Table 1: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 30% PM reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	2.28	-0.02	0.04	0.11	1.38	0.13	0.62	0.03
Madera	1.43	-0.03	0.13	0.05	0.90	0.12	0.25	0.02
Hanford	1.18	-0.03	0.12	0.09	0.62	0.11	0.23	0.02
Visalia	1.75	-0.02	0.02	0.08	1.29	0.10	0.26	0.02
Clovis	1.98	-0.02	0.06	0.05	1.49	0.13	0.26	0.02
Bakersfield – Cali.	2.15	-0.01	0.03	0.10	1.32	0.12	0.56	0.03
Fresno-Garland	1.85	-0.02	0.04	0.05	1.43	0.11	0.22	0.02
Turlock	1.13	-0.03	0.06	0.04	0.77	0.09	0.19	0.01
Fresno-H&W	1.73	-0.02	0.02	0.06	1.35	0.10	0.20	0.02
Stockton	0.78	-0.02	0.03	0.02	0.56	0.06	0.13	0.01
Merced-S Coffee	0.97	-0.02	0.07	0.03	0.65	0.08	0.16	0.01
Modesto	1.00	-0.02	0.04	0.03	0.70	0.07	0.16	0.01
Merced-M Street	1.00	-0.01	0.02	0.03	0.76	0.07	0.12	0.01
Manteca	0.47	-0.02	0.02	0.01	0.31	0.04	0.10	0.00
Tranquility	0.38	-0.02	0.02	0.01	0.25	0.05	0.07	0.00

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 2: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 30% NOx reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.84	0.24	0.50	0.01	0.01	0.00	0.00	0.09
Madera	0.88	0.20	0.59	0.00	0.00	0.00	0.00	0.09
Hanford	1.40	0.33	0.93	0.00	0.00	0.00	0.00	0.15
Visalia	0.90	0.25	0.56	0.00	0.00	0.00	0.00	0.10
Clovis	0.57	0.16	0.35	0.00	0.00	0.00	0.00	0.06
Bakersfield – Cali.	0.82	0.23	0.50	0.01	0.01	0.00	0.00	0.09
Fresno-Garland	0.53	0.14	0.34	0.00	-0.01	0.00	0.00	0.06
Turlock	0.67	0.16	0.45	0.00	-0.01	0.00	0.00	0.07
Fresno-H&W	0.50	0.14	0.32	0.00	-0.01	0.00	0.00	0.06
Stockton	0.35	0.08	0.24	0.00	0.00	0.00	0.00	0.04
Merced-S Coffee	0.63	0.15	0.42	0.00	0.00	0.00	0.00	0.06
Modesto	0.51	0.12	0.34	0.00	0.00	0.00	0.00	0.06
Merced-M Street	0.34	0.09	0.22	0.00	-0.01	0.00	0.00	0.04
Manteca	0.31	0.07	0.21	0.00	0.00	0.00	0.00	0.04
Tranquility	0.43	0.09	0.29	0.00	0.00	0.00	0.00	0.05

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 3: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 30% NH3 reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.24	0.08	0.14	0.00	0.00	0.00	0.00	0.02
Madera	0.36	0.08	0.25	0.00	0.00	0.00	0.00	0.03
Hanford	0.42	0.10	0.29	0.00	0.00	0.00	0.00	0.04
Visalia	0.23	0.07	0.13	0.00	0.00	0.00	0.00	0.02
Clovis	0.18	0.06	0.11	0.00	0.00	0.00	0.00	0.02
Bakersfield – Cali.	0.24	0.08	0.14	0.00	0.00	0.00	0.00	0.02
Fresno-Garland	0.17	0.05	0.10	0.00	0.00	0.00	0.00	0.02
Turlock	0.27	0.07	0.18	0.00	0.00	0.00	0.00	0.02
Fresno-H&W	0.16	0.05	0.10	0.00	0.00	0.00	0.00	0.02
Stockton	0.20	0.04	0.14	0.00	0.00	0.00	0.00	0.01
Merced-S Coffee	0.26	0.06	0.18	0.00	0.00	0.00	0.00	0.02
Modesto	0.23	0.06	0.16	0.00	0.00	0.00	0.00	0.02
Merced-M Street	0.12	0.04	0.07	0.00	0.00	0.00	0.00	0.01
Manteca	0.16	0.04	0.11	0.00	0.00	0.00	0.00	0.01
Tranquility	0.21	0.05	0.15	0.00	0.00	0.00	0.00	0.02

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 4: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 70% NH3 reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.79	0.25	0.46	0.00	0.00	0.00	0.00	0.08
Madera	1.18	0.30	0.78	0.01	0.00	0.00	0.00	0.09
Hanford	1.30	0.31	0.87	0.01	0.00	0.00	0.00	0.12
Visalia	0.79	0.25	0.46	0.01	-0.01	0.00	0.00	0.08
Clovis	0.64	0.19	0.38	0.01	0.00	0.00	0.00	0.07
Bakersfield – Cali.	0.82	0.25	0.49	0.00	0.00	0.00	0.00	0.08
Fresno-Garland	0.60	0.17	0.35	0.01	0.00	0.00	0.00	0.06
Turlock	0.85	0.21	0.57	0.01	0.00	0.00	0.00	0.06
Fresno-H&W	0.63	0.18	0.38	0.01	0.00	0.00	0.00	0.07
Stockton	0.66	0.15	0.46	0.02	0.00	0.00	0.00	0.05
Merced-S Coffee	0.84	0.21	0.56	0.01	0.00	0.00	0.00	0.06
Modesto	0.75	0.18	0.50	0.02	0.00	0.00	0.00	0.06
Merced-M Street	0.41	0.12	0.25	0.01	0.00	0.00	0.00	0.04
Manteca	0.52	0.12	0.35	0.01	0.00	0.00	0.00	0.04
Tranquility	0.64	0.15	0.43	0.00	0.00	0.00	0.00	0.06

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 5: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 30% ROG reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.03	-0.01	-0.01	0.00	0.06	0.00	0.00	0.00
Madera	0.03	-0.01	-0.01	0.00	0.04	0.00	0.00	0.00
Hanford	-0.05	-0.02	-0.05	0.00	0.03	0.00	0.00	-0.01
Visalia	0.04	-0.01	-0.01	0.00	0.07	0.00	0.00	0.00
Clovis	0.06	0.00	0.01	0.00	0.06	0.00	0.00	0.00
Bakersfield – Cali.	0.01	-0.01	-0.02	0.00	0.05	0.00	0.00	0.00
Fresno-Garland	0.05	0.00	0.01	0.00	0.04	0.00	0.00	0.00
Turlock	0.01	0.00	-0.01	0.00	0.02	0.00	0.00	0.00
Fresno-H&W	0.06	0.00	0.01	0.00	0.04	0.00	0.00	0.00
Stockton	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Merced-S Coffee	0.00	-0.01	-0.02	0.00	0.03	0.00	0.00	0.00
Modesto	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Merced-M Street	0.01	0.00	-0.01	0.00	0.03	0.00	0.00	0.00
Manteca	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Tranquility	-0.01	-0.01	-0.02	0.00	0.02	0.00	0.00	0.00

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 6: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 70% ROG reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.07	-0.02	-0.02	-0.01	0.13	0.00	0.00	-0.01
Madera	0.06	-0.01	-0.03	0.00	0.10	0.00	0.00	0.00
Hanford	-0.10	-0.04	-0.11	-0.01	0.08	0.00	0.00	-0.02
Visalia	0.11	-0.02	-0.01	-0.01	0.15	0.00	0.00	0.00
Clovis	0.16	0.01	0.02	0.00	0.13	0.00	0.00	0.00
Bakersfield – Cali.	0.04	-0.02	-0.03	-0.01	0.11	0.00	0.00	-0.01
Fresno-Garland	0.13	0.01	0.02	0.00	0.10	0.00	0.00	0.00
Turlock	0.04	-0.01	-0.01	0.00	0.06	0.00	0.00	0.00
Fresno-H&W	0.15	0.01	0.04	0.00	0.10	0.00	0.00	0.01
Stockton	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Merced-S Coffee	0.01	-0.01	-0.03	0.00	0.06	0.00	0.00	0.00
Modesto	0.02	0.00	-0.01	0.00	0.04	0.00	0.00	0.00
Merced-M Street	0.04	-0.01	-0.01	0.00	0.07	0.00	0.00	0.00
Manteca	0.03	0.00	0.01	0.00	0.02	0.00	0.00	0.00
Tranquility	-0.01	-0.02	-0.05	0.00	0.05	0.00	0.00	-0.01

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 7: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 30% SOx reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.04	0.00	-0.01	0.04	0.00	0.00	0.00	0.01
Madera	0.02	0.01	-0.03	0.04	0.00	0.00	0.00	0.00
Hanford	0.01	0.01	-0.03	0.04	0.00	0.00	0.00	0.00
Visalia	0.06	0.01	-0.01	0.06	0.00	0.00	0.00	0.01
Clovis	0.03	0.00	-0.02	0.04	0.00	0.00	0.00	0.00
Bakersfield – Cali.	0.04	0.00	-0.01	0.04	0.00	0.00	0.00	0.01
Fresno-Garland	0.04	0.00	-0.02	0.04	0.00	0.00	0.00	0.00
Turlock	0.06	0.01	-0.01	0.05	0.00	0.00	0.00	0.00
Fresno-H&W	0.04	0.01	-0.01	0.04	0.00	0.00	0.00	0.00
Stockton	0.07	0.02	0.00	0.05	0.00	0.00	0.00	0.01
Merced-S Coffee	0.02	0.01	-0.02	0.03	0.00	0.00	0.00	0.00
Modesto	0.06	0.02	-0.01	0.05	0.00	0.00	0.00	0.01
Merced-M Street	0.02	0.00	-0.01	0.03	0.00	0.00	0.00	0.00
Manteca	0.06	0.02	0.00	0.04	0.00	0.00	0.00	0.00
Tranquility	0.00	0.00	-0.01	0.01	0.00	0.00	0.00	0.00

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 8: Difference in Annual PM2.5 mass and species between the 2020 baseline run and the 70% SOx reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water
Bakersfield –Planz	0.09	0.01	-0.03	0.10	0.00	0.00	0.00	0.01
Madera	0.02	0.02	-0.09	0.09	0.00	0.00	0.00	0.00
Hanford	0.02	0.01	-0.07	0.09	0.00	0.00	0.00	0.00
Visalia	0.12	0.01	-0.04	0.14	0.00	0.00	0.00	0.02
Clovis	0.05	0.00	-0.06	0.10	0.00	0.00	0.00	0.01
Bakersfield – Cali.	0.08	0.01	-0.03	0.09	0.00	0.00	0.00	0.01
Fresno-Garland	0.07	0.01	-0.05	0.10	0.00	0.00	0.00	0.01
Turlock	0.11	0.03	-0.03	0.11	0.00	0.00	0.00	0.01
Fresno-H&W	0.09	0.01	-0.03	0.10	0.00	0.00	0.00	0.01
Stockton	0.16	0.05	-0.02	0.12	0.00	0.00	0.00	0.01
Merced-S Coffee	0.03	0.01	-0.05	0.07	0.00	0.00	0.00	0.00
Modesto	0.14	0.04	-0.03	0.12	0.00	0.00	0.00	0.01
Merced-M Street	0.05	0.00	-0.03	0.07	0.00	0.00	0.00	0.01
Manteca	0.14	0.04	-0.01	0.10	0.00	0.00	0.00	0.01
Tranquility	-0.01	0.00	-0.04	0.02	0.00	0.00	0.00	0.00

*: Note the difference is calculated as the baseline run result minus the precursor run result

Table 9: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 30% PM reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	5.8	0.1	0.6	0.3	3.2	0.3	1.2	0.1	Y
Fresno – Garland	5.0	0.1	0.4	0.2	3.7	0.3	0.3	0.1	N
Hanford	3.2	0.0	0.5	0.3	1.8	0.3	0.3	0.1	Y
Fresno – H&W	5.0	0.0	0.3	0.2	3.7	0.3	0.4	0.1	Y
Clovis	4.9	-0.5	-1.4	-0.1	6.2	0.6	0.4	-0.3	N
Visalia	3.7	0.0	0.4	0.2	2.4	0.2	0.3	0.1	Y
Bakersfield - Planz	5.2	0.7	2.2	0.6	1.0	0.2	0.2	0.3	N
Madera	3.3	0.1	0.5	0.1	2.1	0.3	0.2	0.1	Y
Turlock	2.4	0.0	0.1	0.1	1.7	0.2	0.3	0.0	Y
Modesto	2.2	0.0	-0.3	0.5	1.2	0.3	0.5	0.0	N
Merced – Main Street	2.7	-0.1	0.2	-0.1	2.2	0.2	0.2	0.0	N
Stockton	2.0	-0.3	-0.7	0.0	2.4	0.2	0.5	-0.1	N
Merced – S. Coffee	2.1	-0.1	0.1	-0.3	2.1	0.2	0.1	0.0	N
Manteca	1.1	-0.1	0.0	0.1	0.8	0.1	0.2	0.0	Y
Tranquility	1.4	0.0	-0.1	0.1	1.2	0.2	0.1	0.0	N

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 10: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 30% NOx reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	7.4	1.9	5.9	-0.1	-1.8	-0.2	0.6	1.1	N
Fresno – Garland	4.8	1.0	3.2	0.0	-0.1	0.0	0.0	0.6	Y
Hanford	7.3	1.5	4.2	0.1	0.8	0.0	-0.1	0.8	N
Fresno – H&W	4.3	1.0	3.0	0.0	-0.1	0.0	0.0	0.6	Y
Clovis	4.5	0.5	1.2	0.0	2.2	0.2	0.1	0.2	N
Visalia	6.5	1.4	4.4	0.0	-0.1	0.0	0.0	0.8	Y
Bakersfield - Planz	6.0	1.5	4.0	0.0	-0.1	0.0	0.0	0.7	Y
Madera	4.1	0.9	2.8	0.0	-0.1	0.0	0.0	0.5	Y
Turlock	4.2	0.9	3.0	-0.4	0.5	-0.1	-0.3	0.5	N
Modesto	3.6	0.8	2.1	0.4	-0.6	0.1	0.3	0.4	N
Merced – Main Street	2.9	0.6	2.0	0.0	-0.1	0.0	0.0	0.4	Y
Stockton	2.5	0.6	1.7	0.0	0.0	0.0	0.0	0.3	Y
Merced – S. Coffee	2.9	0.7	2.0	0.0	0.0	0.0	0.0	0.4	Y
Manteca	1.9	0.4	1.4	0.0	-0.2	0.0	0.0	0.3	N
Tranquility	3.0	0.9	2.8	0.0	-1.0	-0.2	0.0	0.5	N

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 11: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 30% NH3 reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	1.9	0.4	1.3	0.0	0.0	0.0	0.0	0.2	Y
Fresno – Garland	1.1	0.2	0.7	0.0	0.0	0.0	0.0	0.1	Y
Hanford	1.4	0.3	0.9	0.0	0.0	0.0	0.0	0.2	Y
Fresno – H&W	1.2	0.3	0.8	0.0	0.0	0.0	0.0	0.1	Y
Clovis	0.9	-0.4	-1.4	-0.2	2.8	0.3	0.1	-0.3	N
Visalia	1.3	0.3	0.9	0.0	0.0	0.0	0.0	0.2	Y
Bakersfield - Planz	1.4	0.3	0.9	0.0	0.0	0.0	0.0	0.2	Y
Madera	1.0	0.2	0.7	0.0	0.0	0.0	0.0	0.1	Y
Turlock	1.0	0.2	0.6	0.0	0.0	0.0	0.0	0.1	Y
Modesto	0.9	0.2	0.3	0.4	-0.5	0.1	0.3	0.1	N
Merced – Main Street	0.6	0.1	0.4	0.0	0.0	0.0	0.0	0.1	Y
Stockton	0.7	0.1	0.4	0.0	0.0	0.0	0.0	0.1	Y
Merced – S. Coffee	0.5	0.1	0.3	0.0	0.0	0.0	0.0	0.1	Y
Manteca	0.5	0.1	0.4	0.0	0.0	0.0	0.0	0.1	Y
Tranquility	1.2	0.3	0.8	0.0	0.0	0.0	0.0	0.2	Y

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 12: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 70% NH3 reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	6.4	1.7	5.1	-0.1	-1.7	-0.2	0.6	0.9	N
Fresno – Garland	4.6	1.5	4.2	-0.2	-1.5	-0.1	-0.1	0.8	N
Hanford	4.6	1.4	4.3	-0.2	-1.0	-0.1	-0.6	0.7	N
Fresno – H&W	5.9	1.2	2.8	0.5	0.2	-0.1	0.5	0.7	N
Clovis	4.7	0.7	1.1	0.1	2.3	0.2	0.1	0.2	N
Visalia	5.8	1.2	2.7	0.2	1.0	0.0	0.0	0.5	N
Bakersfield - Planz	5.4	1.3	3.5	0.0	0.0	0.0	0.0	0.6	Y
Madera	3.6	1.3	4.1	-0.8	-0.5	0.1	-1.2	0.6	N
Turlock	3.2	0.7	2.1	0.0	0.0	0.0	0.0	0.4	Y
Modesto	3.3	0.8	2.0	0.3	-0.3	0.0	0.0	0.4	N
Merced – Main Street	2.3	0.6	1.5	0.0	0.0	0.0	0.0	0.3	Y
Stockton	2.1	0.5	1.4	0.0	0.0	0.0	0.0	0.2	Y
Merced – S. Coffee	2.2	0.6	1.3	0.3	-0.1	0.0	-0.1	0.3	N
Manteca	1.6	1.0	4.5	-1.0	-3.5	0.2	-0.2	0.6	N
Tranquility	4.0	1.1	3.2	0.0	-0.9	-0.1	0.0	0.6	N

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 13: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 30% ROG reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	Y
Fresno – Garland	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	Y
Hanford	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	Y
Fresno – H&W	0.4	0.1	0.2	0.0	0.2	0.0	0.0	0.0	Y
Clovis	0.3	-0.5	-1.9	0.1	2.6	0.2	0.1	-0.3	N
Visalia	0.6	0.1	0.3	0.0	0.2	0.0	0.0	0.1	Y
Bakersfield - Planz	0.3	0.0	0.1	0.0	0.2	0.0	0.0	0.0	Y
Madera	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	Y
Turlock	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Y
Modesto	0.1	0.0	-0.3	0.4	-0.5	0.1	0.3	0.0	N
Merced – Main Street	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Y
Stockton	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Y
Merced – S. Coffee	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Y
Manteca	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	Y
Tranquility	-0.1	0.2	0.8	0.0	-1.0	-0.2	0.0	0.1	N

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 14: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 70% ROG reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	0.5	0.0	0.1	0.0	0.4	0.0	0.0	0.0	Y
Fresno – Garland	0.8	0.1	0.2	0.0	0.4	0.0	0.0	0.0	N
Hanford	0.2	-0.1	-0.4	0.0	0.7	0.1	0.0	-0.1	N
Fresno – H&W	1.1	0.1	0.5	0.0	0.4	0.0	0.0	0.1	Y
Clovis	0.7	-0.5	-1.7	0.1	2.8	0.2	0.1	-0.3	N
Visalia	1.5	0.2	0.7	0.0	0.4	0.0	0.0	0.1	Y
Bakersfield - Planz	1.0	0.1	0.4	0.0	0.4	0.0	0.0	0.1	Y
Madera	0.6	0.1	0.2	0.0	0.3	0.0	0.0	0.0	Y
Turlock	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	Y
Modesto	0.2	0.1	-0.3	0.4	-0.4	0.1	0.3	0.0	N
Merced – Main Street	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Y
Stockton	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	Y
Merced – S. Coffee	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Y
Manteca	0.3	0.1	0.2	0.0	0.1	0.0	0.0	0.0	Y
Tranquility	-0.2	-0.1	-0.4	0.0	0.4	0.0	0.0	-0.1	N

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 15: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 30% SOx reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	-0.2	-0.1	-0.3	0.1	0.0	0.0	0.0	0.0	Y
Fresno – Garland	-0.1	0.0	-0.2	0.1	0.0	0.0	0.0	0.0	Y
Hanford	-0.5	-0.1	-0.5	0.2	0.0	0.0	0.0	-0.1	Y
Fresno – H&W	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	Y
Clovis	-0.1	0.0	-0.2	0.1	0.0	0.0	0.0	0.0	Y
Visalia	-0.2	-0.1	-0.3	0.2	0.0	0.0	0.0	0.0	Y
Bakersfield - Planz	-0.1	-0.1	-0.3	0.2	0.0	0.0	0.0	0.0	Y
Madera	-0.3	-0.1	-0.3	0.1	0.0	0.0	0.0	0.0	Y
Turlock	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	Y
Modesto	0.2	0.1	-0.3	0.7	-0.8	0.1	0.4	0.0	N
Merced – Main Street	-0.1	0.0	-0.2	0.1	0.0	0.0	0.0	0.0	Y
Stockton	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	Y
Merced – S. Coffee	-0.1	0.0	-0.2	0.1	0.0	0.0	0.0	0.0	Y
Manteca	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	Y
Tranquility	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	Y

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.

Table 16: Difference in 24-hour PM2.5 mass and species between the 2020 baseline run and the 70% SOx reduction precursor run*

	PM2.5	Ammonium	Nitrate	Sulfate	OM	EC	Crustal	Water	Same 98th days **
Bakersfield – Cali.	-0.9	0.0	0.0	0.3	-1.7	-0.2	0.6	0.0	N
Fresno – Garland	-0.5	-0.2	-0.7	0.0	0.4	0.1	0.0	-0.1	N
Hanford	-1.3	-0.3	-1.2	0.4	0.0	0.0	0.0	-0.2	Y
Fresno – H&W	-0.2	-0.1	-0.4	0.3	0.0	0.0	0.0	0.0	Y
Clovis	-0.4	-0.2	-0.7	0.1	0.4	0.1	0.0	-0.1	N
Visalia	-0.5	-0.2	-0.7	0.5	0.0	0.0	0.0	-0.1	Y
Bakersfield - Planz	-0.3	-0.1	-0.6	0.5	0.0	0.0	0.0	-0.1	Y
Madera	-0.9	-0.2	-0.8	0.3	-0.1	0.0	0.0	-0.1	N
Turlock	-0.2	-0.1	-0.4	0.3	0.0	0.0	0.0	-0.1	Y
Modesto	0.0	0.1	-0.7	1.0	-0.8	0.1	0.4	-0.1	N
Merced – Main Street	-0.2	-0.1	-0.4	0.3	0.0	0.0	0.0	-0.1	Y
Stockton	0.4	0.1	-0.1	0.6	-0.2	0.0	0.0	0.0	N
Merced – S. Coffee	-0.2	-0.1	-0.4	0.3	0.0	0.0	0.0	0.0	Y
Manteca	0.5	0.1	-0.1	0.5	0.0	0.0	0.0	0.0	N
Tranquility	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	N

*: Note the difference is calculated as the baseline run result minus the precursor run result

**: To see model's response of PM2.5 species to precursor reductions, one needs to focus on monitors that have the same 98th percentile days between the baseline and the precursor reduction runs. If the days are different, they could have different chemical compositions. For example, for NH3 precursor run, from model, NH3 reduction would not impact EC concentrations for the same modeling days. But if the 98th percentile days are different, one can potentially see EC changes between the baseline and the NH3 reduction run. This change is not a reflection of modeled EC's response to NH3 reduction. Instead, it is due to different 98th percentile days that have different concentrations of chemical species.