
APPENDIX A

FACILITY-LEVEL SO₂ EMISSIONS DATA

This appendix contains the facility-level SO₂ emission estimates for 1990, 1996, and 1998 that were received from the WRAP Emissions Forum and revised according to State air pollution control agency comments during the course of this project. Table A-1 lists all of the facilities in the nine western States (smelters and other non-utilities) that emitted 100 tpy of SO₂ or more, on average, during 1996 and 1998. Table A-2 lists the western State facilities with less than 100 tpy SO₂ in 1996-1998.

**Table A-1
Facility-Level SO₂ Emissions Data
100 tpy or More SO₂ in 1996-1998**

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO ₂ tpy 1990	SO ₂ tpy 1996	SO ₂ tpy 1998	SO ₂ tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
AZ	4 007		0004	45	3331	2	Copper	ASARCO SMELTER - HAYDEN		29814	33124	22077	7737		Process gases from the flash furnace and the converter are controlled by an acid plant.
AZ	4 021		0032	46	3331	2	Copper	BHP(Magma Metals)	BHP - San Manuel	15900	16678	10409	5491		New acid plant installation and upgrades and replacements to existing. On standby.
AZ	4 007		0006	45	3331	2	Copper	CYPRIUS MIAMI MINE		5876	5737	6097	421		
AZ	4 019		0040	46	1021	2	Copper	Cyprus Sierrita		800	548	<100			
NM	35 017		0001	64	3331	2	Copper	PHELPS DODGE/CHINO MINES		28058	14784	15685	12373		
NM	35 023		0003	64	3331	2	Copper	PHELPS DODGE/HIDALGO SMELTER		41433	32121	29188	12245		On standby.
UT	49 035		0030	32	3331	2	Copper	Kennecott Utah Copper Corp.		28829	1556	762	28067		Plant modernization
AZ	4 025		0011	41	1489	10	Metals/Mining/Minerals	CHEMICAL LIME (CHEMSTAR)		148510	104549	84318	64292		
AZ	4 003		0003	47	1489	10	Metals/Mining/Minerals	Chemical Lime (Douglas)		141	122	639	498		1 Increased production
AZ	4 025		0007	41	3241	4	Cement/Concrete	Phoenix Cement		<100	196	339			1 Increased production
AZ	4 017		0007	43	2611	3	Wood/Paper/Pulp	STONE CONTAINER	ABITIBI	8536	2455	2448	6088		3 Process changes. An alkaline scrubber is used to control SO ₂ emissions from Powerhouse Boiler #2.
CA	6 037		800012	14	2911	6	Oil/Gas	ARCO (NSR USE ONLY)	ARCO PRODUCTS CO	1919	2399	1706			RECLAIM facility
CA	6 037		47232	14	2999	6	Oil/Gas	ARCO COC KILN INC		442	343	404			RECLAIM facility
CA	6 037		0009	13	3241	4	Cement/Concrete	BALL-FOSTER GLASS CONTAINER CO		<100	<100	166			
CA	6 029		0020	13	3241	4	Cement/Concrete	CAL PORTLAND CEMENT CO.		285	286	245			
CA	6 083		0020	7	3295	10	Missing	CALVERAS CEMENT CO		285	286	286			
CA	6 037		800030	14	2911	6	Oil/Gas	CHEVRON U.S.A. INC (EIS USE) - EL SEGUNDO		14	424	465	451.3		4 Burning distillate oil now
CA	6 013		0010	11	2911	6	Oil/Gas	CHEVRON USA INC - RICHMOND	CHEVRON PRODUCTS CO	833	1795	938			RECLAIM facility
CA	6 029		0310	13	4612	6	Oil/Gas	CHEVRON-BITTERWATER PUMP STN.	CHEVRON PRODUCTS COMPANY	1291	1018	1413			
CA	6 095		0015	11	2911	6	Oil/Gas	EXXON CORPORATION - BENICIA		166	<100	138			
CA	6 099		0023	11	3221	8	Glass	GALLO GLASS CO		4922	6042	5779	856.6		1 Variations in crude throughput and quality
CA	6 013		0023	11	2819	5	Chemicals/Plastics	GENERAL CHEMICAL CORPORATION		61	271	269			4 Fuel switch
CA	6 019		0077	12	3211	8	Glass	GUARDIAN INDUSTRIES CORP.		206	201	212			
CA	6 085		0017	11	3241	4	Cement/Concrete	KAISER CEMENT CORPORATION	HANSON PERMANENT CEMENT	546	433	406			
CA	6 029		0133	13	2911	6	Oil/Gas	KERN OIL & REFINING CO.		474	464	416			
CA	6 087		0011	11	3241	4	Cement/Concrete	LONE STAR INDUST CEMENT PLANT		319	425	443			
CA	6 039		0018	12	3221	8	Glass	MADERA GLASS COMPANY		250	286	392			
CA	6 045		0023	10	2499	3	Wood/Paper/Pulp	MASONITE HARBOUR DIV		108	170	190			
CA	6 017		0007	11	2421	3	Wood/Paper/Pulp	MICH-CAL LBR CO	SIERRA PACIFIC INDUSTRIES	102	102	102			
CA	6 071		7000000	15	3241	4	Cement/Concrete	MISTUBISHI CEMENT		271	271	271			
CA	6 037		800089	14	2911	6	Oil/Gas	MOBIL OIL CORP (EIS USE) - TORRANCE	MOBIL OIL CORP (EIS USE)	256	807	725	468.1		1 RECLAIM facility - variations in crude throughput and quality
CA	6 077		0017	11	3221	8	Glass	LOWENS-BROCKWAY GLASS CONTAINER		319	265	218			

Table A-1 (continued)

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO3 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1996	Primary Reason for Emissions Change	Notes
CA	6 037	7427	0032	14 3221	8	8	Glass	OWENS-BROCKWAY GLASS CONTAINER - VERNON	NOW PLANT ID 11887	193	323	280	278		RECLAIM facility
CA	6 013	0032		11 2911	6	6	Oil/Gas	PACIFIC REFINING COMPANY		278	290	0	278		Plant shutdown - discuss with BACQIND
CA	6 019			12 3211	8	8	Glass	PPG IND. INC	PPG INDUSTRIES		159	159			
CA	6 037	800131		14 2819	5	5	Chemicals/Plastics	RHONE-POULENC BASIC CHEMICALS - CARSON	RHODIA INC.	319	167	337			RECLAIM facility
CA	6 013	0020		11 2819	5	5	Chemicals/Plastics	RHONE-POULENC BASIC CHEMICALS - MARTINEZ	RHONE-POULENC INC	289	443	242			RECLAIM facility
CA	6 071	0025		15 3241	4	4	Cement/Concrete	RIVERSIDE CEMENT COMPANY		0	527	527	528.7		Intermittent use of coal
CA	6 029	0211		13 1311	6	6	Oil/Gas	SAN JOAQUIN REFINERY	SAN JOAQUIN REFINING COMPANY	337	313	138			Production changes according to steam generation needs
CA	6 013	0011		11 2911	6	6	Oil/Gas	SANTA FE ENERGY	TEXACO CA INC	1539	855	2050	510.9		Production changes according to steam generation needs
CA	6 023	0021		10 2611	3	3	Wood/Paper/Pulp	SHELL OIL COMPANY - MARTINEZ	MARTINEZ REFINING COMPANY	2790	2518	2374	415.6		1 Fuel switch - Shasta Co. AQMD
CA	6 029	800223		13	6	6	Oil/Gas	SIMPSON PAPER COMPANY	SIMPSON PAPER CO	1021	315	315	708.1		4
CA	6 037	800223		14 2911	6	6	Oil/Gas	TEXACO EXPLOR & PROD INC		1	89	112			
CA	6 029	0019		13 2911	6	6	Oil/Gas	TEXACO REFINING & MARKETING IN - WILMINGTON	EQUILON ENTERPRISES LLC	546	727	590	377.1		RECLAIM facility
CA	6 013	0013		11 2911	6	6	Oil/Gas	TEXACO REFINING AND MARKETING - BAKERSFIELD		471	190	94			1 Oil and gas production changes
CA	6 037	800026		14 2911	6	6	Oil/Gas	TOSCO CORP AVON REFINERY		7661	4469	5422	2238.6		1 Variations in crude throughput and quality
CA	6 013	0022		11 2989	6	6	Oil/Gas	ULTRAMAR INC (NSR USE ONLY)		341	959	689	328.1		RECLAIM facility - Variations in crude throughput and quality
CA	6 037	800144		14 2911	6	6	Oil/Gas	UNION CHEMICALS - RODEO	TOSCO REFINING COMPANY	1606	1535	1474			RECLAIM facility
CA	6 001	0083		11 3321	10	10	Metals/Mining/Minerals	UNION OIL CO OF CAL (NSR USE O	TOSCO REFINING COMPANY	724	1005	806			
CA	6 027	0007		12 1061	10	10	Metals/Mining/Minerals	UNITED STATES PIPE & FOUNDRY C		127	122	111			
CA	6 079	0004		13 2911	6	6	Oil/Gas	UNITED STATES TUNGSTEN CORP.		123	123	123			
CA	6 079	0004		13 2911	6	6	Oil/Gas	UNOCAL CARBON	TOSCO SANTA MARIA REFINERY						
CA	6 079	0004		13 2911	6	6	Oil/Gas	UNOCAL CHEM DIV-UNOCAL CORP - ARROYO GR	TOSCO	3034	3950	0	3034		
CA	6 013	0016		11 2911	6	6	Oil/Gas	UNOCAL CORPORATION - RODEO	TOSCO RODEO REFINERY	584	728	675			
CA	6 037	0007		14 2911	6	6	Oil/Gas	UNOCAL REFINING & MARKETING CO	TOSCO REFINING (L.A.)	0	343	508	508.4		RECLAIM facility, new source since 1990
CA	6 079	0013		13 2911	6	6	Oil/Gas	UNOCAL-SANTA MARIA REFINERY	TOSCO SANTA MARIA REFINERY	647	225	3501	2854.4		
CO	8 101	0048		58 3312	10	10	Metals/Mining/Minerals	CFI		353	318	316			
CO	8 001	0004		53 2911	6	6	Oil/Gas	COLO REFINING		632	664	526			
CO	8 001	0003		53 2911	6	6	Oil/Gas	CONOCO DENVER		2336	2610	2496			
CO	8 059	0008		53 3221	8	8	Glass	COORS GLASS	ROCKY MOUNTAIN BOTTLE	159	221	234			
CO	8 069	0002		52 3241	4	4	Cement/Concrete	HOLNAMI PORTLAND		623	623	375			
CO	8 043	0001		56 3241	4	4	Cement/Concrete	HOLNAMI PORTLAND		3669	3615	3219			
CO	8 001	0097		53 4952	9	9	Misc.	METRO WASTEWATER		134	229	135			
CO	8 013	0003		53 3241	4	4	Cement/Concrete	SOUTHWEST PORTLAND		967	160	160	807		6 Stack test data lowered emission estimates
ID	16 005	0004		7 3241	4	4	Cement/Concrete	ASHGROVE CEMENT		790	200	200	590		6 Emissions estimation method changes
ID	16 023	0001		3 9611	9	9	Misc.	DOE-INEEL		928	1847	1847	919		1 Production changes
ID	16 077	0005		7 2819	5	5	Chemicals/Plastics	FMC	ASTARIS	2976	4994	4994			1 Production low in 1990 - the recent year emission estimates were provided by Region X EPA (Steve Body)
ID	16 067	0001		3	7	7	Food	MAGIC VALLEY FOODS		118	118				
ID	16 029	0001		7 2819	5	5	Chemicals/Plastics	MONSANTO/P4 PRODUCTION		7543	7988	7601			
ID	16 029	0003		7 2824	5	5	Chemicals/Plastics	NU WEST	AGRUM	1338	799	962	386		3 Process changes

Table A-1 (continued)

State	ID	State ID	County ID	Facility ID	IAS Regio	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO2 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1996	Primary Reason for Emissions Change	Notes
	ID	16	069	0001	3	2621	3	Wood/Paper/Pulp	POTLATCH		1379	700	700	679	6	Permitted emission limits in 1990 versus actual emissions in 1996 and 1998
	ID	16	065		2		9	Misc.	RICKS COLLEGE		7181	193	193			Emissions are from a boiler
	ID	16	077	0006	7	2874	5	Chemicals/Plastics	SIMPLLOT		2637	2637	2637	4544	6	Emissions estimation method changes
	ID	16	027	0010	3	2083	7	Food	TASCO (NAMPA)		1008	1680	1787	779	1	Varying crop yields
	ID	16	067	0001	3	2063	7	Food	TASCO (PAUL)		608	306	217	391	1	Varying crop yields
	ID	16	083	0001	3	2083	7	Food	TASCO (TWIN)		599	1364	1053	454	1	Varying crop yields
NM		35	015	0024	65	1311	6	Oil/Gas	AGAVE ENERGY/VATES PLANT		962	962	962			Allowable is 2863 tpy
NM		35	015	0002	65	1311	6	Oil/Gas	ARCO PERMIAN/EMPIRE ABO GAS PLANT		700	565	565			
NM		35	025	0004	65	1321	6	Oil/Gas	CONOCO/MALJAMAR GAS PLANT	MALJAMAR GAS PLANT	3573	1464	3574			
NM		35	045	0023	60	2911	6	Oil/Gas	GIANT INDUSTRIES/BLOOMFIELD REF		676	772	920			1988 value is from AIRS
NM		35	031	0008	61	2911	6	Oil/Gas	GIANT REFINING/CINIZA REFINERY		1346	1115	1779			1988 value is from AIRS
NM		35	025	0044	65	1321	6	Oil/Gas	GPM GAS EUNICE GAS PLANT	VERSADO GAS PRODUCERS LLC	1988	1933	1933			
NM		35	015	0011	65	1321	6	Oil/Gas	GPM GAS/ARTESIA GAS PLANT	DUKE ENERGY/ARTESIA GAS PLANT	1459	1516	1516			
NM		35	015	0006	65	1311	6	Oil/Gas	GPM GAS/INDIAN HILLS AMINE PLANT		900	450	450	450	6	Potential value in 1990, then actual in 1996, 1998
NM		35	025	0046	65	1311	6	Oil/Gas	GPM GAS/LEE GAS PLANT		818	0	818			
NM		35	025	0035	65	1321	6	Oil/Gas	GPM GAS/LINNAM RANCH GAS PLANT		274	1302	1302	1028		
NM		35	025	0007	65	1311	6	Oil/Gas	J.L. DAVIS GAS PROCESS/DENTON		385	890	891	506		
NM		35	015	0008	65	1321	6	Oil/Gas	MARATHON OIL/INDIAN BSN GAS PLT		1460	852	1460			
NM		35	015	0010	65	2911	6	Oil/Gas	NAVAJO REFINING/ARTESIA REFINERY		1549	1552	969	580	5	SRU tail gas cleanup unit installed
NM		35	015	0138	65	4911	1.1	Electricity	PAN ENERGY/BURTON FLATS GAS PLT	DUKE ENERGY/BURTON FLATS		196	196			
NM		35	015	0285	65	4911	1.1	Electricity	PAN ENERGY/DAGGER DRAW GAS PLT	DUKE ENERGY/DAGGER DRAW	1206	218	247			
NM		35	025	0008	65	1321	6	Oil/Gas	SID RICHARDSON GASOLINE/JAL#3			540	540	666	5	SRU installed in 1992 Potential emissions listed in 1990.
NM		35	025	0055	65	1321	6	Oil/Gas	TEXACO/BUCKEYE GASOLINE PLANT		2329	2490	2933	604		Allowable is 5146
NM		35	025	0052	65	1311	6	Oil/Gas	TEXACO/EUNICE NORTH GAS PLANT		673	1076	1346	673		Increases above 673 allowable with upsets
NM		35	025	0051	65	1311	6	Oil/Gas	TEXACO/EUNICE SOUTH GAS PLANT		4019	4386	3355	664		Also UNION PACIFIC GATHERING & PROC. CO/HUBER
NM		35	015	0051	65	1311	6	Oil/Gas	TRANSWESTERN PIPE	DUKE ENERGY/HUBER GAS	221	231	231			
NM		35	041	0001	63	1311	6	Oil/Gas	WARREN PETROLEUM/MONUMENT PLANT		270	3348	582	312		1988 value is from AIRS
NM		35	025	0060	65	1321	6	Oil/Gas	WARREN PETROLEUM/EUNICE GAS PLANT	EUNICE GAS PLANT	3285	2388	2388	897	5	SRU installed in 1992 Potential emissions listed in 1990.
NM		35	025	0061	65	1311	6	Oil/Gas	WARREN PETROLEUM/MONUMENT PLANT	MONUMENT PLANT	1460	1709	1432			
NM		35	025	0063	65	1321	6	Oil/Gas	WARREN PETROLEUM/SAUNDERS PLANT	SAUNDERS PLANT	913	3312	1387	474		
NM		35	025	0064	65	1321	6	Oil/Gas	WARREN PETROLEUM/VADA GAS PLANT		1204	2149	0			3 Flare shutdown in 1998. Green gas routed to another plant.
NM		35	045	0247	60	1311	6	Oil/Gas	WESTERN GAS PROCESSORS/SAN JUAN RYR	CHEMICAL LIME CO	5475	980	980			Declining H2S content
NV		32	003	0003	22	3274	10	Metals/Mining/Minerals	CHEMSTAR APEX		783	175				
NV		32	019	410387	20	3241	4	Cement/Concrete	NEVADA CEMENT COMPANY		360	340	346			
OR		41	045	0002	?	2062	7	Food	Amalgamated Sugar Company, The		597	829	1235	638	1	Increasing production - capturing more emissions under Title V
OR		41	009	1849	6	2621	3	Wood/Paper/Pulp	Boise Cascade Company		2454	685	1457	997		
OR		41	041	0005	5	2631	3	Wood/Paper/Pulp	Georgia-Pacific West, Inc.		56	207	322	266	1	Production changes

Table A-1 (continued)

State	State ID	County ID	Facility ID	IAS Regio n	SIC	MTF Secto r	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO2 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
OR	41 019	0007		7	3339	10	Metals/Mining	Glenbrook Nickel Company		7	174	113		1	Production changes and ore supply differences
OR	41 039	2125		5	3339	10	Metals/Mining/Mineral s	Globe Metallurgical Inc.		204	200	228			
OR	41 019	0036		5	2631	3	Wood/Paper/Pulp	International Paper		874	602	1006			
OR	41 004	0004		5	2621	3	Wood/Paper/Pulp	James River II, Inc.		331	573	617	286		
OR	41 065	0001		5	3334	10	Metals/Mining/Mineral s	Northwest Aluminum Company, Inc.		407	448	375			
OR	41 051	1876		5	3221	8	Glass	Owens-Brockway Glass Container, Inc.		104	169	117			
OR	41 043	3501		5	2621	3	Wood/Paper/Pulp	Pope & Talbot Pulp, Inc.		485	133	92	393	5	New acid gas scrubber (PSD application)
OR	41 051	1851		5	3334	10	Metals/Mining/Mineral s	Reynolds Metals Company		3341	0	503	2838	1	Low production - market driven
OR	41 071	6142		5	2621	3	Wood/Paper/Pulp	Smurfit Newsprint Corporation		592	368	461			
OR	41 039	0001		5		3	Wood/Paper/Pulp	Weyerhaeuser Particle board		377	372	296		1	Market driven production changes
OR	41 011	0015				3	Wood/Paper/Pulp	Weyerhaeuser Company		19	126	127			Source was below 100 tons in 1990.
OR	41 043	0471		5	2631	3	Wood/Paper/Pulp	Willamette Industries, Inc.		398	54	485			
UT	49 035	0004		32	2911	6	Oil/Gas	Amoco Petroleum Products		6701	983	1116	5585	5	Added a sulfur recovery unit - PM10 SIP
UT	49 049	0004		33	8221	9	Misc.	Brigham Young University		248	90	158			
UT	49 027	0001		35	1081	10	Metals/Mining/Mineral s	Brush Wellman Inc.		161	175	208			
UT	49 011	0003		31	2911	6	Oil/Gas	Chevron Products Company		2424	1116	845	1579	5	Added a sulfur recovery unit - PM10 SIP
UT	49 027	9902		35	1499	10	Metals/Mining/Mineral s	Continental Lime Inc.		115	297	275			
UT	49 011	0008		31	2911	6	Oil/Gas	Eyring, J Incorporated		312	574	225			
UT	49 049	0027		33	3312	10	Metals/Mining/Mineral s	Geneva Steel		8473	2020	881	7592	5	PM10 SIP requirement OBOP on blast furnaces
UT	49 029	0001		31	3241	4	Cement/Concrete	Holnam Incorporated		911	3	247	664	6	Stack test in November 1996 showed much lower emissions
UT	49 011	0013		31	2911	6	Oil/Gas	Phillips 66 Company		5672	864	862	4810	5	Added sulfur reduction unit - PM10 SIP
UT	49 037	9901		35	2911	6	Oil/Gas	Unocal Corporation		1575	1391	1478			Oil/gas pipeline
UT	49 005			7	8221	9	Misc.	Utah State University		134	123				
WY	56 029	0012		9	1311	6	Oil/Gas	AMOCO - ELK BASIN	HOWELL PETROLEUM - ELK BASIN	1096	1218	1,422	326	3	Plant began flaring tail gas, rather than venting H2S
WY	56 041	0012		9	1311	6	Oil/Gas	AMOCO - WHITNEY CANYON		6401	5635	11,130	4729	1	Well field flaring increased with the new drilling program
WY	56 041	0008		9	1311	6	Oil/Gas	CHEVRON - CARTER CREEK		1537	1165	3,330	1793	1	Well field emissions increased after 1996
WY	56 023	0013		8	1311	6	Oil/Gas	EXXON - SHUTE CREEK		1078	1999	2,015	937	1	
WY	56 037	0010		9	1474	10	Metals/Mining/Mineral s	FMC - GRANGER (TEXAS GULF)		475	473	149	326	1	Process variation
WY	56 037	0004		9	1474	10	Metals/Mining/Mineral s	FMC - GREEN RIVER		4795	5256	4533	262	1	Process variation
WY	56 023	0001		8	2999	6	Oil/Gas	FMC COOKING PLANT		1194	1413	1454	260	1	Process variation
WY	56 021	0001		9	2911	6	Oil/Gas	FRONTIER OIL & REFINING - CHEYENNE		1521	1769	1422			
WY	56 037	0002		9	1474	10	Metals/Mining/Mineral s	GENERAL CHEMICAL		4196	5651	4,538	342	1	Process variation
WY	56 015	0001		9	2063	7	Food	HOLLY SUGAR - WORLAND & TORRINGTON		374	266	154			
WY	56 043			8	4911	1.1	Electricity	INTERENERGY - HILAND	WILDHORSE ENERGY - HILAND	21	415	110		1	Increased flaring

Table A-1 (continued)

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO2 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
WY	56 017			9	1311	6	Oil/Gas	KCS MOUNTAIN RESOURCES - GOLDEN EAGLE			568	942	942	6	Flare not quantified in 1990
WY	56 003			9	1311	6	Oil/Gas	KCS MOUNTAIN RESOURCES - AINSWORTH			807	845	845	6	Flare not quantified in 1990
WY	56 013	0005		9	2819	5	Chemicals/Plastics	KOCH SULFUR PRODUCTS COMPANY		1104	1109	1,237			
WY	56 013			9	2611	3	Wood/Paper/Pulp	LOUISIANA LAND & EXPLOR - LOST CABIN			4547	1,336	1,336	1	Plant constructed in 1995
WY	56 029	0007		9	1311	6	Oil/Gas	MARATHON GAS PLANT - OREGON BASIN		406	456	388			
WY	56 017			9	1311	6	Oil/Gas	MARATHON OIL - MILL IRON			234	260	260	6	Flare not quantified in 1990
WY	56 037	0003		9	999	6	Oil/Gas	SWEETWATER RESOURCES	P4 PRODUCTION - ROCK SPRINGS	874	663	642			1 Process variation
WY	56 037	0022		9	2874	5	Chemicals/Plastics	SF PHOSPHATES, INC		578	1154	1,971	1,393	6	Retest shows increased emissions
WY	56 025	0001		9	2911	6	Oil/Gas	LITTLE AMERICA REFINING COMPANY	SINCLAIR - CASPER	734	1629	1,305	571	6	
WY	56 007	0011		9	1311	6	Oil/Gas	SINCLAIR @ SINCLAIR		4574	3990	3,524	2393	6	Additional SRU added in 1993
WY	56 013			9	1311	6	Oil/Gas	SNYDER OIL - RIVERTON DOME				147			
WY	56 037			9	1474	10	Metals/Mining/Minerals	SOLVAY MINERALS			101	72			
WY	56 003	0012		9	1311	6	Oil/Gas	TEXAS-BYRON PLANT	BIG HORN GAS PROCESSING - BYRON	192	169	605	413		
WY	56 037	0008		9	1311	6	Oil/Gas	UNION PAC - BRADY		415	331	576			
WY	56 001	0005		9	8221	9	Misc.	UW CENTRAL HEAT PLANT		152	154	223			
WY	56 045	0001		9	2911	6	Oil/Gas	WYOMING REFINING CO	WYOMING REFINING - NEWCASTLE	609	930	804			1 Process variation
										185937	163262	162813			

Primary Reason for Emissions Change:
 1 = Market driven production changes
 2 = Plant shutdown
 3 = Process changes
 4 = Fuel switch
 5 = Controls in response to air regulations
 6 = Emission estimation method change

**Table A-2
Facilities with Less Than 100 tpy SO₂ in 1996-1998**

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO ₂ tpy 1990	SO ₂ tpy 1996	SO ₂ tpy 1998	SO ₂ tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
AZ	4 005	0001		42	291	6	Oil/Gas	Intermountain Refining		803	0	0	803	2	Plant shutdown
CA	6 037	42333		14	347	10	Metals/Mining/Minerals	AMERICAN NATIONAL CAN CO		149	0	0			
CA	6 001	2086		11	322	8	Glass	ANCHOR GLASS CONTAINER CORPORA		119	0	0			
CA	6 029	0206		13	131	6	Oil/Gas	BERRY PETROLEUM COMPANY		237	0	0			
CA	6 013	0033		11	206	7	Food	CALIFORNIA & HAWAIIAN SUGAR CO		189	0	0			
CA	6 071	800181		15	327	4	Cement/Concrete	CALIFORNIA PORTLAND CEMENT CO		112	<100	13			
CA	6 019	0071		12	131	6	Oil/Gas	CHEVRON USA, INC. - COALINGA		809	0	0	809	1	Production changes according to steam generation needs
CA	6 029	0312		13	461	6	Oil/Gas	CHEVRON-RIO BRAVO STATION		101	0	0			
CA	6 107	0028		12	202	7	Food	DAIRYMANS COOP CREAMERY		212	0	0			
CA	6 037	800047		14	291	6	Oil/Gas	FLETCHER OIL & REF CO (EIS USE)		107	0	0			
CA	6 013	3257		11	261	3	Wood/Paper/Pulp	GAYLORD CONTAINER CORPORATION		263	0	0	263		
CA	6 037	800184		14	291	6	Oil/Gas	GOLDEN WEST REF CO (EIS USE)		232	0	0			
CA	6 099	0017		11	203	7	Food	HUNT-WESSON FDS		174	0	0			
CA	6 005	0021		11	491	1.1	Electricity	IONE ENERGY COMPANY		239	0	0			
CA	6 077	0002		11	287	5	Chemicals/Plastics	J R SIMPLOT CO.		1389	102	89	1300.2	4	Fuel switch
CA	6 047			12				JR WOOD		0	0	0			
CA	6 077			11	321	8	Glass	LIBBEY OWENS FORD		35	110	77			
CA	6 023	0037		10	261	3	Wood/Paper/Pulp	LOUISIANA-PACIFIC CORP.		302	<100	42	289.6	4	Fuel switch
CA	6 029	0272		13	131	6	Oil/Gas	M H WHITTIER	SENECA RESOURCES	347	0	0	346.9	1	Production changes according to steam generation needs
CA	6 053	0019		12	131	6	Oil/Gas	MOBIL OIL CORP - SAN ARDO	AERA ENERGY	304	0	1	303.4	1	Production changes according to steam generation needs
CA	6 053	0012		12	327	10	Metals/Mining/Minerals	NATIONAL REFRACATORIES&MINERALS	CHEMICAL LIME CO	243	<100	69			
CA	6 077	0191		11	262	3	Wood/Paper/Pulp	NEWARK SIERRA PAPERBOARD CORP.		270	0	0	270	4	Fuel switch to gas
CA	6 001	0030		11	322	8	Glass	OWENS-BROCKWAY GLASS CONTAINER - OAKLAND		122	128	64			
CA	6 037	800103		14	291	6	Oil/Gas	POWERINE OIL CO (EIS USE)		196	0	0			
CA	6 047	0022		12	203	7	Food	RAGU FOODS	LIPTON	202	0	0			
CA	6 029	204		13	131	6	Oil/Gas	SHELL KERRIDGE	AERA ENERGY LLC	294	<100	82			

Table A-2 (continued)

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO2 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
CA	6 037		800115	14	291	6	Oil/Gas	SHELL OIL CO (EIS USE) - CARSON	SHELL OIL PRODUCTS	778	0	0	778		
CA	6 019		0064	12	131	6	Oil/Gas	SHELL WESTERN E&P INC. - COALINGA		144	0	0			
CA	6 091		0001	11	242	3	Wood/Paper/Pulp	SIERRA PACIFIC INDUSTRIES		85	52	52			
CA	6 063		0003	10	242	3	Wood/Paper/Pulp	SIERRA-PACIFIC INDUST.		135	<100	24			
CA	6 071			15	324	4	Cement/Concrete	SOUTHWESTERN PORTLAND CEMENT C	SOUTHDOWN-VICTORVILLE PLANT	108	0	0			
CA	6 029		0331	13	131	6	Oil/Gas	SWEPLWEST COAST DIVISION	AERA ENERGY LLC	775	<100	10	765.5	1	Oil and gas production changes
CA	6 053		0030	12	131	6	Oil/Gas	TEXACO INC. - SAN ARDO		100	<100	36			
CA	6 037		800222	14	281	5	Chemicals/Plastics	TEXACO REFINING & MARKETING IN - CARSON		156	<100	26			
CA	6 099		0024	11	203	7	Food	TRI-VALLEY GROWERS-#7		118	0	0			
CA	6 029		0028	13	147	10	Metals/Mining/Mineral	U.S. BORAX		523	<100	4	519.4	4	Fuel switch - Mojave Desert District
CA	6 037		800143	14	281	5	Chemicals/Plastics	UNION CHEM CO (NSR USE ONLY) - WILMINGTON		209	0	0			
CA	6 071		7000003	15	106	10	Metals/Mining/Mineral	UNION MOLYCORP	MOLYCORP, UNION OIL	792	0	0	792	2	Plant shutdown - Mojave AQMD
CA	6 029		0299	13	131	6	Oil/Gas	UNOCAL - BAKERSFIELD	UNOCAL OIL & GAS DIVISION	159	0	0			
CA	6 059		42775	14	131	6	Oil/Gas	WEST NEWPORT OIL CO		297	<100	10	287.5	2	Plant shutdown - SCAQMD
CO	8 059		0009	53	961	9	Misc.	GENERAL SERVICES ADMINISTRATIO		409	0	0	409	4	Changed from coal to natural gas
CO	8 077		0001	55	291	6	Oil/Gas	LANDMARK PETROLEUM		157	0	0			
CO	8 045		0024	51	131	6	Oil/Gas	UNOCAL RETORT-PARACHUTE		679	0	0	679	2	Plant shutdown
CO	8 045		0025	51	131	6	Oil/Gas	UNOCAL UPGRADE		177	0	0			
CO	8 087		0001	53	206	7	Food	WESTERN SUGAR 1		127	19	20		4	Changed to lower sulfur coal
CO	8 123		0002	53	206	7	Food	WESTERN SUGAR 2		320	0	<100		4	Six coal-fired boilers replaced with natural gas
ID	16 011			?		7	Food	Idaho Supreme		106					
ID	16 039		0001	3	971	9	Misc.	MTN. HM. AFB		196	87	87			
NM	35 025		0128	65	131	6	Oil/Gas	CITATION/ANTELOPE RDG GAS PLANT		291	0	NA			
NM	35 025		0118	65	131	6	Oil/Gas	CONCOBELL LAKE 2 WELL #6		129	0	NA			
NM	35 015		0125	65	131	6	Oil/Gas	FEAGAN ENERGYW DAGGER DRAW GAS PLT		240	0	NA			Plant never constructed
NM	35 035		0013	?	971	9	Misc.	HOLLOWMAN AIR FORCE BASE			3	4			Allowable is 122 tpy
NM	35 005		0050	65	131	6	Oil/Gas	YATES PETROLEUM/PATHFINDER AMINE		227	57	57			Allowable emissions listed in 1990
NV	32 023		0001	21	145	10	Metals/Mining/Mineral	BASIC INC.	PREMIER SERVICES	272	3	3		1	Market influences

Table A-2 (continued)

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO2 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
NV	32 021		0002	21	971	9	Misc.	HAWTHORNE ARMY AP		115	6	12			
NV	32 007			?		10	Metals/Mining	Independence Big Springs	ANGLO GOLD	166	0	0		2	Big Springs mine closed operation in 1995
NV	32 003		0019	22	333	10	Metals/Mining/Minerals	TITANIUM METALS		484	7	122			
OR	41 047		5398	5	495	9	Misc.	Cascade Steel Rolling Mills, Inc.		116	29	29			
OR	41 039		8850	5	263	3	Wood/Paper/Pulp	Collins Products LLC		192	3	3			
OR	41 009		2520	5	491	1.1	Electricity	Enron Corp.		103	0	44			
OR	41 051		2028	5	517	6	Oil/Gas	Galx Terminals Corporation		180	3	3			
OR	41 029		0041	5	282	5	Chemicals/Plastics	Georgia-Pacific Resins, Inc.		1008	0	<100		3	Synthetic minor status - process change
OR	41 067		2644	6	242	3	Wood/Paper/Pulp	J. Peterkort & Company		108	34	28			SO ₂ value for 1998 is really 1997 TPY
OR	41 005		1850	5	262	3	Wood/Paper/Pulp	Ogden Martin Systems of Marion, Inc.		127	13	22			
OR	41 051		2050	5	822	9	Misc.	Oregon Health Sciences University		246	3	5			
OR	41 051		1815	5	285	8	Glass	Owens-Corning Corporation		0	20	21			
OR	41 039		8866	5	242	3	Wood/Paper/Pulp	Sierra Pine		39	0	0			
OR	41 035		0013					Collins Products LLC		192	3	3			
UT	49 049			33	145	10	Metals/Mining/Minerals	Interstate Brick Company		113	35	35			
UT	49 035		0034	32	806	9	Misc.	LDS Hospital		330	20	20	310	4	Coal to natural gas switch for boilers
UT	49 045		-9903	31	333	9	Metals	Magcorp		99	41	41			
UT	49 035		0063	32	822	9	Misc.	University of Utah		238	7	3			
WY	56 011		0003	9	145	10	Metals/Mining/Minerals	AMERICAN COLLOID - WEST COLONY		113	80	53			Process variation
WY	56 011			9	145	10	Metals/Mining	AMERICAN COLLOID - EAST COLONY		18	66	92		4	Reduced gas/increased coal use
WY	56 025		0002	9	291	6	Oil/Gas	AMOCO REFINERY		1153	0	0	1153	2	Plant shut down in 1991
WY	56 003		0001	9	145	10	Metals/Mining/Minerals	BENTONITE CORPORATION	LOVELL	192	3	41			
WY	56 037		0014	9	131	6	Oil/Gas	COLORADO INTERSTATE GAS - TABLE ROCK		522	20	39	483	5	Controlled flaring incidents
WY	56 003		0013	9	131	6	Oil/Gas	MARATHON OIL COMPANY - GARLAND		257	7	10			Reinject sour gas
WY	56 001		0002	9	324	4	Cement/Concrete	MOUNTAIN CEMENT CO		75	54	132		1	Second kiln added in 1996
WY	56 013			?	131	6	Oil/Gas	WOLD OIL PROPERTIES - BIG SAND	WOLD OIL - SAND DRAW PLANT		159	8			
										2122	2253	1735			

Table A-2 (continued)

State	State ID	County ID	Facility ID	IAS Region	SIC	MTF Sector	Sector Description	Facility Name (1990)	Current Facility Name (if different from 1990)	SO2 tpy 1990	SO2 tpy 1996	SO2 tpy 1998	SO2 tpy 1990 vs. 1998	Primary Reason for Emissions Change	Notes
-------	----------	-----------	-------------	------------	-----	------------	--------------------	----------------------	--	--------------	--------------	--------------	-----------------------	-------------------------------------	-------

Primary Reason for Emissions Change:
 1 = Market driven production changes
 2 = Plant shutdown
 3 = Process changes
 4 = Fuel switch
 5 = Controls in response to air regulations
 6 = Emission estimation method change

