Appendix 12-D
Breeding Bird and Marsh Bird Survey Report

REDACTED

Ellenburg Wind Repowering Project
Matter No. 23-03033

GRASSLAND BREEDING BIRD AND MARSH BIRD SURVEYS

ELLENBURG WIND REPOWERING PROJECT TOWN OF ELLENBURG, CLINTON COUNTY, NEW YORK

VALCOUR ELLENBURG NEWCO, LLC

PROJECT NO.: US-WSP-31403295.031-B6173
DATE: SEPTEMBER 2024

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LIST OF ABBREVIATIONS AND ACRONYMS

BBS	Breeding bird surveys
Ellenburg NewCo	Valcour Ellenburg NewCo, LLC
MBS	Marsh bird surveys
NYSDEC	New York State Department of Environmental Conservation
ORES	Office of Renewable Energy Siting
Project	Ellenburg Wind Repowering Project
SSC	Species of Special Concern
T&E	Threatened and Endangered Species
WSP	WSP USA Inc.

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1 INTRODUCTION

1.1 BACKGROUND

Valcour Ellenburg NewCo, LLC (Ellenburg NewCo) is proposing to repower and operate the Ellenburg Wind Repowering Project (Project), located in the Town of Ellenburg, in Clinton County, New York. Figure 1-1 presents the proposed Project Boundary at the time of the breeding bird surveys (BBS) and marsh bird surveys (MBS). Throughout this document, "Study Area" refers to project parcels that form a general boundary around the site, while "Project Boundary" refers to the specific areas of the Project construction limit of disturbance with a surrounding 100-foot buffer, according to the current construction plan.

WSP USA Inc. (WSP) conducted BBS in the Study Area from May 15, 2024, to July 19, 2024. A breeding bird study plan was submitted to the Office of Renewables Energy Siting (ORES) in compliance with 19 New York Codes, Rules and Regulations § 900-1.3(g) in April 2024 (WSP 2024a). ORES reviewed the BBS study plan, which was prepared consistent with the New York State Department of Environmental Conservation (NYSDEC) *Survey Protocol for State-listed Breeding Grassland Bird Species* (NYSDEC 2022). ORES reviewed and provided comments on April 30, 2024. WSP provided a response to comments via email to ORES on May 8, 2024.

In addition, WSP conducted breeding MBS in the Study Area from May 31, 2024, to June 26, 2024. A marsh bird survey study plan was submitted to the ORES in compliance with 19 New York Codes, Rules and Regulations § 900-1.3(g) in April 2024 (WSP 2024b). The marsh bird survey study plan was conducted in accordance with the *Standardized North American Marsh Bird Monitoring Protocols* (Conway 2011).

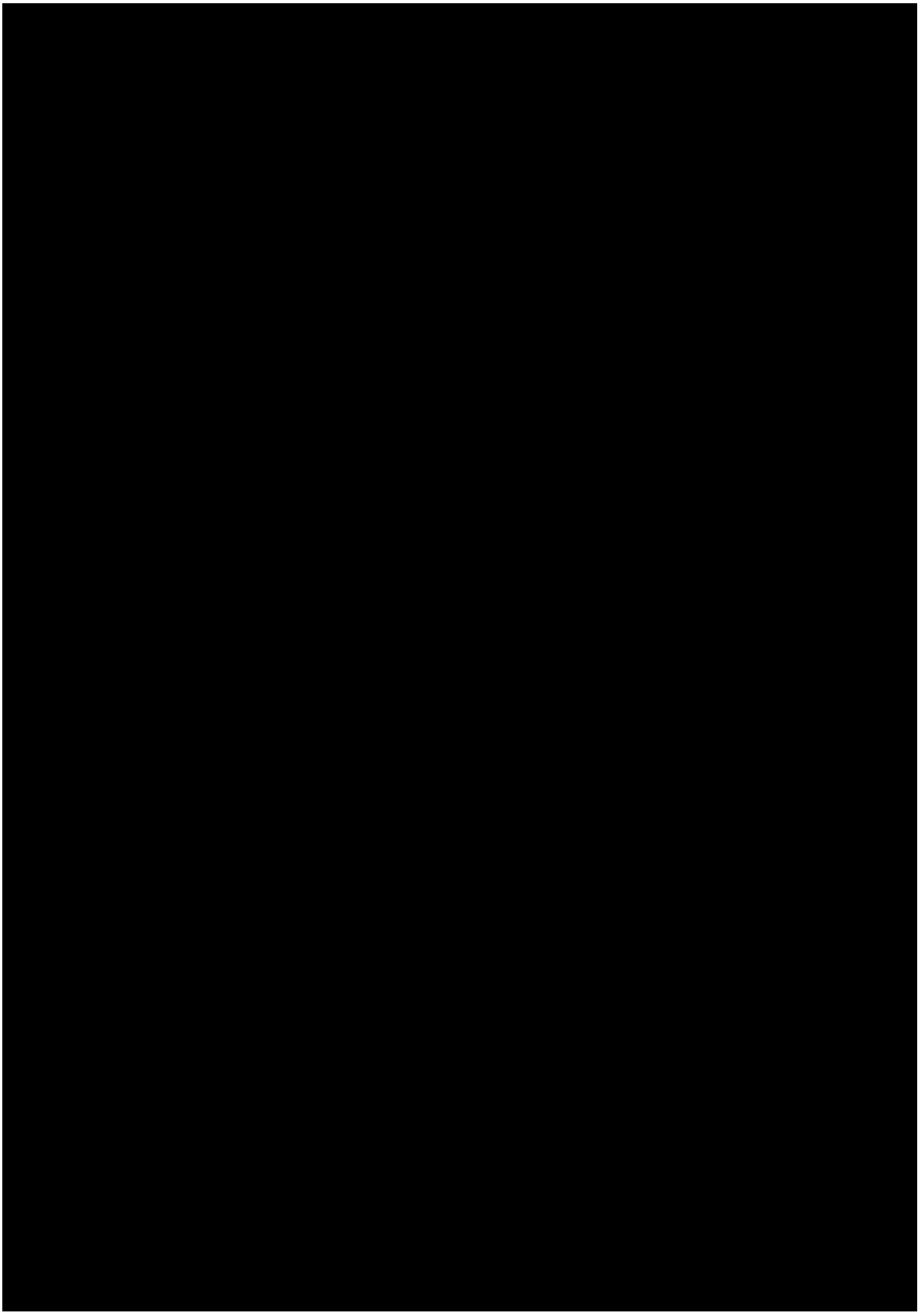
The objectives of the breeding bird and marsh bird surveys were as follows:

1. To determine the presence of, and sites used by, New York State-listed threatened and endangered grassland bird and focal marsh bird species during the breeding season.
2. Collect information on the species richness and abundance of breeding grassland bird species and marsh bird species in the Study Area.
3. Document particular areas used by State-listed grassland bird species and State-listed marsh bird species within the Study Area.
4. Report the baseline data resulting from surveys.
5. While it is not a direct objective of the survey or the report, it is understood that the data will be used to review whether suitable or occupied habitat for bird species listed as threatened or endangered by New York State or the U.S. Fish and Wildlife Service (USFWS) is identified within the Study Area as part of the ORES Article VIII application process.

The methodology and results of the 2024 breeding grassland bird surveys and 2024 marsh bird surveys are summarized in this report.

1.2 STUDY AREA

The Study Area is composed of project parcels that contain the proposed Project Boundary. The Study Area encompass approximately 9,368 acres in Clinton County, New York. Figure 1-1 depicts the boundaries of the Project Boundary, Study Area, and the land cover types within these areas. The elevation at the Study Area is approximately 1,500 feet (457 meters) above sea level. Based on data from the 2021 National Land Cover Database, most of the land cover within the Study Area is composed of deciduous forest and hay/pasture (approximately 26 and 25 percent, respectively) (USGS 2021). Other dominant land cover types throughout the Study Area include cultivated crops (21 percent), evergreen forest (11 percent), and mixed forest (8 percent). The remaining habitat types (e.g., barren land, shrub/scrub, developed spaces, woody wetlands, emergent herbaceous wetlands, and herbaceous) each consist of three percent or less of the Study Area acreage. Site reconnaissance is consistent with the 2021 National Land Cover Database dataset.



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2 METHODS

The primary focus of the BBS and MBS were to determine the presence and site use by New York State-listed threatened, endangered, and species of special concern grassland bird species (see Table 2-1) and focal marsh bird species (see Table 2-2) during the breeding season. The breeding bird survey and marsh bird survey are part of the pre-application review by ORES in compliance with 19 New York Codes, Rules and Regulations § 900-1.3(g)(4).

2.1 STUDY DESIGN

GRASSLAND BREEDING BIRD SURVEYS

Forty-five grassland breeding bird point count locations were established in areas of suitable grassland within parcels in the Study Area. The number of point count locations was determined per accessible parcel by placing a point for every 25 acres (10 hectares) of suitable grassland habitat within the 250-meter new disturbance areas within the Project. A minimum distance of 250 meters (820 feet) in all directions was provided between point counts and point count locations were placed to cover open habitat throughout the Study Area. The study encompassed habitats that are generally representative of new disturbance areas in the Study Area. A total of 45 point count locations were surveyed for a total of eight periods within the survey window of May 15 to July 20, 2024. Two points were backfilled for one period as a result of delayed clearance for land access. Figure 2-1 presents a map of grassland breeding bird survey locations and their viewsheds.

MARSH BIRD SURVEYS

One marsh bird survey point was established in representative wetland habitat where project components may potentially approach areas suitable for marsh birds (see Figure 2-1). The marsh bird point was surveyed for three periods between May 31, 2024, and June 26, 2024 (one visit in May and two visits in June), for a total of three survey days.

2.2 FIELD METHODS

2.2.1 SITE CHARACTERIZATION

Survey methods for site characterization at each breeding bird survey point count location were established in accordance with the NYSDEC *Survey Protocol for State-listed Breeding Grassland Bird Species* (NYSDEC 2022). Survey methods for site characterization at each marsh bird point were established in accordance with the *Standardized North American Marsh Bird Monitoring Protocols* (Conway 2011).

GRASSLAND BREEDING BIRD SURVEYS

Site description information for each point count location was collected separately and included habitat type, management practices (e.g., timing of hayfield mowing), distance from the nearest road, distance from hedgerow or forest, distance to nearest shrub, and vegetation measurements in a 25-meter (82-foot) radius from the survey point. Vegetation measurements included percent cover of each vegetation type (i.e., grass, forb, woody, and bare ground), dominant grass and dominant forb, and litter depth. A Robel pole was used to measure vegetation density from four cardinal directions and then averaged. Average plant height was measured using a meter stick.

MARSH BIRD SURVEYS

Site description information collected for the marsh bird point count location included wetland classification (e.g. PEM, PSS, PFO), wetland permanency, water depth, percent of dispersion pattern, and marsh edge habitat type. Vegetation measurements included percent vegetation cover (e.g. open water, trees, scrub-shrub, emergent plants), percent of dominant plant species (including invasive species) and estimated average marsh vegetation height.

2.2.2 BIRD SURVEYS

GRASSLAND BREEDING BIRD SURVEYS

Survey methods to assess breeding grassland bird use and distribution at the Study Area were established in accordance with the breeding bird study plan (WSP 2024a).

At each point count location, the avian biologist surveyed for a period of 5 minutes after an initial 1 to 2 minutes of silence following their arrival at the survey point to allow birds to recover from any disturbance. Birds observed or heard within approximately 100 meters (328 feet) were recorded. Surveys were generally conducted between one-half hour before sunrise until 10:30 a.m.., although on rare occasions a point was surveyed after 10:30 a.m. Morning surveys were conducted at each point count location once per survey period with approximately one week between surveys. Surveys were not generally conducted during inclement weather (e.g., rain) or on days with strong winds (i.e., greater than 12 miles per hour). [redacted] was not identified as a potential target species for the Study Area; [redacted]

The surveyor recorded the following data at each point count location: start and end time for each survey; weather information (i.e., temperature, wind speed, wind direction, and cloud cover); a note on habitat if appropriate (e.g., whether recently mowed); bird species identification; number of individuals per species within 100 meters; how the species was detected (visual or auditory); breeding behavior (e.g., carrying food or nest material, courtship behavior, territorial defense, singing) using New York Breeding Bird Atlas breeding codes (NYSDEC 2024); and any additional pertinent notes. Birds detected over 100 meters from the observer, between survey points during the meander survey, and flyover species were recorded separately from birds detected within 100 meters.

For any federally and/or state-listed threatened or endangered species documented in the Study Area (including incidental observations), the following information was recorded: date, time, behavior observed, perch locations, potential or confirmed nest locations, foraging areas, flight paths, and flight height mapped on aerial photographs.

MARSH BIRD SURVEYS

Survey methods to assess breeding marsh bird use and distribution at the Study Area were established in accordance with the marsh bird survey study plan (WSP 2024b). Three rounds of surveys were conducted approximately bi-weekly between May 15 and June 30, 2024 (one period in May and two periods in June, for a total of 3 survey days), the period of peak activity of the marsh bird breeding season. Each survey route was visited one time in each 15-day survey

period with approximately 10 days between each round of surveys. Surveys were conducted in the morning between a half hour (30 minutes) before sunrise until no later than three hours after sunrise. Similar to grassland bird surveys, surveys did not take place during inclement weather. The one marsh bird point was surveyed prior to conducting grassland breeding bird surveys.

Marsh bird surveys included a 5-minute passive period prior to broadcasting recorded calls. After the 5-minute passive period, the survey or broadcasted calls for 30 seconds of a focal marsh breeder that may be potentially found in the area, followed by 30 seconds of silence, followed by calls of the next species. The broadcast calls included vocalizations of [redacted] All birds observed or heard were recorded. Similar to grassland bird surveys, at each point count station the surveyor recorded start and end time; weather information; species identification; number of individuals per species; how the species was detected (visual or auditory); breeding behavior; and any additional pertinent notes. For any federally and/or state-listed threatened or endangered species detected, locations were mapped on aerial photographs along with recording other notes.

2.3 DATA ANALYSIS

Following each survey day, data were entered for future analysis into an Excel spreadsheet. Prior to any analysis, the data were checked for accuracy and completeness.

Data were analyzed from each point count location using species richness and relative abundance as a baseline analysis for the area. Abundance was calculated as the number of observations for each species and the total for the entire survey. Species composition was generated as a list of species observed, while species diversity was the number of species identified by point count location for the entire survey period. Relative abundance was calculated as the proportion of the number of each species relative to total bird observations for the survey period (birds per survey location). Species frequency was calculated as the percent of surveys in which each species was identified.

Spatial use was investigated by comparing the abundance and species diversity by location. Abundance of each species was also grouped by point count survey location and by survey period.

2.4 INCIDENTAL OBSERVATIONS

Incidental observations included bird species that were observed or heard either outside the 100-meter survey radius from grassland survey points, flyover detections, or detected outside of the 5-minute timeframe of surveys (e.g., walking between points or to the surveyor's vehicle). The surveyor recorded the species and number for these incidental bird observations, provided such observations did not detract from the detection of birds within the 100-meter survey radius. Incidental observations for marsh bird surveys included bird species observed or heard outside of the 11-minute timeframe of the broadcast surveys.

Consistent with the NYSDEC protocol, detailed information on incidental observations of threatened and endangered species are included in this report. The incidental data were not used in the final quantitative analysis.

2.5 SPECIES OF CONCERN

All federally and/or state-listed threatened and endangered species and species of special concern were identified and recorded, along with their listing status, number observed, survey point, approximate location and/or flight path, and date and time observed.

Shapefiles of point count survey locations and any detections of all federally and/or state-listed threatened and endangered species were provided separately.

2.6 WEATHER CONDITIONS

Surveys were completed during appropriate weather conditions to allow target species to be detected. Surveys were not generally conducted during periods of precipitation, fog, or moderate to sustained strong winds (i.e., wind speeds greater than 12 miles per hour), although some breeding bird surveys experienced periods of precipitation or maximum winds greater than 12 mph.

Weather data, including temperature, cloud cover, and wind speed and direction were recorded at the start of each survey. Temperature was measured with a car thermometer or the Wunderground weather application. Wind speed and wind direction were recorded using the Wunderground application. Cloud cover was estimated by the surveyor before starting the survey at each point.

2.7 QUALITY ASSURANCE AND QUALITY CONTROL

Field staff were responsible for reviewing their data forms for completeness, accuracy, and legibility at the end of each survey date. The data were regularly reviewed by the project manager for quality assurance. Irregular or potentially questionable data were flagged and discussed with field personnel.

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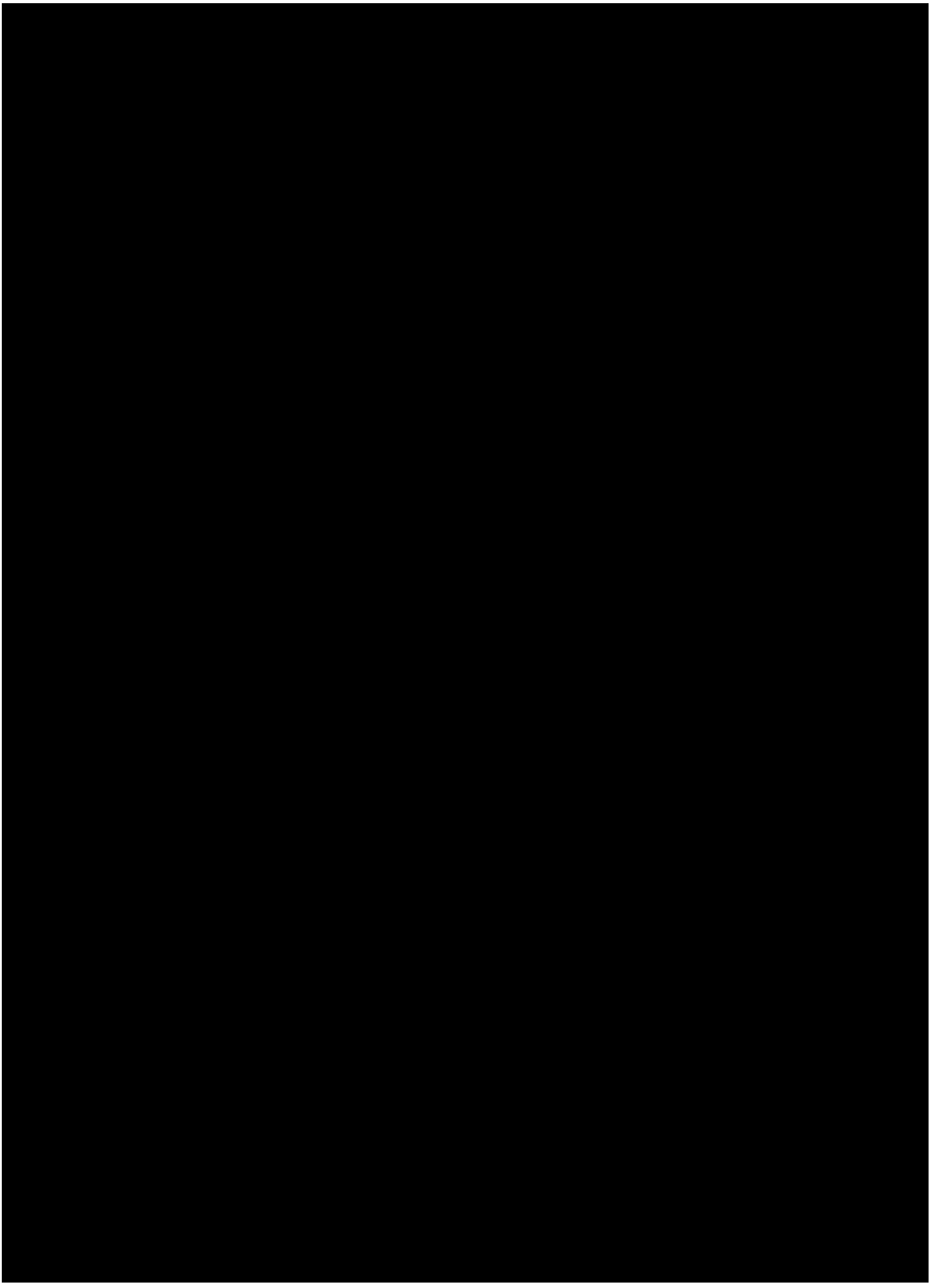

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3 RESULTS

3.1 SURVEY DATA OVERVIEW

A total of 360 grassland point count surveys (30 hours of survey effort) were conducted from May 15, 2024 through July 19, 2024, during which 1,018 detections of 48 species were recorded within the 100-meter survey radius from each survey point. Although 60 point count locations were originally identified in the Study Plan, a total of 19 points were eliminated from the study and not surveyed due to changes in layout design. Points B24 and B32 were backfilled for period two because of delay in land access permission. There were [redacted] recorded within the Study Area during grassland breeding bird surveys (see section 3.7). Survey dates are provided in Table 3-1.

Table 3-1 Survey Dates for Grassland Breeding Bird Surveys and Marsh Bird Surveys at the Ellenburg Wind Repowering Project in 2024

Survey Period	Dates	Number of Grassland Points Surveyed	Number of Marsh Points Surveyed
1	5/15, 5/16, 5/22, 5/23	45	0
2	5/22, 5/23, 5/30, 5/31	43	1
3	6/4, 6/5, 6/8	45	0
4	6/10, 6/11, 6/12, 6/13, 6/18	45	0
5	6/18, 6/19, 6/22	45	1
6	6/25, 6/26	45	1
7	7/2, 7/3, 7/4, 7/9	46	0
8	7/12, 7/15, 7/18, 7/19	46	0
Total		**360**	**3**

Note: Backfilling for period 2 occurred in July for two grassland BBS points that had a delay in land access.

Three marsh bird point count surveys (11 minutes each, totaling 33 minutes of total survey effort) were conducted from May 31, 2024, through June 26, 2024 (Table 3-1), during which 47 detections of nine species were recorded at all distances from each survey point. One marsh bird point was surveyed three times, approximately once every two weeks. No threatened or endangered (T&E) species or SSC were recorded within the Study Area during marsh bird surveys. [redacted]

The full dataset of species, numbers, locations, dates, times, stationary versus incidental detections, and breeding codes are recorded for bird observations during all surveys and are presented in Appendix A.

3.2 SITE CHARACTERIZATION DATA

Out of the 45 grassland survey points that were visited eight times, 25 were classified as hayfield, one was classified as a hayfield/scrub-shrub, seven were classified as pasture, 11 were classified as row crop, and one was classified as fallow (see Table 3-2). Breeding bird survey points were dominated by a mix of grass species and forbs. Grasses dominated at 41-point count survey locations and included orchard grass (*Dactylis glomerata*), corn (*Zea mays*), sweet vernal grass (*Anthoxanthum odoratum*), timothy grass (*Phleum pratense*), Kentucky bluegrass (*Poa pratensis*), perennial ryegrass (*Lolium perenne*), and redtop grass (*Agrostis gigantea*). Forbs dominated at four point count survey locations, which consisted of alfalfa (*Medicago sativa*). Six of the grassland survey points were predominantly bare ground within the 25-meter radius vegetation plot. Site characterization data are presented in Appendix B.

Table 3-2 Vegetation Types at each Survey Point for Ellenburg Wind Repowering Solar Project in 2024

Survey Point	Vegetation Type	Dominant Plant	Average Vegetation Height (cm)[1]	Date Measured	Time of Mowing
B1	Pasture	Orchard Grass	56	6/18/2024	Lightly grazed.
B2	Hayfield	Alfalfa	68	6/18/2024	Mowed prior to Period 8.
B3	Hayfield	Orchard Grass	28	7/19/2024	Mowed prior to Period 8.
B4	Hayfield	Timothy	75	6/26/2024	Mowed prior to Period 8.
B5	Pasture	Red Fescue	81	6/18/2024	Lightly grazed.
B6	Hayfield	Timothy	55	6/26/2024	Mowed prior to Period 8.
B7	Hayfield	Perennial Ryegrass	56	6/26/2024	Mowed prior to Period 8.
B8	Hayfield	Redtop	30	7/3/2024	Mowed prior to Period 8.
B9	Row Crop	Corn	120	7/19/2024	Tilled prior to Period 4.
B10	Pasture	Timothy	80	7/3/2024	Lightly grazed.
B11	Row Crop	Corn	76	7/12/2024	Tilled for agriculture.
B12	Row Crop	Corn	30	7/3/2024	Tilled for agriculture.
B13	Row Crop	Corn	84	7/3/2024	Tilled for agriculture.
B14	Row Crop	Corn	79	7/3/2024	Tilled for agriculture.
B15	Row Crop	Corn	93	7/3/2024	Tilled for agriculture.
B16	Row Crop	Corn	115	7/19/2024	Tilled for agriculture.

Table 3-2 Vegetation Types at each Survey Point for Ellenburg Wind Repowering Solar Project in 2024

Survey Point	Vegetation Type	Dominant Plant	Average Vegetation Height (cm)[1]	Date Measured	Time of Mowing
B17	Row Crop	Corn	55	7/3/2024	Tilled for agriculture.
B18	Row Crop	Corn	160	7/19/2024	Tilled for agriculture.
B19	Hayfield	Orchard Grass	52	7/19/2024	Mowed prior to Period 8.
B20	Hayfield	Alfalfa	28	7/19/2024	Mowed prior to Period 8.
B21	Hayfield	Orchard Grass	31	7/15/2024	Mowed prior to Period 8.
B22	Hayfield	Orchard Grass	34	7/15/2024	Mowed prior to Period 8.
B23	Hayfield	Orchard Grass	43	6/22/2024	Mowed prior to Period 8.
B24	Hayfield	Timothy	55	6/22/2024	Mowed prior to Period 8.
B25	Hayfield	Orchard Grass	120	6/5/2024	Unmanaged for duration of the study.
B26	Hayfield	Orchard Grass	95	6/26/2024	Unmanaged for duration of the study.
B27	Pasture	Kentucky Bluegrass	53	6/26/2024	Lightly grazed.
B28	Row Crop	Corn	130	7/19/2024	Tilled for agriculture on 5/30/24 (Period 2)
B29	Pasture	Orchard Grass	52	6/26/2024	Lightly grazed.
B30	Row Crop	Corn	100	7/19/2024	Tilled for agriculture on 5/30/24 (Period 2)
B31	Hayfield	Orchard Grass	75	6/5/2024	Mowed prior to Period 8.
B32	Hayfield	Orchard Grass	28	6/18/2024	Mowed prior to Period 8.
B33	Hayfield	Orchard Grass	38	7/19/2024	Mowed prior to Period 8.
B34	Hayfield	Sweet Vernal Grass	38	6/18/2024	Mowed prior to Period 8.
B35	Hayfield	Fescue	22	6/18/2024	Mowed prior to Period 8.

Table 3-2 Vegetation Types at each Survey Point for Ellenburg Wind Repowering Solar Project in 2024

Survey Point	Vegetation Type	Dominant Plant	Average Vegetation Height (cm)[1]	Date Measured	Time of Mowing
B36	Hayfield/ Scrub-shrub	Sweet Vernal Grass	41	6/18/2024	Mowed prior to Period 8.
B43	Hayfield	Orchard Grass	15	6/18/2024	Mowed prior to Period 8.
B44	Fallow	Sweet Vernal Grass	16	6/18/2024	Unmanaged for duration of the study.
B49	Hayfield	Alfalfa	16	7/19/2024	Tilled on 5/31/24 (Period 2). Alfalfa planted.
B50	Hayfield	Alfalfa	24	7/19/2024	Tilled on 5/31/24 (Period 2). Alfalfa planted.
B54	Hayfield	Timothy	17	7/19/2024	Mowed prior to Period 8.
B55	Hayfield	Orchard Grass	130	6/18/2024	Unmanaged for duration of the study.
B56	Pasture	Orchard Grass	22	6/18/2024	Lightly grazed.
B60	Hayfield	Sweet Vernal Grass	74	6/18/2024	Mowed prior to Period 8.
B62	Pasture	Kentucky Bluegrass	16	6/26/2024	Lightly grazed.
MB1	Palustrine Emergent Wetland	Sedges spp.	85	6/26/2024	Unmanaged for duration of the study.

Notes: [1]Average of meter stick measurements.

Vegetation height was measured using a meter stick and averaged 60 centimeters (cm) overall for all 45 grassland BBS points measured, with 49.5 cm for hayfield vegetation, average 51 cm for pasture vegetation, average 95 cm for row crop, and 16 cm for the one fallow point. Litter depth varied across the site, averaging 2 cm overall for all survey points measured (see Table 3-2).

Twenty-one hayfield BBS points were mowed prior to period 8, while three hayfield points (B25, B26, and B55) remained unmowed for the duration of the surveys. The seven pasture points were lightly grazed, and the one fallow point (B44) remained unmanaged for the duration of the surveys. Eleven points were tilled for agriculture and two points (B49 and B50) were tilled for alfalfa (see Table 3-2).

The one marsh bird survey point was classified as palustrine emergent wetland (PEM). Sedges and sedge relatives were the dominant plant cover for the marsh bird survey point. This wetland

was left unmanaged for the duration of the study. Site characterization data for all points are presented in Appendix Table B-1 (BBS) and Table B-2 (MBS).

3.3 ABUNDANCE, SPECIES COMPOSITION, SPECIES DIVERSITY, RELATIVE ABUNDANCE, AND SPECIES FREQUENCY

GRASSLAND BREEDING BIRD SURVEYS

During the breeding bird surveys, 1,018 observations of 48 species were recorded within the 100-meter (328-foot) radius point count survey plots. [redacted]

Abundance ranged from one to 280 observations per species, with an overall average of 2.8 observations per survey. The most abundantly observed species were Savannah Sparrow (*Passerculus sandwichensis*) (280 observations; 28 percent of all bird observations); Bobolink (*Dolichonyx oryzivorus*) (138 observations; 14 percent of all bird observations); Song Sparrow (*Melospiza melodia*) (114 observations; 11 percent of all observations), and Red-winged Blackbird (*Agelaius phoeniceus*) (60 observations; 6 percent of all bird observations). Together, these four commonly observed species accounted for approximately 59 percent of the total birds detected throughout the survey (see Table 3-3).

The most frequently observed species across all points were Savannah Sparrow (46 percent frequency), Song Sparrow (24 percent frequency), Bobolink (12 percent frequency), Red-winged Blackbird (10 percent frequency) and Chestnut-sided Warbler (*Setophaga pensylvanica*, nine percent frequency) (see Table 3-3).

Table 3-3 Survey Result Statistics by Species for Birds within 100 meters, for the Grassland Breeding Bird Survey at the Ellenburg Wind Repowering Project from May to July 2024

Species	Abundance (Number of Observations)	Birds per Survey	Relative Abundance (%)	Frequency of Occurrence (%)
Canada Goose	2	0.01	0.2	0.3
Wild Turkey	7	0.02	0.7	0.6
Killdeer	5	0.01	0.5	0.8
Turkey Vulture	1	0.00	0.1	0.3
Red-tailed Hawk	1	0.00	0.1	0.3
Downy Woodpecker	1	0.00	0.1	0.3
Northern Flicker	2	0.01	0.2	0.6
Pileated Woodpecker	1	0.00	0.1	0.3
American Kestrel	4	0.01	0.4	0.8
[redacted]				

Table 3-3 Survey Result Statistics by Species for Birds within 100 meters, for the Grassland Breeding Bird Survey at the Ellenburg Wind Repowering Project from May to July 2024

Species	Abundance (Number of Observations)	Birds per Survey	Relative Abundance (%)	Frequency of Occurrence (%)
Alder Flycatcher	2	0.01	0.2	0.6
Eastern Kingbird	4	0.01	0.4	0.8
Warbling Vireo	1	0.00	0.1	0.3
Red-eyed Vireo	18	0.05	1.8	5.0
Blue Jay	1	0.00	0.1	0.3
American Crow	16	0.04	1.6	2.5
Common Raven	1	0.00	0.1	0.3
Black-capped Chickadee	5	0.01	0.5	1.1
Barn Swallow	38	0.11	3.7	3.9
Golden-crowned Kinglet	1	0.00	0.1	0.3
European Starling	43	0.12	4.2	1.9
Gray Catbird	1	0.00	0.1	0.3
Brown Thrasher	1	0.00	0.1	0.3
Northern Mockingbird	1	0.00	0.1	0.3
American Robin	39	0.11	3.8	7.5
Cedar Waxwing	25	0.07	2.5	3.6
House Sparrow	1	0.00	0.1	0.3
Purple Finch	1	0.00	0.1	0.3
American Goldfinch	43	0.12	4.2	7.8
Chipping Sparrow	7	0.02	0.7	1.9
Field Sparrow	2	0.01	0.2	0.6
White-throated Sparrow	1	0.00	0.1	0.3
Savannah Sparrow	280	0.78	27.5	45.6
Song Sparrow	114	0.32	11.2	24.2
Bobolink	138	0.38	13.6	11.9
Eastern Meadowlark	27	0.08	2.7	6.4
Red-winged Blackbird	60	0.17	5.9	10.3
Brown-headed Cowbird	1	0.00	0.1	0.3
Common Grackle	7	0.02	0.7	1.1
Black-and-white Warbler	3	0.01	0.3	0.8
Nashville Warbler	1	0.00	0.1	0.3
Mourning Warbler	1	0.00	0.1	0.3
Common Yellowthroat	21	0.06	2.1	5.0
Northern Parula	1	0.00	0.1	0.3
Yellow Warbler	37	0.10	3.6	7.8
Chestnut-sided Warbler	35	0.10	3.4	9.2
Yellow-rumped Warbler	3	0.01	0.3	0.8

Table 3-3 Survey Result Statistics by Species for Birds within 100 meters, for the Grassland Breeding Bird Survey at the Ellenburg Wind Repowering Project from May to July 2024

Species	Abundance (Number of Observations)	Birds per Survey	Relative Abundance (%)	Frequency of Occurrence (%)
Indigo Bunting	12	0.03	1.2	3.1
Grand Total	**1,018**	**2.83**	**100.0**	**--**

MARSH BIRD SURVEYS

During the marsh bird surveys, 47 observations of nine species were recorded during broadcast surveys. Abundance ranged from one to 19 observations per species, with an overall average of 15.7 observations per 11-minute survey. The most abundantly observed species were Canada Goose (*Branta canadensis*) (19 observations; 40 percent of all bird observations) and Red-winged Blackbird (15 observations; 32 percent of all bird observations). Together, these two commonly observed species accounted for approximately 72 percent of the total birds detected throughout the marsh bird survey (see Table 3-4).

The most frequently observed species for the marsh bird surveys were Canada Goose (100 percent frequency), Red-winged Blackbird (67 percent frequency), Mallard (*Anas platyrhynchos*) (67 percent frequency), and [redacted] (see Table 3-4).

The only focal marsh bird species observed during surveys was [redacted]. There were [redacted] at the marsh bird point (MB1) with 0.67 observations per survey, which represented 4.3 percent of all bird observations. The highest breeding code [redacted] was heard singing at the location more than seven days apart, which is considered probable breeding according to the New York Breeding Bird Atlas.

Table 3-4 Survey Result Statistics by Species for the Marsh Bird Survey at Ellenburg Wind Repowering Project from May to June 2024 (All Distances)

Species	Abundance (Number of Birds Observed)	Observations per Survey	Relative Abundance (%)	Frequency of Occurrence (%)
Canada Goose	19	6.33	40.4	100.0
Mallard	3	1.00	6.4	66.7
[redacted]				
Belted Kingfisher	1	0.33	2.1	33.3
Common Raven	1	0.33	2.1	33.3
Veery	1	0.33	2.1	33.3
Cedar Waxwing	3	1.00	6.4	33.3
Song Sparrow	2	0.67	4.3	33.3
Red-winged Blackbird	15	5.00	31.9	66.7

Table 3-4 Survey Result Statistics by Species for the Marsh Bird Survey at Ellenburg Wind Repowering Project from May to June 2024 (All Distances)

Species	Abundance (Number of Birds Observed)	Observations per Survey	Relative Abundance (%)	Frequency of Occurrence (%)
Grand Total	**47**	**15.67**	**100.0**	**--**

3.4 ABUNDANCE AND SPECIES DIVERSITY BY SURVEY LOCATION

GRASSLAND BREEDING BIRD SURVEYS

Total species diversity for the 45 survey points ranged from two species (points B4, B19, and B49 [hayfield], B13, B15, B16, and B17 [row crop]) to 15 species (point B10 [hayfield]), with an average of 6.8 species across all points (see Table 3-5). The greatest number of observations per survey by point occurred at points B62 (pasture) and B26 (hayfield), which averaged 10.1 and 8.9 observations per survey, respectively. The lowest average number of observations per survey occurred at points B15 and B16 (row crop), which averaged 0.3 observations per survey (see Table 3-5).

Appendix C provides the abundance of each species by survey location and abundance of each species by survey period.

Table 3-5 Survey Results by Point for the Breeding Bird Survey at the Ellenburg Wind Repowering Project from May to July 2024 (within 100 meters)

Point	Habitat Type	Abundance (Number of Birds Detected)	Number of Surveys	Number of Birds Detected per Survey	Relative Abundance (%)	Species Diversity (Total Number of Species by Point)
B1	Pasture	36	8	4.5	3.5	14
B2	Hayfield	20	8	2.5	2.0	7
B3	Hayfield	17	8	2.1	1.7	5
B4	Hayfield	14	8	1.8	1.4	2
B5	Pasture	61	8	7.6	6.0	13
B6	Hayfield	28	8	3.5	2.8	8
B7	Hayfield	32	8	4.0	3.1	7
B8	Hayfield	24	8	3.0	2.4	9
B9	Row Crop	10	8	1.3	1.0	6
B10	Pasture	46	8	5.8	4.5	15
B11	Row Crop	3	8	0.4	0.3	3
B12	Row Crop	12	8	1.5	1.2	5

Table 3-5 Survey Results by Point for the Breeding Bird Survey at the Ellenburg Wind Repowering Project from May to July 2024 (within 100 meters)

Point	Habitat Type	Abundance (Number of Birds Detected)	Number of Surveys	Number of Birds Detected per Survey	Relative Abundance (%)	Species Diversity (Total Number of Species by Point)
B13	Row Crop	3	8	0.4	0.3	2
B14	Row Crop	7	8	0.9	0.7	4
B15	Row Crop	2	8	0.3	0.2	2
B16	Row Crop	2	8	0.3	0.2	2
B17	Row Crop	5	8	0.6	0.5	2
B18	Row Crop	16	8	2.0	1.6	7
B19	Hayfield	8	8	1.0	0.8	2
B20	Hayfield	21	8	2.6	2.1	7
B21	Hayfield	36	8	4.5	3.5	12
B22	Hayfield	13	8	1.6	1.3	3
B23	Hayfield	19	8	2.4	1.9	8
B24	Hayfield	23	8	2.9	2.3	10
B25	Hayfield	42	8	5.3	4.1	4
B26	Hayfield	71	8	8.9	7.0	6
B27	Pasture	23	8	2.9	2.3	7
B28	Row Crop	28	8	3.5	2.8	14
B29	Pasture	10	8	1.3	1.0	3
B30	Row Crop	3	8	0.4	0.3	3
B31	Hayfield	25	8	3.1	2.5	10
B32	Hayfield	29	8	3.6	2.8	10
B33	Hayfield	28	8	3.5	2.8	7
B34	Hayfield	54	8	6.8	5.3	10
B35	Hayfield	11	8	1.4	1.1	7
B36	Hayfield/Scrub-shrub	41	8	5.1	4.0	14
B43	Hayfield	11	8	1.4	1.1	5
B44	Fallow	16	8	2.0	1.6	6
B49	Hayfield	6	8	0.8	0.6	2
B50	Hayfield	10	8	1.3	1.0	6
B54	Hayfield	25	8	3.1	2.5	5
B55	Hayfield	21	8	2.6	2.1	6
B56	Pasture	11	8	1.4	1.1	5
B60	Hayfield	14	8	1.8	1.4	6
B62	Pasture	81	8	10.1	8.0	13
	Total	**1,018**	**360**	**--**	**100.0**	**48**
	Average	**22.6**	**8.0**	**2.8**	**--**	**6.8**

MARSH BIRD SURVEYS

Marsh bird surveys at point MB1 had a total of 47 birds detected. Species diversity for the one marsh bird survey point (MB1) was nine species and averaged 15.7 observations per survey.

3.5 INCIDENTAL OBSERVATIONS

An additional 3,112 observations of 91 species were recorded outside of the 100-meter (328-foot) radius point count plots or were flyovers. An additional 11 observations of six species were recorded outside of the 5-minute timeframe of point count surveys. There was one state-listed threatened species detected outside of the 5-minute point count surveys: [redacted] detected between points in foraging flight traveling south. Data for all incidental observations are included in Appendix D.

No incidental species were recorded during marsh bird surveys, primarily because birds at all distances were recorded during marsh bird surveys.

3.6 SPECIES CONFIRMED AS LOCAL BREEDERS

Breeding was confirmed at the Study Area (or near vicinity) for 10 bird species, including incidental observations. European Starling (*Sturnus vulgaris*) was the most frequently observed species exhibiting behaviors sufficient to confirm nesting, including adults carrying nesting material, food, or a fecal sac, and the presence of recently fledged young or nest with young. The other nine species confirmed as local breeders included Bobolink, Savannah Sparrow, Song Sparrow, American Crow (*Corvus brachyrhynchos*), Red-winged Blackbird, Brown-headed Cowbird (*Molothrus ater*), Indigo Bunting (*Passerina cyanea*), Eastern Meadowlark (*Sturnella magna*), and Common Grackle (*Quiscalus quiscula*). See notes with field sightings in Appendix A.

No species were confirmed as local breeders during marsh bird surveys. See Appendix A for a complete list of species, numbers, and behavior of individuals observed.

3.7 SPECIES OF CONCERN

Four sightings of New York State T&E species were recorded within the Study Area during grassland breeding bird surveys. The T&E sightings consisted of [redacted]. The [redacted] were recorded during the surveys, with one detected within the 100-meter radius plot and two observed outside the 100-meter radius plot (see Figure 3-1 and Table 3-6). The highest breeding code observed for the [redacted] was agitated behavior [redacted] on July 3, 2024, which is considered probable breeding status according to the New York Breeding Bird Atlas (NYSDEC 2024). The highest breeding code observe for [redacted] was in appropriate habitat, which is considered possible breeding status (NYSDEC 2024).

There were two New York State SSC identified during grassland breeding bird surveys: [redacted] were observed outside the 100-meter radius plot in direct flight. These observations were flyovers not considered breeding behavior according to the New York Breeding Bird Atlas. [redacted] was observed during a survey in appropriate habitat, which is considered possible breeding status (NYSDEC 2024).

There were no sightings of T&E species or SSC recorded during the marsh bird surveys. Appendix E includes representative photographs of the habitat at survey points where species of concern were observed during breeding bird surveys.

[redacted]

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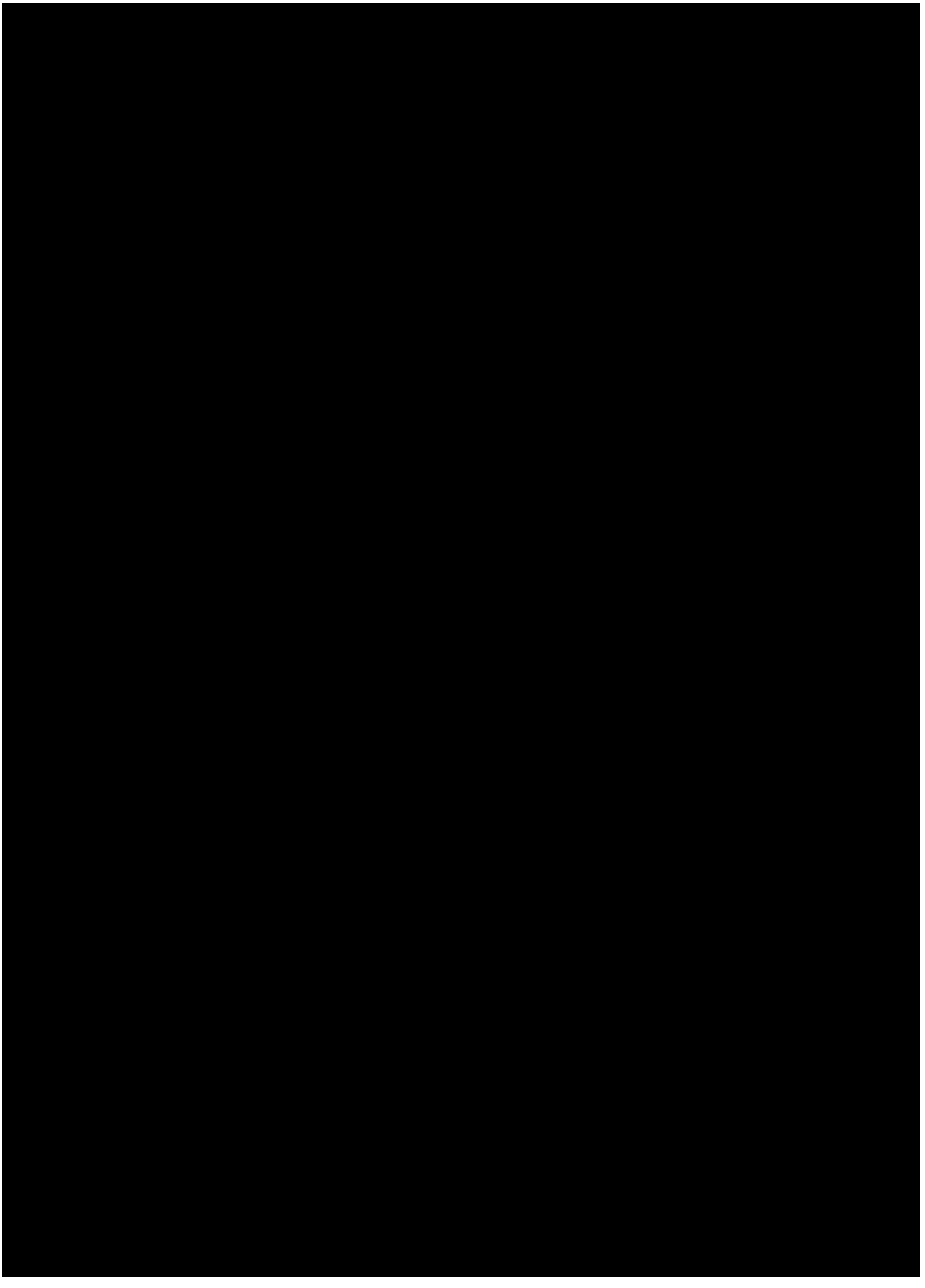

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3.8 WEATHER CONDITIONS AND DISTURBANCES

Weather conditions were typically conducive to surveying. In general, temperatures slowly rose throughout each survey day, and winds tended to increase throughout each day and varied in direction. Weather conditions during the breeding bird survey and marsh bird survey periods and days prior to surveys are noted in Appendix F.

Disturbance events were rare but may have affected some surveys. In general, the surveyor resolved potential disruptions by waiting for the disturbance or weather event to pass or returning to the survey point at a later time.

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4 SUMMARY

During the breeding grassland surveys, [redacted] were observed at the Study Area (see Section 3.7). These sightings included [redacted] was observed in low foraging flight traveling south. The highest breeding code observed for [redacted] was in appropriate habitat, which is possible breeding according to the New York Breeding Bird Atlas. Locations of all state-listed threatened species are presented on Figure 3-1.

[redacted]

During marsh bird surveys, one focal marsh bird species was detected during the marsh bird surveys: [redacted] The highest breeding code observed [redacted] was heard singing at the location more than seven days apart, which is considered probable breeding according to the New York Breeding Bird Atlas.

WSP implemented the NYSDEC *Survey Protocol for State-Listed Breeding Grassland Bird Species* (NYSDEC 2022) for the grassland BBS. WSP diligently followed the survey schedule to meet the protocol, including conducting eight survey periods (two in May, four in June, and two in July for most points) for all grassland point count plots. The eight surveys at 45 grassland survey points between May 15, 2024, and July 19, 2024 provided thorough coverage of the Study Area throughout the 2024 breeding season.

For marsh bird surveys, WSP implemented the protocol in the Standardized North American Marsh Bird Monitoring Protocols (Conway 2011). WSP conducted three surveys (one survey period in May and two in June) to determine the presence or absence of the state-listed threatened or endangered marsh birds. The three surveys at one point between May 31 and June 26, 2024, provided adequate coverage of wetland habitats where project components may potentially approach areas suitable for marsh birds.

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5 REFERENCES

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APPENDIX

A Full Survey Results

Note: The full breeding bird survey dataset uses the data form provided by NYSDEC as part of the 2022 breeding bird survey protocol. The “Number Observed” field for records with “Stationary” entered for Protocol includes all birds recorded during the five-minute surveys. For a given species during a survey this number includes birds within the 100-meter survey radius, outside the 100-meter survey radius, and flyover detections. Records with “Incidental” for Protocol represent birds recorded between survey points.

It is noted that entering reportable data into the New York State Breeding Bird Atlas via eBird is an optional data management tool. However, Ellenburg NewCo prefers to not enter data into eBird at this time.

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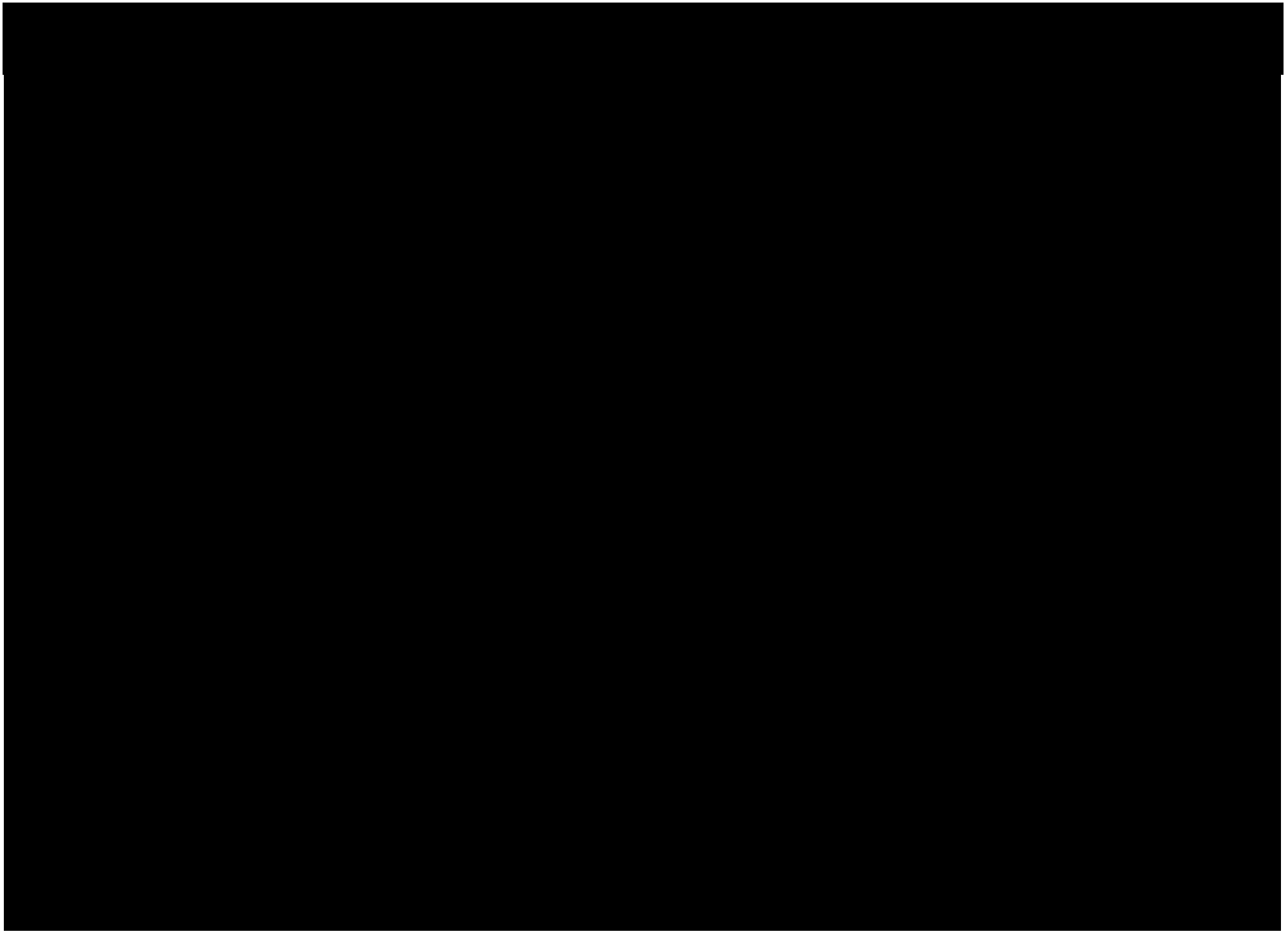

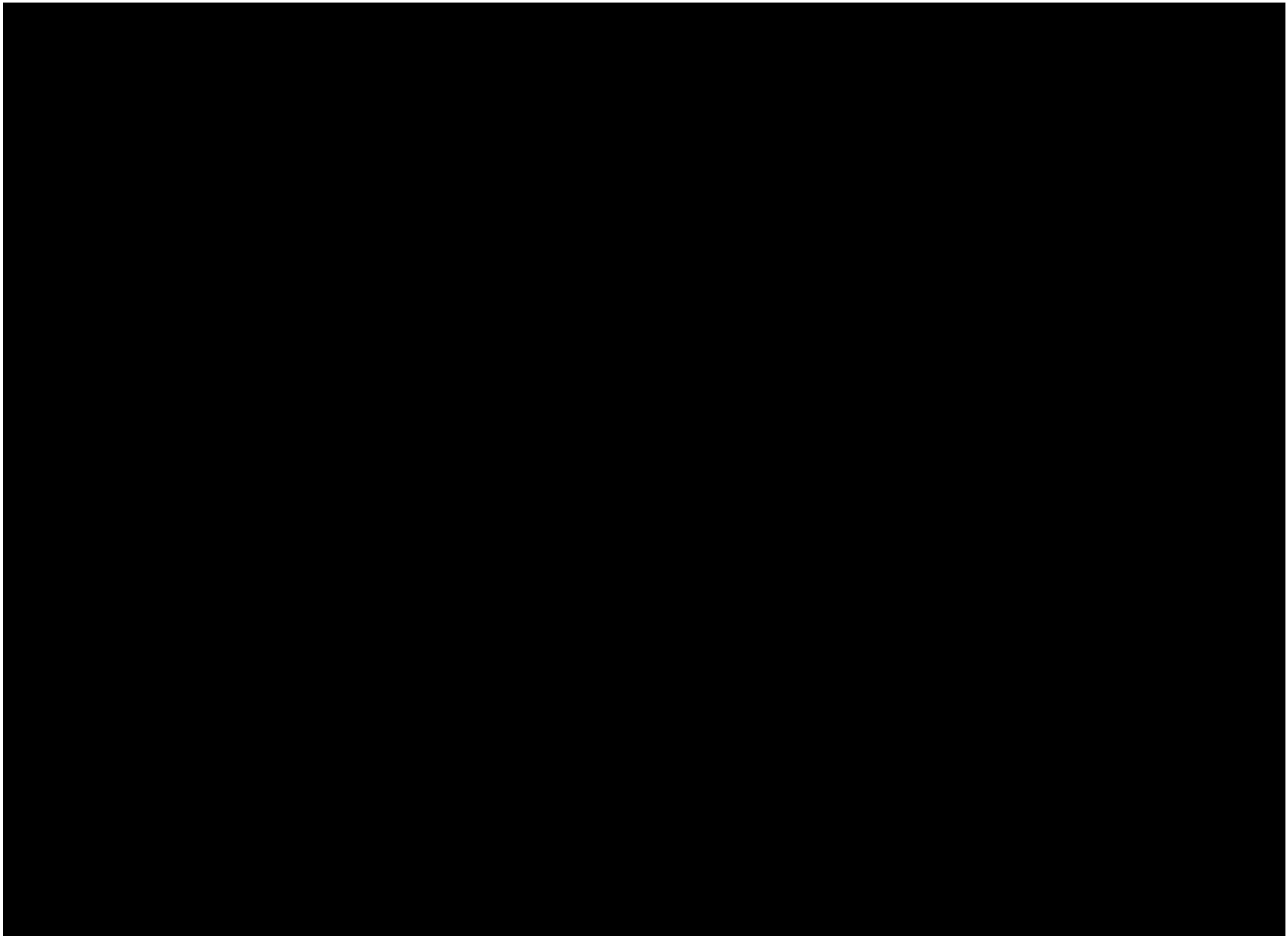

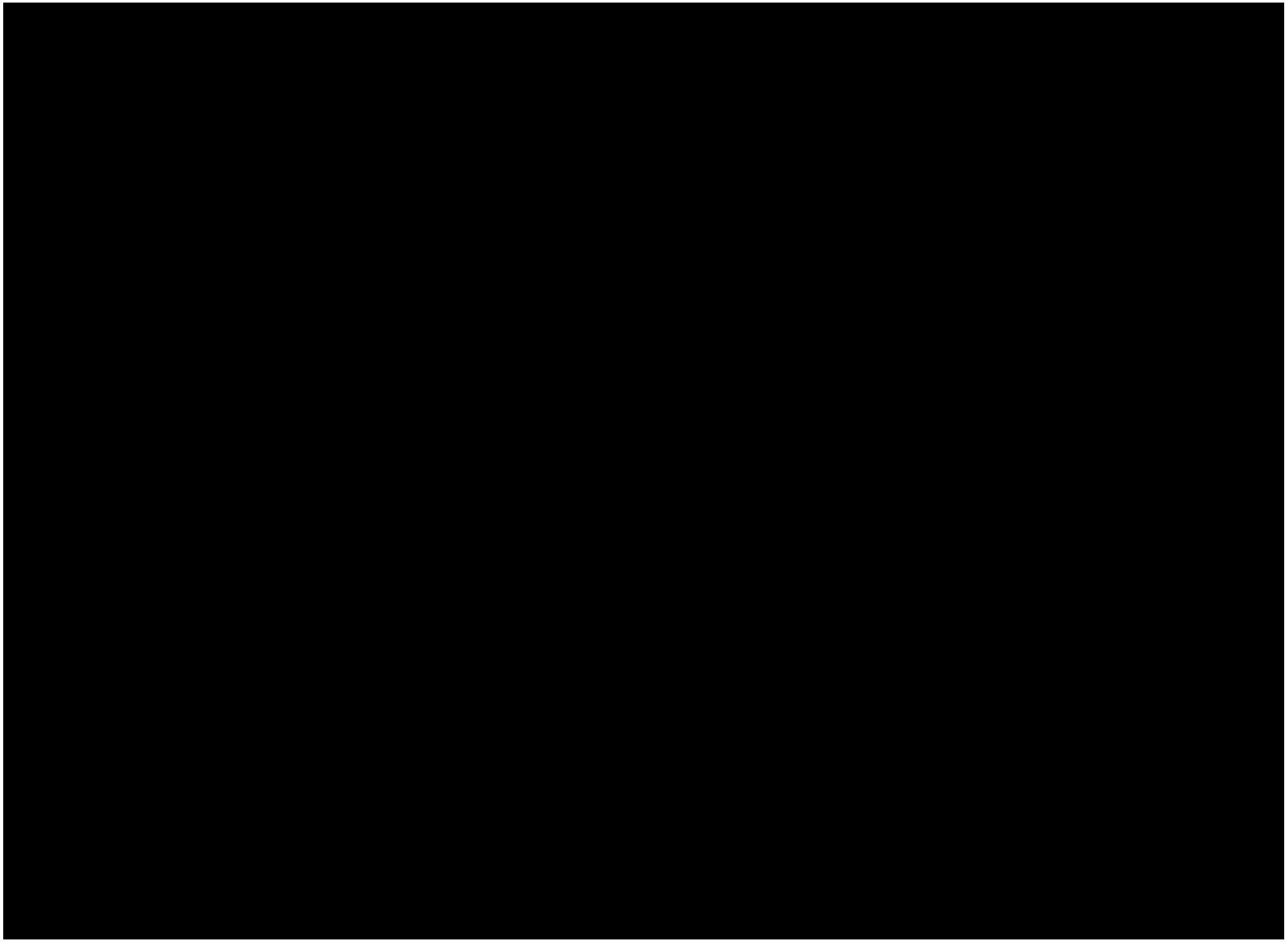

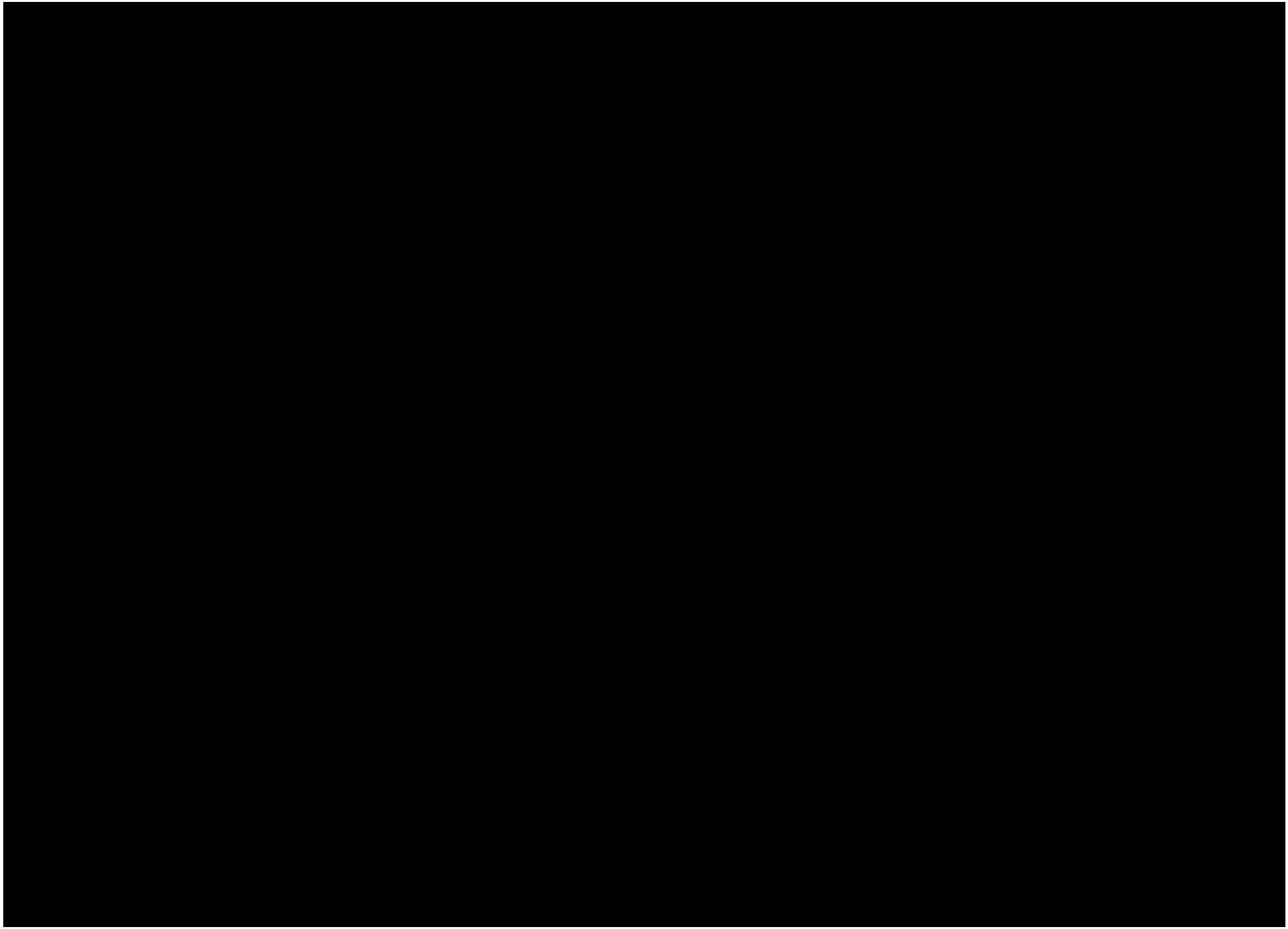

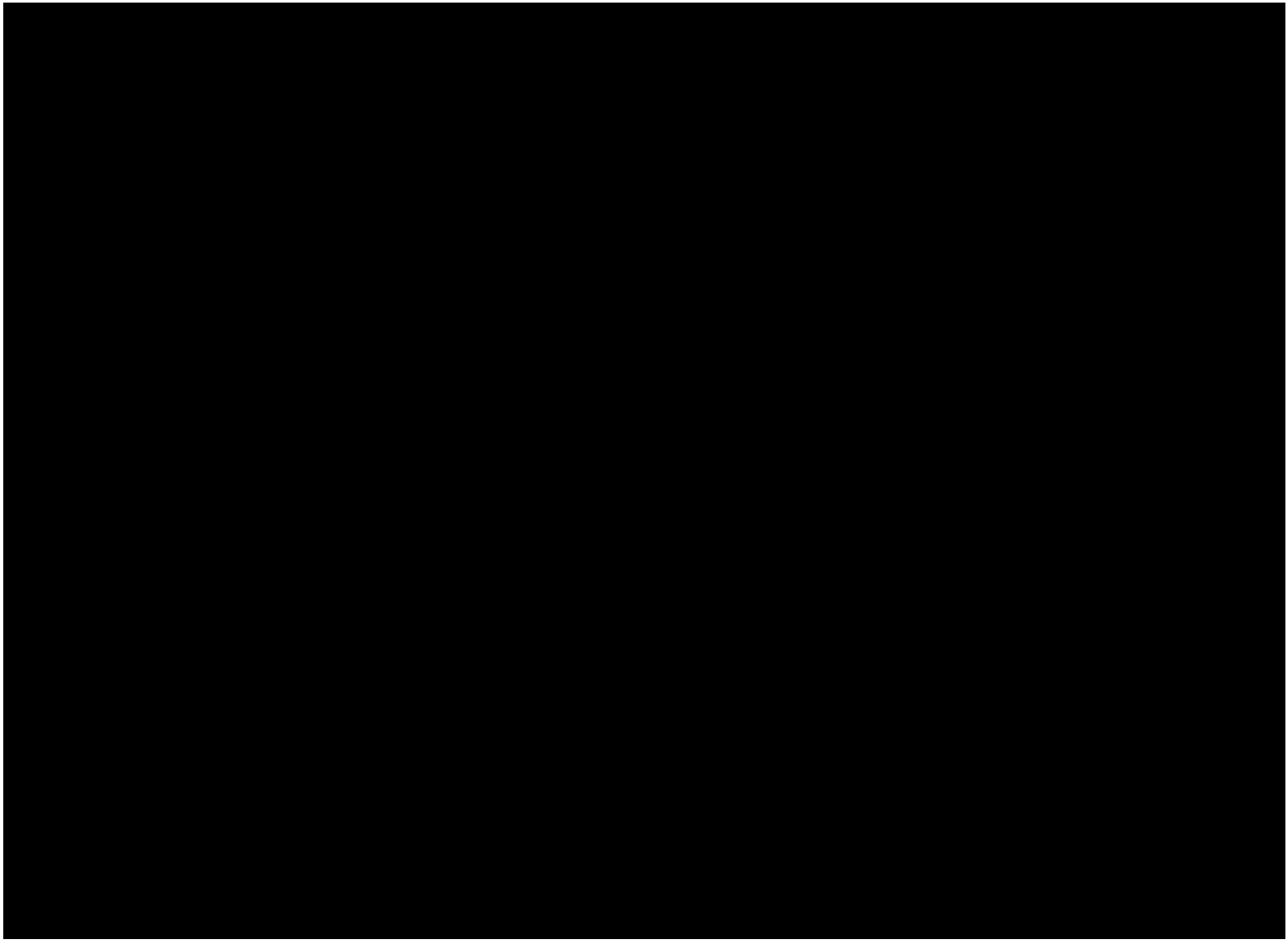

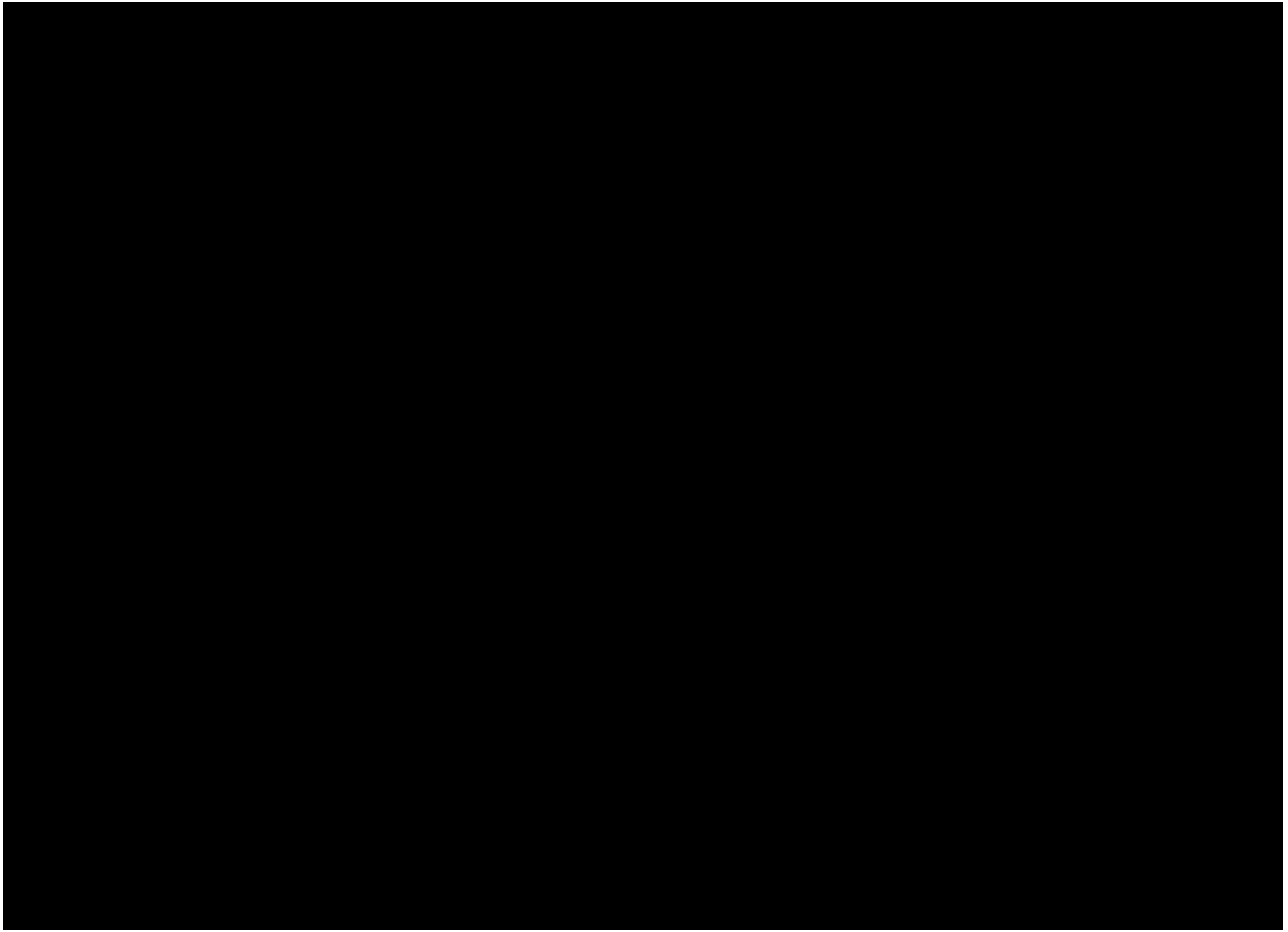

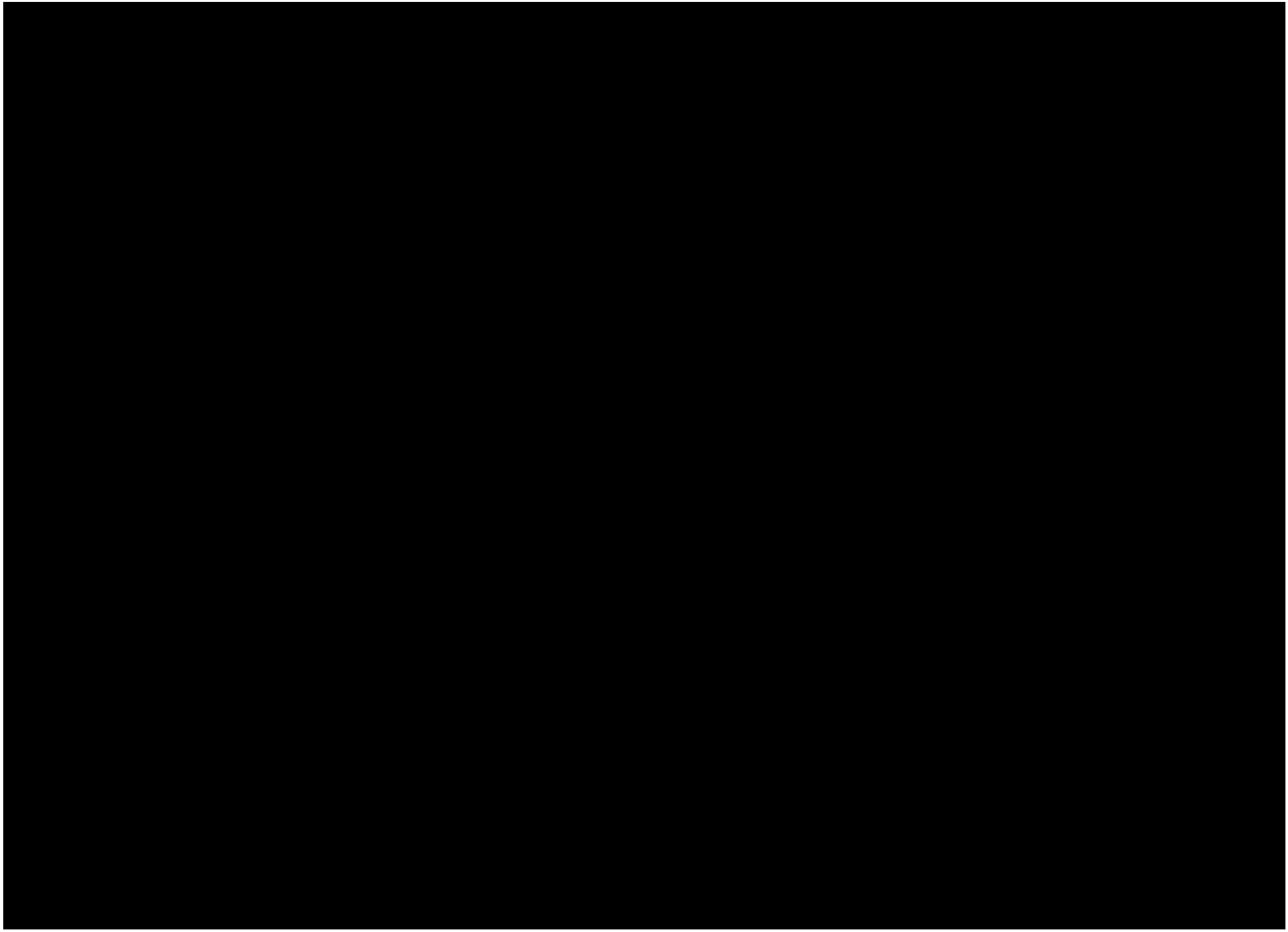

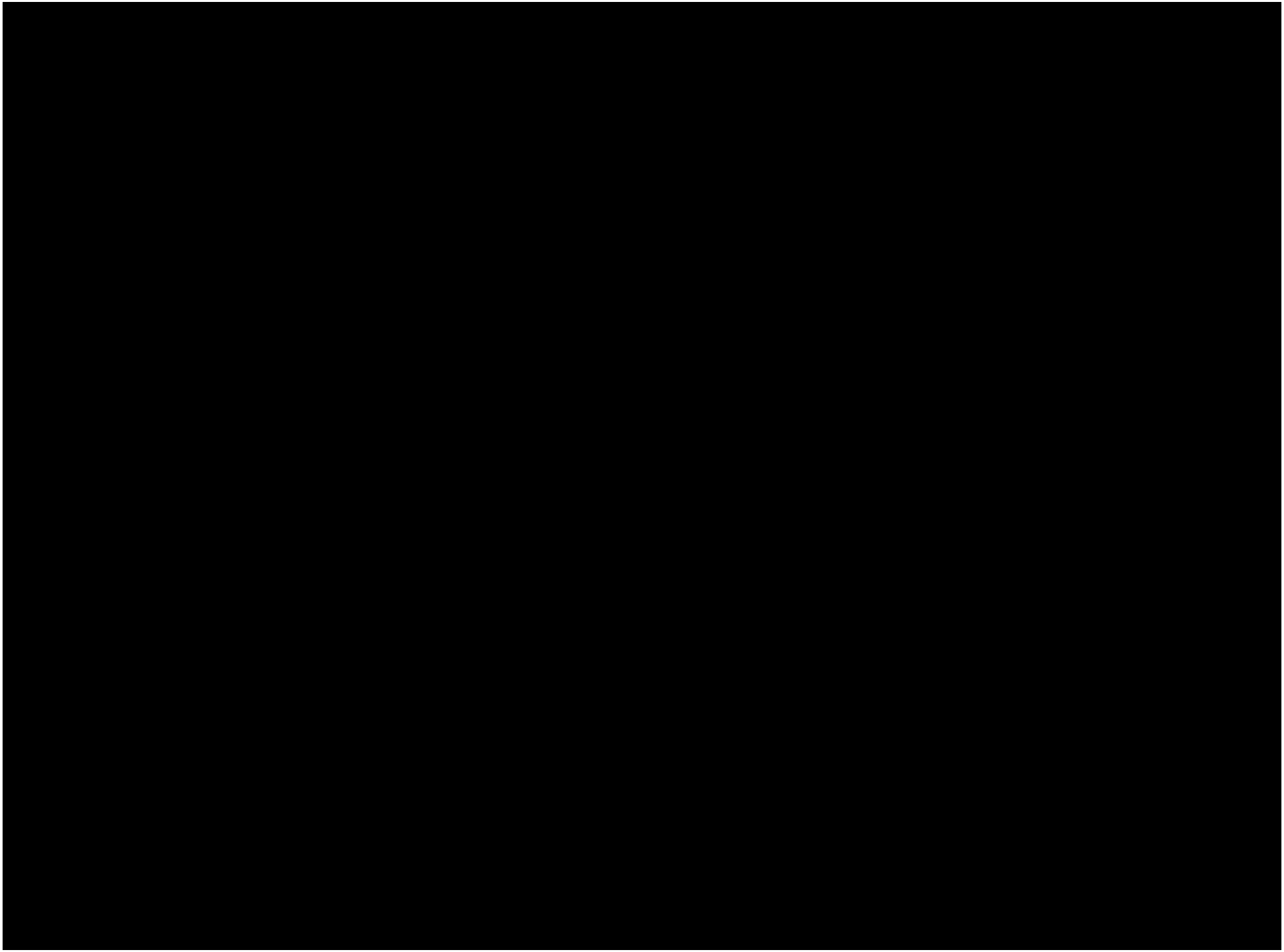

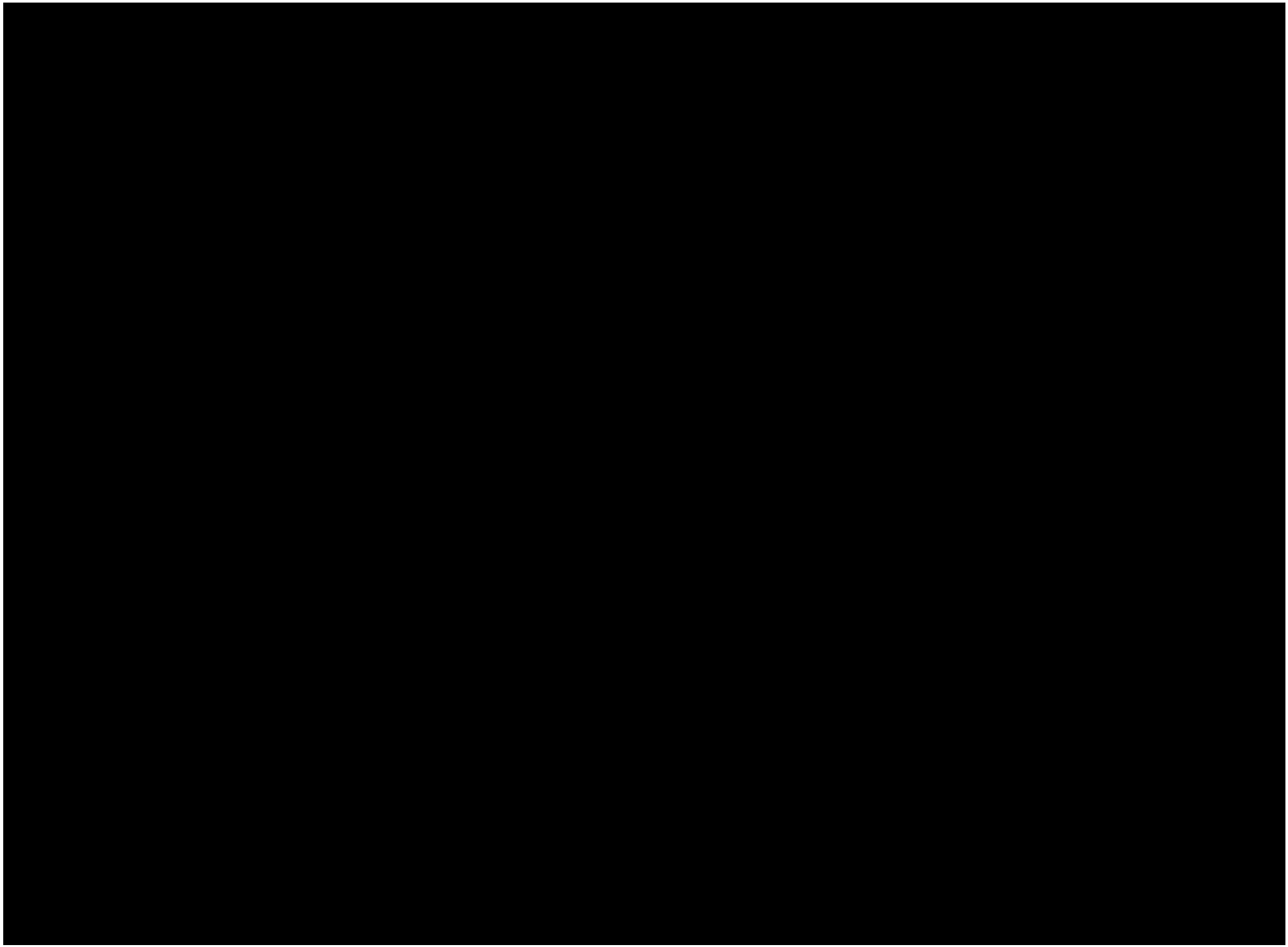

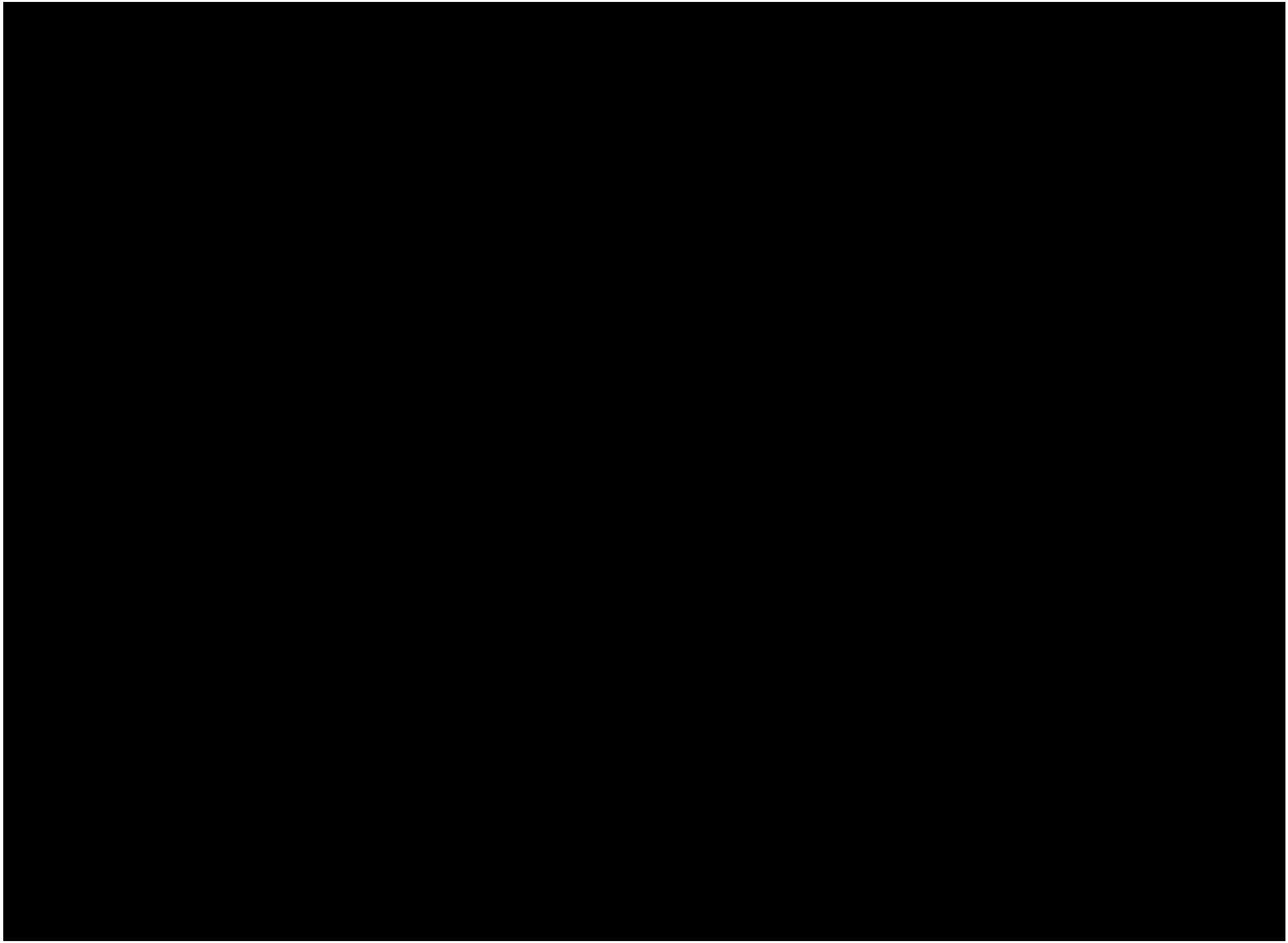

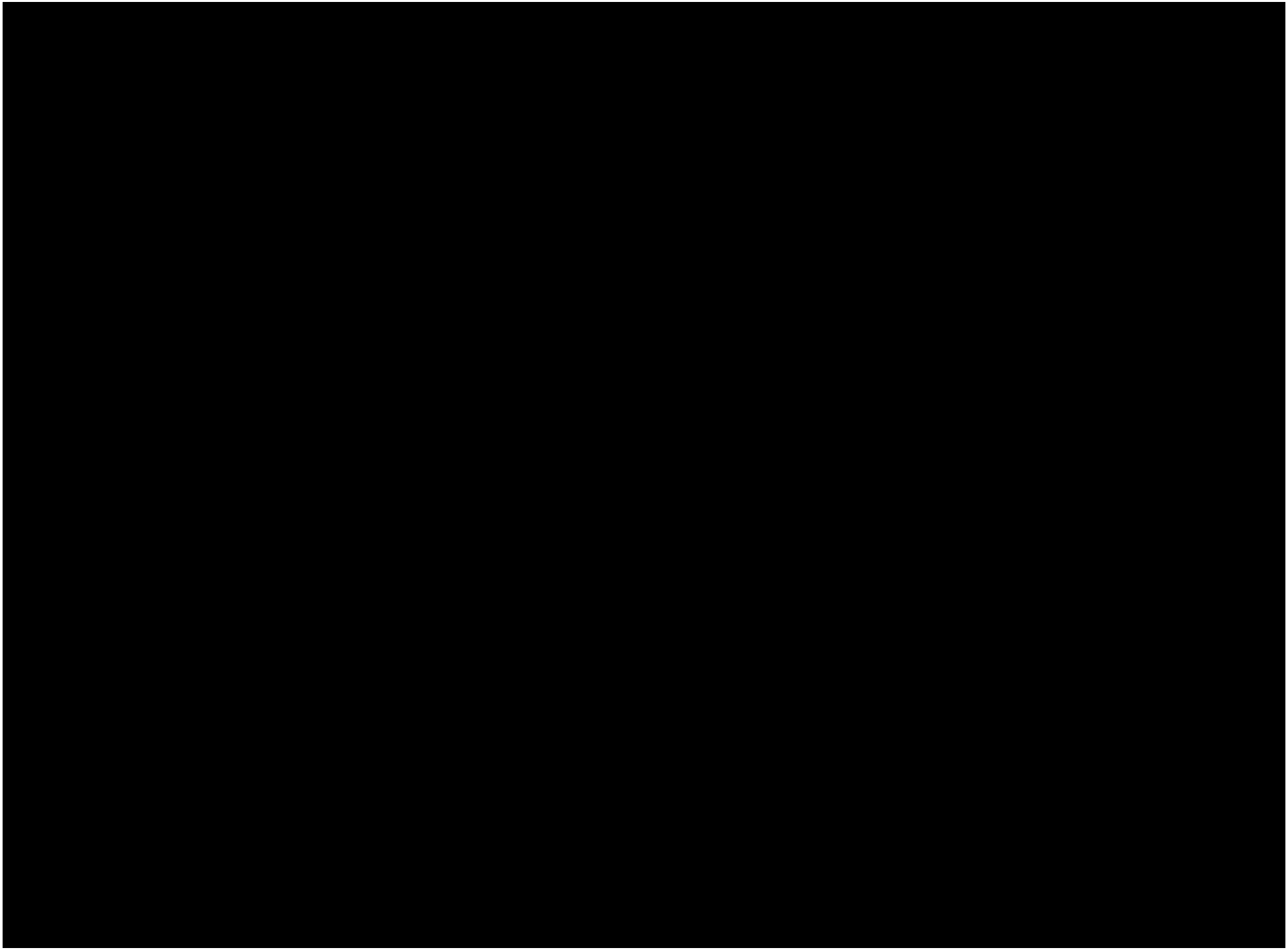

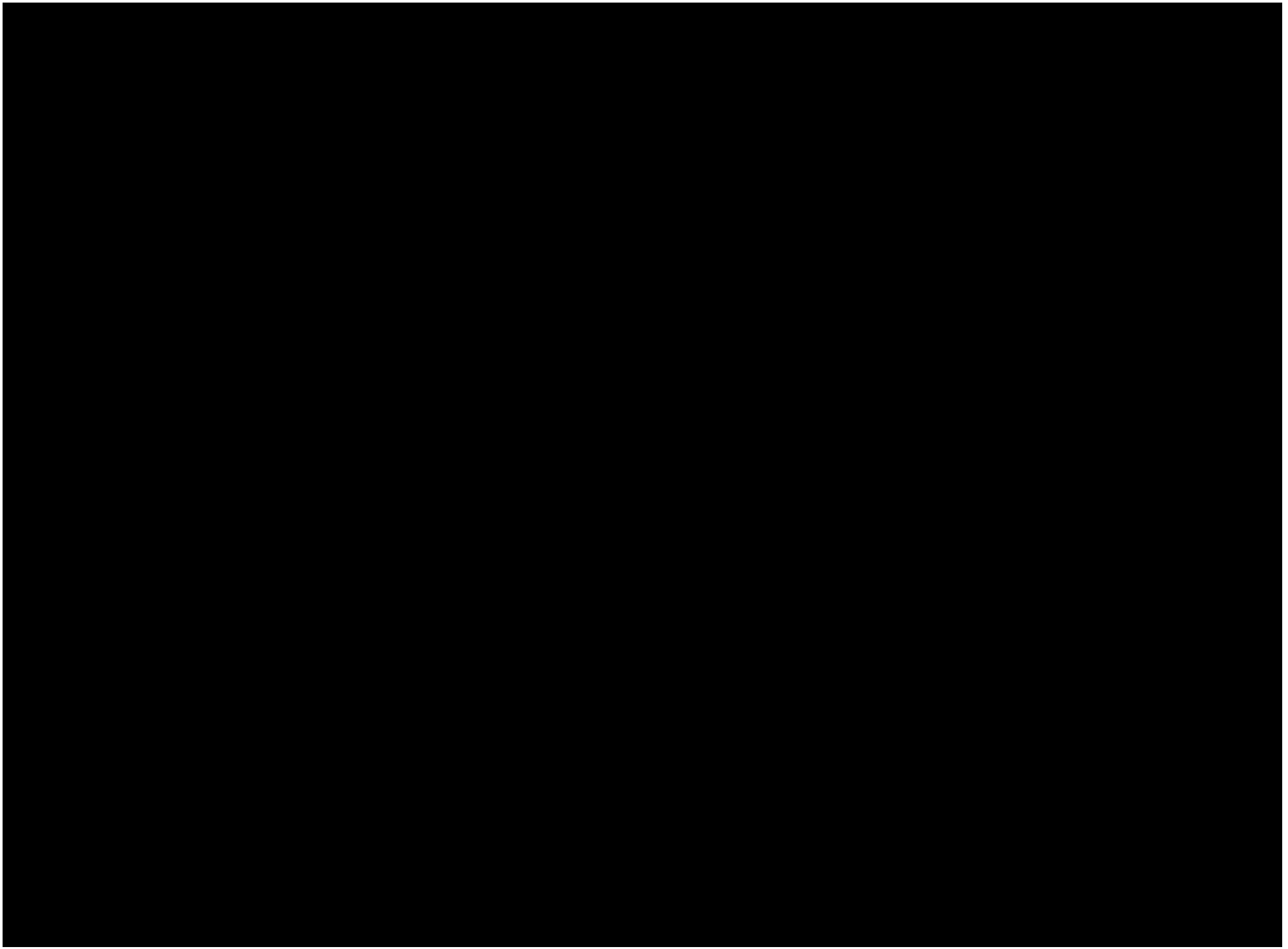

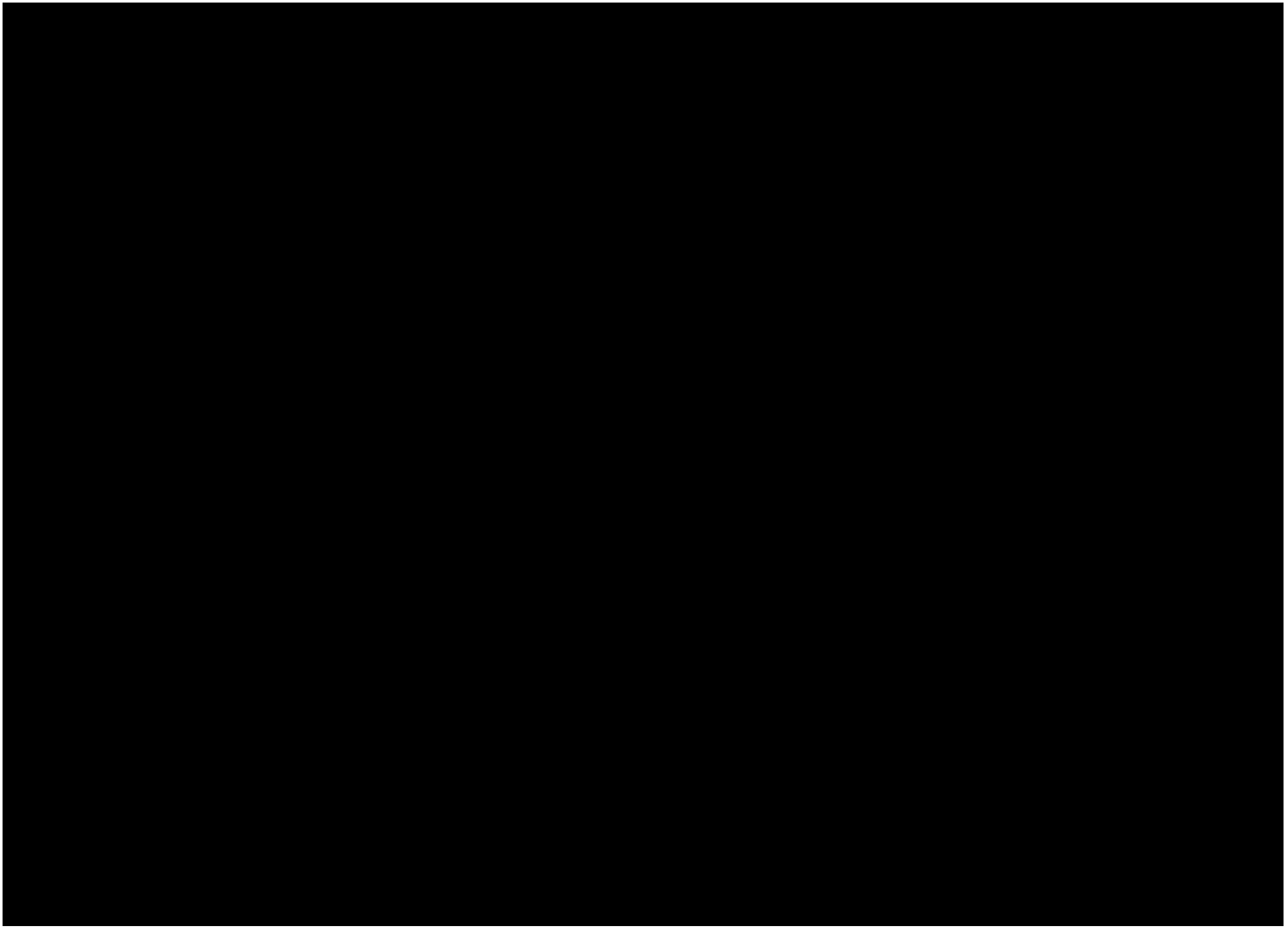

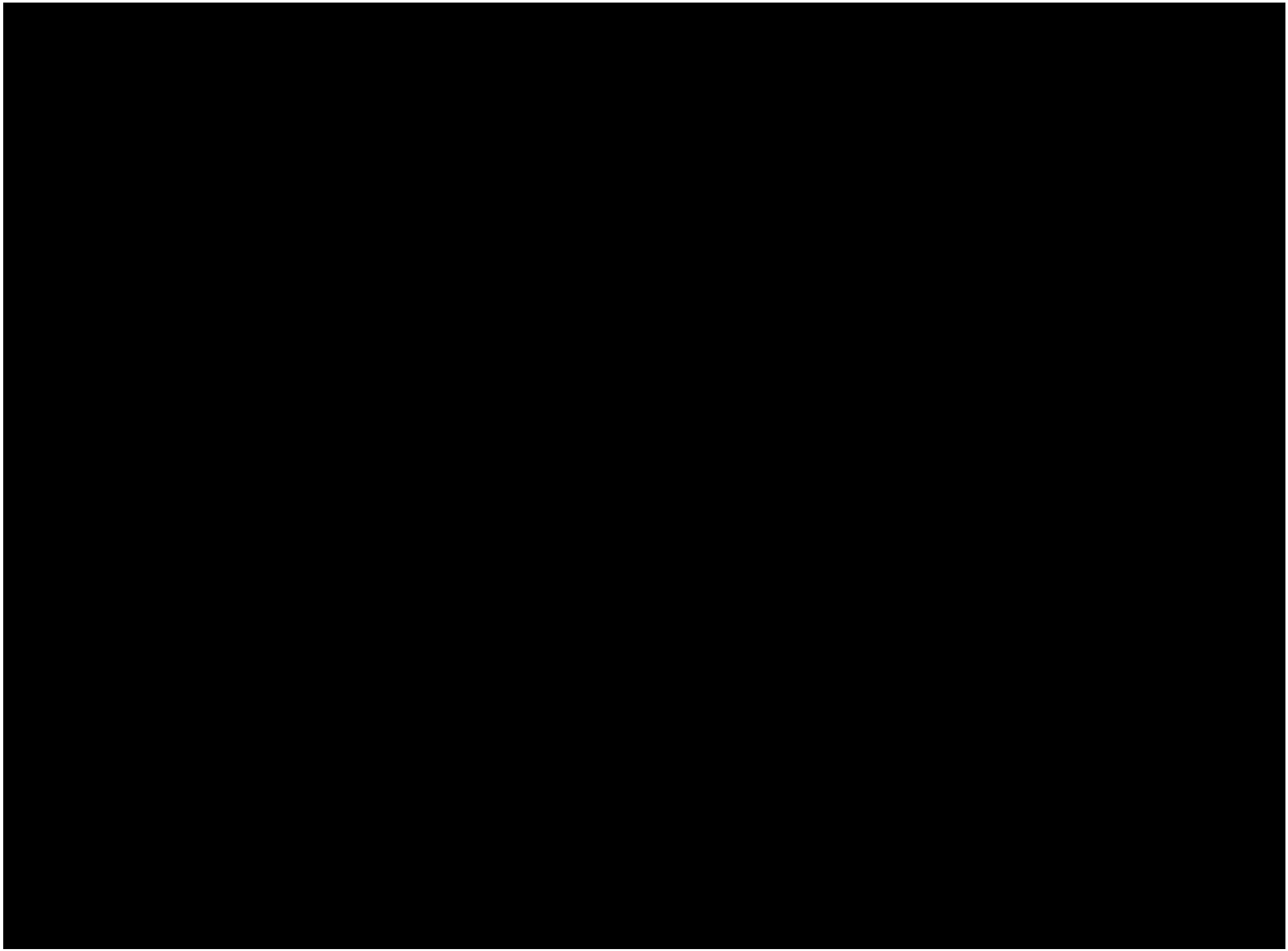

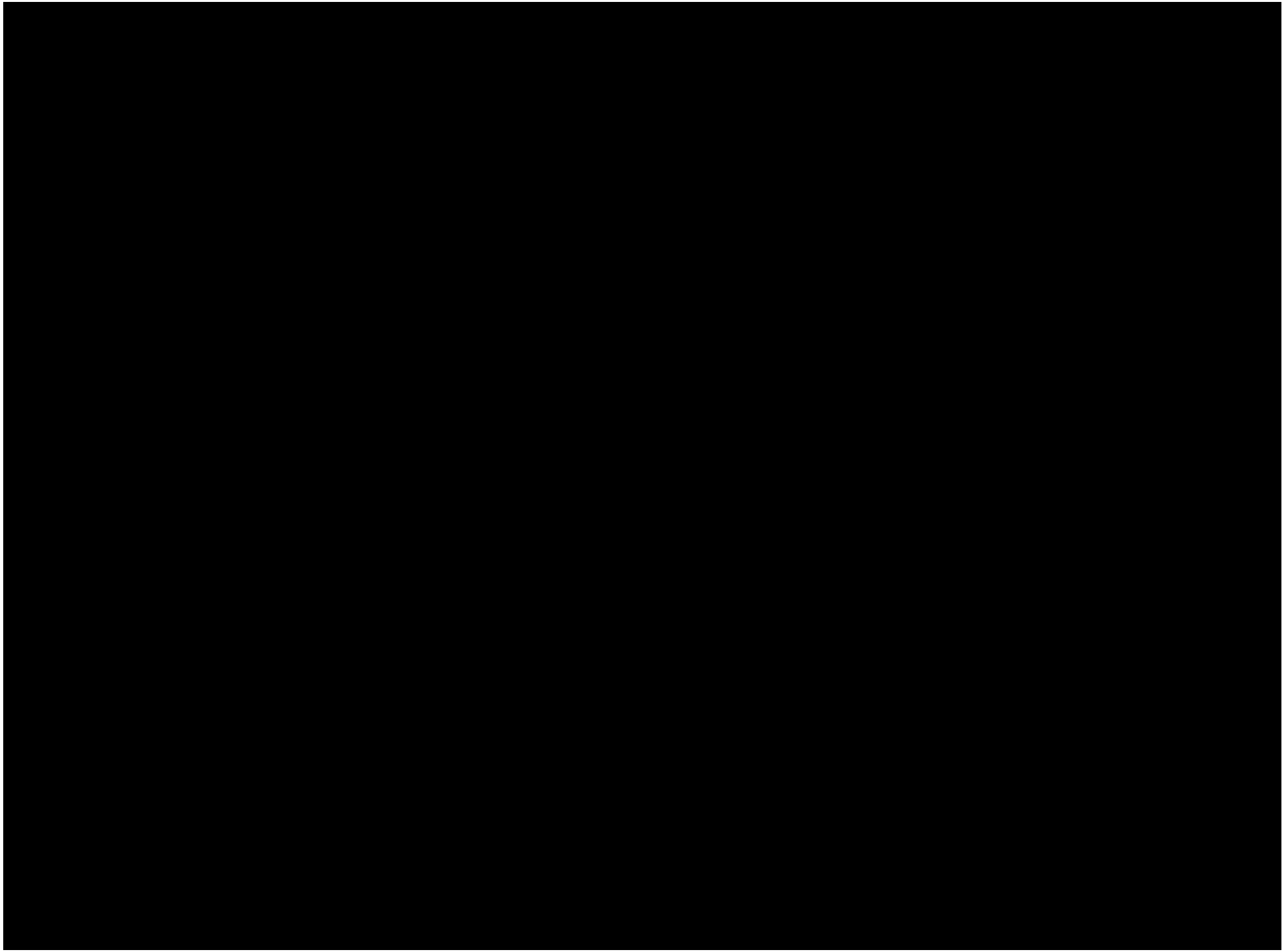

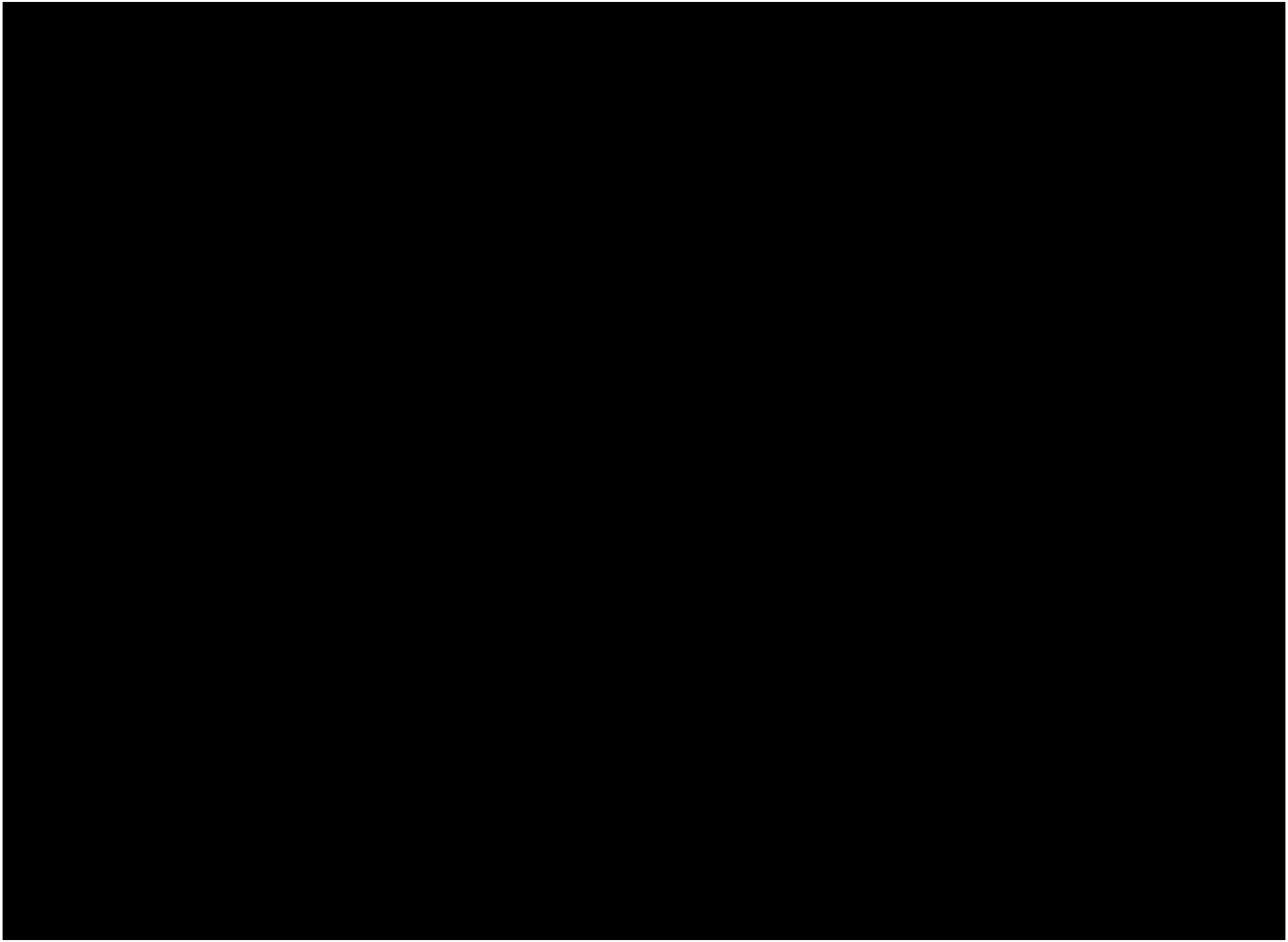

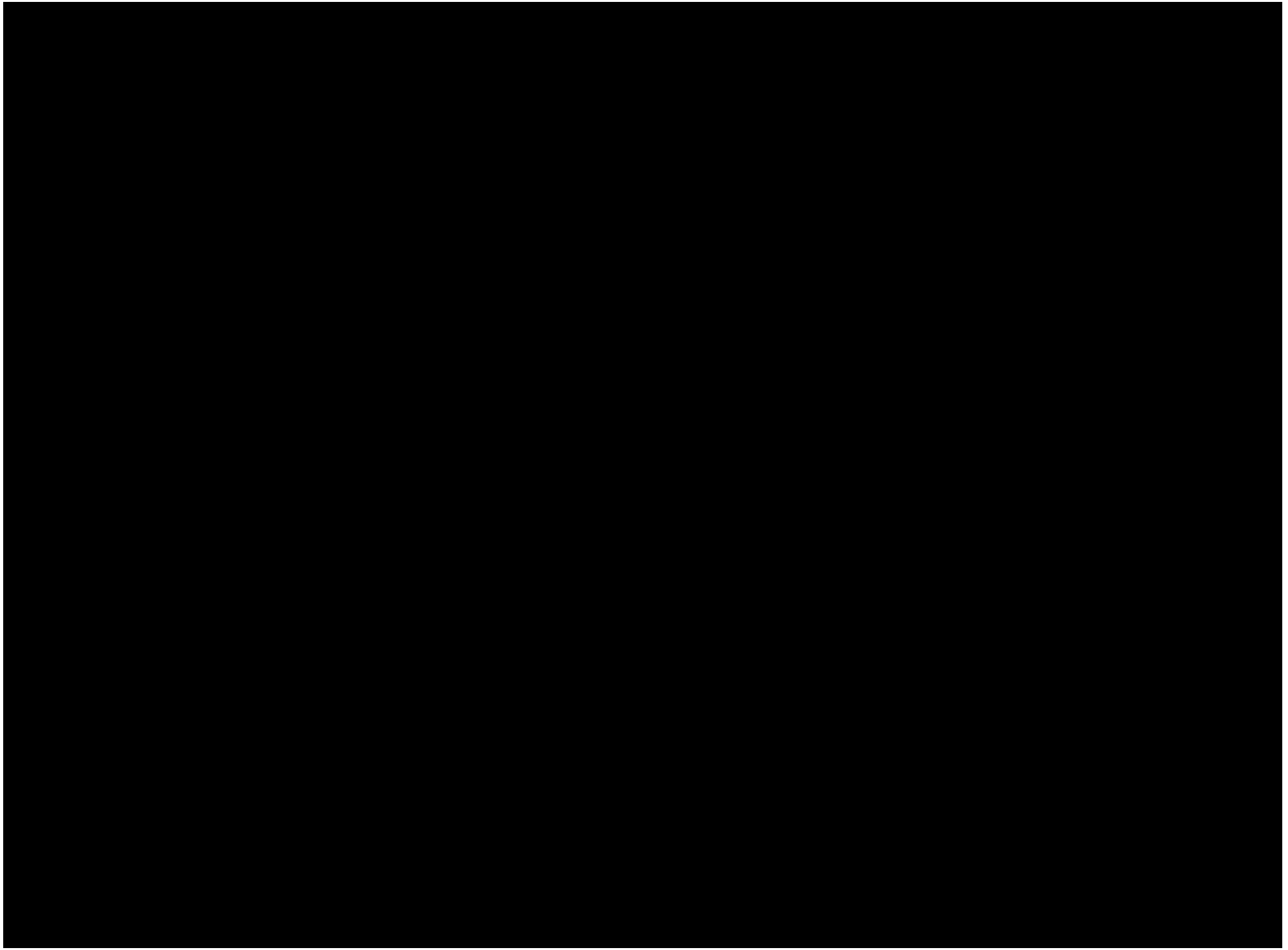

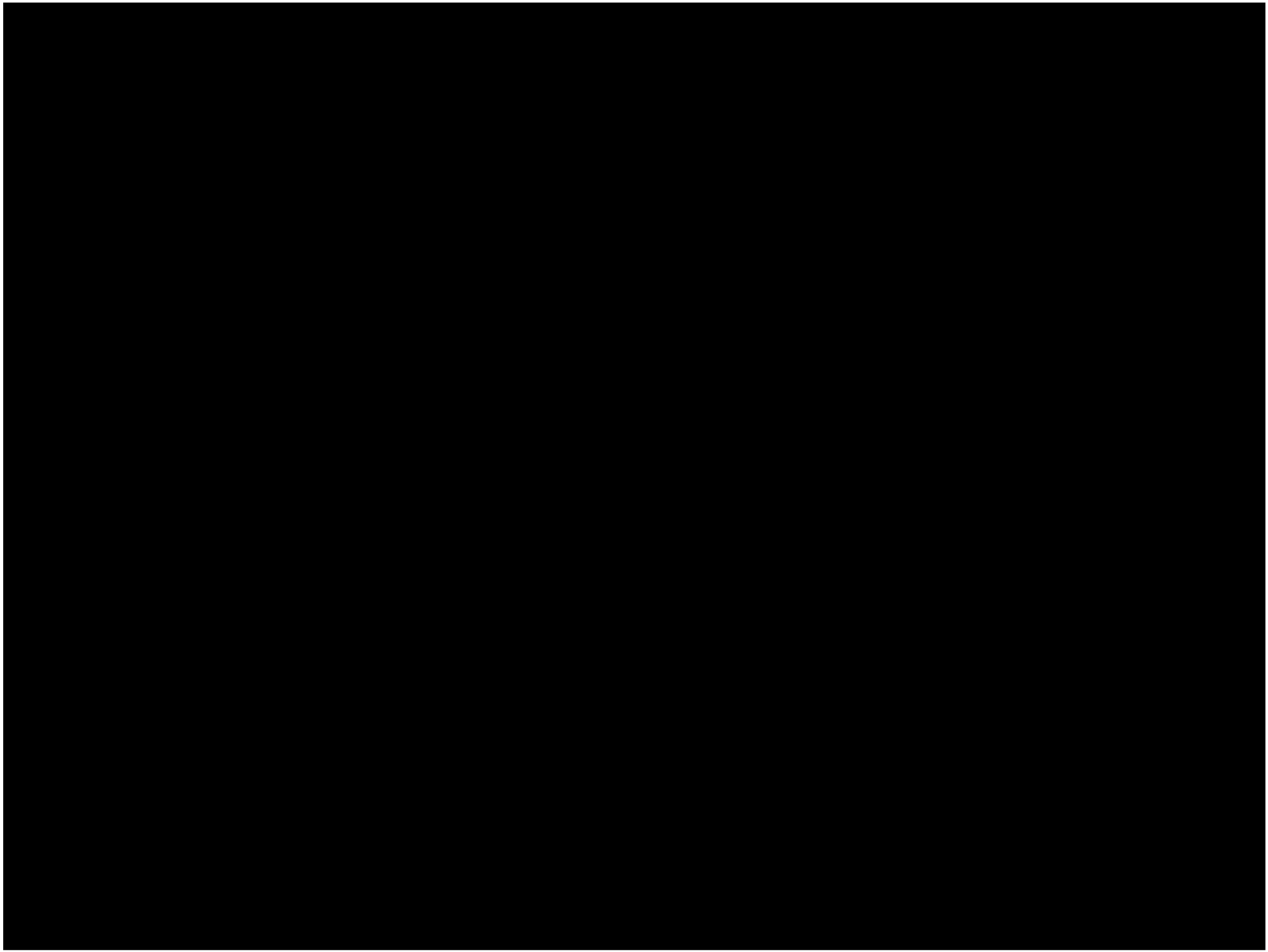

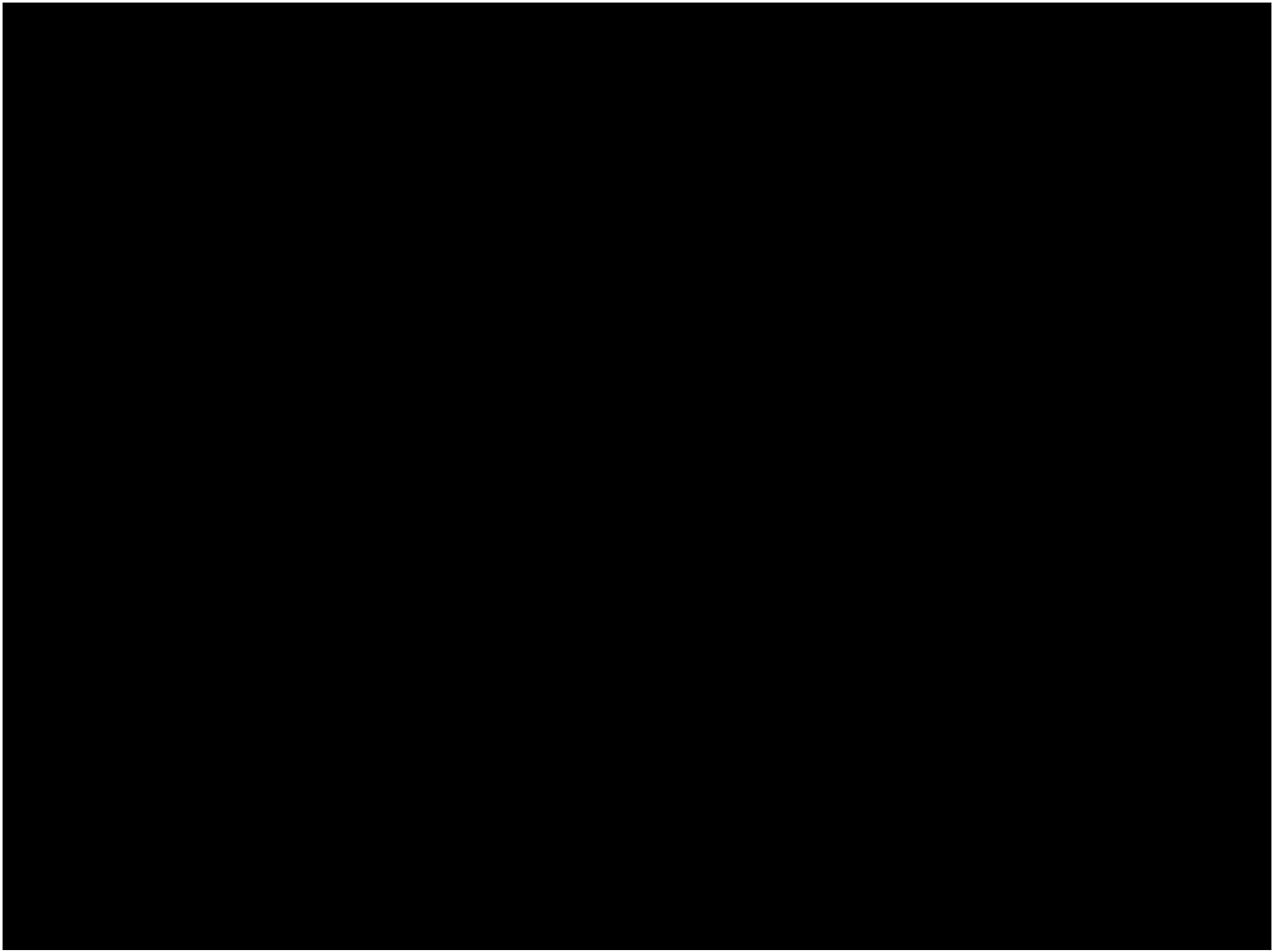

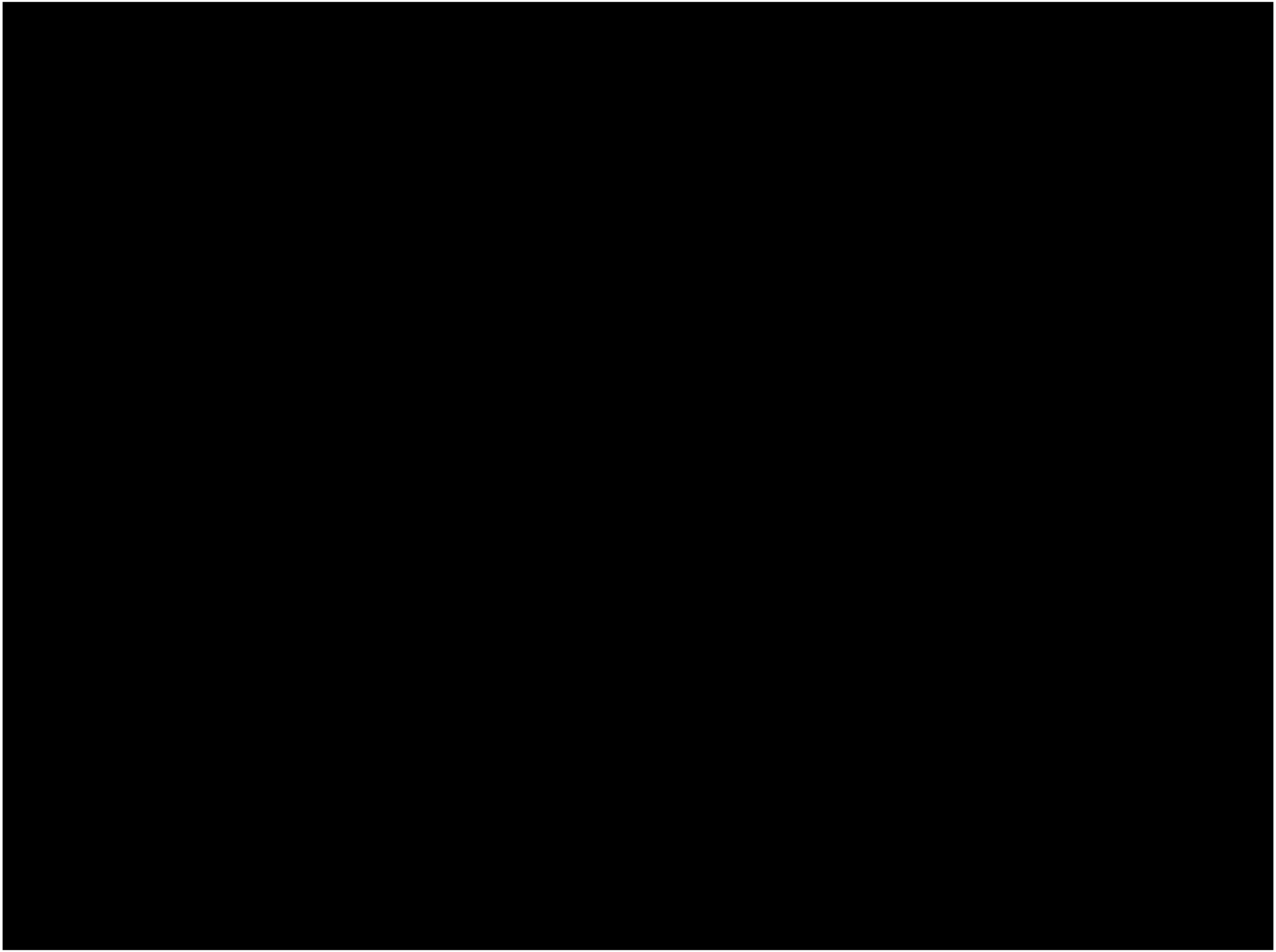

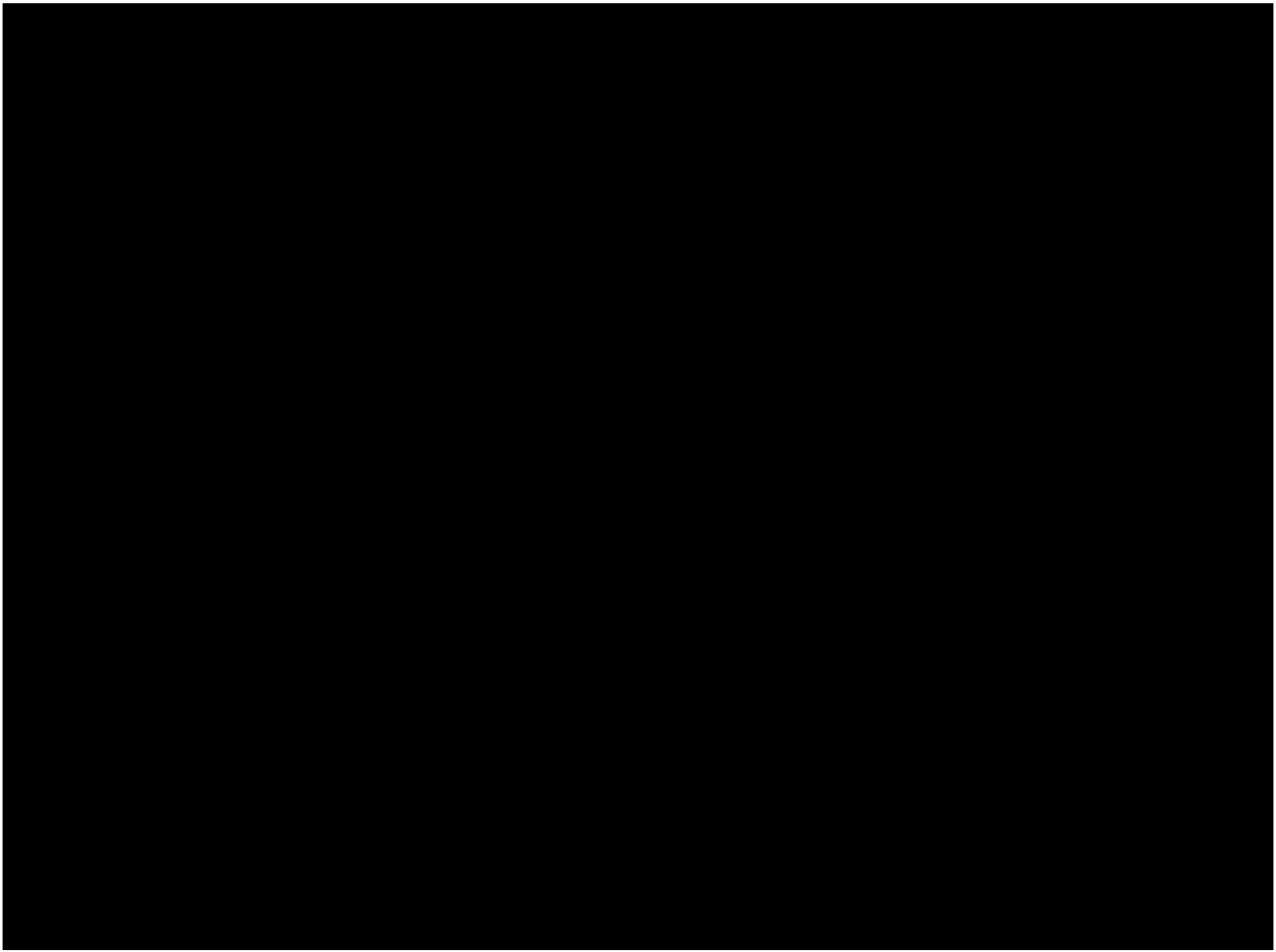

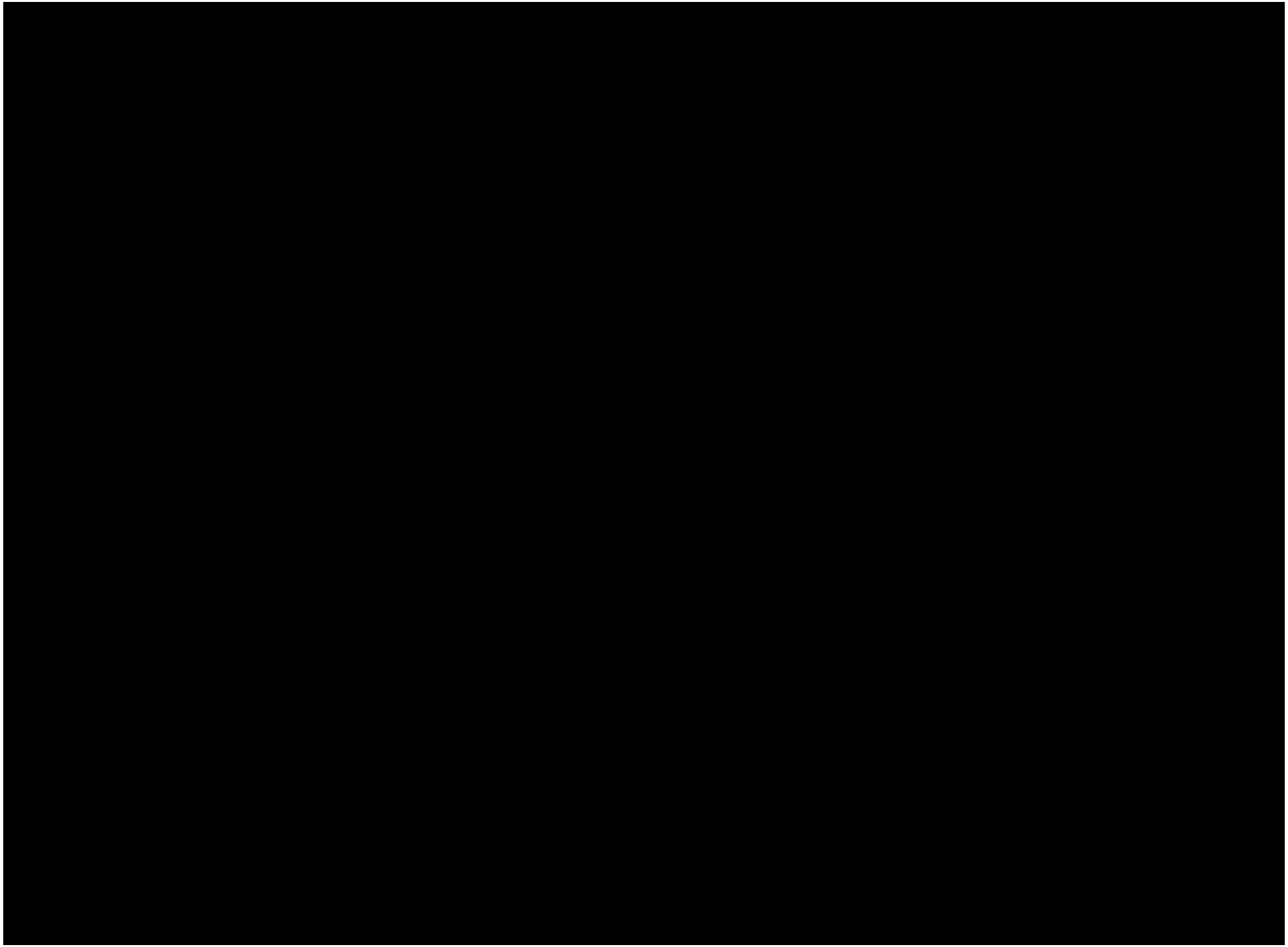

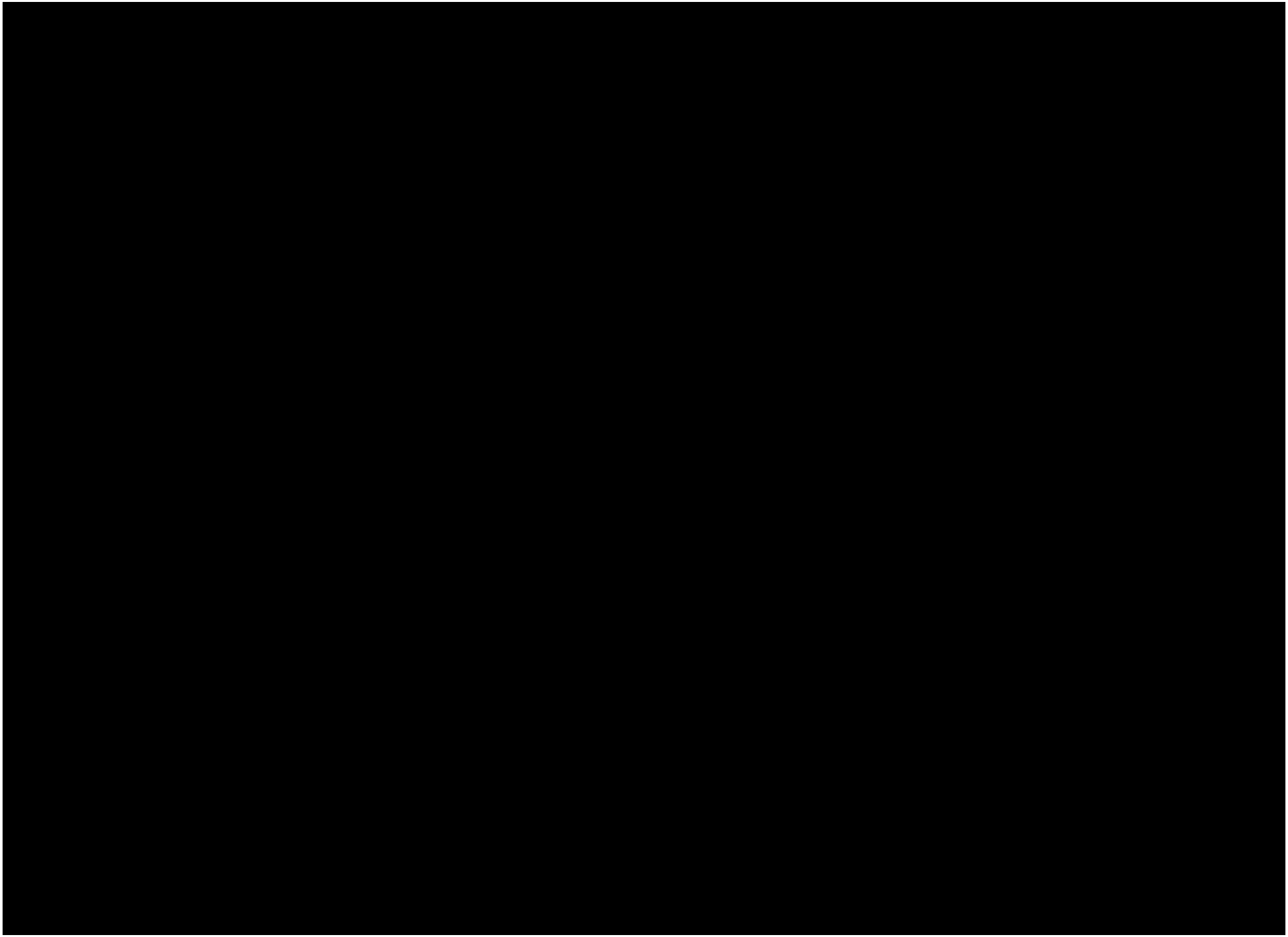

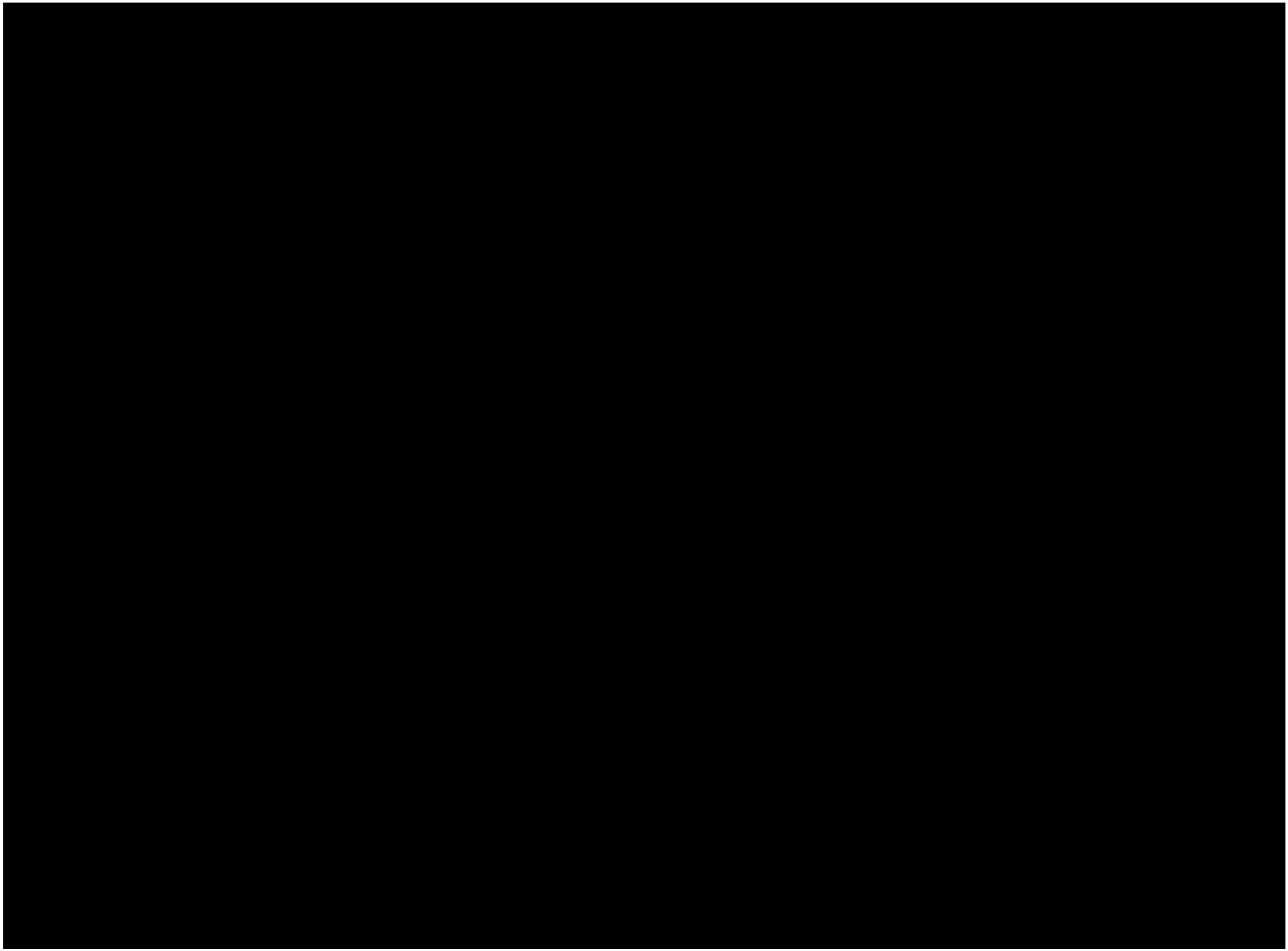

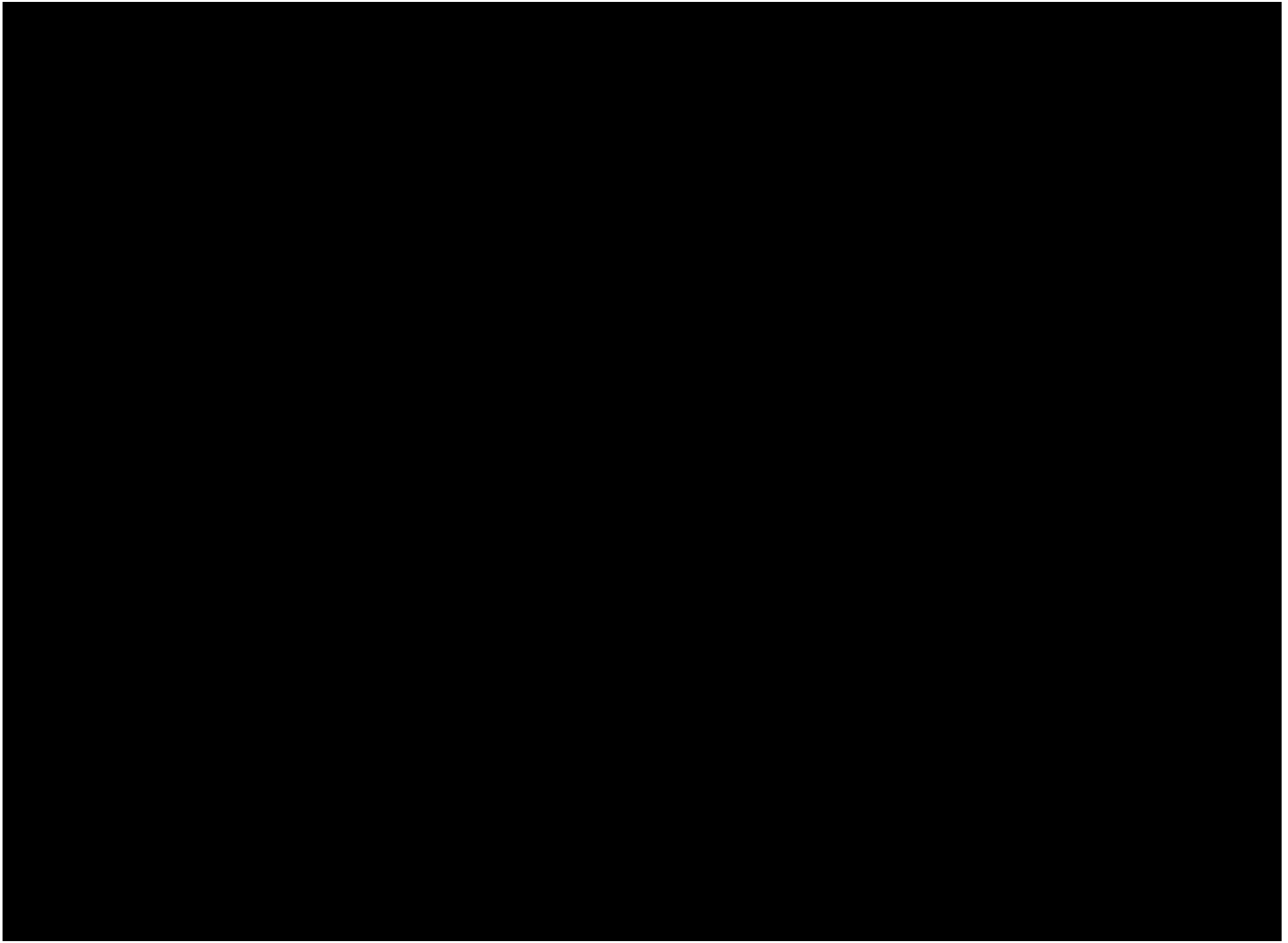

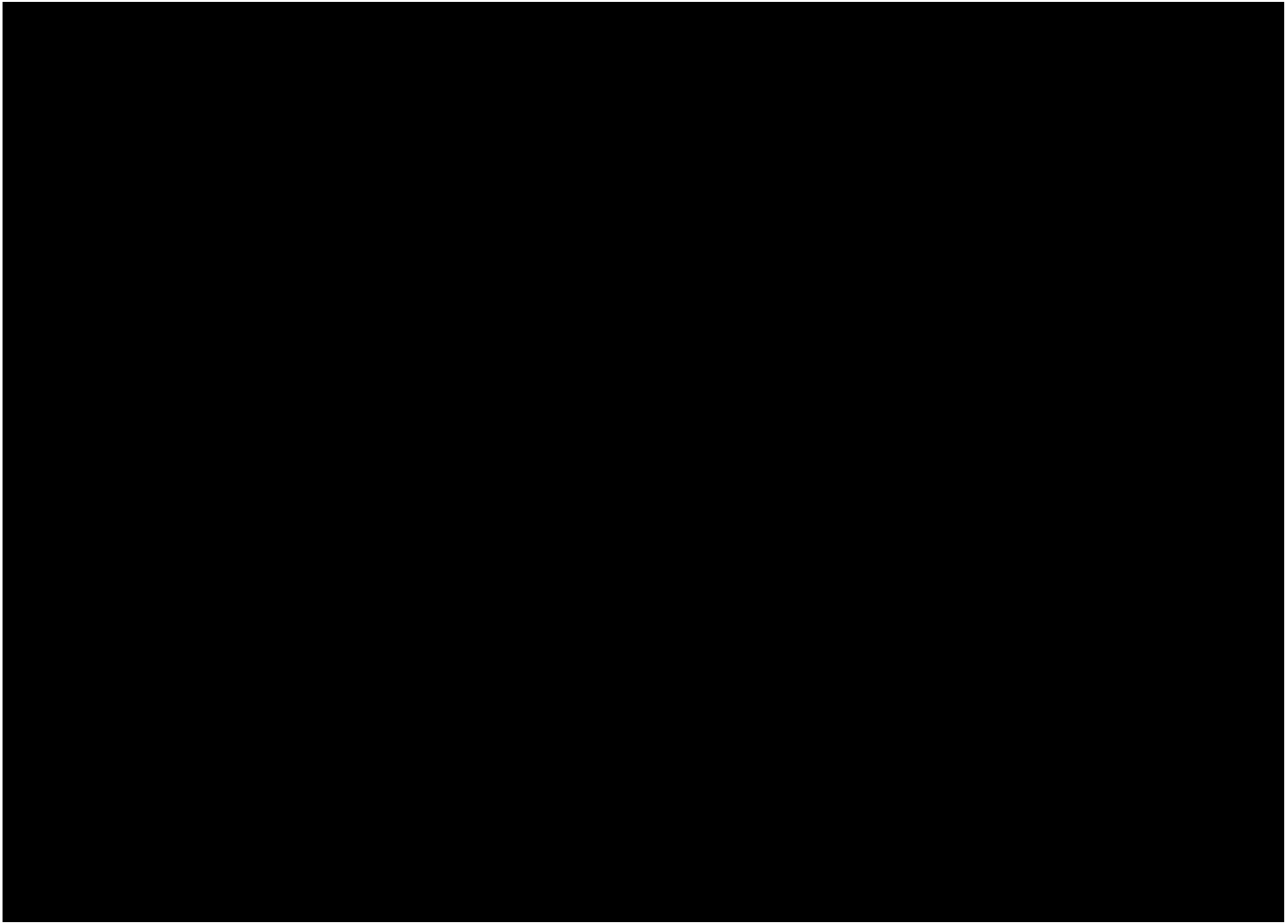

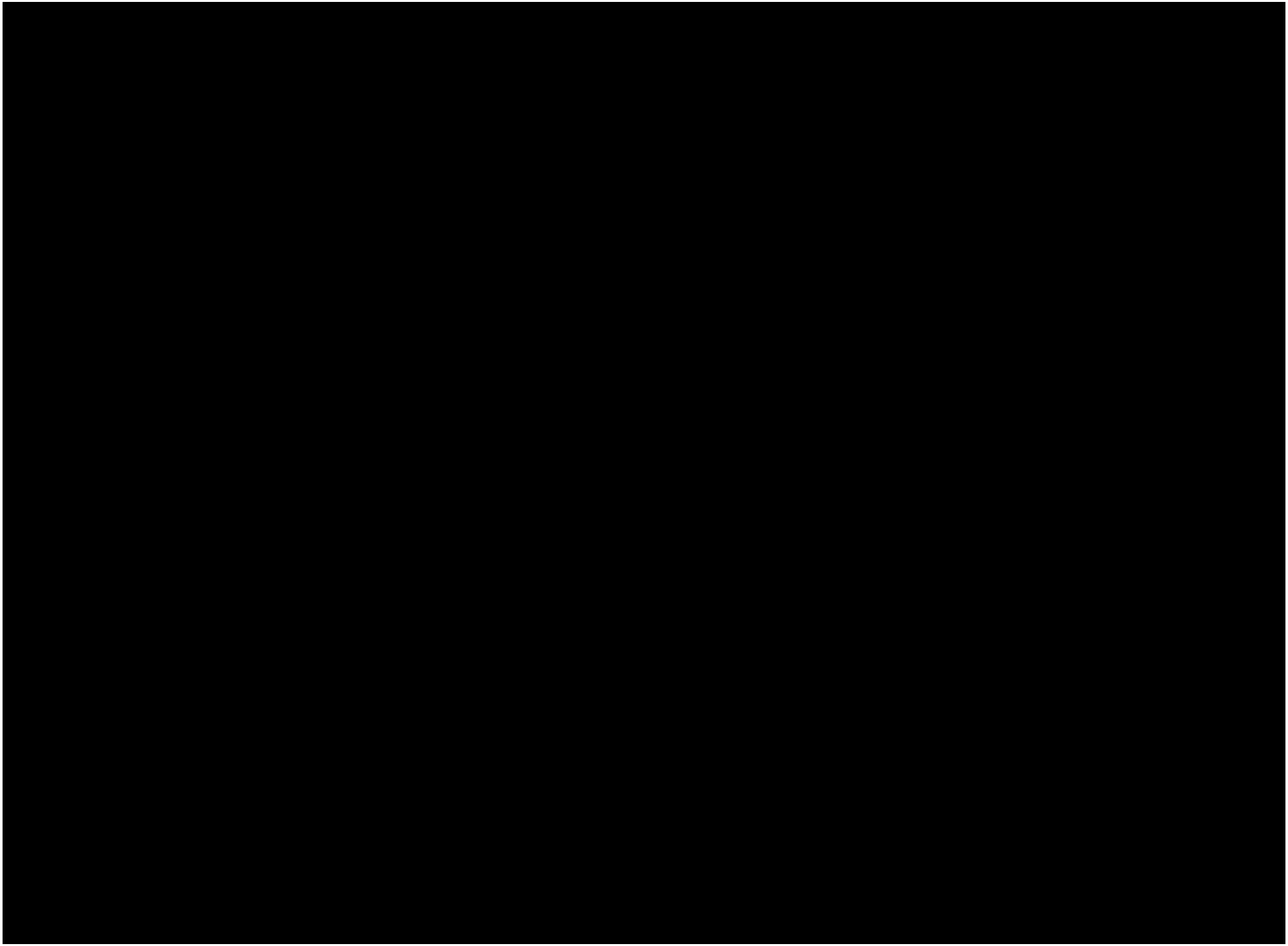

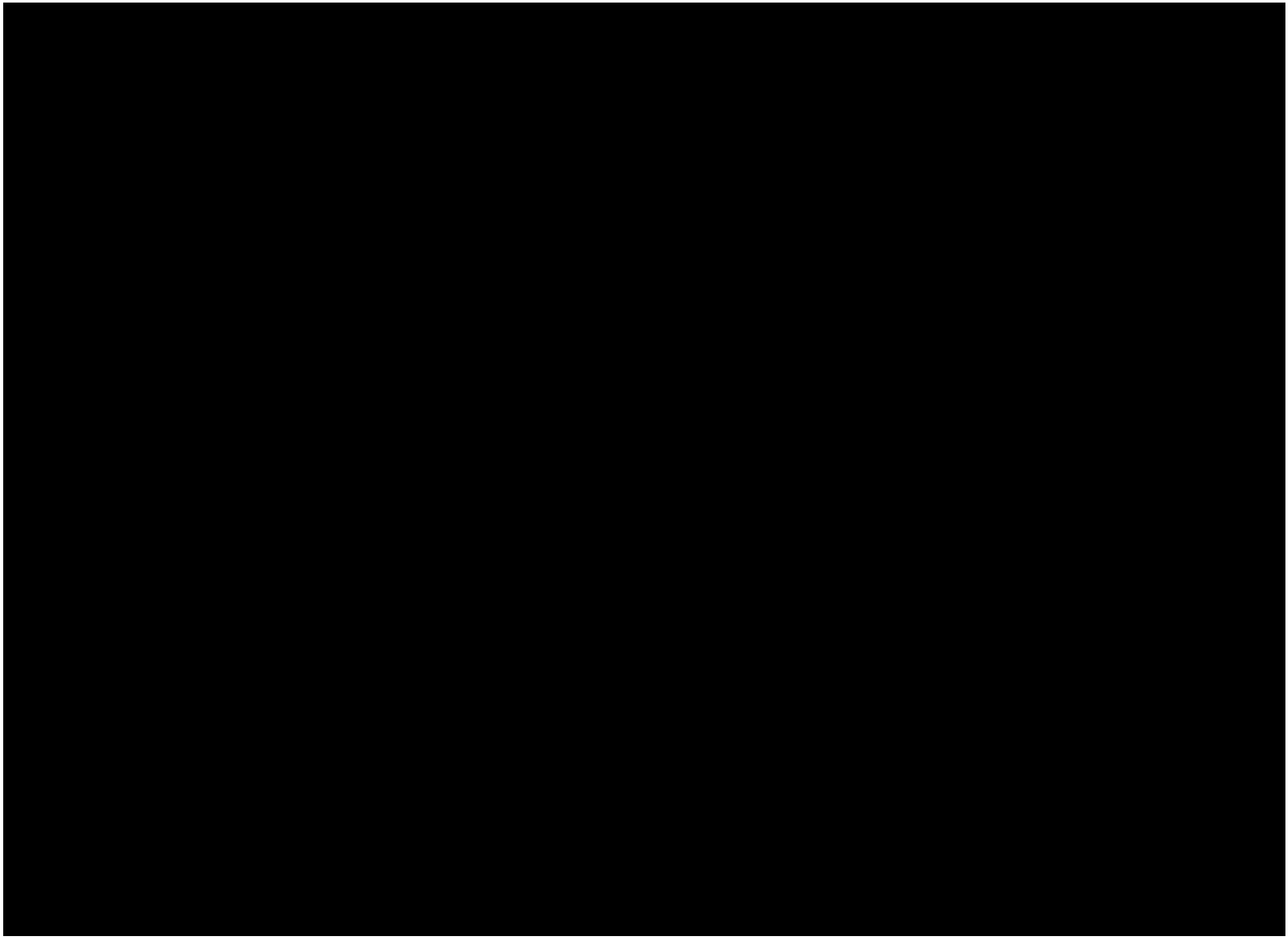

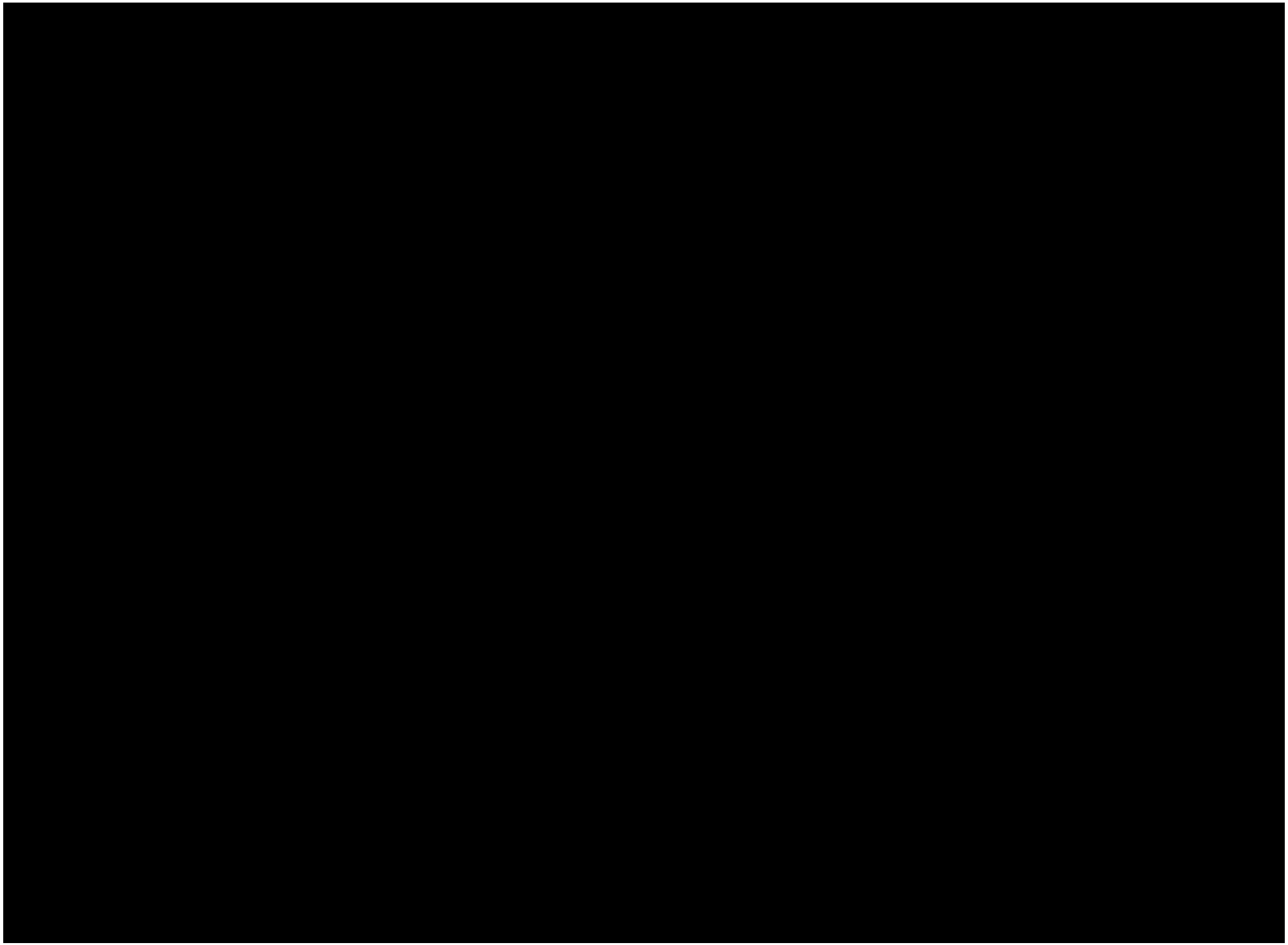

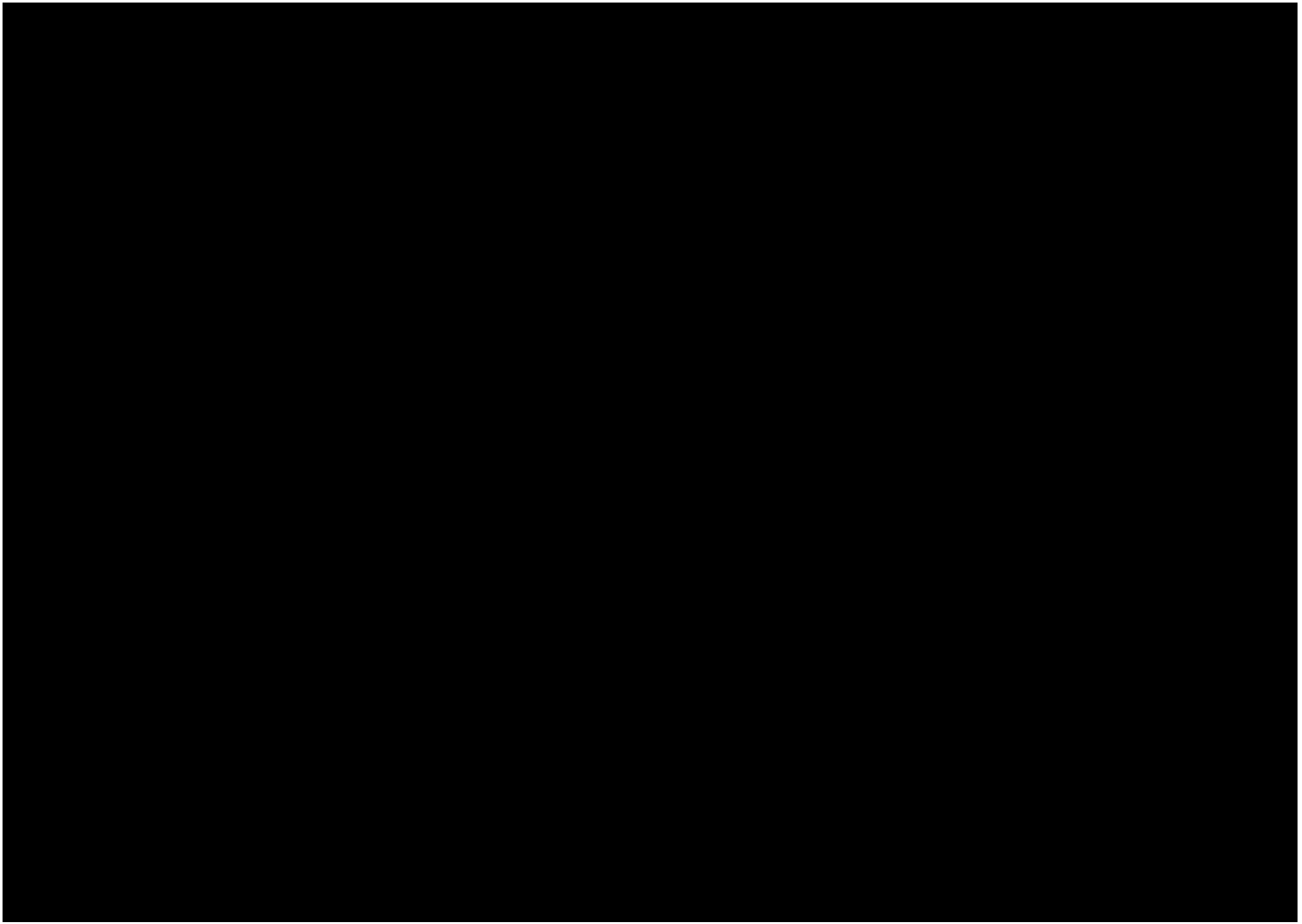

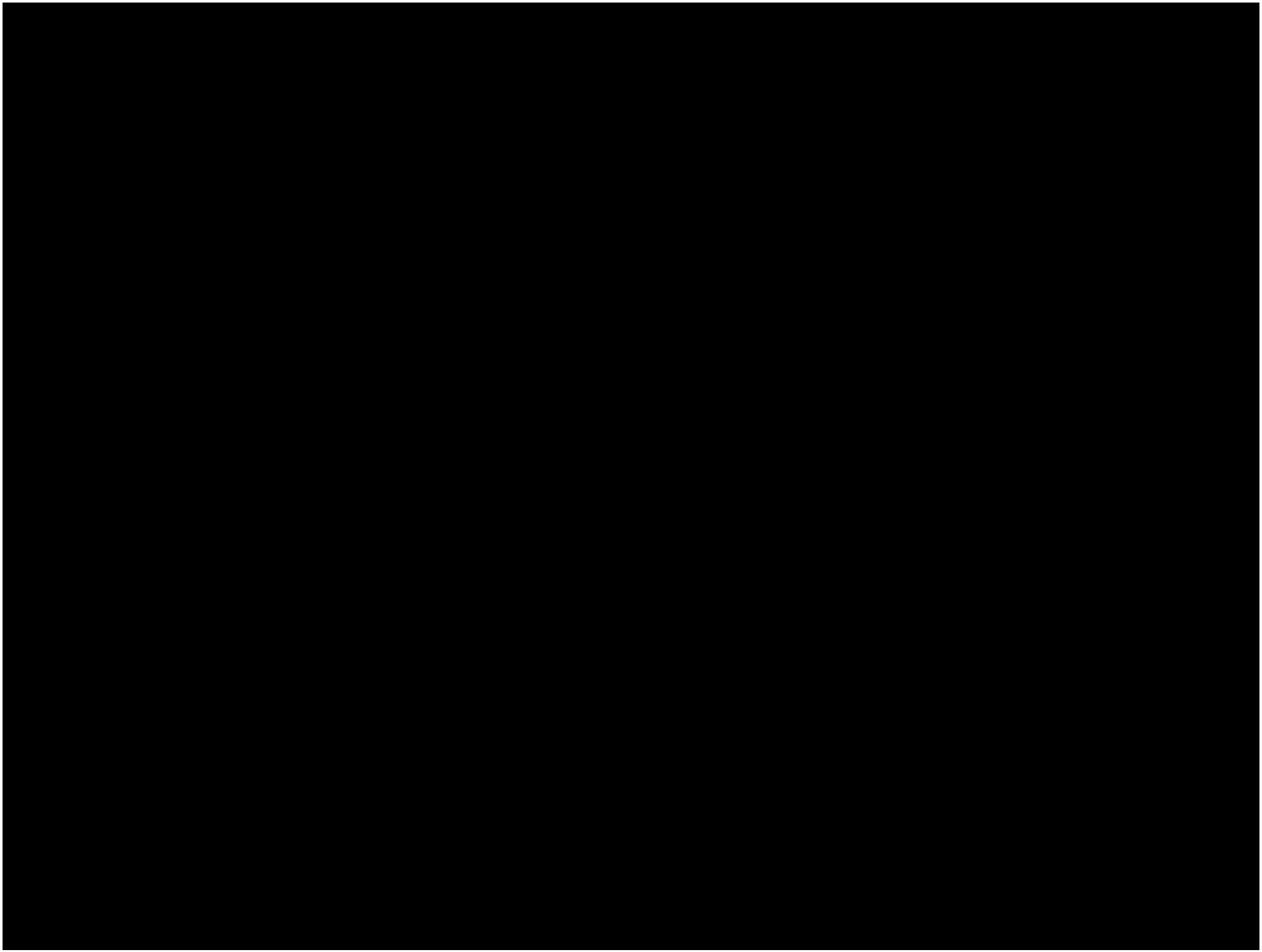

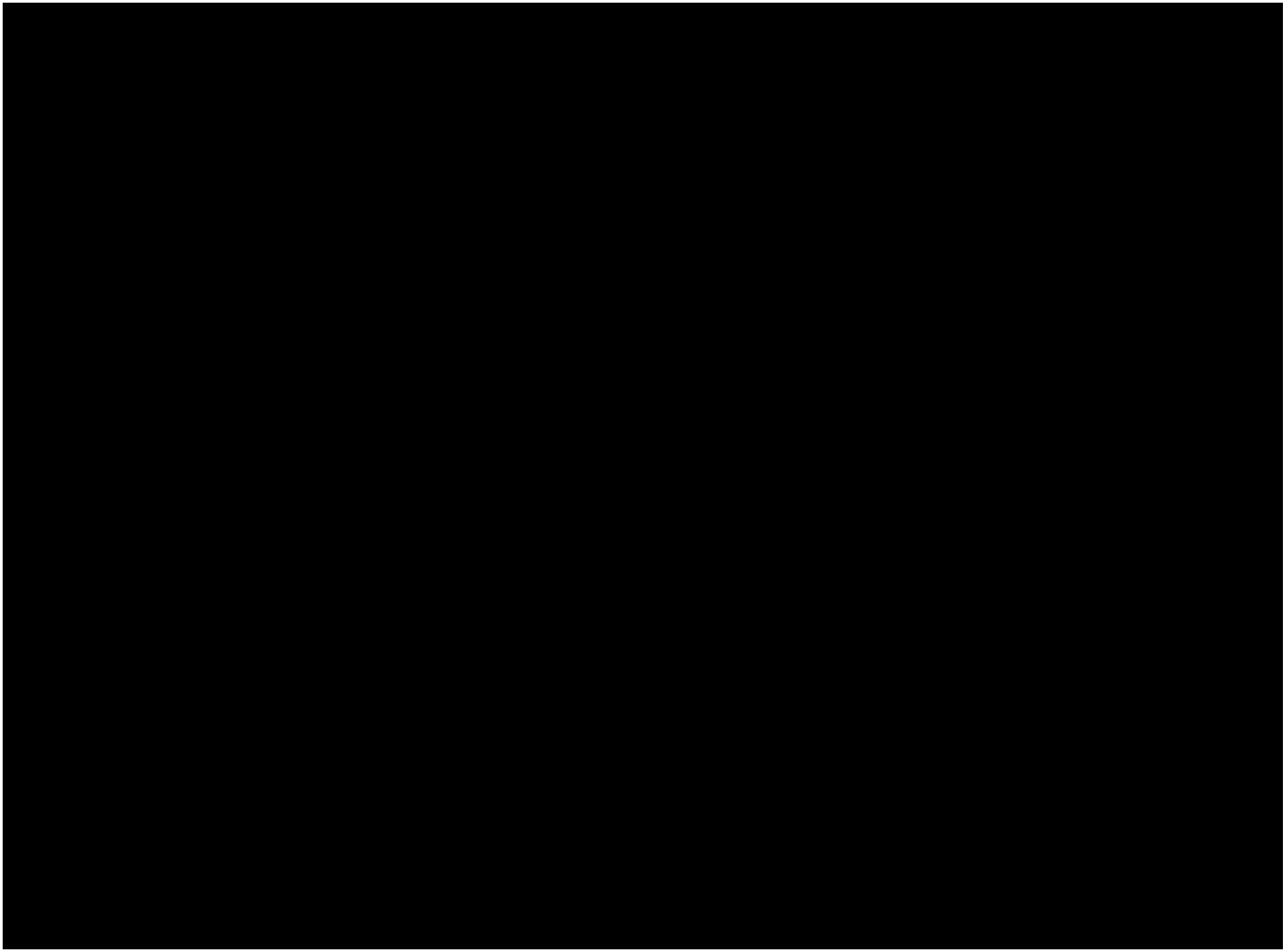

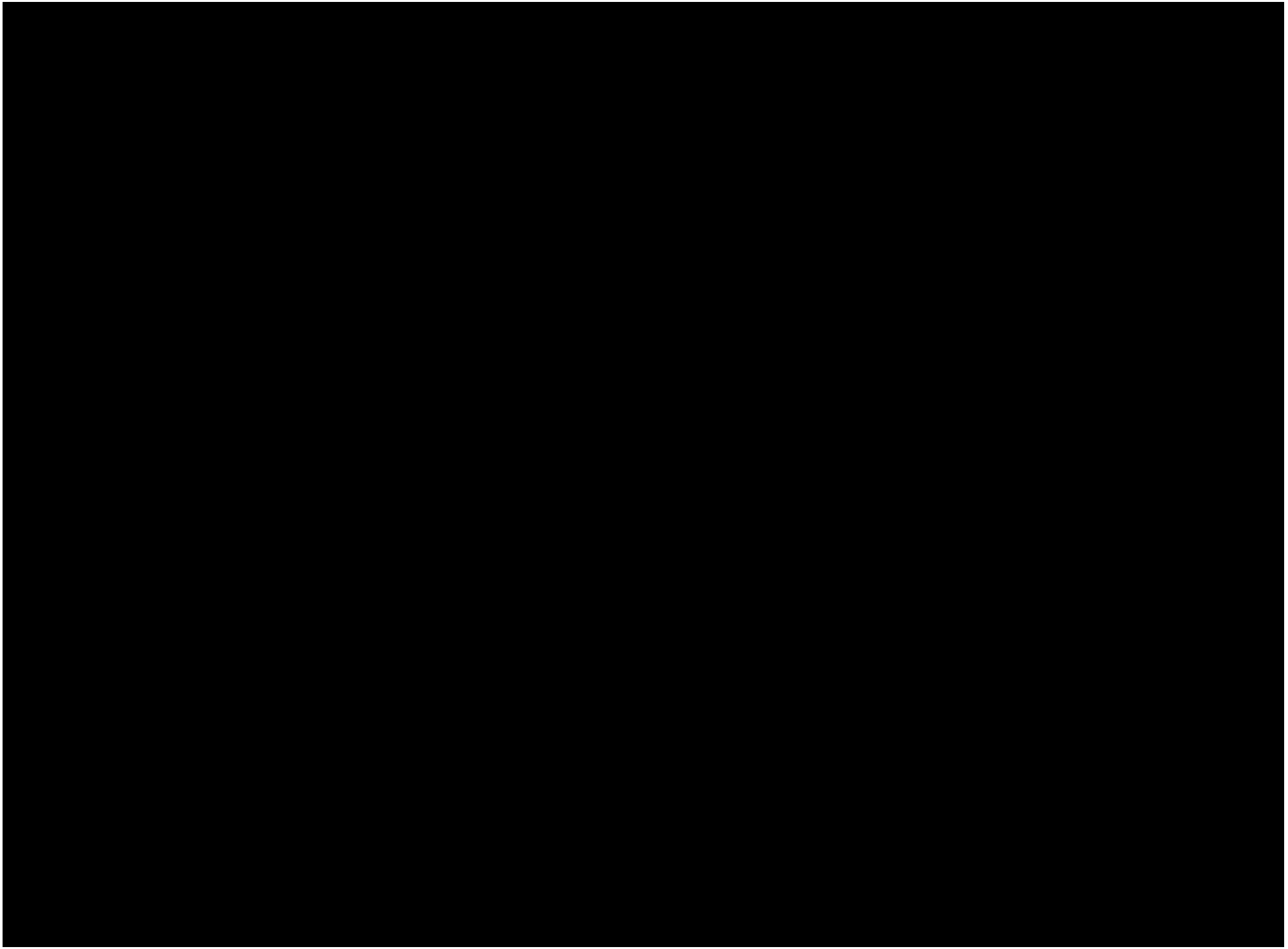

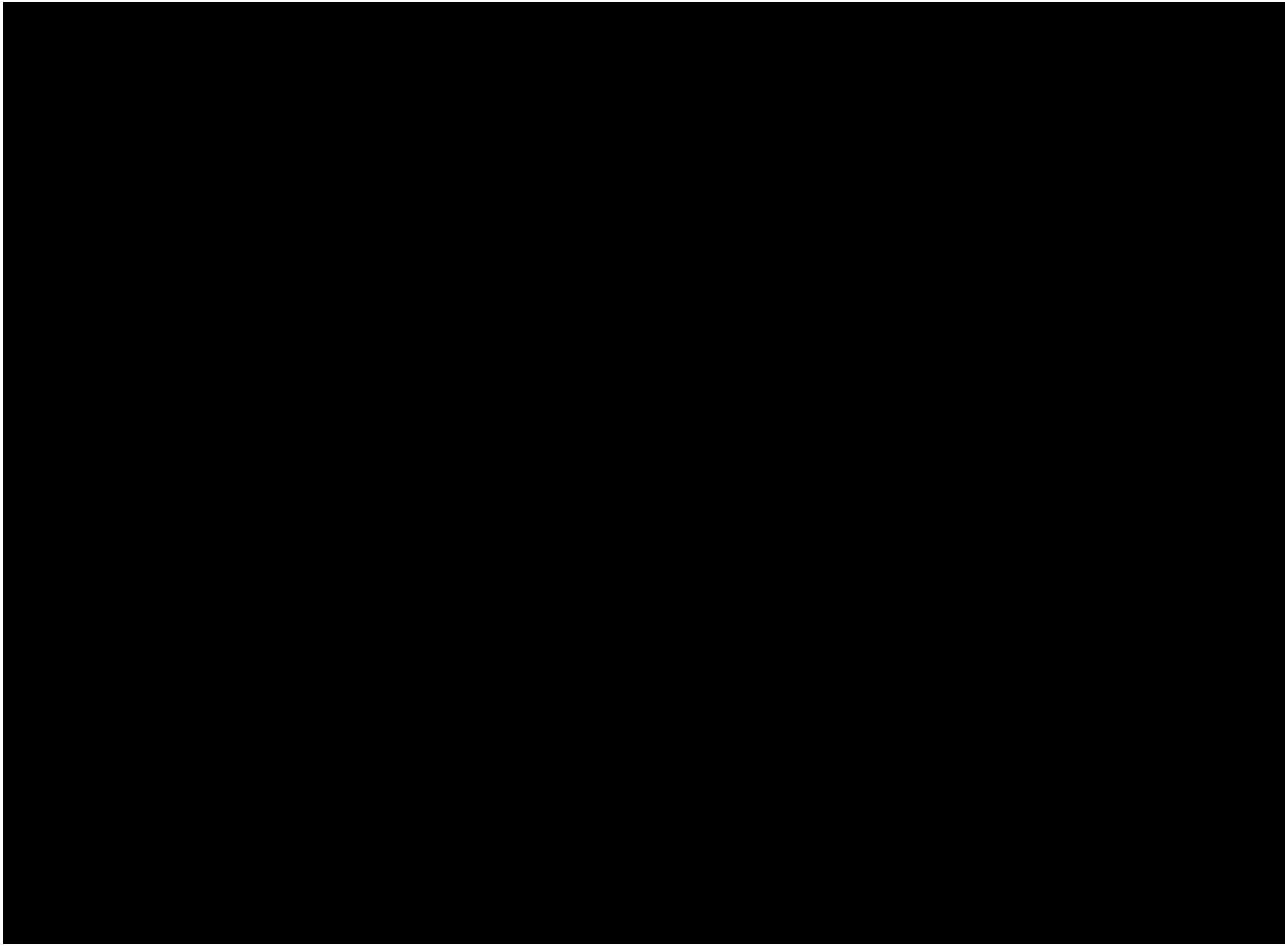

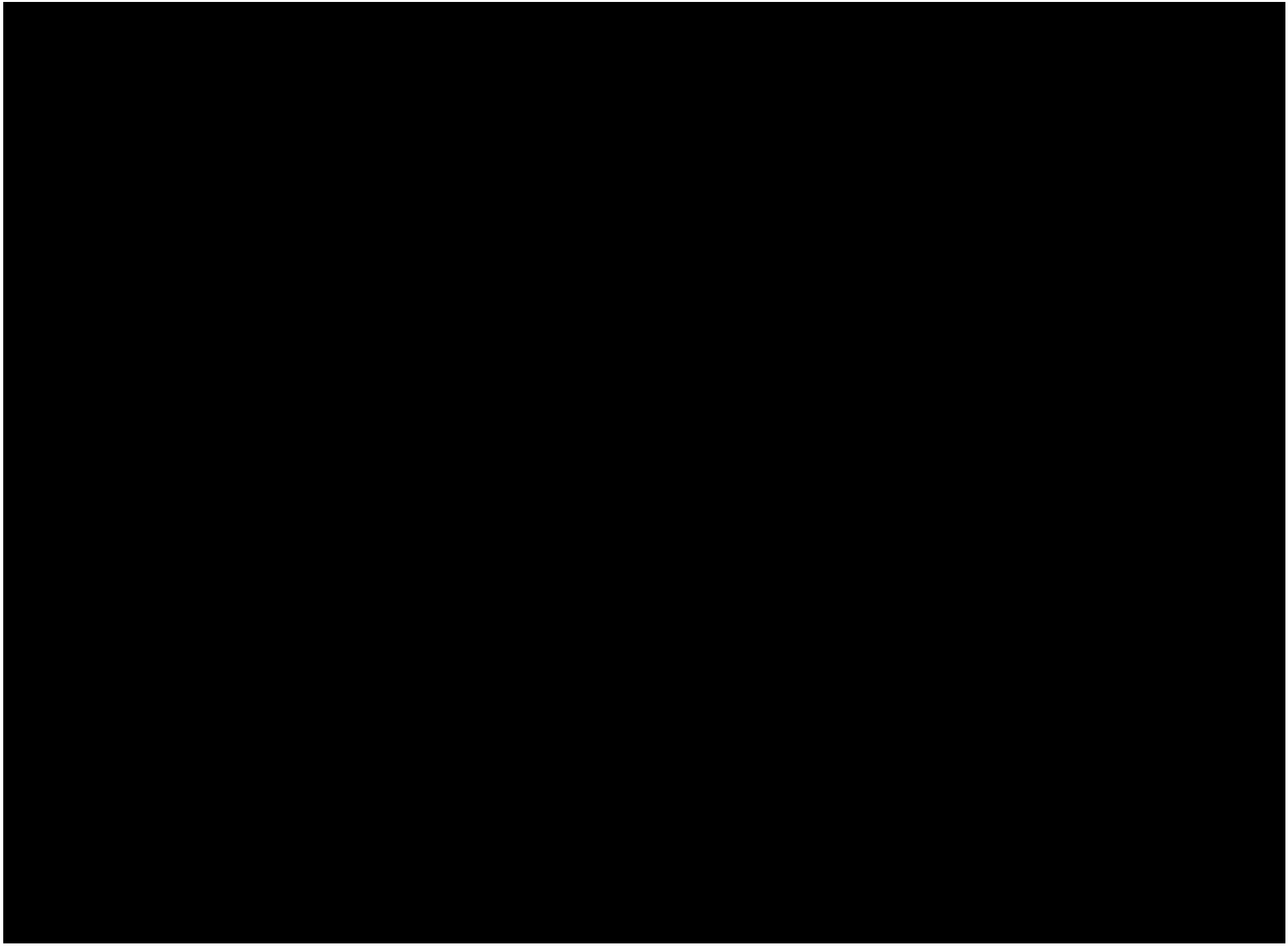

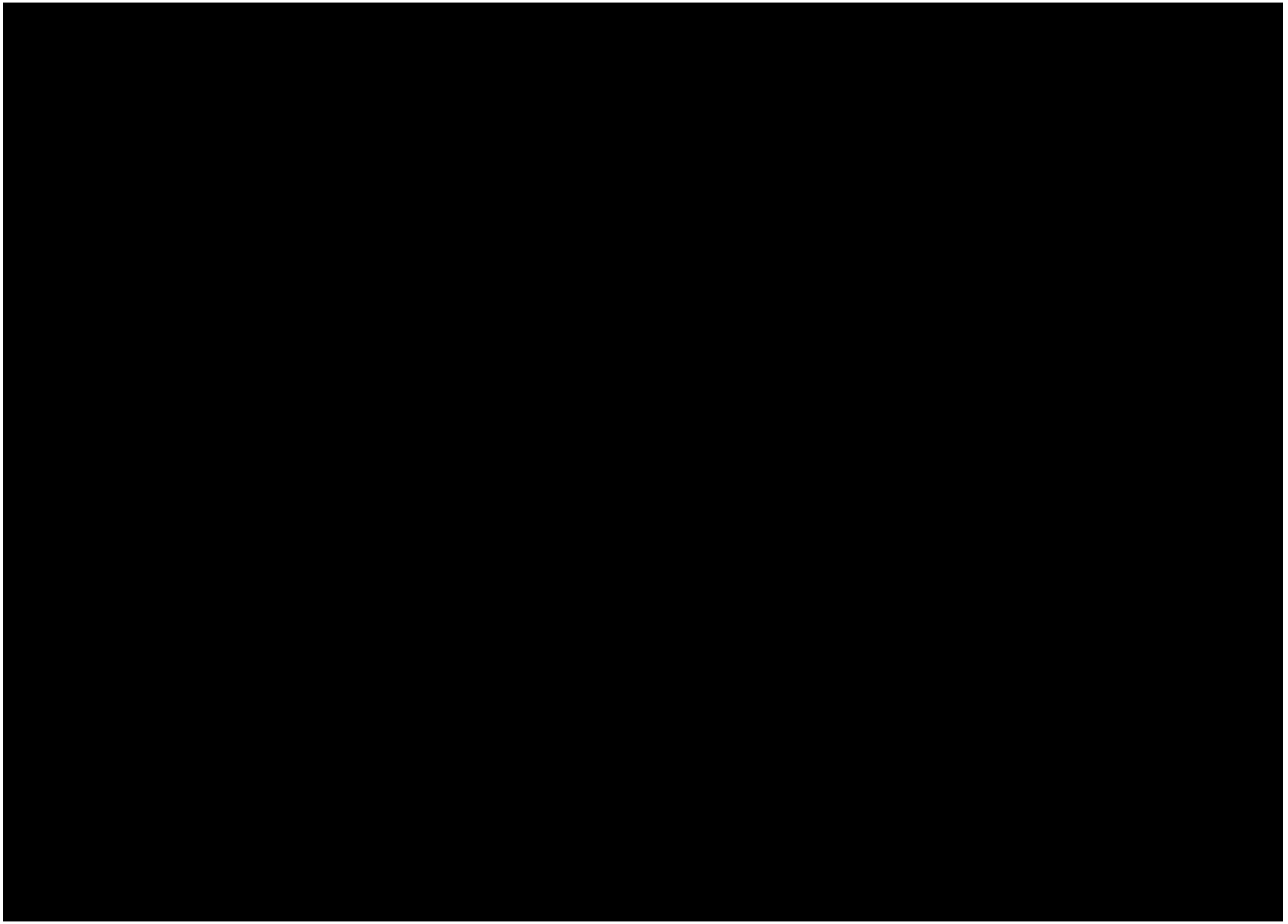

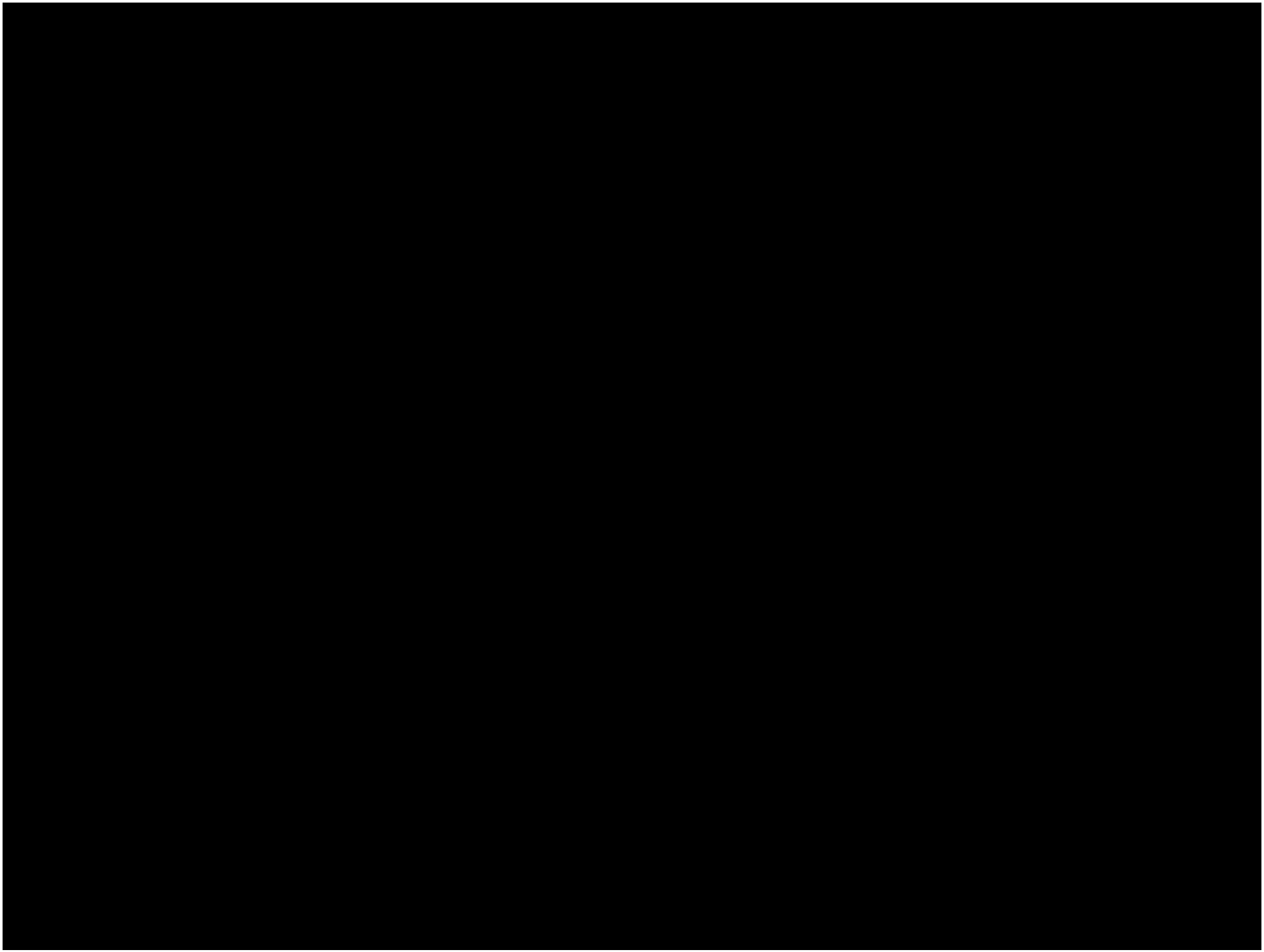

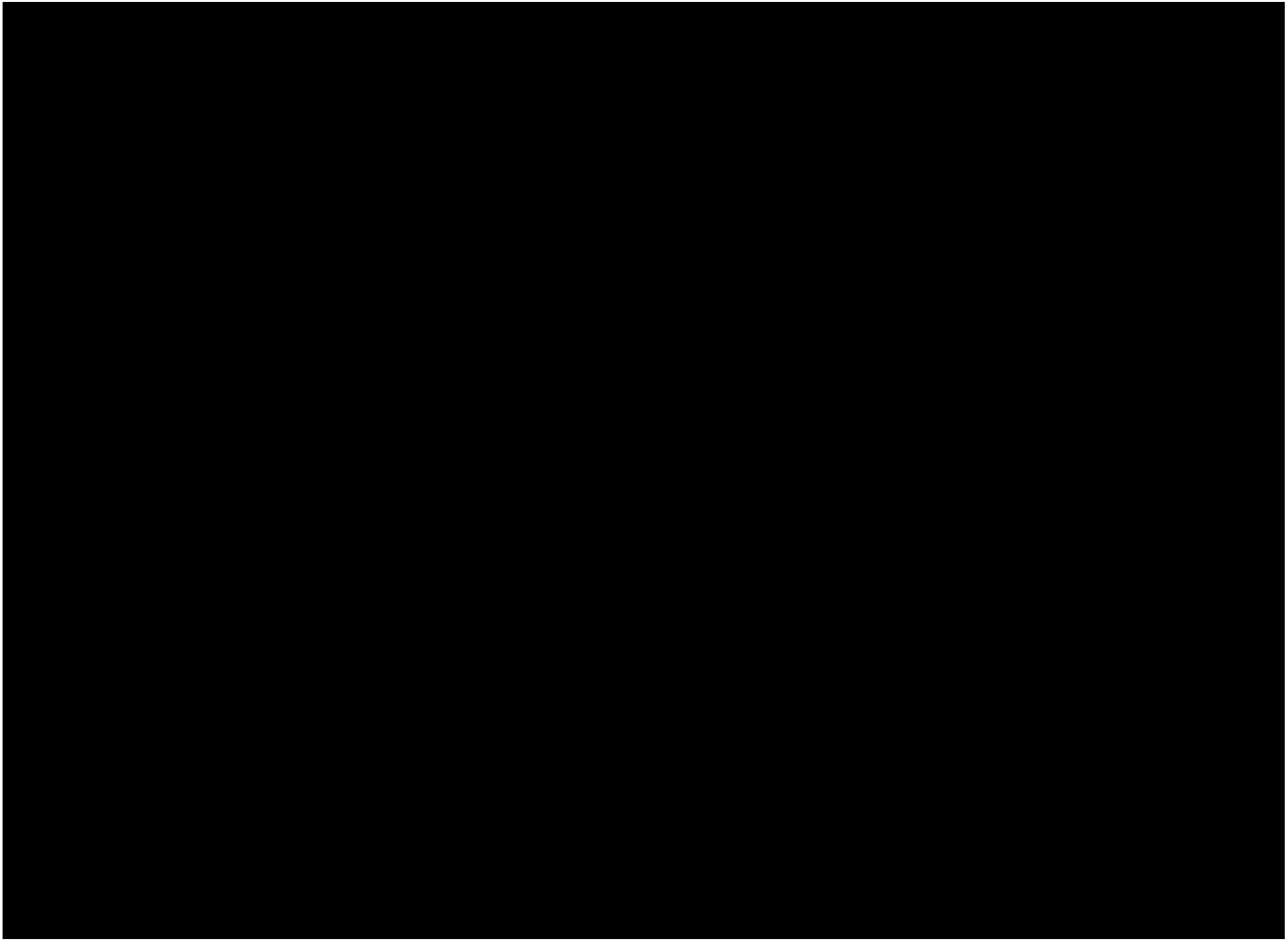

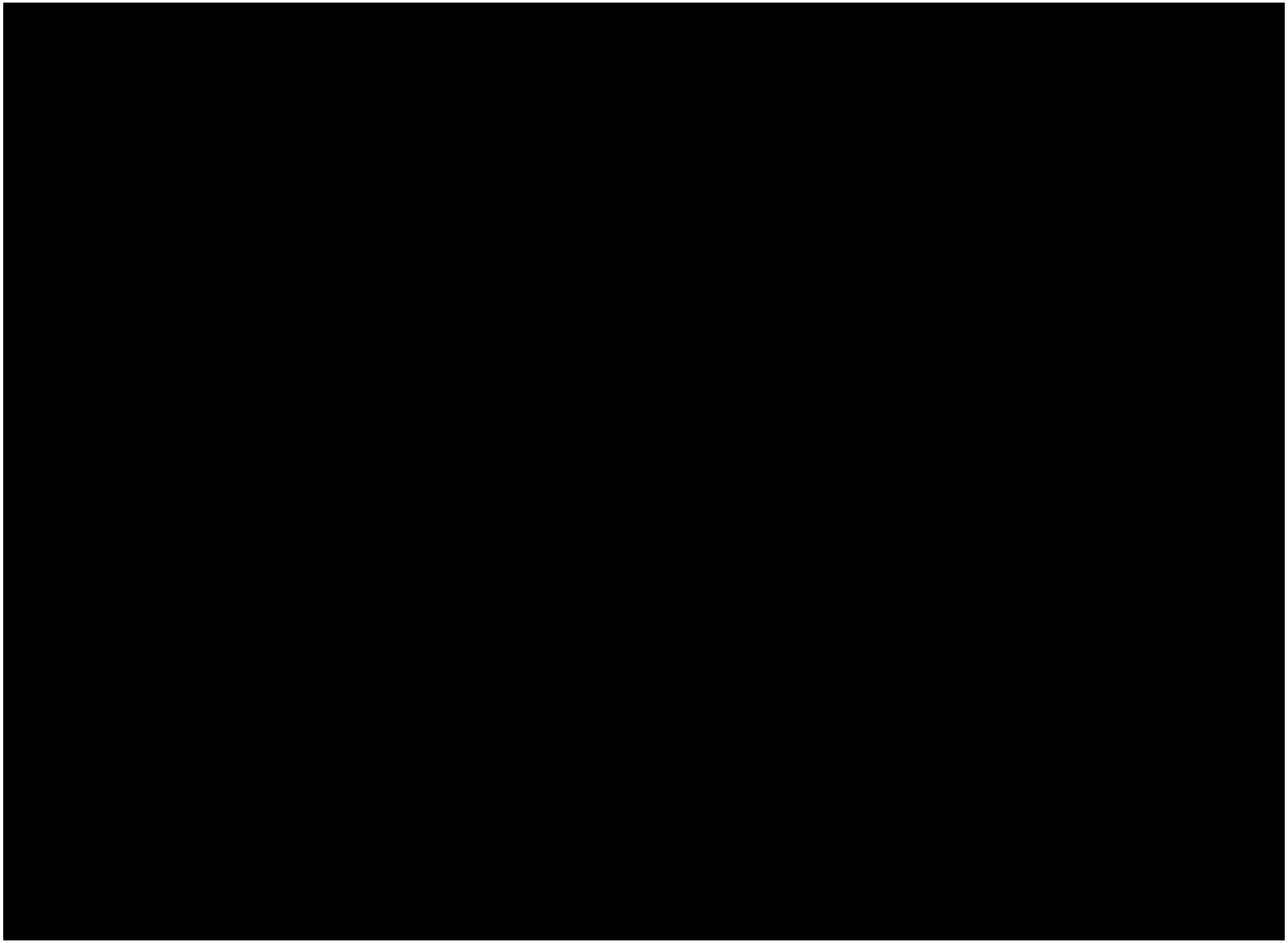

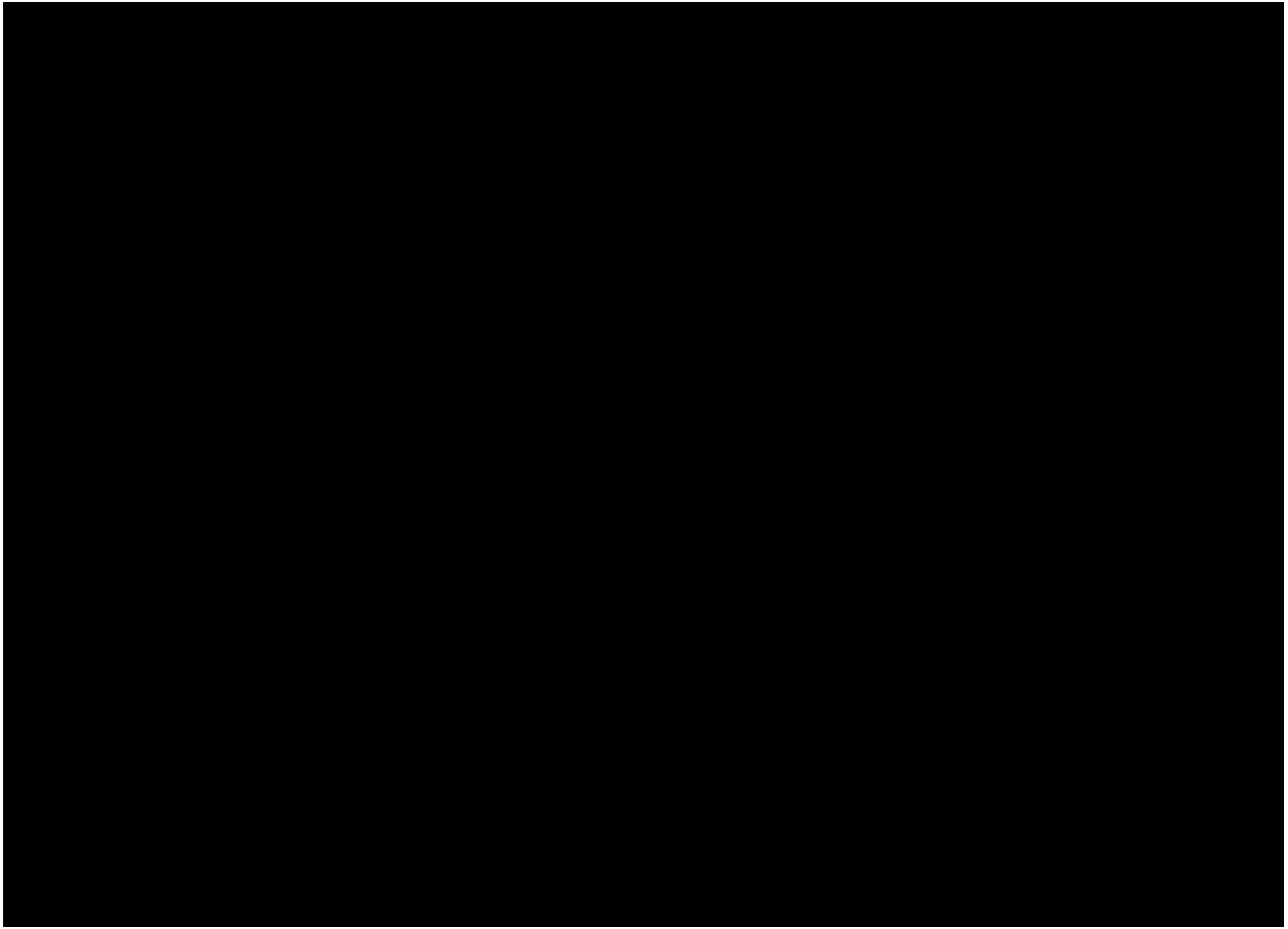

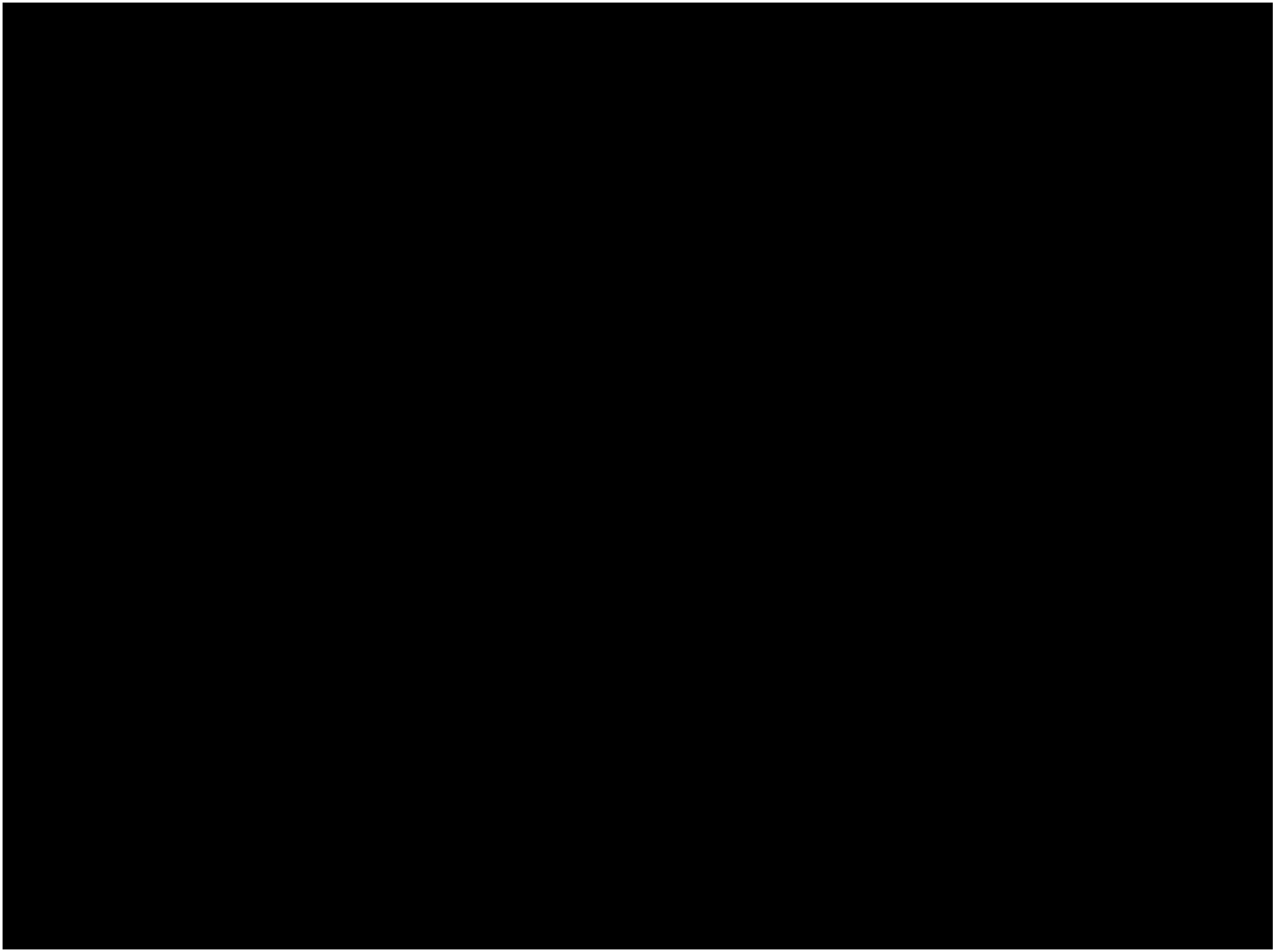

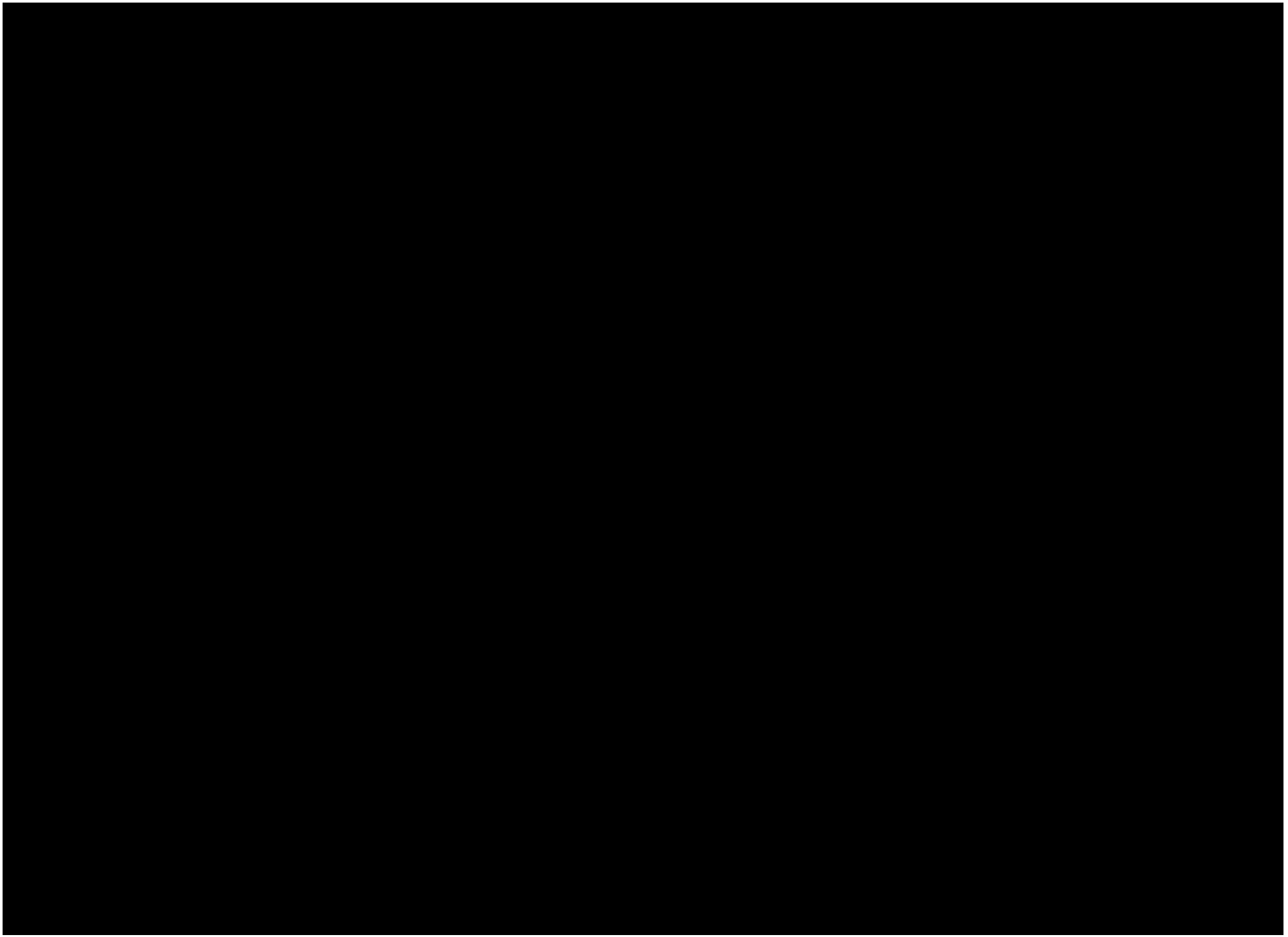

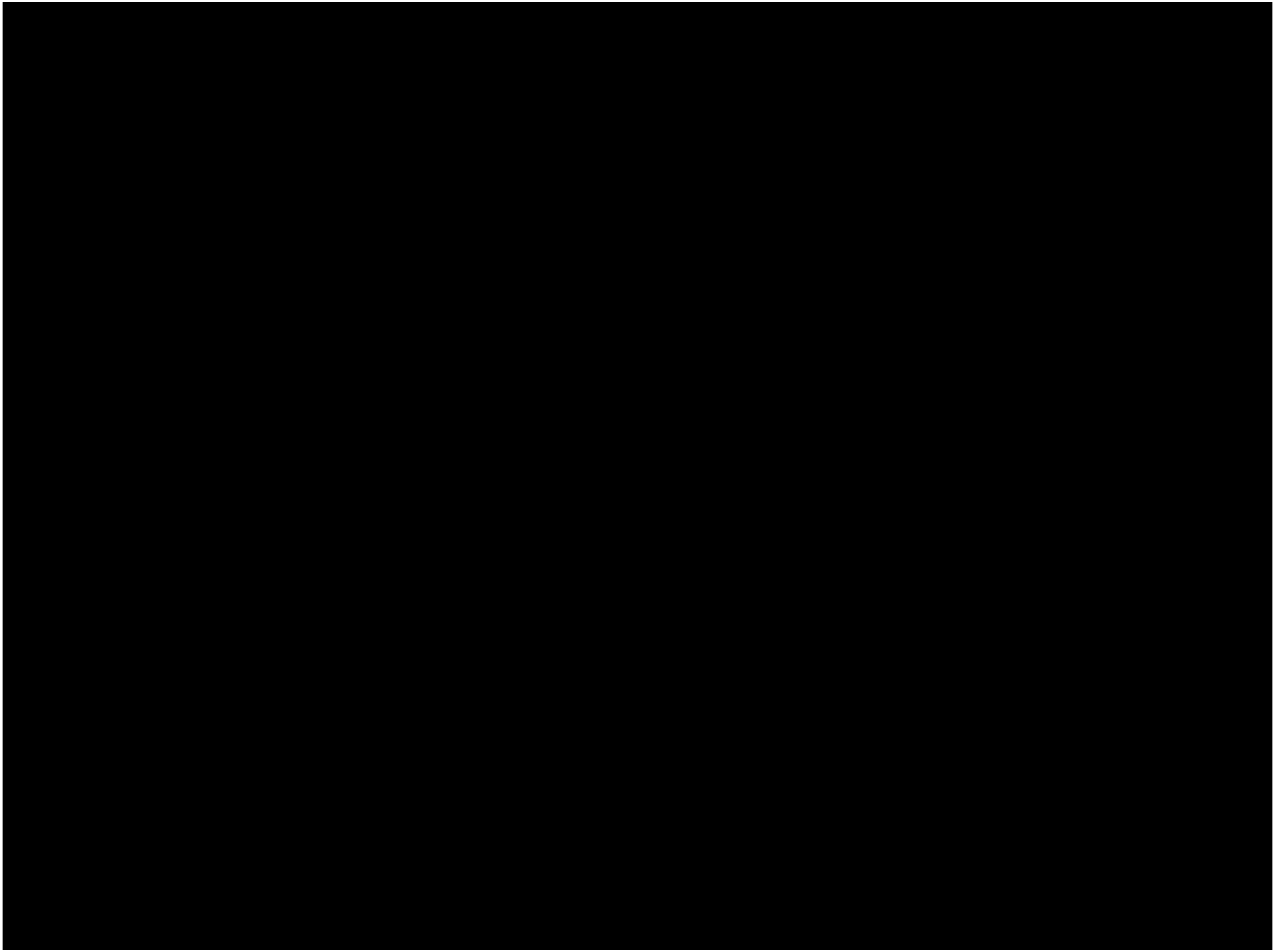

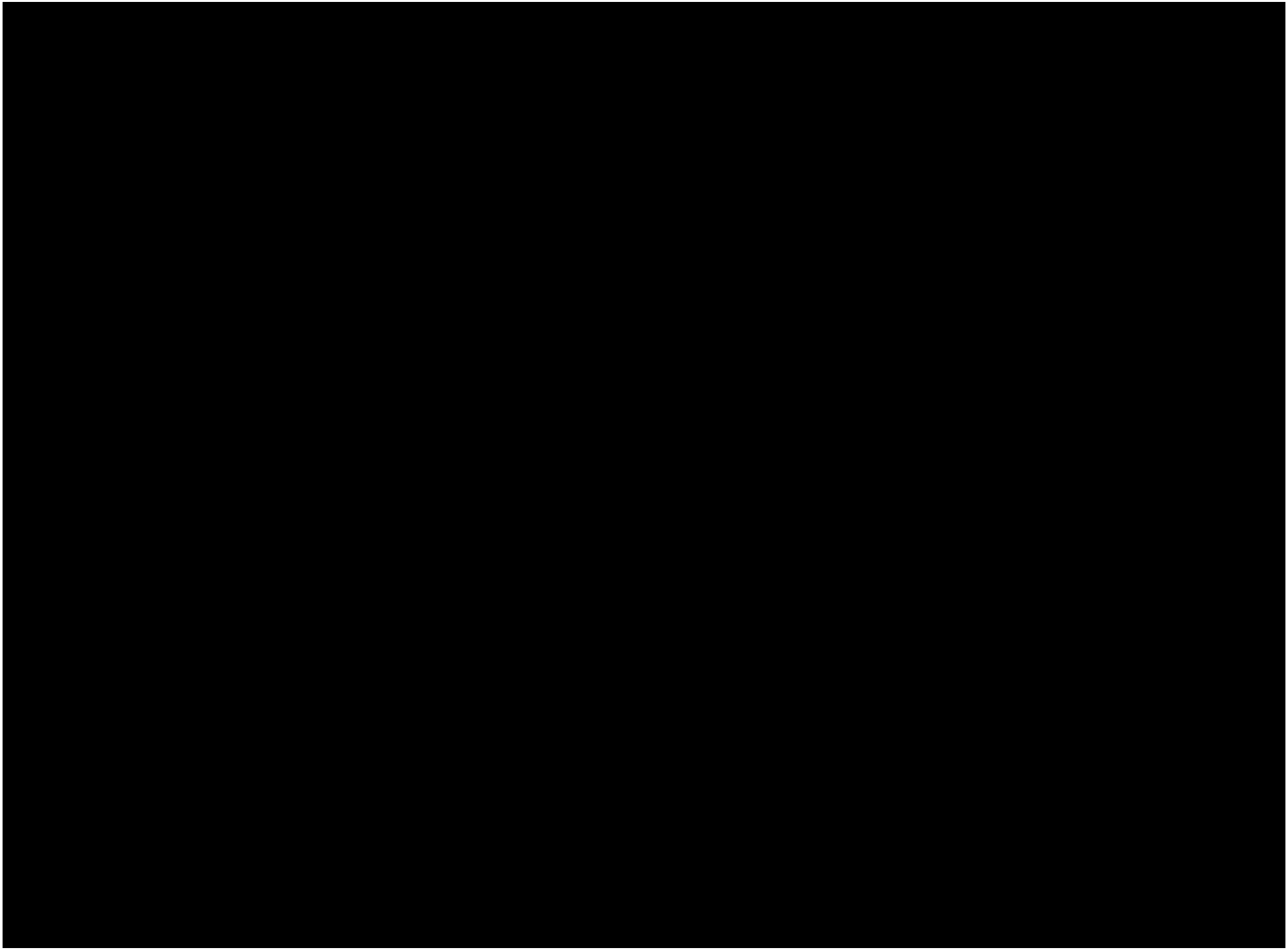

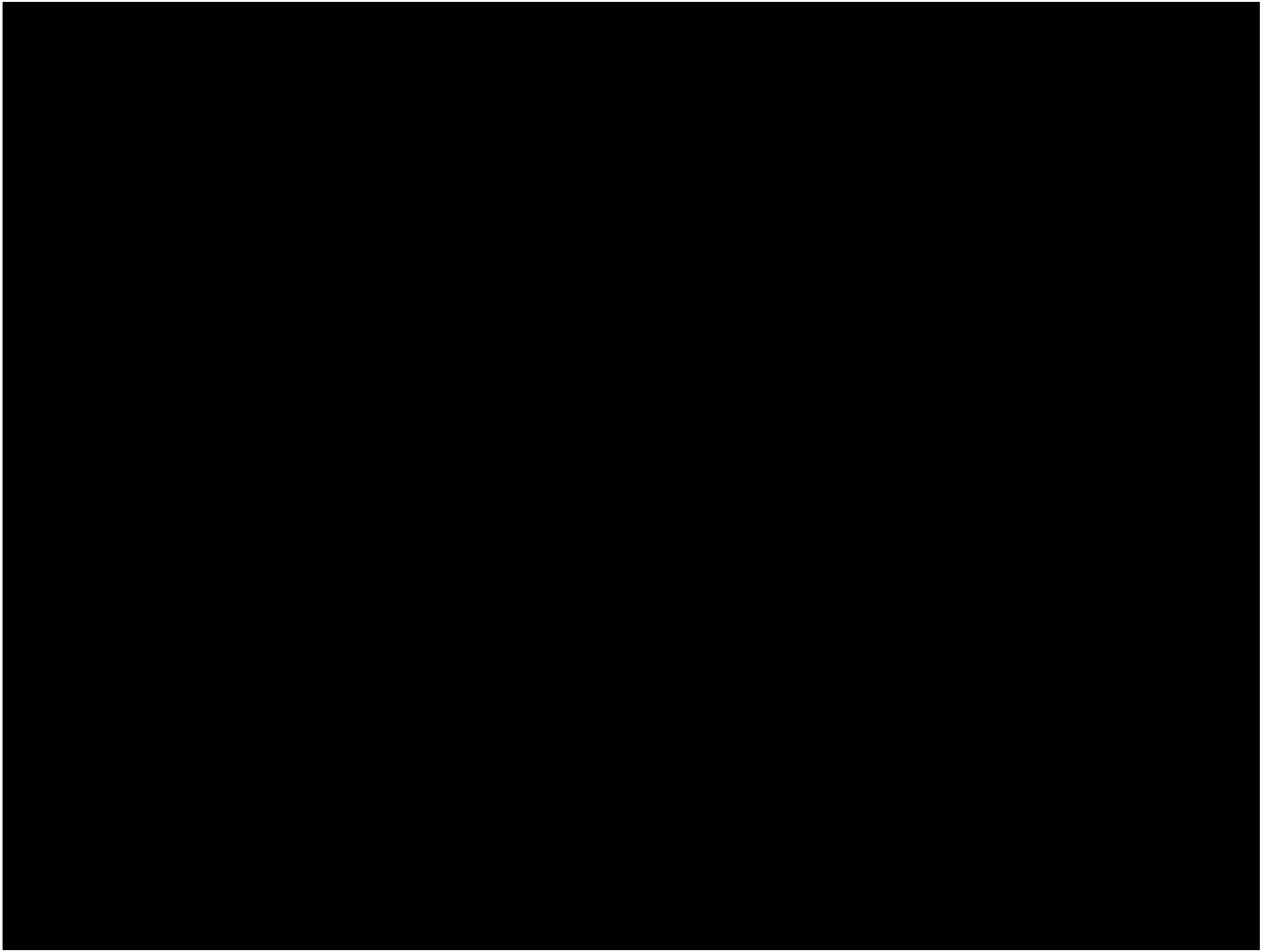

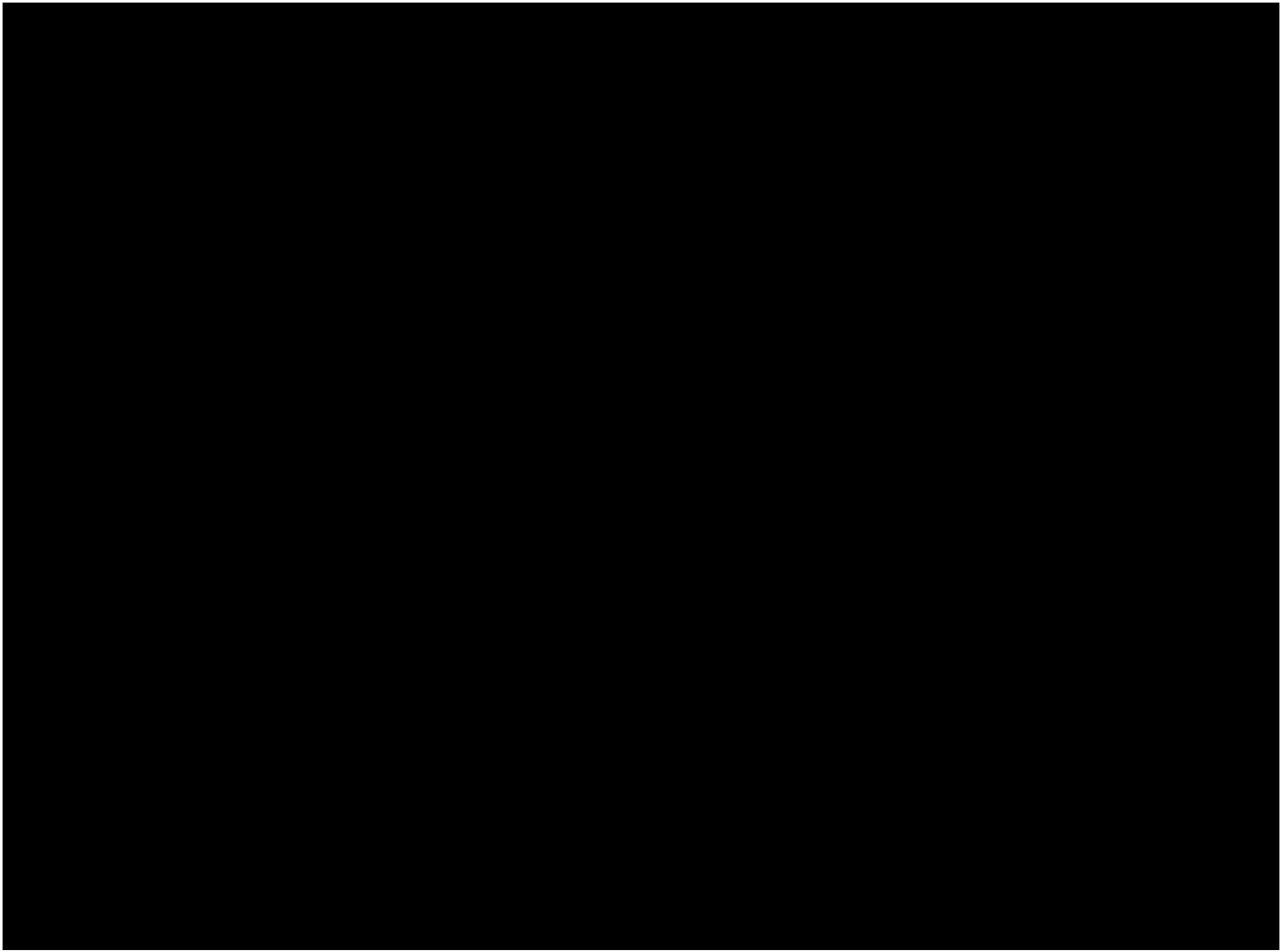

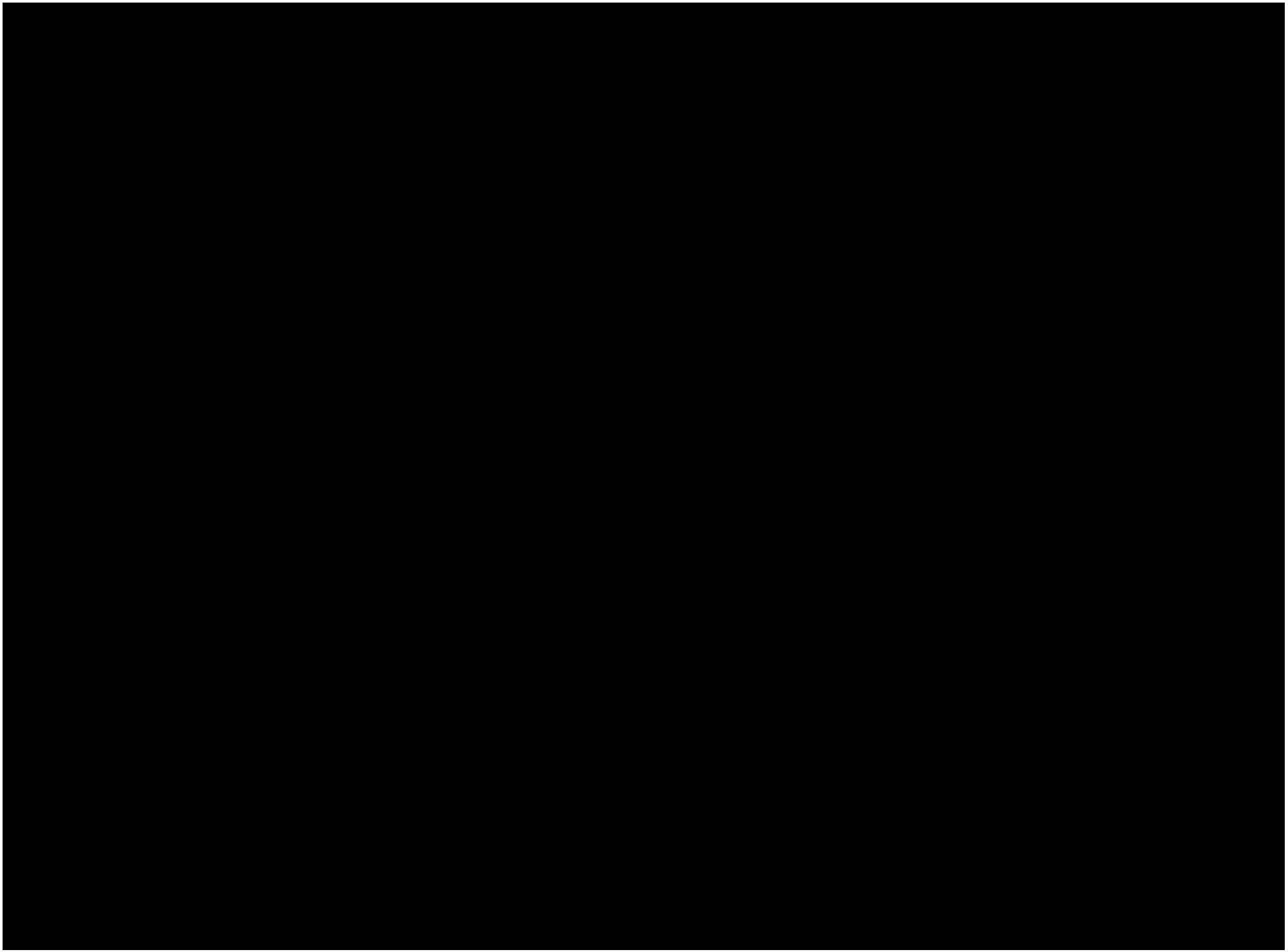

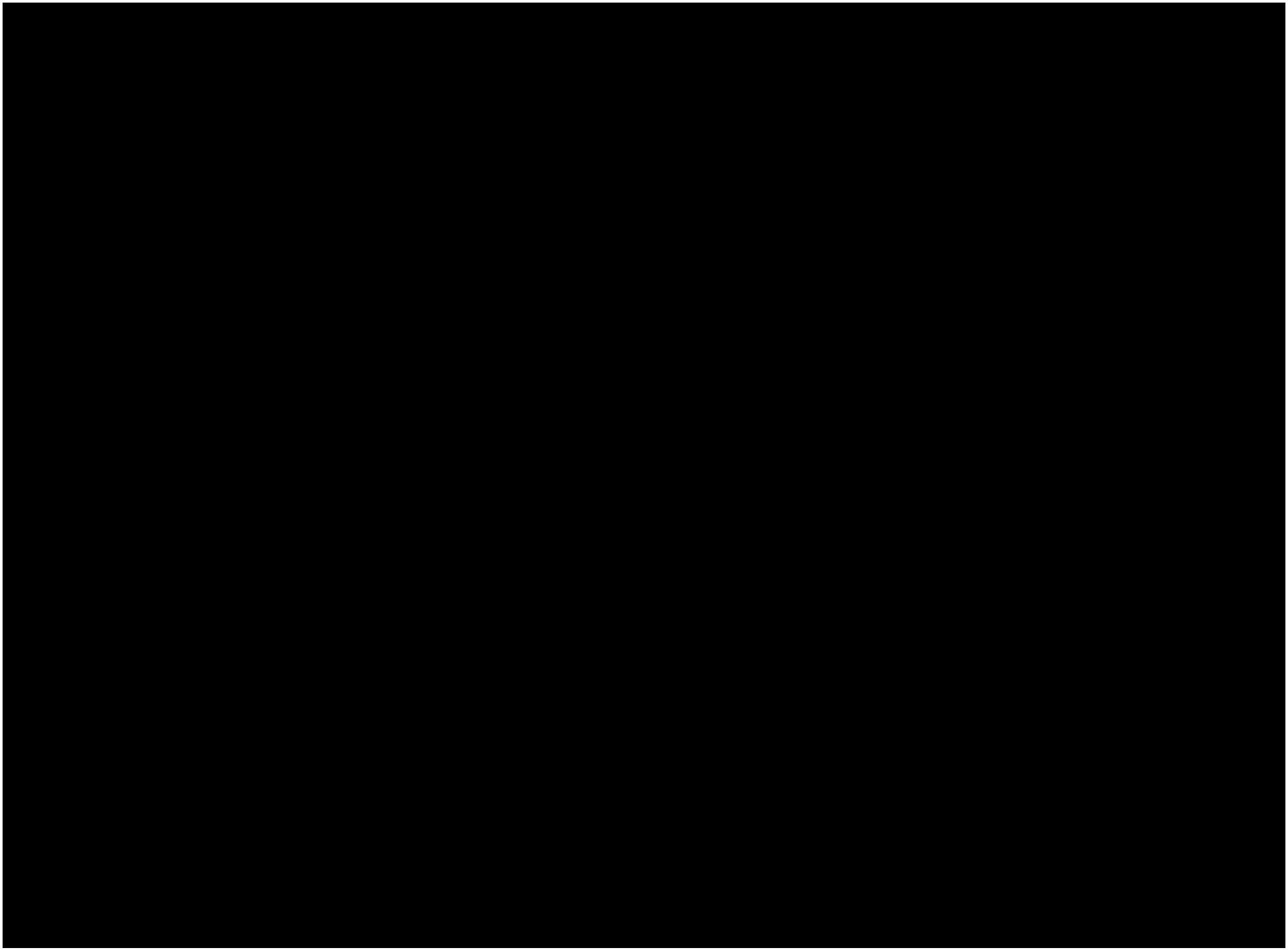

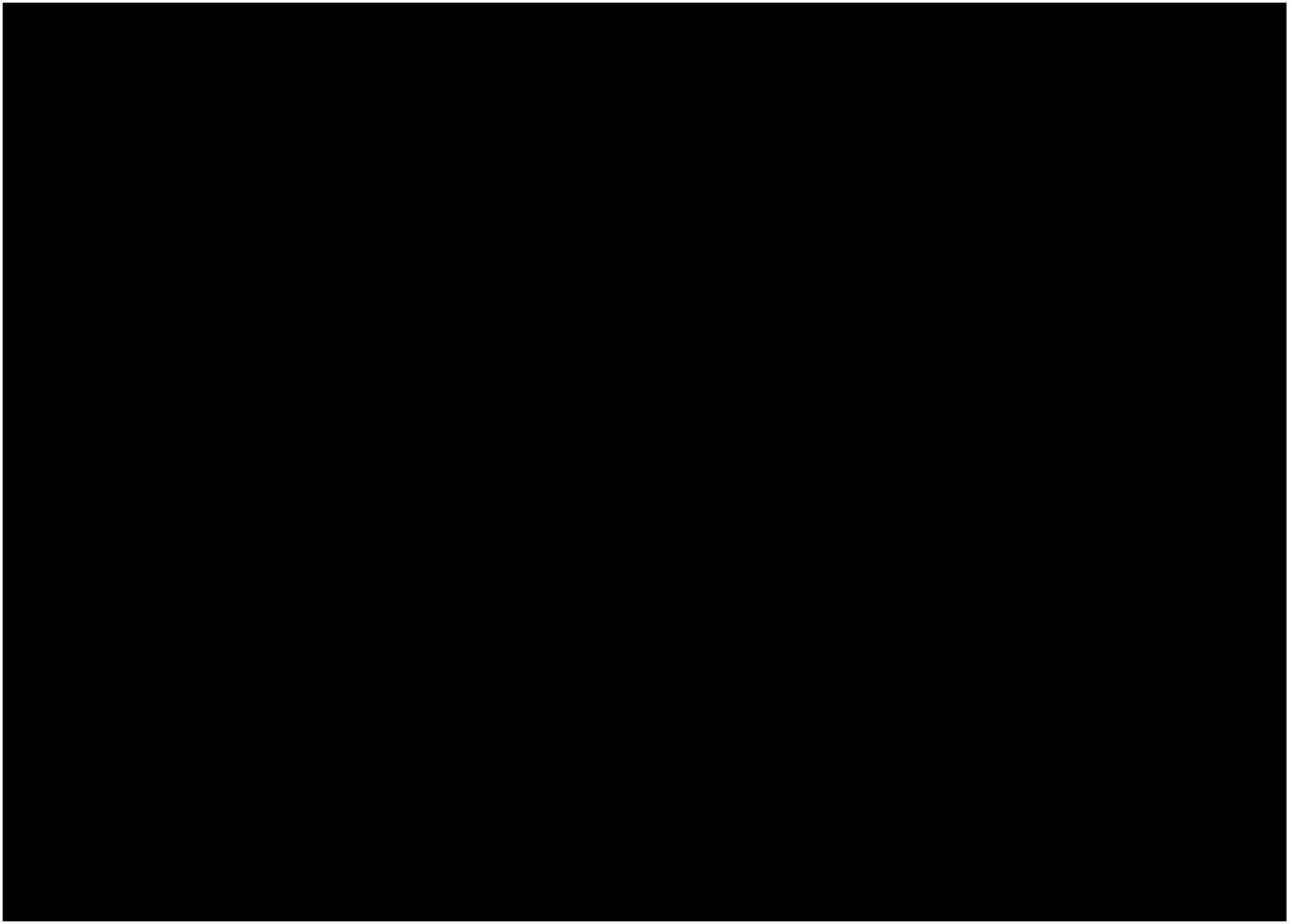

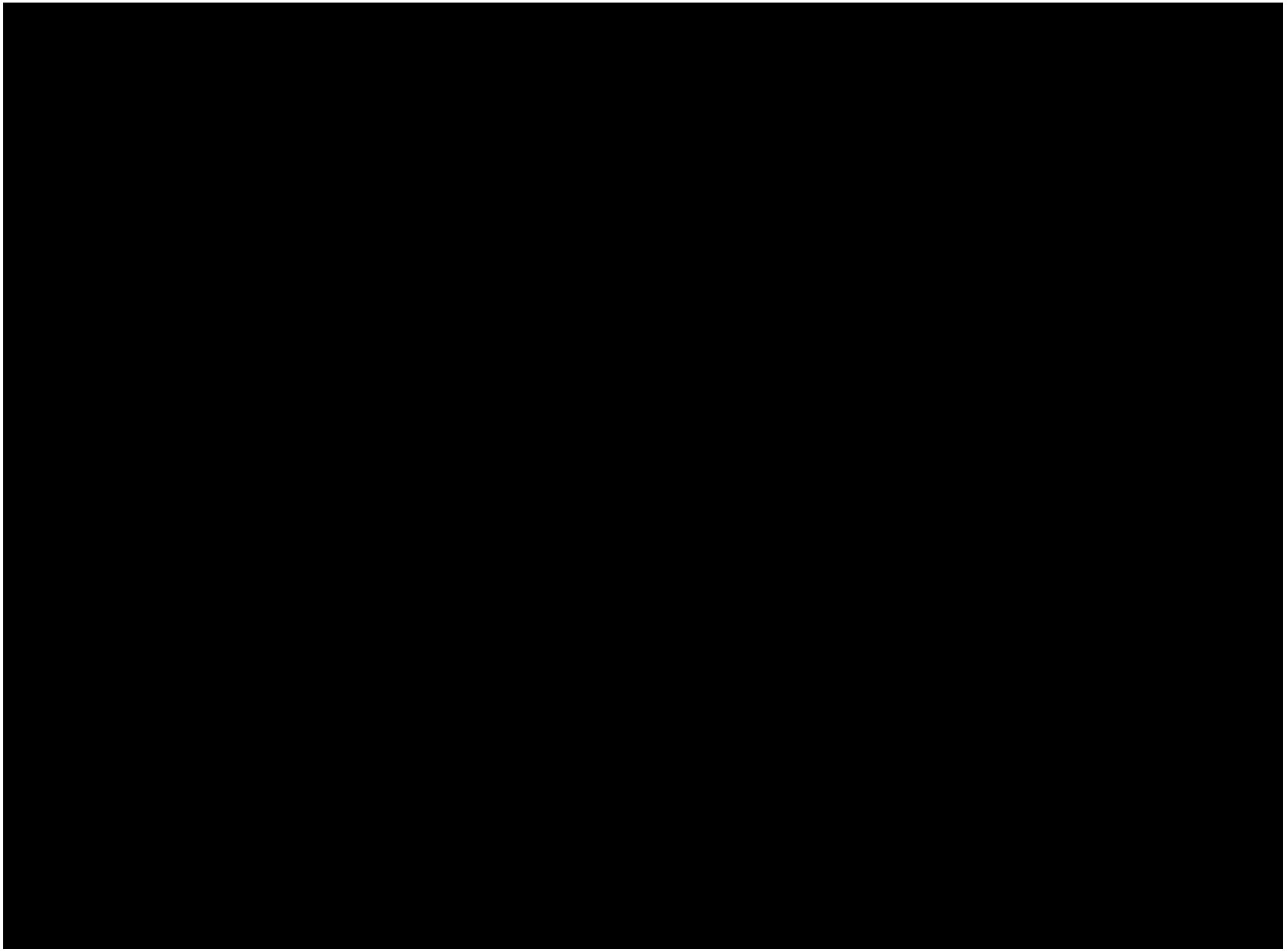

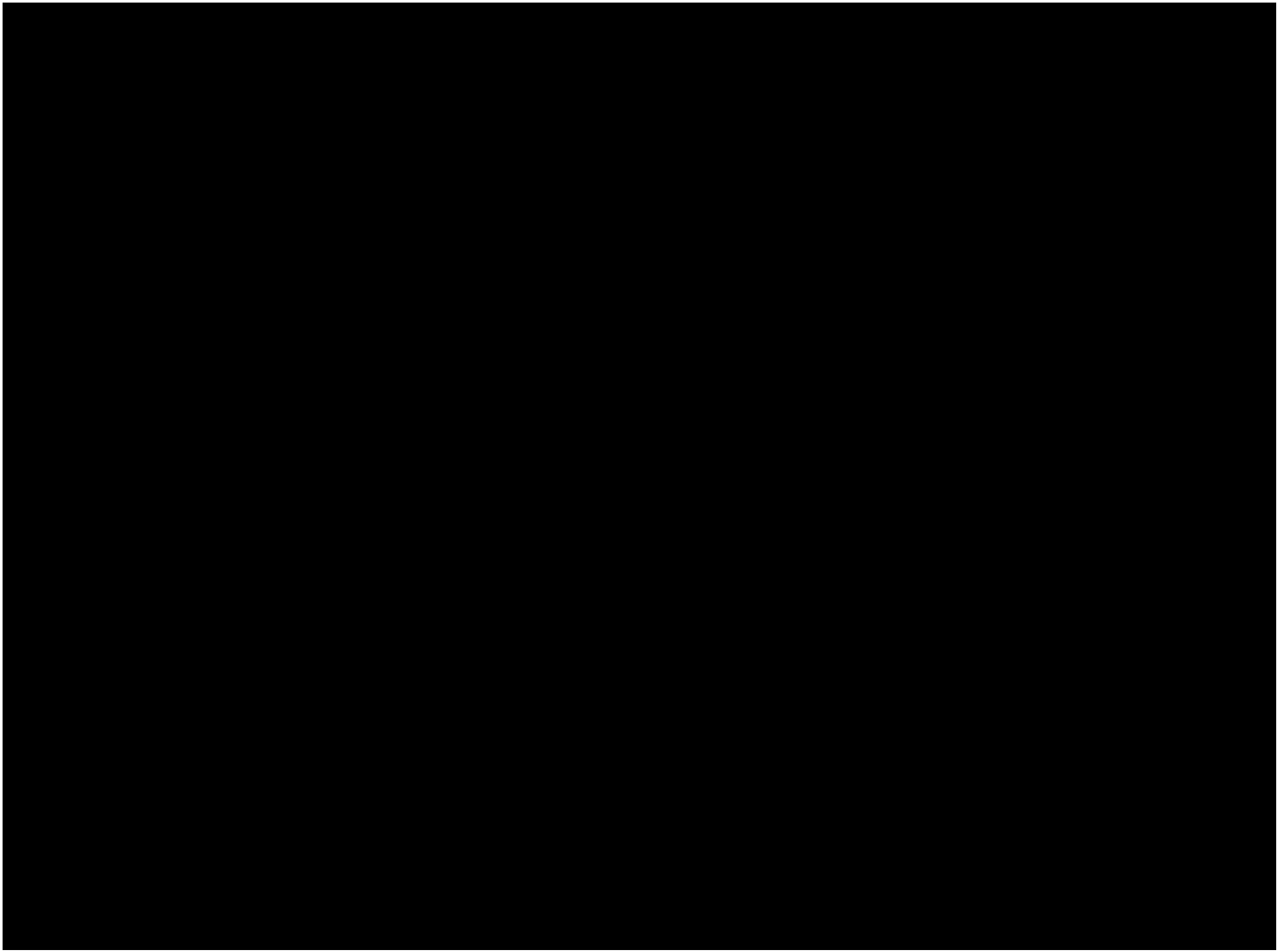

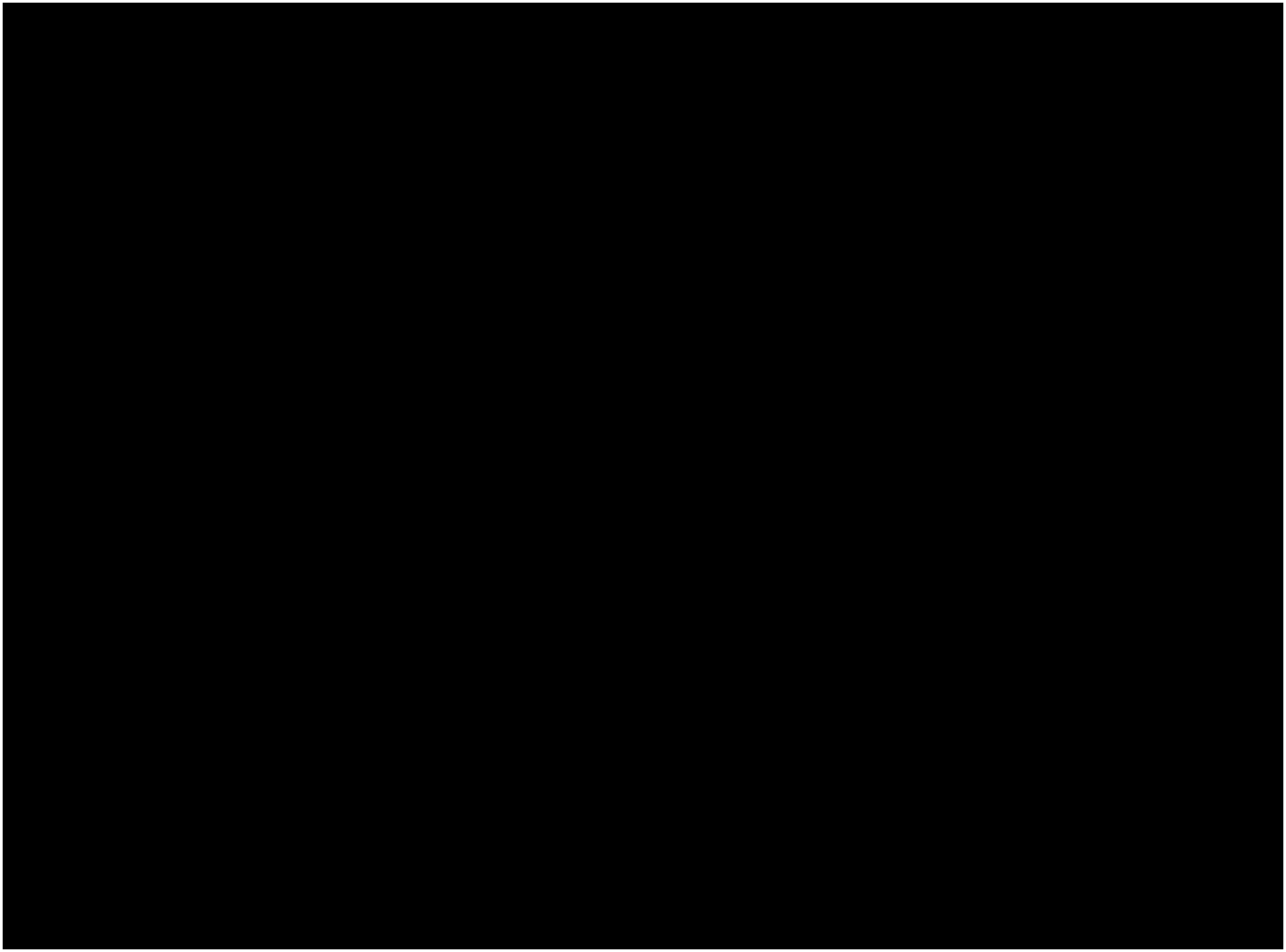

APPENDIX

B Site Characterization Data

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Appendix B-1 Site Characterization Data at Grassland Breeding Bird Survey Points, Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Point	Robel Date	Survey Period	Habitat Type	Distance from Road/ Trail (m)	Distance from Hedgero w/ Woods (m)	Distance to Nearest Shrub (m)	% Grass	% Forb	% Bare	% Woody	Dominant Grass	Dominant Forb	Ave. Vegetation Height (cm)	Litter Depth (cm)	N Robel (dm)	S Robel (dm)	E Robel (dm)	W Robel (dm)	Average Robel (dm)[1]	Vegetation Density	Invasive Species (within 25 m radius)	Management (e.g., mowing)
B1	6/18/2024	5	Pasture	261	67	67	70	30	0	0	Orchard Grass	Canada Goldenrod	56	0	0.5	0.5	0.5	0	0.4	Moderate	None	Lightly grazed.
B2	6/18/2024	5	Hayfield	50	110	110	20	80	0	0	Orchard Grass	Alfalfa	68	4	6	5	5	5.5	5.4	Moderate	None	Mowed prior to Period 8.
B3	7/19/2024	10	Hayfield	100	110	110	60	40	0	0	Orchard Grass	Dandelion	28	3	2	2.5	2.5	3	2.5	Moderate	None	Mowed prior to Period 8.
B4	6/26/2024	6	Hayfield	120	90	90	80	20	0	0	Timothy	Red Clover	75	8	4	5	4.5	5	4.6	Dense	None	Mowed prior to Period 8.
B5	6/18/2024	5	Pasture	165	30	15	90	10	0	0	Red fescue	Red Clover	81	1	1	2	1	1	1.3	Moderate	Red fescue, Thistle- 2%	Lightly grazed.
B6	6/26/2024	6	Hayfield	120	110	110	85	15	0	0	Timothy	Red Clover	55	5	3.2	3.5	4	3	3.4	Moderate	None	Mowed prior to Period 8.
B7	6/26/2024	6	Hayfield	50	75	75	80	20	0	0	Perennial Ryegrass	Red Clover	56	2	4	3.5	3	3	3.4	Moderate	None	Mowed prior to Period 8.
B8	7/3/2024	7	Hayfield	110	90	90	85	15	0	0	Redtop	Dandelion	30	2	2	2	2	2	2.0	Moderate	None	Mowed prior to Period 8.
B9	7/19/2024	10	Row Crop	300	120	120	55	10	35	0	Corn	Burdock	120	0	11	9	1.5	0	5.4	Sparse	Burdock- 5%	Tilled prior to Period 4.
B10	7/3/2024	7	Pasture	200	30	30	85	15	0	0	Timothy	Red Clover	80	5	3	4	2.5	2	2.9	Moderate	Burdock- 15%	Lightly grazed.
B11	7/12/2024	7	Row Crop	300	100	100	40	5	50	0	Corn	Chick-weed	76	0	1	0.5	0	0	0.4	Sparse	Chick-weed- 5%	Tilled for agriculture during study period.
B12	7/3/2024	7	Row Crop	400	130	130	30	5	65	0	Corn	Chick-weed	30	0	5.5	2	0	0	1.9	Sparse	Chick-weed- 5%	Tilled for agriculture during study period.
B13	7/3/2024	7	Row Crop	300	110	110	30	10	60	0	Corn	Chick-weed	84	0	6	3	0	0	2.3	Sparse	Chick-weed- 5%	Tilled for agriculture during study period.
B14	7/3/2024	7	Row Crop	400	100	100	40	10	50	0	Corn	Shepard's Purse	79	0	4	4.5	5	0	3.4	Sparse	Shepard's Purse- 20%	Tilled for agriculture during study period.
B15	7/3/2024	7	Row Crop	120	120	120	30	5	65	0	Corn	Lamb's Quarters	93	0	5	4.5	3	0	3.1	Sparse	None	Tilled for agriculture during study period.
B16	7/19/2024	10	Row Crop	200	120	120	65	5	30	0	Corn	Shepard's Purse	115	0	0	0	12.5	11.5	6.0	Sparse	Shepard's Purse- 10%	Tilled for agriculture during study period.
B17	7/3/2024	7	Row Crop	110	120	120	0	10	90	0	Corn	Chick-weed	55	0	4	0	0	2.5	1.6	Sparse	Chick-weed- 5%	Tilled for agriculture during study period.
B18	7/19/2024	10	Row Crop	100	100	100	65	5	30	0	Corn	Chick-weed	160	0.5	15	15.5	0	0	7.6	Sparse	None	Tilled for agriculture during study period.
B19	7/19/2024	10	Hayfield	105	100	100	70	30	0	0	Orchard Grass	Alfalfa	52	1	3	2	3	2.5	2.6	Moderate	None	Mowed prior to Period 8.
B20	7/19/2024	10	Hayfield	400	100	100	10	90	0	0	Orchard Grass	Alfalfa	28	0.5	1.5	2.5	2	3	2.3	Moderate	None	Mowed prior to Period 8.
B21	7/15/2024	8	Hayfield	105	105	105	65	30	0	5	Orchard Grass	Dandelion	31	2	2.5	2	2.5	2.5	2.4	Rank	None	Mowed prior to Period 8.
B22	7/15/2024	8	Hayfield	165	115	115	64	35	0	1	Orchard Grass	Dandelion	34	2	3	2	2	3	2.5	Rank	Bedstraw	Mowed prior to Period 8.
B23	6/22/2024	5	Hayfield	110	110	110	80	20	0	0	Orchard Grass	Galium Mollugo	43	4	3	3.5	4	4	3.6	Moderate	None	Mowed prior to Period 8.
B24	6/22/2024	5	Hayfield	110	105	105	70	30	0	0	Timothy	Dandelion	55	2	4	5	3	4	4.0	Moderate	None	Mowed prior to Period 8.
B25	6/5/2024	3	Hayfield	285	102	102	95	5	0	0	Orchard Grass	Hedge Bedstraw	120	6	4	3.5	3.5	3.5	3.6	Moderate	Hedge Bedstraw- 5%	Unmowed through Period 8.

Appendix B-1 Site Characterization Data at Grassland Breeding Bird Survey Points, Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Point	Robel Date	Survey Period	Habitat Type	Distance from Road/ Trail (m)	Distance from Hedgero w/ Woods (m)	Distance to Nearest Shrub (m)	% Grass	% Forb	% Bare	% Woody	Dominant Grass	Dominant Forb	Ave. Vegetation Height (cm)	Litter Depth (cm)	N Robel (dm)	S Robel (dm)	E Robel (dm)	W Robel (dm)	Average Robel (dm)[1]	Vegetation Density	Invasive Species (within 25 m radius)	Management (e.g., mowing)
B26	6/26/2024	3	Hayfield	236	87	87	95	5	0	0	Orchard Grass	Hedge Bedstraw	95	5	6	5	5.5	5	5.4	Moderate	Hedge Bedstraw-5%	Unmowed through Period 8.
B27	6/26/2024	6	Pasture	107	81	81	70	30	0	0	Kentucky Bluegrass	White Clover	53	2	1	0.5	0.5	1	0.8	Moderate	Bull thistle-2%, single plants scattered	Lightly grazed.
B28	7/19/2024	10	Row Crop	53	75	66	60	0	40	0	Corn	N/A	130	0	0	0	11.5	11.5	5.8	Sparse	None	Tilled for agriculture on 5/30/24 (period 2)
B29	6/26/2024	6	Pasture	368	84	84	75	25	0	0	Orchard Grass	Red Clover	52	2	1	1	1	1	1.0	Moderate	Bull thistle-3%, few plants scattered	Lightly grazed.
B30	7/19/2024	10	Row Crop	165	114	114	55	0	45	0	Corn	N/A	100	0	10	9	0	0	4.8	Sparse	None	Tilled for agriculture on 5/30/24 (period 2)
B31	6/5/2024	3	Hayfield	413	106	106	97	3	0	0	Orchard Grass	Red Clover	75	1	4.5	4.5	5	5	4.8	Moderate	None	Mowed prior to Period 8.
B32	6/18/2024	5	Hayfield	130	100	100	50	45	0	5	Orchard Grass	White Clover	28	3	3	2.5	3	2	2.6	Rank	Bedstraw	Mowed prior to Period 8.
B33	7/19/2024	10	Hayfield	200	110	110	80	15	5	0	Orchard Grass	Common Dandelion	38	3	2.5	3	2.5	2	2.5	Sparse	Bedstraw	Mowed prior to Period 8.
B34	6/18/2024	5	Hayfield	120	40	40	80	20	0	0	Sweet Vernal Grass	Fragaria Virginiana	38	2	1.5	2.5	2	1.5	1.9	Moderate	None	Mowed prior to Period 8.
B35	6/18/2024	5	Hayfield	110	120	120	80	10	0	10	Fescue	Vetch	22	4	1.5	1.5	1.5	2	1.6	Rank	Bedstraw	Mowed prior to Period 8.
B36	6/18/2024	5	Hayfield/ Scrub-shrub	150	20	10	70	30	0	0	Sweet Vernal Grass	Fragaria Virginiana	41	1	2	2	3	3.5	2.6	Moderate	None	Mowed prior to Period 8.
B43	6/18/2024	5	Hayfield	110	10	10	80	20	0	0	Orchard Grass	Dandelion	15	1	2	2	2.5	2	2.1	Moderate	None	Mowed prior to Period 8.
B44	6/18/2024	5	Fallow	20	100	100	80	10	10	0	Sweet Vernal Grass	Red Clover	16	1.5	2	3	4	4	3.3	Moderate	None	Unmanaged during study period.
B49	7/19/2024	10	Hayfield	98	91	91	0	70	30	0	None	Alfalfa	16	0	2	2	2	2	2.0	Sparse	None	Tilled on 5/31/24 (period 2); Alfalfa planted.
B50	7/19/2024	10	Hayfield	122	107	107	0	70	30	0	None	Alfalfa	24	0	2	2.5	3	2.5	2.5	Sparse	None	Tilled on 5/31/24 (period 2). Alfalfa planted.
B54	7/19/2024	10	Hayfield	135	150	135	50	50	0	0	Timothy	Alfalfa	17	2	2	1.5	1	1.5	1.5	Rank	None	Mowed prior to Period 8.
B55	6/18/2024	5	Hayfield	10	100	100	95	5	0	0	Orchard Grass	Meadow Buttercup	130	10	8	7	7.5	8	7.6	High	None	Unmowed through Period 8.
B56	6/18/2024	5	Pasture	95	95	95	60	40	0	0	Orchard Grass	Red Clover	22	0	1	2	2	1	1.5	Moderate	None	Lightly grazed.
B60	6/18/2024	5	Hayfield	60	110	110	60	40	0	0	Sweet Vernal Grass	Galium Spp.	74	3	3	4	5	5	4.3	Moderate	None	Mowed prior to Period 8.
B62	6/26/2024	6	Pasture	58	28	28	50	50	0	0	Kentucky Bluegrass	White Clover	16	2	0	0.5	0.5	0	0.3	Moderate	Bull thistle-10%, small patch	Lightly grazed.

Note: Dominant plant species and percentages based on a 25-meter radius plot around the center point.
[1]Average of Robel pole measurements taken in four cardinal directions around the center point.

Appendix B-2 Site Characterization Data at Marsh Bird Survey Points, Ellenburg Wind Repowering Project, Clinton County, New York, May to June 2024

Survey Point	Date	Water Depth (cm)	% open water	% exposed mud, sand, or rock	% submersed and floating herbaceous plants	% emergent herbaceous plants	% scrub-shrub	% trees	% road or trail	Marsh edge	Estimated marsh vegetation height (cm)	Dispersion Pattern	Wetland Type	Wetland Permanency	Cattail %	Common Reed %	Other Grasses %	Sedges & Relatives %	Rushes & Bulrushes %	Others %	Wetland Management
MB1	6/26/2024	>25	45	0	2	50	3	0	0	Forest/ Pasture	85	51-75% clustered	PEM	Permanent	1-5%	0	25-50%	50-75%	1-5%	1-5%	None

Key:
PEM: Palustrine Emergent

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APPENDIX

C Species Summary by Survey Point and Survey Period

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Table C-1 Abundance of Birds within 100-meter Survey Radius Per Species by Survey Point, Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Common Name	Survey Point																																													Total Birds
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36	B43	B44	B49	B50	B54	B55	B56	B60	B62	
Canada Goose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	**2**
Wild Turkey	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Killdeer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Turkey Vulture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
Red-tailed Hawk	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Downy Woodpecker	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Northern Flicker	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**2**
Pileated Woodpecker	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
American Kestrel	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
[redacted]																																														
Alder Flycatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**2**
Eastern Kingbird	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**4**
Warbling Vireo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Red-eyed Vireo	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	2	0	0	0	1	1	2	0	0	0	0	3	0	0	**18**
Blue Jay	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
American Crow	1	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3	0	1	**16**
Common Raven	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Black-capped Chickadee	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**5**
Barn Swallow	0	0	3	0	1	13	5	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	4	**38**
Golden-crowned Kinglet	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
European Starling	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	34	**43**
Gray Catbird	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Brown Thrasher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Northern Mockingbird	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
American Robin	1	0	0	0	2	0	1	0	0	3	0	1	0	1	0	0	0	1	0	2	0	0	0	0	0	0	1	2	1	0	2	0	1	4	0	2	0	0	4	1	0	0	2	0	7	**39**
Cedar Waxwing	0	3	0	0	2	0	0	0	0	5	1	0	2	2	0	0	0	0	0	0	5	0	1	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**25**
House Sparrow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Purple Finch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**
American Goldfinch	4	0	0	0	2	2	0	1	1	6	0	0	0	0	0	0	0	0	0	2	1	0	1	1	0	3	1	2	0	1	1	3	0	0	0	2	0	1	0	1	2	4	0	0	1	**43**
Chipping Sparrow	0	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**7**
Field Sparrow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	**2**
White-throated Sparrow	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Savannah Sparrow	7	7	8	13	9	7	14	6	0	4	0	0	1	0	0	1	3	5	7	0	12	11	11	8	9	16	10	1	6	0	10	6	8	18	3	5	4	8	2	4	12	12	0	7	5	**280**
Song Sparrow	7	3	0	0	10	0	0	1	1	9	0	0	0	0	1	0	0	0	1	5	4	0	1	3	0	3	2	7	3	1	1	8	3	5	2	7	4	2	0	0	1	1	2	2	14	**114**
Bobolink	3	1	4	0	12	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	30	47	4	0	0	0	2	0	8	16	0	3	0	0	0	0	0	1	0	2	0	**138**
Eastern Meadowlark	1	0	0	1	1	1	4	6	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	0	0	0	0	0	0	0	1	3	1	1	0	0	0	0	0	2	0	0	0	**27**
Red-winged Blackbird	0	3	0	0	17	1	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	4	0	0	0	1	5	4	0	2	0	0	0	0	3	0	0	0	10	**60**
Brown-headed Cowbird	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**
Common Grackle	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	**7**
Black-and-white Warbler	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**3**
Nashville Warbler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Mourning Warbler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**

Table C-1 Abundance of Birds within 100-meter Survey Radius Per Species by Survey Point, Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Common Name	Survey Point																																													Total Birds
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36	B43	B44	B49	B50	B54	B55	B56	B60	B62	
Common Yellowthroat	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	0	0	0	0	1	0	0	1	3	2	1	0	4	0	0	0	0	0	0	0	1	0	**21**
Northern Parula	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Yellow Warbler	4	2	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	2	0	7	4	0	0	1	0	0	0	2	0	0	1	1	0	1	2	5	0	0	0	0	0	0	0	0	0	**37**
Chestnut-sided Warbler	3	1	1	0	0	0	0	0	2	2	1	1	0	0	1	0	0	2	0	3	1	0	1	2	0	0	0	3	0	0	1	2	0	0	1	4	0	0	0	2	0	0	0	1	0	**35**
Yellow-rumped Warbler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	**3**
Indigo Bunting	0	0	0	0	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	**12**
Total Birds	**36**	**20**	**17**	**14**	**61**	**28**	**32**	**24**	**10**	**46**	**3**	**12**	**3**	**7**	**2**	**2**	**5**	**16**	**8**	**21**	**36**	**13**	**19**	**23**	**42**	**71**	**23**	**28**	**10**	**3**	**25**	**29**	**28**	**54**	**11**	**41**	**11**	**16**	**6**	**10**	**25**	**21**	**11**	**14**	**81**	**1018**
Total Species	**14**	**7**	**5**	**2**	**13**	**8**	**7**	**9**	**6**	**15**	**3**	**5**	**2**	**4**	**2**	**2**	**2**	**7**	**2**	**7**	**12**	**3**	**8**	**10**	**4**	**6**	**7**	**14**	**3**	**3**	**10**	**10**	**7**	**10**	**7**	**14**	**5**	**6**	**2**	**6**	**5**	**6**	**5**	**6**	**13**	**48**

Table C-2 Abundance of Birds within 100-meter Survey Radius Per Species by Survey Period, Ellenburg Wind Repower Project, Clinton County, New York, May to July 2024

Common Name	Survey Periods and Dates (2024)								Total Birds
	1	2	3	4	5	6	7	8	
	5/15, 5/16, 5/22, 5/23	5/22, 5/23, 5/30, 5/31, 7/09, 7/15	6/4, 6/5, 6/8	6/10, 6/11, 6/12, 6/13, 6/18	6/18, 6/19, 6/22	6/25, 6/26	7/2, 7/3, 7/4, 7/9	7/12, 7/15, 7/18, 7/19	
Canada Goose	2	0	0	0	0	0	0	0	**2**
Wild Turkey	0	0	0	0	0	3	4	0	**7**
Killdeer	0	0	2	2	0	1	0	0	**5**
Turkey Vulture	0	0	1	0	0	0	0	0	**1**
Red-tailed Hawk	0	0	0	0	0	1	0	0	**1**
Downy Woodpecker	0	0	0	0	0	0	0	1	**1**
Northern Flicker	0	0	0	1	0	0	0	1	**2**
Pileated Woodpecker	1	0	0	0	0	0	0	0	**1**
American Kestrel	2	0	0	1	0	0	0	1	**4**
[redacted]									
Alder Flycatcher	0	1	1	0	0	0	0	0	**2**
Eastern Kingbird	0	3	0	1	0	0	0	0	**4**
Warbling Vireo	1	0	0	0	0	0	0	0	**1**
Red-eyed Vireo	4	1	3	1	2	4	0	3	**18**
Blue Jay	0	0	0	0	0	0	0	1	**1**
American Crow	1	1	0	5	1	1	4	3	**16**
Common Raven	0	0	0	0	1	0	0	0	**1**
Black-capped Chickadee	0	1	0	0	0	1	0	3	**5**
Barn Swallow	5	4	0	8	2	3	3	13	**38**
Golden-crowned Kinglet	0	0	1	0	0	0	0	0	**1**
European Starling	5	6	0	7	0	0	0	25	**43**
Gray Catbird	1	0	0	0	0	0	0	0	**1**
Brown Thrasher	0	0	0	0	0	0	0	1	**1**
Northern Mockingbird	0	0	0	0	0	0	0	1	**1**
American Robin	9	1	5	2	0	4	2	16	**39**
Cedar Waxwing	0	5	1	0	2	17	0	0	**25**
House Sparrow	0	0	0	0	0	1	0	0	**1**
Purple Finch	0	0	0	1	0	0	0	0	**1**
American Goldfinch	0	3	4	2	1	16	2	15	**43**
Chipping Sparrow	0	0	1	1	1	1	1	2	**7**
Field Sparrow	0	0	0	1	0	0	0	1	**2**
White-throated Sparrow	1	0	0	0	0	0	0	0	**1**
Savannah Sparrow	17	22	31	35	37	39	55	44	**280**
Song Sparrow	14	10	11	18	7	10	15	29	**114**
Bobolink	21	17	25	15	24	14	17	5	**138**
Eastern Meadowlark	3	2	3	10	1	4	2	2	**27**
Red-winged Blackbird	2	11	8	15	3	11	8	2	**60**
Brown-headed Cowbird	0	0	0	0	0	1	0	0	**1**

Table C-2 Abundance of Birds within 100-meter Survey Radius Per Species by Survey Period, Ellenburg Wind Repower Project, Clinton County, New York, May to July 2024

Common Name	Survey Periods and Dates (2024)								Total Birds
	1	2	3	4	5	6	7	8	
	5/15, 5/16, 5/22, 5/23	5/22, 5/23, 5/30, 5/31, 7/09, 7/15	6/4, 6/5, 6/8	6/10, 6/11, 6/12, 6/13, 6/18	6/18, 6/19, 6/22	6/25, 6/26	7/2, 7/3, 7/4, 7/9	7/12, 7/15, 7/18, 7/19	
Common Grackle	0	0	0	0	0	5	1	1	**7**
Black-and-white Warbler	2	0	0	0	1	0	0	0	**3**
Nashville Warbler	1	0	0	0	0	0	0	0	**1**
Mourning Warbler	0	0	1	0	0	0	0	0	**1**
Common Yellowthroat	6	4	2	1	1	1	2	4	**21**
Northern Parula	1	0	0	0	0	0	0	0	**1**
Yellow Warbler	11	9	6	6	1	1	1	2	**37**
Chestnut-sided Warbler	4	5	7	3	1	6	1	8	**35**
Yellow-rumped Warbler	1	1	0	1	0	0	0	0	**3**
Indigo Bunting	0	0	2	2	1	3	2	2	**12**
Total Birds	**115**	**107**	**115**	**139**	**87**	**149**	**120**	**186**	**1018**
Total Species	**23**	**19**	**19**	**23**	**17**	**24**	**16**	**25**	**48**

APPENDIX

D Incidental Bird Species Observed

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Appendix D Incidental Bird Species Observed during the Breeding Bird Survey at Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Common Name	Number >100 m or Flyovers	Incidentals Detections
Canada Goose	28	0
Mallard	6	0
Wild Turkey	7	5
Rock Pigeon	23	0
Mourning Dove	11	0
Black-billed Cuckoo	1	0
Killdeer	10	0
American Woodcock	1	0
Ring-billed Gull	1	0
Great Blue Heron	2	0
Turkey Vulture	41	1
[redacted]		
[redacted]		
[redacted]		
Red-tailed Hawk	5	0
Yellow-bellied Sapsucker	1	0
Downy Woodpecker	1	0
Hairy Woodpecker	2	0
Northern Flicker	17	0
Pileated Woodpecker	1	0
American Kestrel	12	2
Merlin	1	0
[redacted]		
Eastern Wood-Pewee	1	0
Alder Flycatcher	17	0
Eastern Phoebe	5	0
Great Crested Flycatcher	2	1
Eastern Kingbird	16	0
Blue-headed Vireo	5	0
Warbling Vireo	4	0
Red-eyed Vireo	165	0
Blue Jay	111	0
American Crow	450	0
Common Raven	9	0
Black-capped Chickadee	35	0
Tree Swallow	10	0
Barn Swallow	40	0
Golden-crowned Kinglet	2	0
Ruby-crowned Kinglet	3	0
Red-breasted Nuthatch	4	0

Appendix D Incidental Bird Species Observed during the Breeding Bird Survey at Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Common Name	Number >100 m or Flyovers	Incidentals Detections
White-breasted Nuthatch	1	0
Brown Creeper	1	0
House Wren	2	0
Winter Wren	2	0
[redacted]		
European Starling	219	0
Gray Catbird	1	0
Brown Thrasher	1	0
Northern Mockingbird	2	0
Eastern Bluebird	2	0
Veery	5	0
Hermit Thrush	4	0
Wood Thrush	3	0
American Robin	136	0
Cedar Waxwing	26	0
House Sparrow	16	0
House Finch	8	0
Purple Finch	4	0
Red Crossbill	1	0
Pine Siskin	1	0
American Goldfinch	98	0
Chipping Sparrow	42	0
Field Sparrow	3	0
Dark-eyed Junco	2	0
White-throated Sparrow	79	0
White-crowned Sparrow	2	0
Savannah Sparrow	143	0
Song Sparrow	287	0
Eastern Towhee	1	0
Bobolink	60	0
Eastern Meadowlark	30	0
Red-winged Blackbird	191	0
Brown-headed Cowbird	3	0
Common Grackle	56	1
Ovenbird	41	0
Black-and-white Warbler	12	0
Tennessee Warbler	5	0
Nashville Warbler	3	0
Mourning Warbler	24	0
Common Yellowthroat	127	0

Appendix D Incidental Bird Species Observed during the Breeding Bird Survey at Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Common Name	Number >100 m or Flyovers	Incidentals Detections
American Redstart	2	0
Magnolia Warbler	1	0
Blackburnian Warbler	4	0
Yellow Warbler	129	0
Chestnut-sided Warbler	180	0
Yellow-rumped Warbler	6	0
Black-throated Green Warbler	2	0
Scarlet Tanager	3	0
Northern Cardinal	1	0
Rose-breasted Grosbeak	7	0
Indigo Bunting	77	0
Total Observations	**3112**	**11**
Number of Species	**90**	**6**

Notes: Point B2 and B3 omitted from table.

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APPENDIX

E Photo Log

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E. Photo Log

Photograph 1: BBS point B14 looking south. Row crop habitat.

Photograph 2: BBS point B35 looking east. Hayfield habitat.

Photograph 3: BBS point B36 looking northwest. Hay-field habitat.

Photograph 4: BBS point B54 looking west. Hayfield habitat.

Photograph 5: BBS point B56 looking south. Pasture habitat.

Photograph 6: BBS point B60 looking southeast. Hay-field habitat.

Photograph 7: BBS point B62 looking west. Pasture habitat.

Photograph 8: BBS point B31 looking southwest. Hay-field habitat.

Photograph 9: BBS point B28 looking west. Row crop habitat.

Photograph 10: BBS point B27 looking west. Pasture habitat.

Photograph 11: BBS point B26 looking southeast. Hay-field habitat.

Photograph 12: BBS point B25 looking south. Hayfield habitat.

Photograph 13: BBS point B22 looking west. Hayfield habitat.

Photograph 14: BBS point B5 looking west. Pasture/hayfield habitat.

Photograph 15: BBS point B1 looking west. Pasture/hayfield habitat.

Photograph 16: BBS point B34 looking North. Hayfield habitat.

Photograph 17: BBS point B30 looking south. Row crop habitat.

Photograph 18: BBS point B16 looking west. Row crop habitat.

Photograph 19: BBS point B11 looking east. Row crop habitat.

Photograph 20: MBS point MB1 looking east. Palustrine emergent wetland habitat.

APPENDIX

F Weather Conditions

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Appendix F Breeding Bird Survey and Marsh Bird Survey Weather Summary, Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Survey Period	Date	Temperature (degrees Fahrenheit)		Prevailing Wind Direction	Wind Speed (mph)		Cloud Cover	Precipitation
		Low	High		Min	Max	(%)	(Y/N)
Day Prior	5/14/2024	54	62	SE	0	6	≤25	Y
1	5/15/2024	53	59	ENE	0	4	100	N
1	5/16/2024	53	60	ENE	0	5	≤75	N
Day Prior	5/21/2024	55	61	SSE	0	8	0	N
1	5/22/2024	65	74	W	1	8	≤25	N
1	5/23/2024	64	68	WSW	3	11	100	N
Day Prior	5/29/2024	56	59	N	6	15	100	N
2	5/30/2024	44	51	NW	3	8	≤25	N
2	5/31/2024	46	55	W	5	8	≤25	N
Day Prior	6/3/2024	52	74	SE	0	7	0	N
3	6/4/2024	59	73	W	0	3	≤25	N
3	6/5/2024	62	74	SSW	3	4	≤50	N
Day Prior	6/7/2024	58	69	SSE	0	10	0	N
3	6/8/2024	56	57	W	8	22	100	Y
Day Prior	6/9/2024	56	61	SSE	3	5	100	Y
4	6/10/2024	53	54	W	4	8	≤75	Y
4	6/11/2024	50	53	WSW	6	8	100	N
4	6/12/2024	47	55	SW	2	6	>75	N
4	6/13/2024	57	68	SW	5	9	≤25	N
Day Prior	6/17/2024	56	68	SSE	0	6	≤25	N
4	6/18/2024	70	79	SSW	0	8	≤50	N
5	6/19/2024	70	80	SSW	4	6	≤50	N
Day Prior	6/21/2024	67	72	NNW	0	9	≤75	N
5	6/22/2024	65	65	SW	2	4	100	N
Day Prior	6/24/2024	62	68	NNW	0	17	100	Y
6	6/25/2024	65	66	SW	8	13	0	N
6	6/26/2024	64	71	WSW	4	21	100	Y
Day Prior	7/1/2024	60	72	NW	5	13	≤50	N
7	7/2/2024	60	60	SSW	0	4	0	N
7	7/3/2024	58	58	S	0	4	≤75	N
7	7/4/2024	67	67	SSE	0	5	≤50	N
Day Prior	7/8/2024	61	77	SSE	0	9	0	N
2	7/9/2024	64	72	SSW	4	7	≤50	N
Day Prior	7/14/2024	63	78	SSE	0	9	0	N
8	7/15/2024	71	75	SW	7	10	>75	N
Day Prior	7/17/2024	67	76	SSE	0	8	≤50	N

Appendix F Breeding Bird Survey and Marsh Bird Survey Weather Summary, Ellenburg Wind Repowering Project, Clinton County, New York, May to July 2024

Survey Period	Date	Temperature (degrees Fahrenheit)		Prevailing Wind Direction	Wind Speed (mph)		Cloud Cover	Precipitation
		Low	High		Min	Max	(%)	(Y/N)
8	7/18/2024	61	66	W	7	20	0	N
8	7/19/2024	56	61	SW	4	4	0	N

Source: Wunderground.com

Notes:

Weather data for prior days representative of survey hours (5:00 a.m.to 10:30 a.m.) weather data from Plattsburgh International Airport Station, Plattsburgh, New York.

Weather data for survey days collected in the field or using the Wunderground weather application.