access

Pipeline Control monitor and control pipeline operations with the SCADA system in the Pipeline Control Center. The ultimate decision on leak detection lies with the Pipeline Control Center.

AVAILABILITY - ALL LINES

G.1.A.2 Communication Flexibility/Redundancy

The Company's SCADA system acquires data via a satellite network. Satellite communications allow large volumes of data to be transmitted both to and from all field locations very rapidly. Network configuration and transmission protocols provide the flexibility to establish guaranteed delivery transmissions as required. Communication system redundancy provides accurate and reliable data to pipeline operators.

AVAILABILITY - ALL LINES

G.1.A.3 Parameter Alarms

A parameter alarm is a data value limit (high or low) which can be set by the Pipeline Control operator to alert upset conditions regardless of whether the Operator is actively monitoring the data point in question. Operators are required to establish parameter alarm settings on mainline pressures and flow rates for all operating line segments. In combination with ten-second data acquisition rates, parameter alarms provide near instantaneous notification of potential upset conditions on all operation mainlines.

AVAILABILITY - ALL LINES

G.1A.4 Trending

The SCADA system includes a trending facility which graphically displays pressures, temperature, and flow rate data for each mainline pump and oil receiving location on the system. This system can provide valuable insight into operations history and can help the operator proactively address potential upset conditions.

AVAILABILITY - ALL LINES

G.1A.5 Tank Gauging with Parameter Alarms

Tank gauge data is available to Pipeline Control for use by pipeline operators. Company systems are gauged automatically by the SCADA computer and the data is made available to the operator on demand. Parameter alarms (see above) are also available for tank levels, to ensure no potential tank discharge.

AVAILABILITY - ALL LINES

G.1A.6 Training

All operators are compliant with DOT 195 Operator Qualification Requirements.

AVAILABILITY - ALL LINES

G.2 PIPELINE LEAK INSPECTION SYSTEMS

Visual observations during normal daily routine are made of the exposed portions of pipelines to locate signs of corrosion leaks, coating loss or excessive wear. In cases of small leaks, pipeline clamps are used for temporary repair until a more permanent repair can be made. Records on all pipeline failures are kept maintained and are available to DOT/PHMSA upon request.

Based on sound engineering judgment the pipeline is replaced or repaired as necessary.

G.2.A Visual Inspection

The pipeline and adjacent areas are visually inspected for leaking oil by either aerial observation or ground patrol with special attention given to locations where the pipeline crosses highways, railroad tracks, and bodies of water. These inspections are conducted periodically.

G.2.B Cathodic Protection

All pipelines are coated and have cathodic protection. These pipelines are subject to periodic cathodic protection inspections.

G.2.C External Corrosion Control

Whenever buried portions of the pipeline are exposed for any reason, the pipe will be examined for evidence of external corrosion, coating deterioration, and cathodic

protection effectiveness. If corrosion is found, a detailed evaluation will be performed to determine the extent of corrosion.

Exposed portions of the pipeline are painted and/or coated for corrosion protection.

G.2.D Valve Maintenance

All valves are inspected annually to ensure proper working condition.

APPENDIX H

NATIONAL RESPONSE SYSTEM

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NATIONAL RESPONSE SYSTEM

National Response Plan

The National Response Plan (NRP) is an all-discipline, all-hazards plan that establishes a single, comprehensive framework for the management of domestic incidents. It provides the structure and mechanisms for the coordination of Federal support to State, local and tribal incident managers and for exercising direct Federal authorities and responsibilities.

Emphasis on Local Response

All incidents are handled at the lowest possible organizational and jurisdictional level. Police, fire, public health and medical, emergency management, and other personnel are responsible for incident management at the local level. For those events that rise to the level of an Incident of National Significance, the Department of Homeland Security provides operational and/or resource coordination for Federal support to on-scene incident command structures.

Proactive Federal Response to Catastrophic Events

The National Response Plan provides mechanisms for expedited and proactive Federal support to ensure critical life-saving assistance and incident containment capabilities are in place to respond quickly and efficiently to catastrophic incidents. These are high-impact, low-probability incidents, including natural disasters and terrorist attacks that result in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions.

Multi-Agency Coordination Structures

The National Response Plan establishes multi-agency coordinating structures at the field, regional and headquarters levels. These structures:

- Enable the execution of the responsibilities of the President through the appropriate Federal department and agencies;
- Integrate Federal, State, local, tribal, nongovernmental Organization, and private-sector efforts; and
- Provide a national capability that addresses both site-specific incident management activities and broader regional or national issues, such as impacts to the rest of the country, immediate regional or national actions required to avert or prepare for potential subsequent events, and the management of multiple incidents.

New Coordinating Mechanisms Include

Homeland Security Operations Center (HSOC)

The HSOC serves as the primary national-level multi-agency situational awareness and operational coordination center. The HSOC includes elements of the Department of Homeland Security and other Federal departments and agencies.

NATIONAL RESPONSE SYSTEM (Cont'd)

Homeland Security Operations Center (HSOC) (Cont'd)

- *National Response Coordination Center (NRCC)*
- The NRCC, a functional component of the HSOC, is a multi-agency center that provides overall Federal response coordination.
- *Regional Response Coordination Center (RRCC)*
- At the regional level, the RRCC coordinates regional response efforts and implements local Federal program support until a Joint Field Office is established.

Interagency Incident Management Group (IIMG)

A tailored group of senior level Federal interagency representatives who provide strategic advice to the Secretary of Homeland Security during an actual or potential Incident of National Significance.

Joint Field Office (JFO)

A temporary Federal facility established locally to provide a central point for Federal, State, local, and tribal representatives with responsibility for incident support and coordination.

Principal Federal Official (PFO)

A PFO may be designated by the Secretary of Homeland Security during a potential or actual Incident of National Significance. While individual Federal officials retain their authorities pertaining to specific aspects of incident management, the PFO works in conjunction with these officials to coordinate overall Federal incident management efforts.

National Contingency Plan

In 1968, the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) was established to coordinate Federal activities for preventing oil spills and mitigating environmental damages when spills occur. During June 1970, this plan was incorporated as part of the Code of Federal Regulations and applied to all navigable waters and adjoining shorelines of the United States. The plan was recently modified (September 1994) to implement changes made to the Clean Water Act by the Oil Pollution Act of 1990. The NRP requires modification to the NCP to ensure proper alignment with NRP coordinating structures, processes and protocols.*

To ensure adequate preplanning and provisions for responding to oil spills, the National Contingency Plan established the National Response Center, the National Response Team, the Regional Response Center, Regional Response Teams and the On-Scene Coordinator (Figure H1.1).

National Response Team (NRT)

National planning and coordination for oil spill response is the responsibility of the National Response Team (NRT). The NRT is responsible for evaluating methods for responding to oil spills and hazardous substances spills, and recommending changes to the National Contingency Plan. The NRT also develops procedures to coordinate activities for federal, state and local governments, and private response organizations.

NATIONAL RESPONSE SYSTEM (Cont'd)

National Response Team (NRT) (Cont'd)

The NRT consists of representatives from each of the agencies shown in Figure H1.2. Normally, the NRT is chaired by the EPA representative while the USCG representative serves as the vice-chairman. If it is activated for spills within the coastal zone of the United States, the USCG representative will hold the chair.

The NRT can be activated when an oil spill exceeds the capability of the Regional Response Team in which it occurs, crosses national boundaries, or presents a significant threat to a population, national policy, property, or national resources; or when requested by any NRT member.

Once activated, the NRT may:

1. Monitor the spill, evaluate reports from the On-Scene Coordinator (OSC), and recommend appropriate actions for abating the spill.
2. Request oil spill response resources from federal, state, and local governments or private agencies.
3. Coordinate the supply of equipment, personnel, or technical advice to the affected region from other regions or districts.

* Since the NCP is a regulation subject to notice and comment requirements, modifications will require future rulemaking not available at this time.

FIGURE H-1.1

NATIONAL RESPONSE PLAN COORDINATION

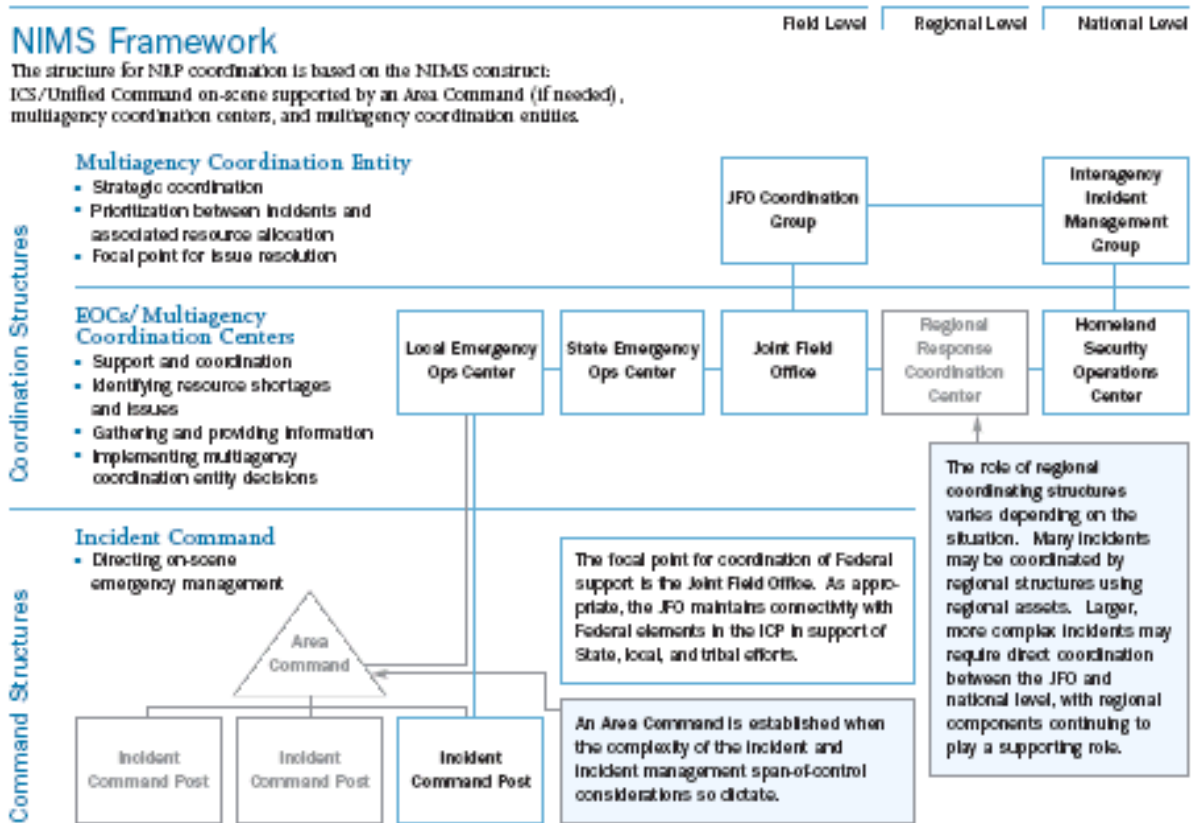
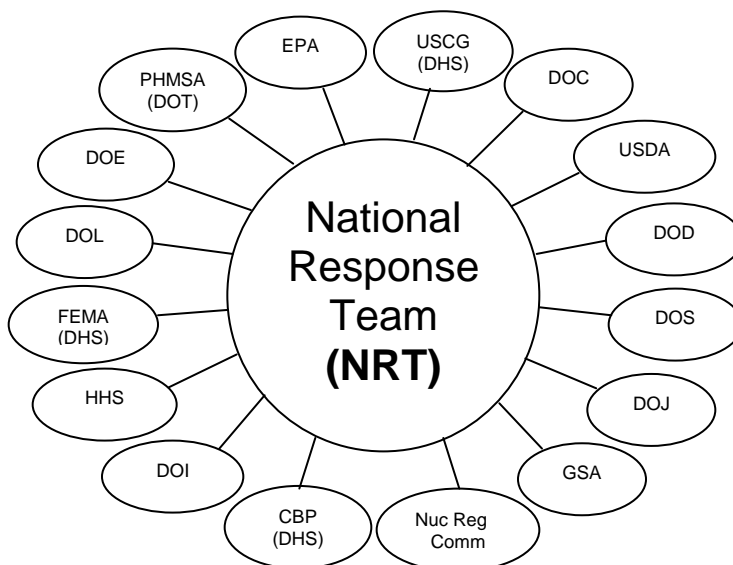


FIGURE H-1.2

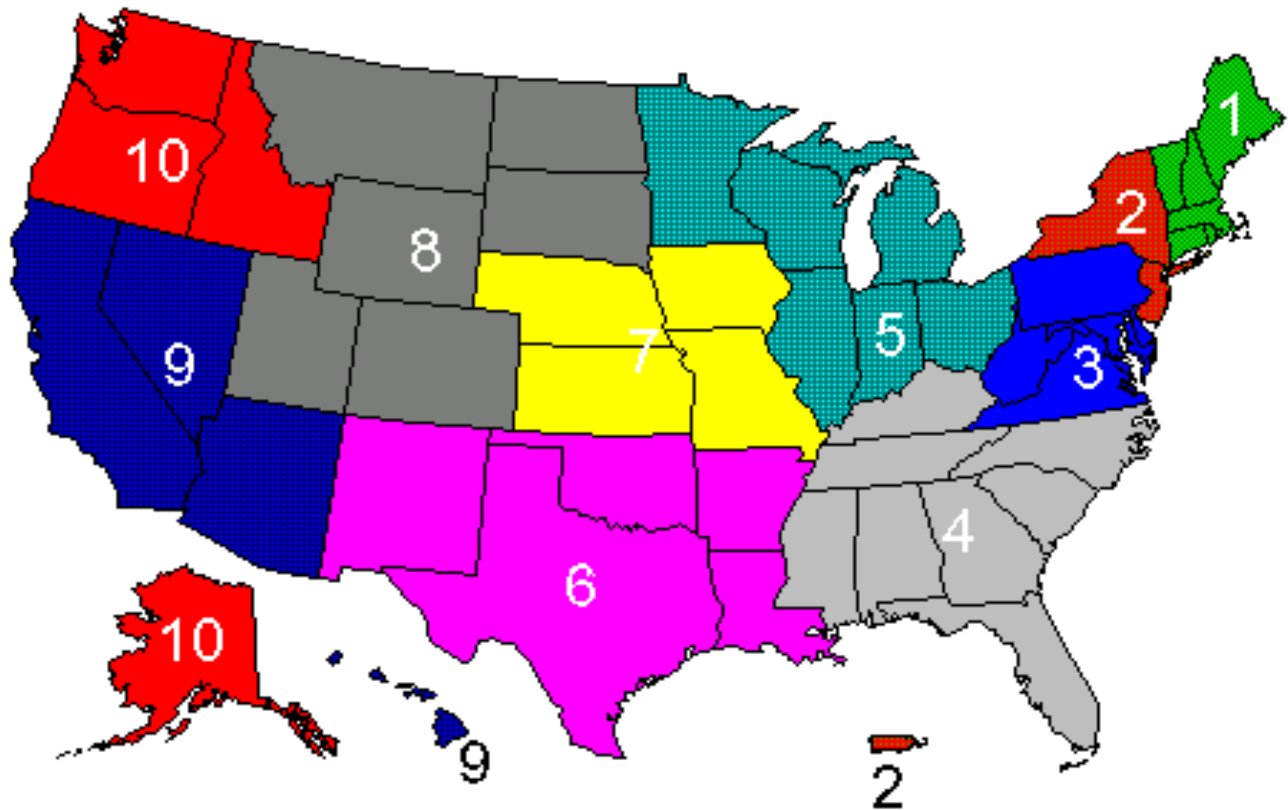
FEDERAL REPRESENTATION ON NATIONAL RESPONSE TEAM



CBP (DHS)	Customs and Border Protection Assists with the safe and swift movement of equipment and personnel across the U.S. border	EPA	Environmental Protection Agency Information on environmental impact of spills & provide scientific support coordination
DHS	Department of Homeland Security Lead, manage and coordinate the national response to acts of terrorism, natural disasters or other emergencies	FEMA	Federal Emergency Management Agency Coordinate civil emergency planning & mitigation efforts
DOC	Department of Commerce Scientific expertise from NOAA for marine mammals & oil spill response	GSA	General Services Administration Provides logistical and telecommunications support to federal agencies
DOD	Department of Defense Oil spill response equipment, ship salvage, and boarding & diving	HHS	Department of Health and Human Services Assists with the assessment, preservation, and protection of human health and helps ensure the availability of essential human services
DOE	Department of Energy Removal & disposal of radioactive contamination	PHMSA	Pipeline and Hazardous Materials Safety Administration Expertise on all modes of transporting oil & hazardous substances
DOI	Department of Interior Expertise on fish & wildlife	USCG	United States Coast Guard Establishes spill contingency planning requirements for vessels and facilities, and OSC responsibilities for wasteful zone
DOJ	Department of Justice Answer legal questions on spills & response actions	USDA	United States Department of Agriculture Input on the effect of soil contamination by hazardous and oil spills
DOL	Department of Labor Expertise needed to minimize exposure to hazardous material during response operation		

FIGURE H-1.3

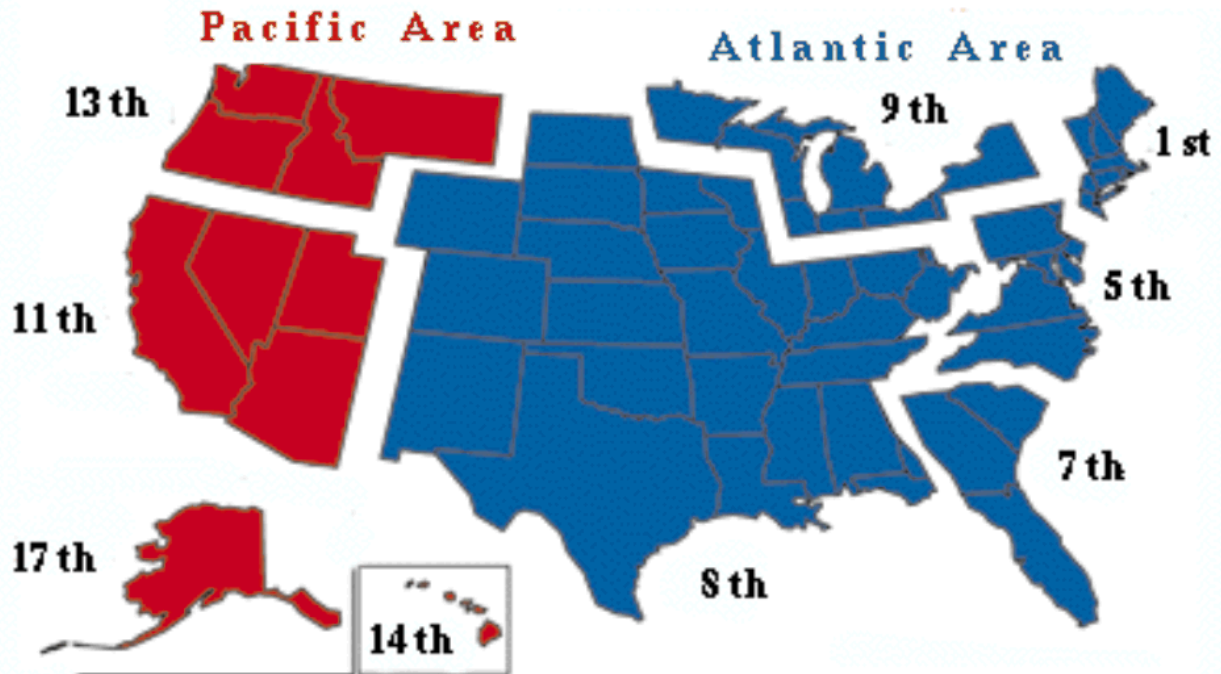
U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGIONAL OFFICES



EPA Region 1 Office 1 Congress Street, Suite 1100 Boston, MA 02114-2023	EPA Region 2 Office 290 Broadway, 19 th Floor New York, NY 10007-1866	EPA Region 3 Office 1650 Arch Street Philadelphia, PA 19103-2029
EPA Region 4 Office 61 Forsythe Street, SW, 11 th Floor Atlanta, GA 30303-3104	EPA Region 5 Office 77 West Jackson Blvd. Chicago, IL 60604	EPA Region 6 Office 1445 Ross Avenue, Suite 1200 Dallas, TX 75202
EPA Region 7 Office 901 N. 5 th Street Kansas City, KS 66101	EPA Region 8 Office 999 18 th Street, Suite 300 Denver, CO 80202-2466	EPA Region 9 Office Public Information Center 75 Hawthorne Street San Francisco, CA 94105
EPA Region 10 Office 1200 6 th Avenue Seattle, WA 98101	U.S. EPA Office of Solid Waste 401 M Street SW Washington, DC 20460-5101	RCRA / Superfund Hotline (800) 424-9346 (in Washington, DC, (202) 879-2693)

* Note: These addresses may differ from those listed on the Distribution List.

FIGURE H-1.4
U.S. COAST GUARD (USCG) DISTRICTS



1st Coast Guard District Commander 408 Atlantic Avenue Boston, MA 02110-3350 (617) 223-8125	11th Coast Guard District Coast Guard Island Building 51-1 Alameda, CA 94501-5100 (510) 437-3700
5th Coast Guard District Federal Building 431 Crawford Street Portsmouth, VA 23704-5004 (804) 398-6272	13th Coast Guard District Jackson Federal Building 915 2nd Avenue, Suite #3352 Seattle, WA 98174-1067 (206) 220-7237
7th Coast Guard District Federal Building 909 S.E. 1st Ave., Room #954 Miami, FL 33131-3050 (305) 536-5641	14th Coast Guard District Prince PJKK Federal Building 300 Ala Moana Blvd., Room 9212 Honolulu, HI 96850-4982 (808) 541-2121
8th Coast Guard District Hale Boggs Federal Building 501 Magazine Street, Room 1328 New Orleans, LA 70130-3396 (504) 589-6198	17th Coast Guard District P.O. Box 25517 Juneau, AK 99802 (907) 463-2065-5517
9th Coast Guard District 1240 E. 9th Street Cleveland, OH 44199-2060 (216) 902-6020	

* Note: These addresses may differ from those listed on the Distribution List.

APPENDIX I

MISCELLANEOUS FORMS	Page
Revision Record.....	I-2
Notification Data Sheet	I-3
Form PHMSA F 7000-1	I-4
Qualified Individual (QI) Notification Exercise - Internal Exercise Documentation	I-8
Response Team Tabletop Exercise - Internal Exercise Documentation	I-9
Internal Exercise Documentation Form - Equipment Deployment Exercise	I-11

Forms and Exercise Documentation File Maintenance Procedures

- Forms and exercise documentation records should be maintained in a separate file in the Facility's office filing system.
- These files must be available for presentation upon request by regulatory agency personnel.

NOTIFICATION DATA SHEET								
Date: _____		Time: _____						
INCIDENT DESCRIPTION								
Reporter's Full Name: _____		Position: _____						
Day Phone Number: _____		Evening Phone Number: _____						
Company: _____		Organization Type: _____						
Facility Address: _____		Owner's Address: _____						
Facility Latitude: _____		Facility Longitude: _____						
Spill Location: _____								
(if not at Facility) _____								
Responsible Party's Name: _____		Phone Number: _____						
Responsible Party's Address: _____								
Source and/or cause of discharge: _____								
Nearest City: _____								
County: _____	State: _____	Zip code: _____						
Section: _____	Township: _____	Range: _____						
Distance from City: _____		Direction from City: _____						
Container Type: _____		Container Storage Capacity: _____						
Facility Oil Storage Capacity: _____								
Material: _____								
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Total Quantity Released</th> <th style="width: 33%;">Water Impact (YES or NO)</th> <th style="width: 33%;">Quantity into Water</th> </tr> </thead> <tbody> <tr> <td style="height: 20px;"> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Total Quantity Released	Water Impact (YES or NO)	Quantity into Water			
Total Quantity Released	Water Impact (YES or NO)	Quantity into Water						
RESPONSE ACTION(S)								
Action(s) taken to Correct, Control, or Mitigate Incident: _____								
Number of Injuries: _____		Number of Deaths: _____						
Evacuation(s): _____		Number Evacuated: _____						
Damage Estimate: _____								
More information about impacted medium: _____								
CALLER NOTIFICATIONS								
National Response Center (NRC): 1-800-424-8802 or 202-267-2675								
Additional Notifications (Circle all applicable): USCG EPA State Other								
NRC Incident # _____								
ADDITIONAL INFORMATION								
Any information about the incident not recorded elsewhere in this report: _____								
NOTE: DO NOT DELAY NOTIFICATION PENDING COLLECTION OF ALL INFORMATION.								

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed \$25,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$500,000 as provided in 49 USC 60122 Form Approved OMB No. 2137-0047

 <p>U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration</p>	<h2 style="margin:0;">ACCIDENT REPORT – HAZARDOUS LIQUID PIPELINE SYSTEMS</h2>	Report Date _____ No. _____ (DOT Use Only)
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INSTRUCTIONS

Important: Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the Office Of Pipeline Safety Web Page at <http://ops.dot.gov>.

PART A – GENERAL REPORT INFORMATION

Check: Original Report Supplemental Report Final Report

1. a. Operator's OPS 5-digit Identification Number (if known) _____
- b. If Operator does not own the pipeline, enter Owner's OPS 5-digit Identification Number (if known) _____
- c. Name of Operator _____
- d. Operator street address _____
- e. Operator address _____
 City, County, State and Zip Code _____

IMPORTANT: IF THE SPILL IS SMALL, THAT IS, THE AMOUNT IS AT LEAST 5 GALLONS BUT IS LESS THAN 5 BARRELS, COMPLETE THIS PAGE ONLY, UNLESS THE SPILL IS TO WATER AS DESCRIBED IN 49 CFR §195.52(A)(4) OR IS OTHERWISE REPORTABLE UNDER §195.50 AS REVISED IN CY 2001.

2. Time and date of the accident
 _____ / _____ / _____
 hr. month day year
3. Location of accident
 (If offshore, do not complete a through d. See Part C.1)
 a. Latitude: _____ Longitude: _____
 (if not available, see instructions for how to provide specific location)
 b. _____
 City, and County or Parish
 c. _____
 State and Zip Code
 d. Mile post/valve station or survey station no.
 (whichever gives more accurate location)

4. Telephone report
 _____ / _____ / _____
 NRC Report Number month day year

5. Losses (Estimated)
- Public/Community Losses reimbursed by operator:**
- Public/private property damage \$ _____
- Cost of emergency response phase \$ _____
- Cost of environmental remediation \$ _____
- Other Costs \$ _____
 (describe) _____
- Operator Losses:**
- Value of product lost \$ _____
- Value of operator property damage \$ _____
- Other Costs \$ _____
 (describe) _____
- Total Costs** \$ _____

6. Commodity Spilled Yes No
 (If Yes, complete Parts a through c where applicable)
- a. Name of commodity spilled _____
 - b. Classification of commodity spilled:
 HVLs /other flammable or toxic fluid which is a gas at ambient conditions
 CO₂ or other non-flammable, non-toxic fluid which is a gas at ambient conditions
 Gasoline, diesel, fuel oil or other petroleum product which is a liquid at ambient conditions
 Crude oil

- a. Estimated amount of commodity involved :
 Barrels
 Gallons (check only if spill is less than one barrel)
- Amounts:**
 Spilled : _____
 Recovered: _____

- CAUSES FOR SMALL SPILLS ONLY (5 gallons to under 5 barrels) :** (For large spills [5 barrels or greater] see Part H)
- Corrosion Natural Forces Excavation Damage Other Outside Force Damage
 Material and/or Weld Failures Equipment Incorrect Operation Other

PART B – PREPARER AND AUTHORIZED SIGNATURE

(type or print) Preparer's Name and Title _____	Area Code and Telephone Number _____
Preparer's E-mail Address _____	Area Code and Facsimile Number _____
Authorized Signature _____	(type or print) Name and Title _____
_____	Date _____
_____	Area Code and Telephone Number _____

Reproduction of this form is permitted

PART C – ORIGIN OF THE ACCIDENT (Check all that apply)																																								
<p>1. Additional location information</p> <p>a. Line segment name or ID _____</p> <p>b. Accident on Federal land other than Outer Continental Shelf <input type="radio"/> Yes <input type="radio"/> No</p> <p>c. Is pipeline interstate? <input type="radio"/> Yes <input type="radio"/> No</p> <p>2. Location of system involved (check all that apply)</p> <p><input type="checkbox"/> Operator's Property</p> <p><input type="checkbox"/> Pipeline Right of Way</p> <p><input type="checkbox"/> High Consequence Area (HCA)? Describe HCA _____</p> <p>3. Part of system involved in accident</p> <p><input type="radio"/> Above Ground Storage Tank</p> <p><input type="radio"/> Cavern or other below ground storage facility</p> <p><input type="radio"/> Pump/meter station; terminal/tank farm piping and equipment, including sumps</p> <p><input type="radio"/> Other Specify: _____</p> <p><input type="radio"/> Onshore pipeline, including valve sites</p> <p><input type="radio"/> Offshore pipeline, including platforms</p> <p style="text-align: center;"><i>If failure occurred on Pipeline, complete items a - g:</i></p> <p>4. Failure occurred on</p> <table style="width: 100%;"> <tr> <td><input type="radio"/> Body of Pipe</td> <td><input type="radio"/> Pipe Seam</td> <td><input type="radio"/> Scraper Trap</td> </tr> <tr> <td><input type="radio"/> Pump</td> <td><input type="radio"/> Sump</td> <td><input type="radio"/> Joint</td> </tr> <tr> <td><input type="radio"/> Component</td> <td><input type="radio"/> Valve</td> <td><input type="radio"/> Metering Facility</td> </tr> <tr> <td><input type="radio"/> Repair Sleeve</td> <td><input type="radio"/> Welded Fitting</td> <td><input type="radio"/> Bolted Fitting</td> </tr> <tr> <td><input type="radio"/> Girth Weld</td> <td></td> <td></td> </tr> </table> <p>Other (specify) _____</p> <p>Year the component that failed was installed: ____/____/____/____/____</p> <p>5. Maximum operating pressure (MOP)</p> <p>a. Estimated pressure at point and time of accident: _____ PSIG</p> <p>b. MOP at time of accident: _____ PSIG</p> <p>c. Did an over pressurization occur relating to the accident? <input type="radio"/> Yes <input type="radio"/> No</p>	<input type="radio"/> Body of Pipe	<input type="radio"/> Pipe Seam	<input type="radio"/> Scraper Trap	<input type="radio"/> Pump	<input type="radio"/> Sump	<input type="radio"/> Joint	<input type="radio"/> Component	<input type="radio"/> Valve	<input type="radio"/> Metering Facility	<input type="radio"/> Repair Sleeve	<input type="radio"/> Welded Fitting	<input type="radio"/> Bolted Fitting	<input type="radio"/> Girth Weld			<p>Offshore: <input type="radio"/> Yes <input type="radio"/> No (completed if offshore)</p> <p>d. Area _____ Block # _____</p> <p>State ____/____/____ or Outer Continental Shelf <input type="checkbox"/></p> <p>a. Type of leak or rupture</p> <p><input type="radio"/> Leak: <input type="radio"/> Pinhole <input type="radio"/> Connection Failure (complete sec. H5)</p> <p style="padding-left: 20px;"><input type="radio"/> Puncture, diameter (inches) _____</p> <p><input type="radio"/> Rupture: <input type="radio"/> Circumferential – Separation</p> <p style="padding-left: 20px;"><input type="radio"/> Longitudinal – Tear/Crack, length (inches) _____</p> <p style="padding-left: 40px;">Propagation Length, total, both sides (feet) _____</p> <p>ON/A _____</p> <p><input type="radio"/> Other _____</p> <p>b. Type of block valve used for isolation of immediate section:</p> <p>Upstream: <input type="checkbox"/> Manual <input type="checkbox"/> Automatic <input type="checkbox"/> Remote Control</p> <p style="padding-left: 20px;"><input type="checkbox"/> Check Valve</p> <p>Downstream: <input type="checkbox"/> Manual <input type="checkbox"/> Automatic <input type="checkbox"/> Remote Control</p> <p style="padding-left: 20px;"><input type="checkbox"/> Check Valve</p> <p>c. Length of segment isolated _____ ft</p> <p>d. Distance between valves _____ ft</p> <p>e. Is segment configured for internal inspection tools? <input type="radio"/> Yes <input type="radio"/> No</p> <p>f. Had there been an in-line inspection device run at the point of failure? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't Know</p> <p style="padding-left: 20px;"><input type="radio"/> Not Possible due to physical constraints in the system</p> <p>g. If Yes, type of device run (check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> High Resolution Magnetic Flux tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> Low Resolution Magnetic Flux tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> UT tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> Geometry tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> Caliper tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> Crack tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> Hard Spot tool</td> <td>Year run: _____</td> </tr> <tr> <td><input type="checkbox"/> Other tool</td> <td>Year run: _____</td> </tr> </table>	<input type="checkbox"/> High Resolution Magnetic Flux tool	Year run: _____	<input type="checkbox"/> Low Resolution Magnetic Flux tool	Year run: _____	<input type="checkbox"/> UT tool	Year run: _____	<input type="checkbox"/> Geometry tool	Year run: _____	<input type="checkbox"/> Caliper tool	Year run: _____	<input type="checkbox"/> Crack tool	Year run: _____	<input type="checkbox"/> Hard Spot tool	Year run: _____	<input type="checkbox"/> Other tool	Year run: _____								
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<input type="checkbox"/> Other tool	Year run: _____																																							
PART D – MATERIAL SPECIFICATION	PART E – ENVIRONMENT																																							
<p>1. Nominal pipe size (NPS) ____/____/____/____/____ in.</p> <p>2. Wall thickness ____/____/____/____/____ in.</p> <p>3. Specification _____ SMYS ____/____/____/____/____/____</p> <p>4. Seam type _____</p> <p>5. Valve type _____</p> <p>6. Manufactured by _____ in year ____/____/____/____/____</p>	<p>1. Area of accident <input type="radio"/> In open ditch</p> <p><input type="radio"/> Under pavement <input type="radio"/> Above ground</p> <p><input type="radio"/> Underground <input type="radio"/> Under water</p> <p><input type="radio"/> Inside/under building <input type="radio"/> Other _____</p> <p>2. Depth of cover: _____ inches</p>																																							
PART F – CONSEQUENCES																																								
<p>1. Consequences (check and complete all that apply)</p> <table style="width: 100%;"> <tr> <td style="width: 30%;"></td> <td style="width: 10%; text-align: center;">Fatalities</td> <td style="width: 10%;"></td> <td style="width: 10%; text-align: center;">Injuries</td> <td style="width: 30%;"></td> </tr> <tr> <td>Number of operator employees:</td> <td style="text-align: center;">██████</td> <td></td> <td style="text-align: center;">██████</td> <td></td> </tr> <tr> <td>Contractor employees working for operator:</td> <td style="text-align: center;">██████</td> <td></td> <td style="text-align: center;">██████</td> <td></td> </tr> <tr> <td>General public:</td> <td style="text-align: center;">██████</td> <td></td> <td style="text-align: center;">██████</td> <td></td> </tr> <tr> <td>Totals:</td> <td style="text-align: center;">██████</td> <td></td> <td style="text-align: center;">██████</td> <td></td> </tr> </table> <p>b. Was pipeline/segment shutdown due to leak? <input type="radio"/> Yes <input type="radio"/> No</p> <p>If Yes, how long? _____ days _____ hours _____ minutes</p> <p>2. Environmental Impact</p> <p>a. Wildlife Impact:</p> <table style="width: 100%;"> <tr> <td>Fish/aquatic</td> <td><input type="radio"/> Yes <input type="radio"/> No</td> </tr> <tr> <td>Birds</td> <td><input type="radio"/> Yes <input type="radio"/> No</td> </tr> <tr> <td>Terrestrial</td> <td><input type="radio"/> Yes <input type="radio"/> No</td> </tr> </table> <p>b. Soil Contamination <input type="radio"/> Yes <input type="radio"/> No</p> <p>If Yes, estimated number of cubic yards: _____</p> <p>c. Long term impact assessment performed: <input type="radio"/> Yes <input type="radio"/> No</p> <p>d. Anticipated remediation <input type="radio"/> Yes <input type="radio"/> No</p> <p>If Yes, check all that apply: <input type="checkbox"/> Surface water <input type="checkbox"/> Groundwater <input type="checkbox"/> Soil <input type="checkbox"/> Vegetation <input type="checkbox"/> Wildlife</p> <p>c. Product ignited <input type="radio"/> Yes <input type="radio"/> No</p> <p>d. Explosion <input type="radio"/> Yes <input type="radio"/> No</p> <p>e. <input type="checkbox"/> Evacuation (general public only) ____/____/____/____/____ people</p> <p>Reason for Evacuation:</p> <p><input type="radio"/> Precautionary by company</p> <p><input type="radio"/> Evacuation required or initiated by public official</p> <p>f. Elapsed time until area was made safe:</p> <p>____/____/____ hr. ____/____/____ min.</p> <p>e. Water Contamination: <input type="radio"/> Yes <input type="radio"/> No (If Yes, provide the following)</p> <p>Amount in water _____ barrels</p> <table style="width: 100%;"> <tr> <td>Ocean/Seawater</td> <td><input type="radio"/> No <input type="radio"/> Yes</td> </tr> <tr> <td>Surface</td> <td><input type="radio"/> No <input type="radio"/> Yes</td> </tr> <tr> <td>Groundwater</td> <td><input type="radio"/> No <input type="radio"/> Yes</td> </tr> <tr> <td>Drinking water</td> <td><input type="radio"/> No <input type="radio"/> Yes (If Yes, check below.)</td> </tr> </table> <p style="padding-left: 20px;"><input type="radio"/> Private well <input type="radio"/> Public water intake</p>			Fatalities		Injuries		Number of operator employees:	██████		██████		Contractor employees working for operator:	██████		██████		General public:	██████		██████		Totals:	██████		██████		Fish/aquatic	<input type="radio"/> Yes <input type="radio"/> No	Birds	<input type="radio"/> Yes <input type="radio"/> No	Terrestrial	<input type="radio"/> Yes <input type="radio"/> No	Ocean/Seawater	<input type="radio"/> No <input type="radio"/> Yes	Surface	<input type="radio"/> No <input type="radio"/> Yes	Groundwater	<input type="radio"/> No <input type="radio"/> Yes	Drinking water	<input type="radio"/> No <input type="radio"/> Yes (If Yes, check below.)
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Drinking water	<input type="radio"/> No <input type="radio"/> Yes (If Yes, check below.)																																							

PART G – LEAK DETECTION INFORMATION	
<p>1. Computer based leak detection capability in place? <input type="radio"/> Yes <input type="radio"/> No</p> <p>2. Was the release initially detected by? (check one):</p> <p style="margin-left: 20px;"> <input type="radio"/> CPM/SCADA-based system with leak detection <input type="radio"/> Static shut-in test or other pressure or leak test <input type="radio"/> Local operating personnel, procedures or equipment <input type="radio"/> Remote operating personnel, including controllers <input type="radio"/> Air patrol or ground surveillance <input type="radio"/> A third party <input type="radio"/> Other (specify) _____ </p> <p>3. Estimated leak duration days ____ hours ____</p>	
PART H – APPARENT CAUSE	
<p>Important: There are 25 numbered causes in this Part H. Check the box corresponding to the primary cause of the accident. Check one circle in each of the supplemental categories corresponding to the cause you indicate. See the instructions for guidance.</p>	
<p>H1 – CORROSION</p> <p>1. <input type="checkbox"/> External Corrosion</p> <p>2. <input type="checkbox"/> Internal Corrosion</p> <p>(Complete items a – e where applicable.)</p>	<p>a. Pipe Coating <input type="radio"/> Bare <input type="radio"/> Coated</p> <p>b. Visual Examination <input type="radio"/> Localized Pitting <input type="radio"/> General Corrosion <input type="radio"/> Other _____</p> <p>c. Cause of Corrosion <input type="radio"/> Galvanic <input type="radio"/> Atmospheric <input type="radio"/> Stray Current <input type="radio"/> Microbiological <input type="radio"/> Cathodic Protection Disrupted <input type="radio"/> Stress Corrosion Cracking <input type="radio"/> Selective Seam Corrosion <input type="radio"/> Other _____</p> <p>d. Was corroded part of pipeline considered to be under cathodic protection prior to discovering accident? <input type="radio"/> No <input type="radio"/> Yes, Year Protection Started: / / / / /</p> <p>e. Was pipe previously damaged in the area of corrosion? <input type="radio"/> No <input type="radio"/> Yes ⇒ Estimated time prior to accident: / / / years / / / months Unknown <input type="checkbox"/></p>
H2 – NATURAL FORCES	
<p>3. <input type="checkbox"/> Earth Movement ⇒ <input type="radio"/> Earthquake</p> <p>4. <input type="checkbox"/> Lightning</p> <p>5. <input type="checkbox"/> Heavy Rains/Floods ⇒ <input type="radio"/> Washouts</p> <p>6. <input type="checkbox"/> Temperature ⇒ <input type="radio"/> Thermal stress</p> <p>7. <input type="checkbox"/> High Winds</p>	<p><input type="radio"/> Subsidence <input type="radio"/> Landslide <input type="radio"/> Other _____</p> <p><input type="radio"/> Flotation <input type="radio"/> Mudslide <input type="radio"/> Scouring <input type="radio"/> Other _____</p> <p><input type="radio"/> Frost heave <input type="radio"/> Frozen components <input type="radio"/> Other _____</p>
H3 – EXCAVATION DAMAGE	
<p>8. <input type="checkbox"/> Operator Excavation Damage (including their contractors/Not Third Party)</p> <p>9. <input type="checkbox"/> Third Party (complete a-f)</p> <p style="margin-left: 20px;">a. Excavator group <input type="radio"/> General Public <input type="radio"/> Government <input type="radio"/> Excavator other than Operator/subcontractor</p> <p style="margin-left: 20px;">b. Type: <input type="radio"/> Road Work <input type="radio"/> Pipeline <input type="radio"/> Water <input type="radio"/> Electric <input type="radio"/> Sewer <input type="radio"/> Phone/Cable <input type="radio"/> Landowner-not farming related <input type="radio"/> Farming <input type="radio"/> Railroad <input type="radio"/> Other liquid or gas transmission pipeline operator or their contractor <input type="radio"/> Nautical Operations <input type="radio"/> Other _____</p> <p style="margin-left: 20px;">c. Excavation was: <input type="radio"/> Open Trench <input type="radio"/> Sub-strata (boring, directional drilling, etc...)</p> <p style="margin-left: 20px;">d. Excavation was an ongoing activity (Month or longer) <input type="radio"/> Yes <input type="radio"/> No If Yes, Date of last contact / / / / /</p> <p style="margin-left: 20px;">e. Did operator get prior notification of excavation activity? <input type="radio"/> Yes; Date received: / / / / mo. / / / / day / / / / yr. <input type="radio"/> No Notification received from: <input type="radio"/> One Call System <input type="radio"/> Excavator <input type="radio"/> Contractor <input type="radio"/> Landowner</p> <p style="margin-left: 20px;">f. Was pipeline marked as result of location request for excavation? <input type="radio"/> No <input type="radio"/> Yes (If Yes, check applicable items i - iv)</p> <p style="margin-left: 40px;">i. Temporary markings: <input type="radio"/> Flags <input type="radio"/> Stakes <input type="radio"/> Paint</p> <p style="margin-left: 40px;">ii. Permanent markings: <input type="radio"/></p> <p style="margin-left: 40px;">iii. Marks were (check one) : <input type="radio"/> Accurate <input type="radio"/> Not Accurate</p> <p style="margin-left: 40px;">iv. Were marks made within required time? <input type="radio"/> Yes <input type="radio"/> No</p>	
H4 – OTHER OUTSIDE FORCE DAMAGE	
<p>10. <input type="checkbox"/> Fire/Explosion as primary cause of failure ⇒ Fire/Explosion cause: <input type="radio"/> Man made <input type="radio"/> Natural</p> <p>11. <input type="checkbox"/> Car, truck or other vehicle not relating to excavation activity damaging pipe</p> <p>12. <input type="checkbox"/> Rupture of Previously Damaged Pipe</p> <p>13. <input type="checkbox"/> Vandalism</p>	

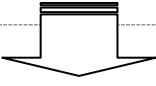
H5 – MATERIAL AND/OR WELD FAILURES

Material

- 14. Body of Pipe ⇒ Dent Gouge Bend Arc Burn Other _____
- 15. Component ⇒ Valve Fitting Vessel Extruded Outlet Other _____
- 16. Joint ⇒ Gasket O-Ring Threads Other _____

Weld

- 17. Butt ⇒ Pipe Fabrication Other _____
- 18. Fillet ⇒ Branch Hot Tap Fitting Repair Sleeve Other _____
- 19. Pipe Seam ⇒ LF ERW DSAW Seamless Flash Weld Other _____
- HF ERW SAW Spiral



Complete a-g if you indicate **any** cause in part H5.

- a. Type of failure:
 - Construction Defect ⇒ Poor Workmanship Procedure not followed Poor Construction Procedures
 - Material Defect
- b. Was failure due to pipe damage sustained in transportation to the construction or fabrication site? Yes No
- c. Was part which leaked pressure tested before accident occurred? Yes, *complete d-g* No
- d. Date of test: / / / / yr. / / / mo. / / / day
- e. Test medium: Water Inert Gas Other _____
- f. Time held at test pressure: / / / hr.
- g. Estimated test pressure at point of accident: _____ PSIG

H6 – EQUIPMENT

- 20. Malfunction of Control/Relief Equipment ⇒ Control valve Instrumentation SCADA Communications
- Block valve Relief valve Power failure Other _____
- 21. Threads Stripped, Broken Pipe Coupling ⇒ Nipples Valve Threads Dresser Couplings Other _____
- 22. Seal Failure ⇒ Gasket O-Ring Seal/Pump Packing Other _____

H7 – INCORRECT OPERATION

- 23. Incorrect Operation
 - a. Type: Inadequate Procedures Inadequate Safety Practices Failure to Follow Procedures
 - Other _____
- b. Number of employees involved who failed a post-accident test: drug test: / / / / alcohol test / / / /

H8 – OTHER

- 24. Miscellaneous, describe: _____
- 25. Unknown
 - Investigation Complete Still Under Investigation (*submit a supplemental report when investigation is complete*)

PART I – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE EVENT (Attach additional sheets as necessary)

Reproduction of this form is permitted

Qualified Individual (QI) Notification Exercise (Form 2203)

**FORM 2203 - QI NOTIFICATION EXERCISE FORM
QUARTERLY NOTIFICATION EXERCISE- INTERNAL USE**

1. **DATE PERFORMED:** _____
2. **EXERCISE OR ACTUAL RESPONSE?** Exercise
3. **FACILITY AND OR PIPELINE EXERCISE:** _____
4. **NAME OF PERSON NOTIFIED:** _____
IS THIS PERSON IDENTIFIED IN YOUR RESPONSE PLAN AS THE QUALIFIED INDIVIDUAL OR DESIGNEE? Yes
5. **TIME INITIATED:** _____
TIME WHICH QUALIFIED INDIVIDUAL OR DESIGNEE RESPONDED: _____
6. **METHOD USED TO CONTACT:**
 TELEPHONE
 PAGER
 RADIO
 OTHER: _____
7. **DESCRIPTION OF NOTIFICATION PROCEDURE:**
8. **IDENTIFY WHICH OF THE 15 CORE COMPONENTS OF YOUR RESPONSE PLAN WERE EXERCISED DURING THIS PARTICULAR EXERCISE:**
1, 10, & 15
9. **AGENCY NOTIFICATIONS MADE:**

<u>Agency</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Contact</u>
NRC – _____				
Federal (EPA/USCG) – _____				
State – _____				
Local – _____				
Other – _____				
Other - _____				

CERTIFYING SIGNATURE: _____

**RETAIN THIS FORM FOR A MINIMUM OF 3 YEARS (USCG/RSPA/MMS) OR 5 YEARS (EPA).
IF ADDITIONAL SPACE IS REQUIRED, USE A SEPARATE SHEET.**

40 CFR 112.21

15 RESPONSE PLAN CORE COMPONENTS

During each triennial cycle, all components of a plan holder's response plan must be exercised at least once. The purpose of this requirement is to ensure that all plan components function adequately for response to an oil spill.

CHECK EACH CORE COMPONENT USED IN EXERCISE.

1. _____ **Notifications:** Test the notifications procedures identified in the Facility Response Plan.
2. _____ **Staff Mobilization:** Demonstrate the ability to assemble the spill response organization identified in the Facility Response Plan.
3. _____ **Ability to operate within the Response Management System described in the plan: (INCIDENT COMMAND SYSTEM).**
4. _____ **Discharge Control:** Demonstrate the ability of the spill response organization to control and stop the discharge at the source.
5. _____ **Assessment:** Demonstrate the ability of the spill response organization to provide an initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations.
6. _____ **Containment:** Demonstrate the ability of the response organization to contain the discharge at the source or in various locations for recovery operations.
7. _____ **Recovery:** Demonstrate the ability of the spill response organization to recover the discharged product.
8. _____ **Protection:** Demonstrate the ability of the spill response organization to protect the environmentally and economically sensitive areas identified in the Area Contingency Plan.
9. _____ **Disposal:** Demonstrate the ability of the spill response organization to dispose of the recovered material and contaminated debris.
10. _____ **Communications:** Demonstrate the ability to establish an effective communications system for the spill response organization.
11. _____ **Transportation:** Demonstrate the ability to provide effective multi-mode transportation both for execution of the discharge and support functions.
12. _____ **Personnel Support:** Demonstrate the ability to provide the necessary support of all personnel associated with the response.
13. _____ **Equipment Maintenance and Support:** Demonstrate the ability to maintain and support all equipment associated with the response.
14. _____ **Procurement:** Demonstrate the ability to establish an effective procurement system.
15. _____ **Documentation:** Demonstrate the ability of the spill response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

Date: _____ **Certifying Signature:** _____

SPILL EQUIPMENT DEPLOYMENT EXERCISE DRILL

FACILITY LOCATION:		
TYPE OF DRILL:	EXERCISE DRILL <input type="checkbox"/>	ACTUAL SPILL RESPONSE <input type="checkbox"/> UNANNOUNCED <input type="checkbox"/>
DRILL DATE:		
DRILL TIME:	EXERCISE START:	EXERCISE COMPLETED:
TYPE OF EQUIPMENT:	FACILITY OWNED <input type="checkbox"/>	CONTRACTOR (OSRO) <input type="checkbox"/> BOTH <input type="checkbox"/>
DATE OF LAST EQUIPMENT INSPECTION:		
LOCATION OF DEPLOYMENT (EXERCISE):		

Was equipment deployed in its intended operating environment?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Was the equipment deployed by personnel responsible for its deployment in the event of an actual spill?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Was all deployed equipment operational?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
For deployment of facility-owned equipment, was the amount of equipment deployed at least the amount necessary to respond to your facility's average most probable spill?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
For deployment of OSRO-owned equipment, was a representative sample (at least 1000 feet of each boom type and one of each skimmer type) deployed?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are all facility personnel that are responsible for response operations involved in a comprehensive training program, and all pollution response equipment involved in a comprehensive maintenance program?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

List type and amount of all equipment (e.g., boom and skimmers) deployed and number of support personnel employed:

- Which of the 15 core components of your response plan were exercised during this exercise:
- | | | |
|---|---|--|
| <input type="checkbox"/> Notifications | <input type="checkbox"/> Recovery | <input type="checkbox"/> Ability to Operate According to FRP |
| <input type="checkbox"/> Staff Mobilization | <input type="checkbox"/> Protection | <input type="checkbox"/> Personnel Support |
| <input type="checkbox"/> Discharge Control | <input type="checkbox"/> Disposal | <input type="checkbox"/> Equipment Maintenance |
| <input type="checkbox"/> Assessment | <input type="checkbox"/> Communications | <input type="checkbox"/> Procurement |
| <input type="checkbox"/> Containment | <input type="checkbox"/> Transportation | <input type="checkbox"/> Documentation |

Describe goals of the equipment deployment and list any Area Contingency Plan strategies tested. List or examples?(Attach a sketch of equipment deployments and booming strategies):

Attach a description of lesson(s) learned and person(s) responsible for follow up of corrective measures.

Certification of Deployment exercise:

<i>Name</i>	<i>Title</i>	<i>Signature</i>	<i>Date</i>
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Retain this form and other documentation related to this exercise on file for a minimum of 3 years (for USCG/RSPA/MMS) or a minimum of 5 years (for EPA)



FORM 2201

LOCATION: _____ DATE: _____

START TIME: _____ END TIME: _____ NUMBER OF HOURS: _____

NAME OF CLASS/SUBJECT: _____

INSTRUCTOR(s): _____ INSTRUCTOR (s) SIGNATURE: _____

I certify that the people listed below have received training in the subject(s) indicated.

METHOD OF TRAINING:

- ___ CLASSROOM ___ DEMONSTRATION ___ SLIDE ___ VIDEO
- ___ FIELD ___ MOCK EXERCISE ___ FILM ___ CBT Taken
- ___ OTHER: _____

NAME (please print)	WORK LOCATION	EMPLOYEE ID #	SIGNATURE
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APPENDIX J

GLOSSARY OF TERMS / ACRONYMS

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Glossary of Terms.....	J-2
Acronyms	J-12

This glossary contains definitions of terms that will be used frequently during the course of response operations.

Abandoned Pipeline: A pipeline or pipeline segment which has met the criteria of an Out-Of-Service pipeline (purged, sealed and disconnected from an operating system) but will not be maintained to minimum USDOT inspection and maintenance standards.

Activate: The process of mobilizing personnel and/or equipment within the response organization to engage in response operations.

Activator: An individual in the response organization whose responsibilities include notifying other individuals or groups within the organization to mobilize personnel and/or equipment.

Active Pipeline: A pipeline or pipeline segment which is in service whether or not the pipeline is fully operational. This includes pipelines which may have been utilized to transport hazardous liquids but are currently static or unused.

Adverse Weather: The weather conditions that will be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height, ice, temperature, weather-related visibility, and currents within the Captain of the Port (COTP) zone in which the systems or equipment are intended to function.

Agency Representative: Individual assigned to an incident from an agency who has been delegated full authority to make decisions on all matters affecting that agency's participation in response operations.

Alert: Means an incident has occurred at the terminal which has the potential to affect off-site locations.

Area Committee: As defined by Sections 311(a)(18) and (j)(4) of CWA, as amended by OPA, means the entity appointed by the President consisting of members from Federal, State, and local agencies with responsibilities that include preparing an Area Contingency Plan for the area designated by the President. The Area Committee may include ex-officio (i.e., non-voting) members (e.g., industry and local interest groups).

Area Contingency Plan: As defined by Sections 311(a)(19) and (j)(4) of CWA, as amended by OPA, means the plan prepared by an Area Committee, that, in conjunction with the NCP, shall address the removal of a discharge including a worst-case discharge and the mitigation or prevention of a substantial threat of such a discharge from a vessel,

offshore facility, or onshore facility operating in or near an area designated by the President.

Average Most Probable Discharge: A discharge of the lesser of 50 barrels or 1% of the volume of the worst case discharge.

Barrel (bbl): Measure of space occupied by 42 U.S. gallons at 60 degrees Fahrenheit.

Bioremediation Agents: Means microbiological cultures, enzyme additives, or nutrient additives that are deliberately introduced into an oil discharge and that will significantly increase the rate of biodegradation to mitigate the effects of the discharge.

Boom: A piece of equipment or a strategy used to either contain free floating oil to a confined area or protect an uncontaminated area from intrusion by oil.

Booming Strategies: Strategic techniques which identify the location and quantity of boom required to protect certain areas. These techniques are generated by identifying a potential spill source and assuming certain conditions which would affect spill movement on water.

Breakout Tank: Means a tank used to (a) relieve surges in a hazardous liquid pipeline system or (b) receive and store hazardous liquid transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk: Material that is stored or transported in a loose, unpackaged liquid, powder, or granular form capable of being conveyed by a pipe, bucket, chute, or belt system.

Captain of the Port Zone (COTP): Means a zone specified in 33 CFR Part 3 and the seaward extension of that zone to the outer boundary of the exclusive economic zone (EEZ).

CERCLA: Means the Comprehensive Environmental Response, Compensation Liability Act regarding hazardous substance releases into the environment and the cleanup of inactive hazardous waste disposal sites.

Chemical Agents: Means those elements, compounds, or mixtures that coagulate, disperse, dissolve, emulsify, foam, neutralize, precipitate, reduce, solubilize, oxidize, concentrate, congeal, entrap, fix, make the pollutant mass more rigid or viscous, or otherwise facilitate the mitigation of deleterious effects or the removal of the oil pollutant

from the water. Chemical agents include biological additives, dispersants, sinking agents, miscellaneous oil spill control agents, and burning agents, but do not include solvents.

CHEMTREC: Means the Chemical Transportation Emergency Center operated by Chemical Manufacturers Association. Provides information and/or assistance to emergency responders. Can be reached 24 hours a day by calling 800-424-9300.

Clean-up Contractor: Persons contracted to undertake a response action to clean up a spill.

Cleanup: For the purposes of this document, cleanup refers to the removal and/or treatment of oil, hazardous substances, and/or the waste or contaminated materials generated by the incident. Cleanup includes restoration of the site and its natural resources.

Coastal Waters: For the purpose of classifying the size of discharges, means the waters of the coastal zone except for the Great Lakes and specified ports and harbors on inland rivers.

Coastal Zone: As defined for the purpose of the NCP, means all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surface or land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

Coast Guard District Response Group (DRG): As provided for by CWA sections 311(a)(20) and (j)(3), means the entity established by the Secretary of the department in which the USCG is operating within each USCG district and shall consist of: the combined USCG personnel and equipment, including firefighting equipment, of each port within the district; additional prepositioned response equipment; and a district response advisory team.

Command: The act of controlling manpower and equipment resources by virtue of explicit or delegated authority.

Command Post: A site located at a safe distance from the spill site where response decisions are made, equipment and manpower deployed, and communications handled. The Incident Commander and the On-Scene Coordinators may direct the on-scene response from this location.

Communications Equipment: Equipment that will be utilized during response operations to maintain communication between the Company employees, contractors, Federal/State/Local agencies. (radio/ telephone equipment and links)

Containment Boom: A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to entrap and contain the product for recovery.

Contingency Plan: (1) A document used by federal, state, and local agencies to guide their planning and response procedures regarding spills of oil, hazardous substances, or other emergencies; and/or (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.

Contract or Other Approved Means: For OPA 90, a written contract with a response contractor; certification by the facility owner or operator that personnel and equipment are owned, operated, or under the direct control of the facility, and available within the stipulated times; active membership in a local or regional oil spill removal organization; and/or the facility's own equipment.

Critical Areas to Monitor: Areas which if impacted by spilled oil may result in threats to public safety or health.

Cultural Resources: Current, historic, prehistoric and archaeological resources which include deposits, structures, ruins, sites, buildings, graves, artifacts, fossils, or other objects of antiquity which provide information pertaining to the historical or prehistorical culture of people in the state as well as to the natural history of the state.

Damage Assessment: The process of determining and measuring damages and injury to the human environment and natural resources, including cultural resources. Damages include differences between the conditions and use of natural resources and the human environment that would have occurred without the incident, and the conditions and use that ensued following the incident. Damage assessment includes planning for restoration and determining the costs of restoration.

Decontamination: The removal of hazardous substances from personnel and their equipment necessary to prevent adverse health effects.

Discharge: Any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

Dispersants: Means those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

Diversion Boom: A floatation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert the product towards a pick up point, or away from certain areas.

Drinking Water Supply: As defined by Section 101(7) of CERCLA, means any raw or finished water source that is or may be used by a public water system (as defined in the Safe Drinking Water Act) or as drinking water by one or more individuals.

Economically Sensitive Areas: Those areas of explicit economic importance to the public that due to their proximity to potential spill sources may require special protection and include, but are not limited to: potable and industrial water intakes; locks and dams; and public and private marinas.

Emergency Planning Zone: Means the area designated by the jurisdiction boundaries of those communities which are within a radial distance of one-half mile from the terminal.

Emergency Response: Means the response to any occurrence which results, or is likely to result, in a release of a hazardous substance due to an event.

Emergency Service: Those activities provided by state and local government to prepare for and carry out any activity to prevent, minimize, respond to, or recover from an emergency.

Emulsion: Suspension of oil in water.

Environmentally Sensitive Areas: Streams and water bodies, aquifer recharge zones, springs, wetlands, agricultural areas, bird rookeries, endangered or threatened species (flora and fauna) habitat, wildlife preserves or conservation areas, parks, beaches, dunes, or any other area protected or managed for its natural resource value.

Exclusive Economic Zone: Means the zone contiguous to the territorial sea of the United States extending to a distance up to 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Facility (DOT): Means new and existing pipe, rights-of-way and any equipment, facility, or building used in the transportation of hazardous liquids or carbon dioxide.

Facility (EPA/USCG): Either an onshore facility or an offshore facility and includes, but is not limited to structures, equipment, and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or a public vessel. A facility includes federal, state, municipal, and private facilities.

Facility That Could Reasonably Be Expected To Cause Significant And Substantial Harm: Means any fixed MTR on-shore facility (including piping and any structures that are used for the transfer of oil between a vessel and a facility) that is capable of transferring oil, in bulk, to or from a vessel of 250 barrels or more, and a deepwater port. This also includes any facility specifically identified by the COTP.

Facility That Could Reasonably Be Expected To Cause Substantial Harm: Means any mobile MTR facility that is capable of transferring oil to or from a vessel with a capacity of 250 barrels or more. This also includes any facility specifically identified by the COTP.

Facility Operator: The person who owns, operates, or is responsible for the operation of the facility.

Federal Fund: The spill liability trust fund established under OPA.

Federal Regional Response Team (RRT): The federal response organization (consisting of representatives from selected federal and state agencies) which acts as a regional body responsible for planning and preparedness before an oil spill occurs and providing advice to the FOSC in the event of a major or substantial spill.

Federal Response Plan (FRP): Means the agreement signed by 25 federal departments and agencies in April 1987 and developed under the authorities of the Earthquake Hazards Reduction Act of 1977 and the Disaster Relief Act of 1974, as amended by the Stafford Disaster Relief Act of 1988.

First Responders, First Response Agency: A public health or safety agency (e.g., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.

General Emergency: Means an incident has occurred and the affected community is implementing protective actions.

Handle: To transfer, transport, pump, treat, process, store, dispose of, drill for, or produce.

Harmful Quantity Of Oil: The presence of oil from an unauthorized discharge in a quantity sufficient either to create a visible film or sheen upon or discoloration of the surface of the water or a shoreline, tidal flat, beach, or marsh, or to cause a sludge or emulsion to be deposited beneath the surface of the water or on a shoreline, tidal flat, beach, or marsh.

Hazardous Chemicals: Means all chemicals which constitute a physical hazard or a health hazard as defined by 29 CFR 1910.1200, with the exceptions listed in section 311(e). This term comprises approximately 90 percent of all chemicals.

Hazardous Material: Any nonradioactive solid, liquid, or gaseous substance which, when uncontrolled, may be harmful to humans, animals, or the environment. Including but not limited to substances otherwise defined as hazardous wastes, dangerous wastes, extremely hazardous wastes, oil, or pollutants.

Hazardous Substance: Any substance designated as such by the Administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; regulated pursuant to Section 311 of the Federal Water Pollution Control Act, or discharged by the SERC.

Hazardous Waste: Any solid waste identified or listed as a hazardous waste by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C., Section 6901, et seq as amended. The EPA Administrator has identified the characteristics of hazardous wastes and listed certain wastes as hazardous in Title 40 of the Code of Federal Regulations, Part 261, Subparts C and D respectively.

HAZMAT: Hazardous materials or hazardous substances, exposure to which may result in adverse effects on health or safety of employees.

HAZWOPER: Hazardous Waste Operations and Emergency Response Regulations published by OSHA to cover worker safety and health aspects of

Health Hazard: Means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principals that acute or chronic health effects may occur in exposed employees.

Heat Stress: Dangerous physical condition caused by over exposure to extremely high temperatures.

Hypothermia: Dangerous physical condition caused by over exposure to freezing temperatures.

Incident: Any event that results in a spill or release of oil or hazardous materials. Action by emergency service personnel may be required to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Briefing Meeting: Held to develop a comprehensive, accurate, and up-to-date understanding of the incident, nature of status of control operations, and nature and status of response operations; ensure the adequacy of control and response operations; begin to organize control and response operations; and prepare for interactions with outside world.

Incident Command Post (ICP): That location at which all primary command functions are executed.

Incident Command System (ICS): The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of assigned resources at an incident.

Incident Commander (IC): The one individual in charge at any given time of an incident. The Incident Commander will be responsible for establishing a unified command with all on-scene coordinators.

Indian Tribe: As defined in OPA section 1001, means any Indian tribe, band, nation, or other organized group or community, but not including any Alaska Native regional or village corporation, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians and has governmental authority over lands belonging to or controlled by the Tribe.

Initial Cleanup: Remedial action at a site to eliminate acute hazards associated with a spill. An initial clean-up action is implemented at a site when a spill of material is an actual or potentially imminent threat to public health or the environment, or difficulty of cleanup increases significantly without timely remedial action. All sites must be evaluated to determine whether initial cleanup is total cleanup, however, this will not be possible in all cases due to site conditions (i.e., a site where overland transport or flooding may occur).

Initial Notification: The process of notifying the necessary Company personnel and Federal/State/Local agencies that a spill has occurred, including all pertinent available information surrounding the incident.

Initial Response Actions: The immediate actions that are to be taken by the spill observer after detection of a spill.

Inland Area: means the area shoreward of the boundary lines defined in 46 CFR part 7; in the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) as defined in §80.740 through 80.850 of this chapter. The inland area does not include the Great Lakes.

Inland Waters: State waters not considered coastal waters; lakes, rivers, ponds, streams, underground water, et. al.

Inland Zone: Means the environment inland of the coastal zone excluding the Great Lakes, and specified ports and harbors on inland rivers. The term inland zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

Interim Storage Site: A site used to temporarily store recovered oil or oily waste until the recovered oil or oily waste is disposed of at a permanent disposal site. Interim storage sites include trucks, barges, and other vehicles, used to store waste until the transport begins.

Internally Reported Event: An incident that does not meet the reporting criteria established for notification of off-site authorities. No evacuation has occurred.

Lead Agency: The government agency that assumes the lead for directing response activities.

Lead Federal Agency: The agency which coordinates the federal response to incident on navigable waters. The lead federal agencies are:

- **U.S. Coast Guard:** Oil and chemically hazardous materials incidents on navigable waters.
- **Environmental Protection Agency:** Oil and chemically hazardous materials incidents on inland waters.

Lead State Agency: The agency which coordinates state support to federal and/or local governments or assumes the lead in the absence of federal response.

Line Section: Means a continuous run of pipe between adjacent pressure pump stations, between a pressure pump station and terminal or breakout

tanks, between a pressure pump station and a block valve, or between adjacent block valves.

Light Oil Terminal Operations: Means the storage and distribution of gasoline and diesel fuel to wholesale customers.

Loading: Transfer from Facility to vehicle.

Local Emergency Planning Committee (LEPC): A group of local representatives appointed by the State Emergency Response Commission (SERC) to prepare a comprehensive emergency plan for the local emergency planning district, as required by the Emergency Planning and Community Right-to-Know Act (EPCRA).

Local Response Team: Designated Facility individuals who will fulfill the roles determined in the oil spill response plan in the event of an oil or hazardous substance spill. They will supervise and control all response and clean-up operations.

Lower Explosive Limit: Air measurement utilized to determine the lowest concentration of vapors that support combustion. This measurement must be made prior to entry into a spill area.

Marinas: Small harbors with docks, services, etc. for pleasure craft.

Marine Transportation Related Facility (MTR FACILITY): Means an on-shore facility, including piping and any structure used to transfer oil to or from a vessel, subject to regulation under 33 CFR Part 154 and any deepwater port subject to regulation under 33 CFR Part 150.

Maximum Extent Practicable: Means the planning values derived from the planning criteria used to evaluate the response described in the response plan to provide the on-water recovery capability and the shoreline protection and cleanup capability to conduct response activities for a worst case discharge from a facility in adverse weather.

Maximum Most Probable Discharge: Means a discharge of the lesser of 1,200 barrels or 10 percent of the volume of a worst case discharge.

Medium Discharge: Means a discharge greater than 2,100 gallons (50 Bbls) and less than or equal to 36,000 gallons (85+ Bbls) or 10% of the capacity of the largest tank, whichever is less and not to exceed the WCD.

National Contingency Plan: The plan prepared under the Federal Water Pollution Control Act (33 United State Code §1321 et seq) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 United State Code § 9601 et seq), as revised from time to time.

National Pollution Funds Center (NPFC): Means the entity established by the Secretary of Transportation whose function is the administration of the Oil Spill Liability Trust Fund (OSLTF). Among the NPFC's duties are: providing appropriate access to the OSLTF for federal agencies and states for removal actions and for federal trustees to initiate the assessment of natural resource damages; providing appropriate access to the OSLTF for claims; and coordinating cost recovery efforts.

National Response System (NRS): Is the mechanism for coordinating response actions by all levels of government in support of the OSC. The NRS is composed of the NRT, RRTs, OSC, Area Committees, and Special Teams and related support entities.

National Strike Force (NSF): Is a special team established by the USCG, including the three USCG Strike Teams, the Public Information Assist Team (PIAT), and the National Strike Force Coordination Center. The NSF is available to assist OSCs in their preparedness and response duties.

National Strike Force Coordination Center (NSFCC): Authorized as the National Response Unit by CWA section 311(a)(23) and (j)(2); the entity established by the Secretary of the Department of Transportation through which the USCG, operating from Elizabeth City, North Carolina, is responsible for administration of the USCG Strike Teams, maintenance of response equipment inventories and logistic networks, and conducting a national exercise program.

Natural Resource: Land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to or otherwise controlled by the state, federal government, private parties, or a municipality.

Navigable Waters: As defined by 40 CFR 110.1 means the waters of the United States, including the territorial seas. The term includes:

All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

Interstate waters, including interstate wetlands;

All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters;

That are or could be used by interstate or foreign travelers for recreational or other purposes;

From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and

That are used or could be used for industrial purposes by industries in interstate commerce. All impoundments of waters otherwise defined as navigable waters under this section;

Tributaries of waters identified in paragraphs (a) through (d) of this definition, including adjacent wetlands; and

Wetlands adjacent to waters identified in paragraphs (a) through (e) of this definition: Provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act jurisdiction remains with EPA.

Nearshore Area: For OPA 90, the area extending seaward 12 miles from the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation defined in §80.740 - 80.850 of title 33 of the CFR.

Non-persistent or Group I Oil: A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

1. At least 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F);
2. At least 95% of which volume, distill at a temperature of 370 degrees C (700 degrees F).

Ocean: The open ocean, offshore area, and nearshore area as defined in this subpart.

Offshore area: The area up to 38 nautical miles seaward of the outer boundary of the nearshore area.

Oil or Oils: Naturally occurring liquid hydrocarbons at atmospheric temperature and pressure coming from the earth, including condensate and natural gasoline, and any fractionation thereof, including, but not limited to, crude oil, petroleum gasoline, fuel oil, diesel oil, oil sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil does not include any substance listed in Table 302.4 of 40 CFR Part 302 adopted August 14, 1989, under Section 101(14) of the federal comprehensive environmental response, compensation, and liability act of 1980, as amended by P. L. 99-499.

Oil Spill Liability Trust Fund: Means the fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).

Oil Spill Removal Organization (OSRO): Means an entity that provides response resources.

Oily Waste: Product-contaminated waste resulting from a spill or spill response operations.

On-Scene Coordinator (OSC): Means the federal official predesignated by the EPA or the USCG to coordinate and direct response under subpart D.

On-site: Means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of a response action.

Open Ocean: means the area from 38 nautical miles seaward of the outer boundary of the nearshore area, to the seaward boundary of the exclusive economic zone.

Operating Area: Refers to the rivers and canals, inland, nearshore, Great Lakes, or offshore geographic location(s) in which a facility is handling, storing, or transporting oil.

Operating Environment: Refers to rivers and canals, inland, Great Lakes, or ocean. These terms are used to define the conditions in which response equipment is designed to function.

Out of Service (OOS) Pipeline: A pipeline or pipeline segment which has been effectively cleaned of all hazardous liquids, filled with water or inert gas and blinded or otherwise isolated from an active pipeline system.

Owner or Operator: Any person, partnership, corporation, association, governmental unit or public or private organization of any character that owns, operates pipelines, facilities, or is involved in the transportation of oil.

Persistent Oil: A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of this Appendix, persistent oils are further classified based on specific gravity as follows:

1. Group II specific gravity less than .85
2. Group III specific gravity between .85 and less than .95
3. Group IV specific gravity .95 and including 1.0
4. Group V specific gravity greater than 1.0

Pipeline System: Means all parts of a pipeline facility through which a hazardous liquid or carbon dioxide moves in transportation, including but not limited to, line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks.

Plan Holder: The plan holder is the industry transportation related facility for which a response plan is required by federal regulation to be submitted by a vessel or facility's owner or operator.

Post Emergency Response: The phase of a response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the sites has begun.

Primary Response Contractors or Contractors: An individual, company, or cooperative that has contracted directly with the plan holder to provide equipment and/or personnel for the containment or cleanup of spilled oil.

Qualified Individual (QI): That person or entity who has authority to activate a spill cleanup contractor(s), act as liaison with the "On-Scene Coordinator" and obligate funds required to effectuate response activities.

Recreation Areas: Publicly accessible locations where social/sporting events take place.

Regional Response Team (RRT): The Federal response organization (consisting of representatives from selected federal and state agencies) which acts as a regional body responsible for overall planning and preparedness for oil and hazardous materials releases and for providing advice to the OSC in the event of a major or substantial spill.

Remove or Removal: As defined by section 311(a)(8) of the CWA, refers to containment and removal of oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare (including, but

not limited to, fish, shellfish, wildlife, public and private property, and shorelines and beaches) or to the environment. For the purpose of the NCP, the term also includes monitoring of action to remove discharge.

Response Activities: The containment and removal of oil from the water and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to public health or welfare, or the environment.

Response Contractors: Persons/companies contracted to undertake a response action to contain and/or clean up a spill.

Response Guidelines: Guidelines for initial response that are based on the type of product involved in the spill, these guidelines are utilized to determine clean-up methods and equipment.

Response Plan: A practical manual used by industry for responding to a spill. Its features include: (1) identifying the notifications sequence, responsibilities, response techniques, etc. in a easy to use format; (2) using decision trees, flowcharts, and checklists to ensure the proper response for spills with varying characteristics; and (3) segregating information needed during the response from data required by regulatory agencies to prevent confusion during a spill incident.

Response Priorities: Mechanism used to maximize the effective use of manpower and equipment resources based upon their availability during an operational period.

Response Resources: All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.

Responsible Party: Any person, owner/operator, or facility that has control over an oil or hazardous substance immediately before entry of the oil or hazardous substance into the atmosphere or in or upon the water, surface, or subsurface land of the state.

Restoration: The actions involved in returning a site to its former condition.

Rivers and Canals: A body of water confined within the inland area that has a project depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.

Securing the Source: Steps that must be taken to stop discharge of oil at the source of the spill.

Sinking Agents: Means those additives applied to oil discharges to sink floating pollutants below the water surface.

Site Characterization: An evaluation of a cleanup site to determine the appropriate safety and health procedures needed to protect employees from identified hazards.

Site Conditions: Details of the area surrounding the facility, including shoreline descriptions, typical weather conditions, socioeconomic breakdowns, etc.

Site Emergency: Means an incident has occurred and the entire terminal, with the exception of critical employees has been sheltered on-site or evacuated.

Site Safety and Health Plan: A site specific plan developed at the time of an incident that addresses:

- Safety and health hazard analysis for each operation.
- Personal protective equipment to be used.
- Training requirements for site workers.
- Medical surveillance requirements.
- Air monitoring requirements.
- Site control measures.
- Decontamination procedures.
- Emergency response procedures.
- Confined space entry procedures.

Site Security and Control: Steps that must be taken to provide safeguards needed to protect personnel and property, as well as the general public, to ensure an efficient clean-up operation.

Skimmers: Mechanical devices used to skim the surface of the water and recover floating oil. Skimmers fall into four basic categories (suction heads, floating weirs, oleophilic surface units, and hydrodynamic devices) which vary in efficiency depending on the type of oil and size of spill.

Snare Boom: Oil will adhere to the material of which this boom is made of and thus collect it.

Sorbents: Materials ranging from natural products to synthetic polymeric foams placed in confined areas to soak up small quantities of oil. Sorbents are very effective in protecting walkways, boat decks, working areas, and previously uncontaminated or cleaned areas.

Spill: An unauthorized discharge of oil or hazardous substance into the waters of the state.

Spill Observer: The first Facility individual who discovers a spill. This individual must function as the first responder and person-in-charge until relieved by an authorized supervisor.

Spill of National Significance (SONS): Means a spill which due to its severity, size, location, actual or potential impact on the public health and welfare or the environment, or the necessary response effort, is so complex that it requires extraordinary coordination of federal, state, local, and responsible party resources to contain and cleanup the discharge.

Spill Management Team: The personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

Spill Response: All actions taken in responding to spills of oil and hazardous materials, e.g.: receiving and making notifications, information gathering and technical advisory phone calls, preparation for and travel to and from spill sites, direction of clean-up activities; damage assessments, report writing, enforcement investigations and actions, cost recovery, and program development.

Spill Response Personnel: Federal, state, local agency, and industry personnel responsible for participating in or otherwise involved in spill response. All spill response personnel will be pre-approved on a list maintained in each region.

Staging Areas: Designated areas near the spill site accessible for gathering and deploying equipment and/or personnel.

State Emergency Response Commission (SERC): A group of officials appointed by the governor to implement the provisions of Title III of the Federal Superfund Amendments and Re-authorization Act of 1986 (SARA). The SERC approves the State Oil and Hazardous Substance Discharge Prevention and Contingency Plan and Local Emergency Response Plans.

Substantial Threat of a Discharge: Means any incident or condition involving a facility that may create a risk of discharge of fuel or cargo oil. Such incidents include, but are not limited to storage tank or piping failures, above ground or underground leak, fires, explosions, flooding spills contained within the facility, or other similar occurrences.

Surface Collecting Agents: Means those chemical agents that form a surface film to control the layer thickness of oil.

Surface Washing Agent: Is any product that removes oil from solid surfaces, such as beaches and rocks, through a detergency mechanism and does not involve dispersing or solubilizing the oil into the water column.

Tanker: A self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces.

Tidal Current Tables: Tables which contain the predicted times and heights of the high and low waters for each day of the year for designated areas.

Toxic Substances: Any substances which have the capacity to produce personal injury or illness to man through ingestion, inhalation, or absorption through any body surface.

Trajectory Analysis: Estimates made concerning spill size, location, and movement through aerial surveillance or computer models.

Transfer: Any movement of oil to, from, or within a vessel by means of pumping, gravitation, or displacement.

Trustee: Means an official of a federal natural resources management agency designated in subpart G of the NCP or a designated state official or Indian tribe or, in the case of discharges covered by the OPA, a foreign government official, who may pursue claims for damages under section 1006 of the OPA.

Underwriter: An insurer, a surety company, a guarantor, or any other person, other than an owner or operator of a vessel or facility, that undertakes to pay all or part of the liability of an owner or operator.

Unified Command: The method by which local, state, and federal agencies and the responsible party will work with the Incident Commander to:

- Determine their roles and responsibilities for a given incident.
- Determine their overall objectives for management of an incident.
- Select a strategy to achieve agreed-upon objectives.
- Deploy resources to achieve agreed-upon objectives.

Unified or Coordinated Command Meeting: Held to obtain agreement on strategic objectives and response priorities, review tactical strategies, engage in joint planning, integrate response operations, maximize use of resources, and minimize resolve conflicts.

Unusual Event: Means an incident has occurred which is noticeable and dramatic from the Terminal perimeter; however, no outside assistance is required and no evacuation outside the incident scene has occurred.

Volunteers: An individual who donates their services or time without receiving monetary compensation.

Waste: Oil or contaminated soil, debris, and other substances removed from coastal waters and adjacent waters, shorelines, estuaries, tidal flats, beaches, or marshes in response to an unauthorized discharge. Waste means any solid, liquid, or other material intended to be disposed of or discarded and generated as a result of an unauthorized discharge of oil. Waste does not include substances intended to be recycled if they are in fact recycled within 90 days of their generation or if they are brought to a recycling facility within that time.

Waters of the U.S. - See Navigable Waters, page G-11.

Wetlands: Those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds (40 CFR 112.2(y)).

Wildlife Rescue: Efforts made in conjunction with federal and state agencies to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill.

Worst Case Discharge: The largest foreseeable discharge under adverse weather conditions. For facilities located above the high water line of coastal waters, a worst case discharge includes those weather conditions most likely to cause oil discharged from the facility to enter coastal waters.

AC	-	Area Committee	CH	-	Cargo Hold
ACP	-	Area Contingency Plan	CHEMTREC	-	Chemical Transportation Emergency Center
ADAPTS	-	Air Deliverable Anti-Pollution Transport	CHRIS	-	Chemical Hazards Response Information System
AFFF	-	Aqueous Film Forming Foam	CMA	-	Chemical Manufacturers Association
AGT	-	Any Gross Tonnage (TONS)	CNG	-	Compressed Natural Gas
AOR	-	Area of Responsibility	CO	-	Commanding Officer
API	-	American Petroleum Institute	COA	-	Certificate of Adequacy
AQI	-	Alternate Qualified Individual	COC	-	Certificate of Compliance
ARPA	-	Automatic Radar Plotting Aid	COE	-	U. S. Army Corps of Engineers
AST	-	Aboveground Storage Tank	COF	-	Certificate of Fitness
ASTM	-	American Society for Testing and Materials	COFR	-	Certificate of Financial Responsibility
AT	-	Airtight	COI	-	Certificate of Inspection
ATSDR	-	Agency for Toxic Substances and Disease Registry	COIL	-	Central Oil Identification Laboratory
AWG	-	American Wire Gauge	COMDTINST	-	Commandant Instruction
B	-	Beam	COMDTNOTE-	-	Commandant Notice
BIA	-	Bureau of Indian Affairs	COMDTPUB	-	Commandant's Publication
BBL	-	Barrel (Unit of Volume Equal to 42 Gallons)	CONUS	-	Continental United States
BLM	-	Bureau of Land Management	COPH	-	Cargoes of Particular Hazard
BPD	-	Barrels Per Day	CORE	-	Contingency Response
BPH	-	Barrels Per Hour	COTP	-	Captain of the Port Zone
BOD	-	Biological Oxygen Demand	COW	-	Crude Oil Washing
BOM	-	Bureau of Mines	CRZ	-	Contamination Reduction Zone
C	-	Degrees Centigrade	CS	-	General Cargo Ship
C3	-	Command, Control, and Communications	CSA	-	Canada Standards Association
C & R	-	Cargoes and Restriction (List)	CSC	-	International Convention for Safe Containers, 1972
CAER	-	Community Awareness and Emergency Response	CT	-	Cargo Tank
CERCLA	-	Comprehensive Environmental Response, Compensation and Liability Act	C/V	-	Container Vessel
CCR	-	California Code of Regulations	CVS	-	Commercial Vessel Safety Program
CDB	-	Continuous Discharge Book	CWA	-	Clean Water Act (Federal - Public Law 100-4)
CDG	-	Subcommittee on the Carriage of Dangerous Goods	CWS	-	Community Water System
CEQ	-	Council on Environmental Quality	CZM	-	Coastal Zone Management
CFM	-	Cubic Feet per Minute	DECON	-	Decontamination
CFR	-	Code of Federal Regulations	DEQ	-	Department of Environmental Quality
CG or USCG	-	Coast Guard	DL	-	Decision Letters
CGA	-	Compressed Gas Association	DOC	-	Department of Commerce

DOD	- Department of Defense	FEMA	- Federal Emergency Management Agency
DOE	- Department of Energy	FMC	- Federal Maritime Commission
DOI	- Department of Interior	FOIA	- Freedom of Information Act
DOJ	- Department of Justice	FOIL	- Field Oil Identification Laboratory
DOL	- Department of Labor	FOSC	- Federal On-Scene Coordinator
DOS	- Department of State	FP	- Flashpoint
DOSC	Deputy On-Scene Coordinator	FPN	- Federal Project Number
DOT	- Department of Transportation	FR	- Federal Register
DSHO	- Designated Safety and Health Official	FRDA	- Freshwater Resource Damage Assessment
DWT	- Deadweight Tons	FRF	- Federal Revolving Fund
EBS	- Emergency Broadcast System	FT	- Fuel Tank
EEBA	- Emergency Escape Breathing Apparatus	FTJ	- Failure to Join
EEl	- Essential Elements of Information	FWPCA	- Federal Water Pollution Control Act (as amended) (33 U.S.C. 1251 et seq.)
EERU	- Environmental Emergency Response Unit	GIS	- Geographic Information System
EG	- Emergency Generator Room	GMT	- Greenwich Mean Time
EHS	- Extremely Hazardous Substance	GPM	- Gallons Per Minute
EIS	- Environmental Impact Statement	GSA	- General Services Administration
EMA	- Emergency Management Agency	GT	- Gross Tons
EMS	- Emergency Medical Service	HAZMAT	- Hazardous Materials
EMT	- Emergency Medical Technician	HAZWOPER	- Hazardous Waste Operations and Emergency Response
EO	- Executive Order	HHS	- Department of Health and Human Services
EOC	- Emergency Operations Center	HP	- High Pressure
EOD	- Explosive Ordinance Disposal	IC	- Incident Commander
EP	- Estimated Position	ICS	- Incident Command System
EPA	- U. S. Environmental Protection Agency	IDLH	- Immediately Dangerous to Life - or Health
EPCRA	- The Emergency Planning and Right-to-Know Act of 1986 (Title III of SARA)	IG	- Inert Gas
EQ	- Environmental Quality	IGS	- Inert Gas System
ERT	- Environmental Response Team	IOPP	- International Oil Pollution Prevention Convention
ESA	- Endangered Species Act	IS	- Intrinsically Safe
ESD	- Emergency Shutdown	JRT	- Joint Response Team
ETA	- Estimated Time of Arrival	KW	- Kilowatt
ETF	- Emergency Task Force	LEL	- Lower Explosive Limit
FAA	- Federal Aviation Administration	LEPC	- Local Emergency Planning Committee
FAX	- Facsimile Machine	LFL	- Lower Flammable Limit
FCC	- Federal Communications Commission	LNG	- Liquefied Natural Gas
FCL	- Flammable Cryogenic Liquid	LOA	- Length Overall
		LOC	- Letter of Compliance

LOP	-	Line of Position	OPA	-	Oil Pollution Act
LOSC	-	Local On-Scene Coordinator	OPS	-	Office of Pipeline Safety (DOT)
LOX	-	Liquefied Oxygen	ORB	-	Oil Record Book
LP	-	Low Pressure	OSC	-	On-Scene Coordinator
LPG	-	Liquefied Petroleum Gas	OSHA	-	Occupational Safety and Health Administration (USDH)
LRT	-	Local Response Team	OSLTF	-	Oil Spill Liability Trust Fund
MAWP	-	Maximum Allowable Working Pressure	OSPRA	-	Oil Spill Prevention and Response Act
MBL	-	Mobile	OSRL	-	Oil Spill Response Limited
MEP	-	Marine Environmental Protection	OSRO	-	Oil Spill Response Organization
MOU	-	Memorandum of Understanding	OT	-	Oil Tight
MSDS	-	Material Safety Data Sheet	OVA	-	Organic Vapor Analyzer
MSO	-	Marine Safety Office	OVS	-	Oily Water Separator
MSU	-	Marine Safety Unit	PCB	-	Polychlorinated Biphenyls
N/A	-	Not Applicable	PFD	-	Personal Flotation Device
NC	-	Not Certified	PGR	-	Pager
NCP	-	National Contingency Plan	PHMSA	-	Pipeline and Hazardous Materials Safety Administration (replaces RSPA)
NCWS	-	Non-Community Water System	PIAT	-	Public Information Assist Team
NEPA	-	National Environmental Policy Act	POLREP	-	Pollution Report
NIMS	-	National Incident Management System	PPE	-	Personal Protective Equipment
NIOSH	-	National Institute for Occupational Safety and Health	PPM	-	Parts Per Million
NLS	-	Noxious Liquid Substances	PSD	-	Prevention of Significant Deterioration
NM	-	Nautical Mile	QDC	-	Quick Disconnect Coupling
NMFS	-	National Marine Fisheries Service	QI	-	Qualified Individual
NMT	-	Not More Than	RACT	-	Reasonably Achievable Control Technology
NOAA	-	National Oceanic and Atmospheric Administration (Department of Commerce)	RCP	-	Regional Contingency Plan
NPDES	-	National Pollution Discharge Elimination System	RCRA	-	Resource Conservation and Recovery Act
NPFC	-	National Pollution Funds Center	RECON	-	Reconnaissance
NPRM	-	Notice of Proposed Rulemaking	RQ	-	Reportable Quantity
NPS	-	National Park Service	RSPA	-	Research and Special Programs Administration (replaced by PHMSA)
NRC	-	National Response Center	SARA	-	Superfund Amendments and Reauthorization Act
NRDA	-	Natural Resource Damage Assessment	SCBA	-	Self Contained Breathing Apparatus
NRS	-	National Response System	SDWA	-	Safe Drinking Water Act
NRT	-	National Response Team	SERC	-	State Emergency Response Commission
NSF	-	National Strike Force	SI	-	Surface Impoundment
NSFCC	-	National Strike Force Coordination Center	SIC	-	Standard Industrial Classification
NTNCWS	-	Non-Transient Non-Community Water System			

SKIM	- Spill Cleanup Equipment Inventory	U.S.	- United States
SMT	- Spill Management Team	USACOE	- U.S. Army Corps of Engineers
SONS	- Spill of National Significance	U.S.C.	- United States Code
SOP	- Standard Operating Procedure	USCG	- U.S. Coast Guard
SPCC	- Spill Prevention Control and Countermeasures	USDA	- U.S. Department of Agriculture
SSC	- Scientific Support Coordinator (NOAA)	USDL	- U.S. Department of Labor
STEL	- Short Term Exposure Limits	USDOD	- U.S. Department of Defense
SUPSALV	- United States Navy Supervisor of Salvage	USDOE	- U.S. Department of Energy
SWD	- Salt Water Disposal	USDW	- Underground Source of Drinking Water
TLV	- Threshold Limit Value	USFWS	- U. S. Fish and Wildlife Services
TSCA	- Toxic Substances Control Act	USGS	- U. S. Geological Survey
TSDF	- Treatment, Storage or Disposal Facility	USPCI	- United States Pollution Control, Incorporated
UCS	- Unified Command System	UST	- Underground Storage Tank
		WCD	- Worst Case Discharge
		WT	- Water Tight

APPENDIX K

REGULATORY AGENCY CORRESPONDANCE

**(Maintained in the Wichita Regional Office electronic file
– Contact the Pipeline Safety Supervisor)**

APPENDIX L

STATE, CITY, AND LOCAL EMERGENCY RESPONSE RESOURCES

<u>ORGANIZATION</u>	<u>CONTACT NAME</u>	<u>TITLE</u>	<u>ADDRESS</u>	<u>CITY</u>	<u>STATE</u>	<u>ZIP CODE</u>	<u>PHONE</u>	<u>FAX</u>	<u>COUNTY NAME</u>
Woodbury County Communications - PSAP	Glen Sedivy	Communications Director	4647 STONE AVE	SIOUX CITY	IA	51106-1918	712-279-6960	712-279-6157	WOODBURY COUNTY
Pottawattamie County Law Enforcement 9-1-1 Center - PSAP	Bob Anderson	Director of Operations	227 S 6TH ST	COUNCIL BLUFFS	IA	51501-4269	712-328-5739	712-328-4843	POTTAWATTAMIE COUNTY
Harrison County Law Enforcement Center - PSAP	Larry Oliver	Director EMA / 9-1-1	111 S 1ST AVE	LOGAN	IA	51546-1305	712-644-2537	712-644-3711	HARRISON COUNTY
Sioux County Sheriffs Office - PSAP	Nathan Huizenge	9-1-1 Director	4363 IRONWOOD AVE STE 3	ORANGE CITY	IA	51041-7511	712-737-3307	712-737-3006	SIOUX COUNTY
Tama County Sheriff's Office - PSAP	Ryan Currens	9-1-1 Director	100 N MAIN ST	TOLEDO	IA	52342-1212	641-484-3760	641-484-2198	TAMA COUNTY
Washington County Sheriff's Office - PSAP	Cara Sorrells	9-1-1 Supervisor	221 W 2ND ST	WASHINGTON	IA	52353-1996	319-653-2107	319-863-1002	WASHINGTON COUNTY
Hampton Police Department - PSAP	Wilma Mason	Dispatch Supervisor	17 2ND ST NW	HAMPTON	IA	50441-1903	641-456-2529	641-456-2528	FRANKLIN COUNTY
Plymouth County Sheriffs Office - PSAP	Shawn Olson	9-1-1 Coordinator	PLYMOUTH COUNTY COURTHOUSE, 215 4TH AVENUE, S.E.	LEMARS	IA	51031	712-546-8191	712-546-8796	PLYMOUTH COUNTY
Dickinson County Sheriff's Office - PSAP	Michael Ehret	9-1-1 Administrator	1802 HILL AVE STE 1202	SPIRIT LAKE	IA	51360-1278	712-336-2525	712-336-1946	DICKINSON COUNTY
Buena Vista County 9-1-1 Communications Center-Storm Lake - PSAP	Mark Van Hooser	9-1-1 Coordinator	411 EXPANSION BLVD	STORM LAKE	IA	50588-3512	712-749-2525	712-749-2557	BUENA VISTA COUNTY

Cherokee County Sheriffs Office - PSAP	Dave Skou	9-1-1 Coordinator	111 N 5TH ST	CHEROKEE	IA	51012-1728	712-225-6728	712-225-6739	CHEROKEE COUNTY
Grundy County Sheriff's Office - PSAP	Rick Penning	Sheriff	705 8TH ST	GRUNDY CENTER	IA	50638-1344	319-824-6933	319-824-5826	GRUNDY COUNTY
Hancock County Sheriff's Office - PSAP	Andy Buffington	9-1-1 Administrator	875 STATE ST	GARNER	IA	50438-1637	641-923-2621	641-923-2460	HANCOCK COUNTY
Ida County Sheriffs Office - PSAP	Edward Sohm	9-1-1 Coordinator	401 MOOREHEAD ST	IDA GROVE	IA	51445-1429	712-364-3146	712-364-2746	IDA COUNTY
Iowa County Sheriff's Office - PSAP	Sally Hall	9-1-1 Coordinator	960 FRANKLYN AVE	MARENGO	IA	52301-1400	319-642-7307	319-642-3826	IOWA COUNTY
Algona Police Department - PSAP	Jim Kelly	9-1-1 Coordinator	121 W STATE ST	ALGONA	IA	50511-2670	515-295-3515	515-295-9304	KOSSUTH COUNTY
Lee County Sheriff's Office - PSAP	Diana Septer	9-1-1 Director	2530 255TH ST	MONTROSE	IA	52639-9552	319-372-1152	319-372-1213	LEE COUNTY
Marshalltown Police Department - PSAP	Theresa Lang	Communications Supervisor	22 N CENTER ST	MARSHALLTOWN	IA	50158-4970	641-754-5725	641-754-4753	MARSHALL COUNTY
O'Brien County Sheriff's Office - PSAP	Anne Koontz	9-1-1 Coordinator	240 1ST ST NE	PRIMGHAR	IA	51245-7735	712-957-3415	712-757-8305	O'BRIEN COUNTY
Palo Alto County Sheriff's Department - PSAP	Mark Hunefeld	9-1-1 Director	1907 11TH ST	EMMETSBURG	IA	50536-2412	712-852-3535	712-852-3914	PALO ALTO COUNTY
Poweshiek County Sheriff's Office - PSAP	Dawn Disney	9-1-1 Coordinator	4802 BARNES CITY RD	MONTEZUMA	IA	50171	641-623-5679	641-623-2338	POWESHIEK COUNTY
Henry County Sheriffs Office - PSAP	Joe Buffington	9-1-1 Coordinator	100 E WASHINGTON ST STE 102	MOUNT PLEASANT	IA	52641-1949	319-385-2712	319-385-2384	HENRY COUNTY

Cerro Gordo County Sheriff - PSAP		9-1-1 Coordinator	17262 LARK AVE	MASON CITY	IA	50401-8940	641-421-3001	641-421-3135	CERRO GORDO COUNTY
Lyon County Sheriff's Office - PSAP	Stuart VanDerstoet	9-1-1 Coordinator, Sheriff	410 S BOONE ST	ROCK RAPIDS	IA	51246-1455	712-472-2521	712-472-2303	LYON COUNTY
Keokuk County Sheriff's Office - PSAP	Dick Koffman	9-1-1 Coordinator	204 S STONE ST	SIGOURNEY	IA	52591-1248	641-622-2727	641-622-3304	KEOKUK COUNTY
Monona County Sheriff's Office - PSAP	Rick Deen	9-1-1 Coordinator	909 7TH ST	ONAWA	IA	51040-1411	712-433-2525	712-433-1398	MONONA COUNTY
Hardin County Sheriff's Office - PSAP		9-1-1 Coordinator	1116 14TH AVE	ELDORA	IA	50627-1731	641-939-8190	641-939-8209	HARDIN COUNTY
Mills County Emergency Management	Larry Hurst	Director	418 Sharp Street	Glenwood	IA	51534	712-527-3643	712-527-4962	MILLS COUNTY
Butler County Emergency Communications - PSAP	Chris Davis	9-1-1 Director	121 S GORDY ST	EL DORADO	KS	67042-2920	316-322-4398	316-322-4206	BUTLER COUNTY
Harvey County 9-1-1 Communications - PSAP	Courtney Becker	Director of Communications	120 E 7TH ST	NEWTON	KS	67114-1801	316-283-4190	316-283-4892	HARVEY COUNTY
Sedgwick County Emergency Communications - PSAP	Randy Bargdill	Director of Emergency Communications	714 N MAIN ST	WICHITA	KS	67203-3603	316-263-6011	316-383-8060	SEDGWICK COUNTY
Winfield Police Department - PSAP	Floyd Clarkson	Dispatch Supervisor	812 MILLINGTON ST	WINFIELD	KS	67156-2879	620-221-5555	620-221-5592	COWLEY COUNTY
Ottawa County Sheriffs Office - PSAP	Keith Coleman	9-1-1 Coordinator	312 N OTTAWA ST	MINNEAPOLIS	KS	67467-1838	785-392-2157	785-392-3659	OTTAWA COUNTY
Concordia Police Department - PSAP	Sandy Sterling	Communications Supervisor	401 W 6TH ST	CONCORDIA	KS	66901-2715	785-243-3131	785-243-4727	CLOUD COUNTY

Riley County Emergency Management	Pat Collins	Director	115 N. 4 th Street, 2 nd Floor	Manhattan	KS	66502	785-537- 6333	785- 537- 6338	RILEY COUNTY
McPherson County Communications - PSAP	Darren Frazier	9-1-1 Director	1177 W WOODSIDE ST	MCPHERSON	KS	67460- 3256	620-245- 1266	620- 245- 1269	MCPHERSON COUNTY
Hutchinson-Reno County Emergency Communications - PSAP	Michelle Abbott	9-1-1 Director	210 W 1ST AVE	HUTCHINSON	KS	67501- 5204	620-694- 2800	620- 694- 2807	RENO COUNTY
Phillips County Sheriff's Office - PSAP	Michelle Derr	9-1-1 Coordinator / Tach Officer	301 STATE ST STE G	PHILLIPSBURG	KS	67661- 1940	785-543- 6885	785- 543- 2289	PHILLIPS COUNTY
Republic County Communications Center - PSAP	Ramond Raney	Communications Director	1815 M ST	BELLEVILLE	KS	66935- 2202	785-527- 5655	785- 527- 2188	REPUBLIC COUNTY
Salina Police Department - PSAP	Wayne Pruitt	Communications Supervisor	255 N 10TH ST	SALINA	KS	67401- 2149	785-826- 7210	785- 826- 6515	SALINE COUNTY
Smith County Sheriff's Office - PSAP	Margaret Doxey	9-1-1 Supervisor	217 S JEFFERSON ST	SMITH CENTER	KS	66967- 2806	785-282- 5180	785- 282- 5185	SMITH COUNTY
Augusta Department Of Public Safety - PSAP	Ray Marbut	Communications Commander	2100 OHIO ST	AUGUSTA	KS	67010- 2175	316-775- 4500	316- 775- 4565	BUTLER COUNTY
Arkansas City Police Department - PSAP	Beth Leach	Communications Supervisor	117 W CENTRAL AVE	ARKANSAS CITY	KS	67005- 2621	620-441- 4444	620- 442- 1410	COWLEY COUNTY
Andover Police Department - PSAP	Bill Duggan	Communications Director	909 N ANDOVER RD	ANDOVER	KS	67002- 9795	316-733- 5177	316- 733- 9648	BUTLER COUNTY
Minneapolis Emergency Communications Center - PSAP		9-1-1 Coordinator	350 S 5TH ST STE B911	MINNEAPOLIS	MN	55415- 1318	612-348- 2345	612- 348- 7217	HENNEPIN COUNTY
Anoka County Central - PSAP	Linda Hanson	9-1-1 Director	325 E MAIN ST	ANOKA	MN	55303- 2489	763-427- 1212	763- 422- 7504	ANOKA COUNTY

Wright County Sheriff's Office - PSAP	Annette Habisch	Communications Supervisor	3800 BRADDOCK AVE NE	BUFFALO	MN	55313-3662	763-682-1162	763-682-7610	WRIGHT COUNTY
Douglas County Sheriff's Office - PSAP	Troy Wolbersen	Sheriff	216 7TH AVE W	ALEXANDRIA	MN	56308-1771	320-762-8151	320-763-4493	DOUGLAS COUNTY
Grant County Sheriff's Office - PSAP	Dwight Walvatne	Sheriff	10 2ND ST NE	ELBOW LAKE	MN	56531-4400	218-685-8280	218-685-5319	GRANT COUNTY
Otter Tail County Sheriff's Office - PSAP	Matthew McGuire	9-1-1 Coordinator	417 S COURT ST	FERGUS FALLS	MN	56537-2560	218-998-8555	218-998-8557	OTTER TAIL COUNTY
Stearns County Sheriff's Office - PSAP	Mary Ann Terwey	9-1-1 Contact	705 COURTHOUSE SQ RM 35	SAINT CLOUD	MN	56303-4701	320-251-4240	320-259-3769	STEARNS COUNTY
Todd County Sheriff's Office - PSAP	Pete Mikkelson	Sheriff	115 3RD ST S	LONG PRAIRIE	MN	56347-1356	320-732-2157	320-732-3867	TODD COUNTY
Wilkin County Law Enforcement Center - PSAP	Dawn Mund	Communications Supervisor	515 DACOTAH AVE	BRECKENRIDGE	MN	56520-2017	218-643-8544	218-643-9115	WILKIN COUNTY
Hennepin County North - PSAP		9-1-1 Coordinator	9300 NAPER ST	GOLDEN VALLEY	MN	55427-3728	763-525-6216	763-525-6239	HENNEPIN COUNTY
Hennepin County East - PSAP		9-1-1 Coordinator	9300 NAPER ST	GOLDEN VALLEY	MN	55427-3728	763-525-6216	763-525-6239	HENNEPIN COUNTY
Ramsey County Emergency Communications Center – PSAP		9-1-1 Coordinator	388 13TH ST E	SAINT PAUL	MN	55101-2454	651-767-0640	651-292-3547	RAMSEY COUNTY
Clay County Emergency Dispatch		9-1-1 Dispatch	300 NP Avenue	Fargo	ND	58102	701-451-7660	701-451-7678	CLAY COUNTY
Bismarck / Burleigh Emergency Management and Combined	Mike Dannenfelzer	Communications Director	2301 UNIVERSITY DR BLDG 21	BISMARCK	ND	58504-7595	701-222-6727	701-221-6804	BURLEIGH COUNTY

Morton County Emergency Management - PSAP	Tammy Lapp	9-1-1 Coordinator/Emergency Manager	210 2ND AVE NW	MANDAN	ND	58554- 3124	701-667- 3330	701- 667- 3463	MORTON COUNTY
North Dakota State Radio Communications - PSAP	Michael Lynk	Director of Communications	PO BOX 5511	BISMARCK	ND	58506- 5511	701-328- 9921	701- 328- 9926	BURLEIGH COUNTY
Valley City Police Department - PSAP	Andrea Suhr	9-1-1 Coordinator	216 2ND AVE NE	VALLEY CITY	ND	58072- 3008	701-845- 3110	701- 845- 3100	BARNES COUNTY
Stutsman County Communications - PSAP	Jerald Bergquist	Emergency Management Coordinator	205 6TH ST SE	JAMESTOWN	ND	58401- 4295	701-252- 1000	701- 252- 7087	STUTSMAN COUNTY
Kidder County Sheriff's Department		911-Dispatch	PO Box 318	Steele	ND	58482	701-475- 2422		KIDDER COUNTY
Dickey County Emergency Management	Charles Russell	DES Director	309 North 2nd Street	Ellendale	ND	58436	(701) 320-6299	(701) 349- 3960	DICKEY COUNTY
Lamoure County Emergency Management	Kimberly Robbins	Emergency Manager	202 4th Ave NE	LaMoure	ND	58458	(701) 883-6096 (701) 830-0258 (Cell)		LAMOURE COUNTY
Douglas County 9-1- 1 Communications Center - PSAP	Mark Conrey	9-1-1 Director	3603 N 156TH ST	OMAHA	NE	68116- 2025	402-444- 5802	402- 444- 3407	DOUGLAS COUNTY
Washington County 911 - PSAP	Barb Brazelton	E-9-1-1 Coordinator	1555 COLFAX ST	BLAIR	NE	68008- 2007	402-426- 6866	402- 426- 6843	WASHINGTON COUNTY
Mid Rivers 9-1-1 - PSAP	Jeanie Schmidt	Dispatch Supervisor	148 SOUTH TAYLOR STREET	CAMPBELL	NE	68932	402-756- 8823	402- 756- 8822	FRANKLIN COUNTY
Dodge County Sheriff - PSAP	Steve Hespen	Communications Supervisor	428 N BROAD ST	FREMONT	NE	68025- 4962	402-727- 2700	402- 727- 2714	DODGE COUNTY

Polk County - PSAP	Dwaine W. Ladwig	Sheriff	251 N MAIN ST	OSCEOLA	NE	68651-5512	402-747-2231	402-747-5981	POLK COUNTY
Clay County - PSAP	Loren Uden	9-1-1 Director	104 E EDGAR ST	CLAY CENTER	NE	68933-1424	402-762-3528	402-762-3852	CLAY COUNTY
Saunders County Sheriff - PSAP	Rhonda Riecken	Communications Supervisor	387 N CHESTNUT ST	WAHOO	NE	68066-1869	402-443-1000	402-443-8199	SAUNDERS COUNTY
Thayer County Sheriff's Office - PSAP	David Lee	Sheriff	324 OLIVE AVE	HEBRON	NE	68370-1531	402-768-6139	402-768-6336	THAYER COUNTY
Hastings 9-1-1 Center / Adams County - PSAP	Kathy Eley	Communications Supervisor	317 S BURLINGTON AVE	HASTINGS	NE	68901-5936	402-461-2364	402-462-7117	ADAMS COUNTY
Cedar County Sheriffs 911 - PSAP	Kevin Garvin	Communications Supervisor	101 E CENTRE ST	HARTINGTON	NE	68739-6006	402-254-6884	402-254-2351	CEDAR COUNTY
Hamilton County - PSAP	Debra Wehmeier	Communications Supervisor	715 12TH ST	AURORA	NE	68818-2306	402-694-6936	402-694-6930	HAMILTON COUNTY
Madison County Sheriff - PSAP	Sandy Habrouck	Communications Supervisor	1313 N MAIN ST	MADISON	NE	68748-6063	402-454-2110	402-454-3816	MADISON COUNTY
Burt County 911 - PSAP	Carla Hart	Communications Supervisor	111 N 13TH ST STE 1	TEKAMAH	NE	68061-1082	402-374-2900	402-374-2901	BURT COUNTY
Harlan/ Phelps/ City Of Holdrege - PSAP	Dennis DaMoude	Chief of Police	813 5TH AVE	HOLDREGE	NE	68949-2210	308-995-4407	308-995-4140	PHELPS COUNTY
Columbus Police Department / Platte County - PSAP	Nancy Roubal	Communications Supervisor	2419 14TH ST	COLUMBUS	NE	68601-5000	402-564-3201	402-562-7325	PLATTE COUNTY
Colfax County Communications E9-1-1 - PSAP	Tina Bartlett	9-1-1 Coordinator	411 E 11TH ST	SCHUYLER	NE	68661-1917	402-352-8514	402-352-8545	COLFAX COUNTY
Lexington / Dawson County / Gosper County - PSAP	Deb White	Communications Supervisor	709 N GRANT ST	LEXINGTON	NE	68850-1900	308-324-3011	308-324-3006	DAWSON COUNTY

Fillmore County - PSAP	Brandie Conway	9-1-1 Dispatch Supervisor	900 G ST	GENEVA	NE	68361-2035	402-759-4441	402-759-4429	FILLMORE COUNTY
Butler County - PSAP	Rick Schneider	Communications Supervisor	451 N 5TH ST	DAVID CITY	NE	68632-1675	402-367-7400	402-367-3222	BUTLER COUNTY
Franklin County - PSAP	Beth Roberts	Dispatch Supervisor	405 15TH AVE	FRANKLIN	NE	68939-1329	308-425-6231	308-425-3261	FRANKLIN COUNTY
Pierce County Sheriff - PSAP	Rick Eberhardt	Sheriff	111 W COURT ST RM 7	PIERCE	NE	68767-1276	402-329-6346	402-329-6620	PIERCE COUNTY
Norfolk Police Dept / Stanton/ Pierce Counties - PSAP	Trish Hanis	Communications Supervisor	202 N 7TH ST	NORFOLK	NE	68701-4083	402-644-8700	402-844-2160	MADISON COUNTY
Nuckolls County Sheriff's Office - PSAP	Brad Baker	Chief Deputy	150 S MAIN ST	NELSON	NE	68961-6100	402-225-2831	402-225-3014	NUCKOLLS COUNTY
York County Sheriffs Office - PSAP	Jan Stuhr	Communications Supervisor	510 N LINCOLN AVE	YORK	NE	68467-2945	402-362-4927	402-362-2651	YORK COUNTY
North Platte Police Department/ Lincoln County - PSAP	Mary Ann Agler	Dispatch Supervisor	701 S JEFFERS ST	NORTH PLATTE	NE	69101-5376	308-535-6789	308-535-6788	LINCOLN COUNTY
Frontier County 9-1-1 - PSAP	Daniel Rupp	Sheriff	308 CENTER AVE	CURTIS	NE	69025-3002	308-367-4411	308-367-4268	FRONTIER COUNTY
Kearney County Sheriffs Office - PSAP	Scott Waite	Sheriff / 9-1-1 Coordinator	246 N COLORADO AVE	MINDEN	NE	68959-1623	308-832-2805	308-832-0946	KEARNEY COUNTY
Cass County Emergency	Sandra Weyers	Emergency Management Director	8400 144th St Suite 200	Weeping Water	NE	68463	402-267-6765 402-296-9370 (24 H)	402-267-7945	CASS COUNTY
Gage County Emergency Management	Lisa Wiegand	Emergency Manager	612 Grant St.	Beatrice	NE	68310	402-223-1305 402-223-	402-223-1368	GAGE COUNTY

							7031 (Cell)		
GAGE COUNTY 911 DISPATCH		911 Dispatch	905 N 4 th Street	Beatrice	NE	68310	402-228-4080		GAGE COUNTY
Gosper County Dispatch		911 Dispatch	406 East 7th Street	Lexington	NE	68850	308-324-3011		GOSPER COUNTY
Johnson & Pawnee County Dispatch		911 Dispatch	Box 335	Tecumseh	NE	68450	402-335-3307		JOHNSON & PAWNEE COUNTY
Otoe County 911 Center		911 Dispatch	1021 Central Avenue, Box 1	Nebraska City	NE	68410	402-873-9560 (24 Hour)		OTOE COUNTY
Webster County Emergency Management	Ron Sunday	Emergency Manager	641 N Cedar	Red Cloud	NE	68970	402-746-2722 (24 Hours)	N/A	WEBSTER COUNTY
Metro Communications - PSAP	Daren Ketcham	9-1-1 Director	500 N MINNESOTA AVE	SIOUX FALLS	SD	57104-2492	605-367-7222	605-367-7664	MINNEHAHA COUNTY
Lincoln County Central Communications - PSAP	Todd Baldwin	Director of Communications	128 N MAIN ST	CANTON	SD	57013-1769	605-764-5651	605-764-2767	LINCOLN COUNTY
Mitchell Regional 911 Center - PSAP	Marlene Haynes	Communications Supervisor	201 W 1ST AVE	MITCHELL	SD	57301-2512	605-995-8400	605-995-8486	DAVISON COUNTY
Huron Police Department - PSAP	Lisa McWethy	Dispatch Supervisor	239 WISCONSIN AVE SW	HURON	SD	57350-1915	605-353-8550	605-353-8554	BEADLE COUNTY
Brown County Regional	John Mc Quillen	9-1-1 Director	25 MARKET ST	ABERDEEN	SD	57401-4224	605-626-7911	605-626-4003	BROWN COUNTY

Communications Center - PSAP									
Clay County Emergency Services and Communication Center - PSAP	Ryan Anderson	9-1-1 Supervisor	15 N WASHINGTON ST	VERMILLION	SD	57069-2031	605-677-7100	605-677-7165	CLAY COUNTY
Spink County - PSAP	Kevin Schurch	9-1-1 Coordinator / Sheriff	210 E 7TH AVE	REDFIELD	SD	57469-1283	605-472-4595	605-472-2301	SPINK COUNTY
Union County Sheriffs Office - PSAP		9-1-1 Coordinator	209 E MAIN ST	ELK POINT	SD	57025-2327	605-356-2679	605-356-3356	UNION COUNTY
Yankton Police Department - PSAP	Dlites	9-1-1 Coordinator	410 WALNUT ST STE 104	YANKTON	SD	57078-4389	605-668-5210	605-668-5203	YANKTON COUNTY
Miner County Dispatch 9-1-1 - PSAP	Cora Schwader	9-1-1 Coordinator	PO BOX 366	HOWARD	SD	57349-0366	605-772-4501	605-772-4148	MINER COUNTY
Hanson County Sheriff's Office		Sheriff's Dispatch	720 E 5th	Alexandria	SD	57311	605-239-4409	605-239-4410	HANSON COUNTY
Hutchinson County Emergency Management	Dave Hoffman	Emergency Manager	406 N. Bismark Street	Parkston	SD	57366	605-770-7927 (24 Hour) 605-928-3042 (Home)	605-928-7928	HUTCHINSON COUNTY
Mitchell Dispatch Center		911 Dispatch or Public Safety	201 W 1 st Avenue	Mitchell	SD	57301	605-995-8400	605-995-8486	HANSON, HUTCHINSON, & SANBORN
Jerauld County Sheriff		Sheriff's Office	205 Wallace Ave South	Wessington Springs	SD	57382	605-539-1311 (24 H)		JERAULD COUNTY
Sanborn County Emergency Management	Ernie Anderson	Emergency Manager	PO Box 426	Woonsocket	SD	57385	605-796-4511	605-796-4504	SANBORN COUNTY