# Appendix C

# Rollback

2006 PM10 Plan

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## Review of control strategy effectiveness using rollback modeling supported by CMAQ nitrate particulate evaluation

Summary of findings	Primary	Secondary	Effective control option	Tracking required for SIP modeling
Ammonium Nitrate		NOx	Yes	Yes
		Ammonia	No	No
Ammonium Sulfate		SOx	No	No
		Ammonia	No	No
Geologic and Construction	PM10		Yes	Yes
Carbon particulates	PM10	ROG	PM10 Yes,	PM10 Plan ROP tracks directly emitted
Rollback modeling divides the carbon into			ROG Yes	PM10,
several major contributing source types:				Ozone Plan ROP tracks secondary.
Mobile exhaust, tire and brake wear	PM10	ROG		Directly emitted PM10 included in
Vegetative burning Organic Carbon	PM10	ROG		PM10 ROP, Separate category tracking not effective for ROG secondary PM10
from stationary and area sources	PM10	ROG		formation

# Evaluation of the potential effectiveness of reductions as a control option 50% modeling sensitivity tests

NOx Reduction Response		ARB CMAQ model	Impact on rollback model	
NOx, SOx and ammonia form secondary PM2.5. Reductions of NOx reduce nitrate particulate but can result in formation of small	Appual	Nitrate, sulfate and ammonia response (%)	Nitrate particulate (µgm)	
amounts of auditional suitate particulate. Aot	BGS	35.1	49	Winter average response
	BAK	35.7	5.0	Winter average response
Criteria to determine significant sources: Annual criteria > 1 microgram	Finding		> 1 µgm	Effective as control option
Episode criteria > 5 micrograms	Winter E	pisode		
NOx forms nitrate annual particulate > 1 μgm NOx forms nitrate particulate in episodes	HAN	31.5	28.2	Winter average response
winter and fall > 5 μgm Contributions pass test for significant contribution to standards.	Finding		> 5 µgm	Effective as control option
	Fall Epis	ode		
CMAQ predicted sum of particulate nitrate, sulfate and ammonia ions in response to 50% cut of NOx emissions is used to determine net response.	СОР	39.5	9.2	Winter average response (October episode response is not modeled by CMAQ, analysis provides greater than maximum potential impact of nitrates)
Finding: NOx reductions are effective				Probably effective as control option, the effect for nitrate chemistry at this time
for the annual standard and the winter			Probably	of year may be less than the calculated
and fall episodes.	Finding		> 5 µgm	value
	Summer	Episode		
	BGS	not applicable	< 5 µgm	Not effective as control option, windblown geologic event, total secondary nitrate particulate involved approximately one microgram.
	1		Impact on	
Ammonia Reduction Response NOx, SOx and ammonia form secondary PM2.5. Reductions of ammonia can result in reduced formation of sulfate and nitrate particulate but the reduction is small when ammonia is not a limiting precursor. The sum of effects is used for this analysis		ARB CMAQ model Nitrate, sulfate and ammonia response (%)	rollback model Nitrate particulate (µgm)	

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Criteria to determine significant sources: Annual criteria > 1 microgram Episode criteria > 5 micrograms Ammonia forms nitrate and sulfate annual particulate > 1 µgm Ammonia forms partievilate nitrate and sulfate	BGS BAK Finding	1.7 0.8	0.2 0.1 < 1 μgm	Winter average response Winter average response Not effective as control option
in episodes winter and fall > 5 $\mu$ gm	Winter E	pisode		
contributions pass test for significant contribution to standards.	HAN	0.4	0.3	Winter average response
CMAQ predicted sum of particulate nitrate, sulfate and ammonia ions in response to 50% cut of Ammonia emissions is used to determine net response	Finding		< 5 µgm	Not effective as control option
CMAQ establishes that ammonia is not a limiting precursor.	Fall Epis	ode		
Reduction of ammonia by 50% results in only trace reductions of particulate.	COP	0.4	0.1	Winter average response
	Finding	0.1	- Eurom	(episode is October)
Finding: Ammonia reduction is not effective for the annual standard or the winter and fall episodes.	Finding		< 5 µgm	Not enective as control option
	Summer BGS	Episode	ndblown aeola	aic event
SOx Reduction Response		Total SOx Contribution Maximum	Impact on rollback model Nitrate	
NOx, SOx and ammonia form secondary PM2.5. Reductions of SOx reduce sulfate		potential	particulate	
particulate but can result in formation of small		response (%)	(µgm)	SOx anthropogenic annual average
to small contribution, sensitivity modeling not required.	Annual	50	1 1 µgm	contribution 2 µgm Not effective as control option
Criteria to determine significant sources:	Winter E	pisode		
Annual criteria > 1 microgram Episode criteria > 5 micrograms SOx forms sulfate annual particulate > 1 μgm SOx forms sulfate particulate in episodes		50	3 < 5 μgm	SOx maximum episodic anthropogenic contribution 6 µgm Not effective as control option
winter and fall > 5 μgm	Fall and	Summer Epis	sodes	
contribution to standards		winter episode		Not effective as control option
Review of sulfate particulate concentrations used to determine response Finding: SOx reduction is not effective for the annual standard or the winter and fall episodes.				
VOC Reduction Response (for secondary particulate formation) VOC forms carbon particles and is also		ARB CMAQ model	Impact on rollback model Nitrate	
involved in the secondary chemistry for nitrate and sulfate particulates. Reductions of VOC can result in reduced formation of carbon particulates and sulfate and nitrate particulate. The sum of effects predicted by CMAQ is used for this analysis.		and ammonia response (%)	particulate (µgm)	
Carbon is quantified in the rollback analysis for primary emissions and secondary VOC particle formation in the categories: mobile exhaust, tire and brake wear, organic carbon and vegetative burning.	Annual			
Criteria to determine significant sources:	BGS	9.8	1.4	Winter average reappendix C: Rollback
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Annual criteria > 1 microgram Enisode criteria > 5 micrograms	BAK	9.5	<b>1.3</b>	Winter average response
Total carbon annual particulate > 1 µgm	Thinking		> i µgili	Enective as control option
Total carbon episode particulate in winter and	1			
fall > 5 μgm	Winter Epi	isode		
Contributions pass test for significant				
contribution to standards.	HAN	9.7	8.7	Winter average response
CMAQ predicted sum of particulate nitrate.	Finding		> 5 µgm	Effective as control option
sulfate and ammonia ions in response to 50%	,			
cut of VOC emissions is used to determine ne	t			
response for secondary particle atmospheric				
chemistry.				
reductions have an influence on nitrate and				
sulfate particle formation.	Fall Episo	de		
The combined effect of VOC and NOx	- ap.oo			
reductions has not been established by				
sensitivity analysis and cannot be included in	1			
rollback calculations at this time.	COP	7.1	1.6	Winter average response
	<b>Finding</b>		. 5	(episode is October)
Finding: VOC reduction is effective for	Finding		< 5 µgm	Not effective as control option
the annual standard and the winter				
enisode for reduction of total carbon				
secondary particulates although				
secondary particulates, although				
nrojecting the interaction with NOV				
projecting the interaction with NOx				
projecting the interaction with NOx reductions is beyond the scope of the				
projecting the interaction with NOx reductions is beyond the scope of the rollback approach.	Summer	inicada		
projecting the interaction with NOx reductions is beyond the scope of the rollback approach.	Summer E	<b>pisode</b>	windhlown aeol	onic event
projecting the interaction with NOx reductions is beyond the scope of the rollback approach.	Summer E	<b>pisode</b> tot applicable, v	windblown geol	ogic event
projecting the interaction with NOx reductions is beyond the scope of the rollback approach.	Summer E	<b>pisode</b> lot applicable, v	windblown geol	ogic event
voc Reduction Response	Summer E	<b>pisode</b> ot applicable, '	windblown geol	ogic event
voc Reduction Response (carbon particulate formation for	Summer E	<b>pisode</b> lot applicable, v	windblown geol	ogic event
voc Reduction Response (carbon particulate formation for major emission categories)	Summer E	<b>pisode</b> tot applicable, v	windblown geol	ogic event ssumed to be proportional
voc Reduction Response (carbon particulate formation for major emission categories)	Summer E BGS n	contribution	windblown geol Reductions as 50% Reductio	ogic event ssumed to be proportional n
voc Reduction Response (carbon particulate formation for major emission categories)	Summer E BGS n BGS	Contribution	windblown geol Reductions as 50% Reductio 2.4 0 9	ogic event ssumed to be proportional n Effective as control option
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voc Reduction Response (carbon particulate formation for major emission categories) Annual Total Carbon Mobile Exhaust Tire and Break Wear Vegetative Burning	Summer E BGS n BGS	Contribution 4.8 1.8 0.8 1.6	windblown geol Reductions as 50% Reductio 2.4 0.9 0.4 0.8	ogic event ssumed to be proportional n Effective as control option Not effective to track separately Not effective to track separately Not effective to track separately
voc Reduction Response (carbon particulate formation for major emission categories) Annual Total Carbon Mobile Exhaust Tire and Break Wear Vegetative Burning Organic Carbon	Summer E BGS	Contribution 4.8 1.8 0.8 1.6 0.7	windblown geol Reductions as 50% Reductio 2.4 0.9 0.4 0.8 0.3	ogic event ssumed to be proportional n Effective as control option Not effective to track separately Not effective to track separately Not effective to track separately Not effective to track separately
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particulates; however, tracking reductions at the major category level is not effective.

	San Jaaquin Valley Uni	tied Air Pollution Coentrol District	С	D E	F	G H		J	К	L	М
	Bakersfield Golden	General Note	Geologic and Construction	Mobile Exhaust	Tire and Brake Wear	Organic Carbon	Vegetative Burning	Ammonium	Ammonium	Marine	Unassigned
	State Annual							including associated water	Sunate		
	Design Voluses										
	Design values:										
	2000-2002 57,										
1	2002-2004 51										
	Line1 Source Contribution from Analysis	From CMB monthly analysis Feb 2000 to Dec	From CMB	From CMB	From CMB	Estimated portion of mass included	From CMB minus estimated Organic	From CMB	From CMB	From CMB, if present	Unaccounted mass
2		equivalent to annual design value				in vegetative Burning =30%	Carbon from other sources				from CMB, If any.
3	LINE 1 Line2 Natural and Transport Contribution, see	57.00 Portion not included in rollback analysis, removed	26.70 see background sheet for	3.60 0. no natural background	1.10 0. no natural	1.89 see background sheet for numerical	4.41 see background sheet for numerical	14.90 see background sheet for numerical	3.00 see background sheet for	0.00 100% because marine	1.4 0. background estimate
	"Background" sheet	prior to rollback as not subject to local control,	numerical estimate and episode	transport estimated at 0	background, transport	estimate and episode adjustment.	estimate and episode adjustment.	estimate and episode adjustment.	numerical estimate and episode	salts are a natural	at maximum, no
		added back to projected future concentrations	rollback as not subject to local		estimated at 0	subject to local control, added back	subject to local control, added back	subject to local control, added back to	rollback as not subject to local	emission	estimate for
			control, added back to projected			to projected future concentrations.	to projected future concentrations.	projected future concentrations	control, added back to projected		unexplained mass
4	LINE 2	7.90		0.0	0.0		1 2	10			
	Line 3 Net for Rollback	Net for Rollback, default percentages adjustable for	r	0.0	0.0	0.0	1.9	Net for non-linear rollback, default	1.9	Removed entirely from	
6		episode characteristics, applicable to all columns except as indicated						characteristics		rollback, added back to result	
	LINE 3 Line4 Local Contribution PM2 5-PM10 Area of	49.1 Source contribution from smallest area of influence	1 22.7 70%PM10 50%PM2 5	3.6 70%PM10.50%PM2.5	1.1 70%PM10 50%PM2 5	1.3 70%PM10 50%PM2 5	3.1 70%PM10.50%PM2.5	13.9 70%PM10 50%PM2 5	2.0 70%PM10.50%PM2.5	0.0	1.4 70%PM10.50%PM2.5
	Influence	representative of large particle primary source area	a, of net	of net	of net	of net	of net	of net, non-linear rollback	of net	$\setminus$ /	of net
~		Includes all PM size emissions in the area - Rolled back against local area of influence emission									
9 9	LINE 4	cetimatos	15.9	1.8	0.8	0.7	1.5	7.0	1.0		1.0
	Line5 Local Contribution Area of Influence of	Rolled back against local PM2.5 area of influence	15%PM10 30%PM2.5	15%PM10 30%PM2.5	15%PM10 30%PM2.5	15%PM10 30%PM2.5	15%PM10 30%PM2.5	15%PM10 30%PM2.5 non-linear	15%PM10 30%PM2.5	$\langle \rangle$	15%PM10 30%PM2.5
10		based on meteorology and episode duration						romouot		$\vee$	
11	LINE 5	10.95	5 3.4	1.1	0.2	0.40	0.9	4.2	0.6	A	0.2
, ]	Line6 Sub regional Contribution	Rolled back against specified County(ies) emission estimates - episode specific adjustments based on	10%PM10 15%PM2.5	10%PM10 15%PM2.5	10%PM10 15%PM2.5	10%PM10 15%PM2.5	10%PM10 15%PM2.5	10%PM10 15%PM2.5 non-linear rollback	10%PM10 15%PM2.5		10%PM10 15%PM2.5
12		meteorology and episode duration									
13	LINE 6	6.1	2.3	0.5	0.1	0.20	0.5	2.09	0.30		0.1
	Liner Regional Contribution	episode specific adjustments based on meteorolog	3 3% FM10 5% FM2.5	3%PMT0 5%PM2.5	5%FM10 5%FM2.5	5%PM10 5%PM2.5	076FW1U 076FM2.5	rollback	5%FM10 5%FM2.5	/	5%PM10 5%PM2.5
14	LINE 7	and episode duration 2.46	6 1.1	0.2	0.1	0.07	0.2	0.70	0.10	/ `	0.1
	Associated Emissions Categories	Based upon appropriate seasonal or annual	PM10 paved roads+	PM10, ROG & CO	Tire and brake wear as	Total ROG minus motor vehicle, OC	PM10 & CO residential burning	Total E.I. NOx (+ bacterial soil NOx	Total SOx	None, natural emission	Total PM10
		Inventory	PM10 off road mobile+	PM10, ROG & CO 860	EMFAC2002	otherwise unassigned elemental	disposal	background)		and delta waters	
			PM10 farm operations+ PM10 construction+	offroad equipment PM10_ROG & CO 870		carbon PM10 & CO Area Stationary	PM10 cooking PM10 & CO fires				
			PM10 windblown	farm equipment		CO presumed to add minimal mass	CO presumed to add minimal mass				
16				CO presumed to add minimal mass							
17	2000 Emissions Inventory	(area of influence emissions inventory, each on a s	separate line for automated calcula	ition			Tulare Range burning adjusted				
19	PM10 Annual CCOS 2.14	L1= 12 L2= Kem	11.19	1.97 2.39	0.30	3.54	2.09				19.38 47.83
20	with ARB EMFAC adjustments	Sr=Kern R=SIV	33.95	2.39	0.37	7.89	3.53				47.83
22	NOx	L1= 12	220.00	10.45		24.00		101.08			020.42
24	with ARB EMFAC adjustments	Sr= Kern						154.94			
25	ROG	R= SJV L1= 12		21.85		31.91		542.75			
27	Annual CCOS 2.14 with ARB EMFAC adjustments	L2= Kern Sr= Kern		29.99		65.33					
29	507	R= SJV		174.52		249.05			2.00		
31	Annual CCOS 2.14	L2= Kem							11.86		
33		R= SJV							32.05		
138	2010 Emissions Inventory PM10 2010 EI with new controls	L1= 12	9.84	1.63	0.41	3.84	Tulare Range burning adjusted 1.58				18.07
139 140		L2= Kern Sr= Kern	29,84	1.98	0.49	8.56	2,61				44.64
141 146	NOv 2010 El with now controls	R= SJV	189,53		2.52	26.85	23,99	£4.07			269.84
147	INCA 2010 ET WILL NEW COLLIDIS	L2= Kem						101.75			
149		R= SJV						101.75 348.38			
155	ROG 2010 EI with new controls	L1= 12 L2= Kem		11.29		28.13					
156 157		Sr= Kern R= SIV		15.98		57.60					
162	SOx 2010 EI	L1= 12		96.71		241.09			3.53		
164		Sr= Kern							13.24 13.24		
105	2010 Rollback Projection with additional	IR= SJV						IMS95	34.78		
218	controls Local Contribution PM2.5-PM10 Area of	=(2010 L1/1999 L1) * LINE 4	14.0	0.7 0.5	1.0	0.4 0.3	12	53	11		0.9
219 220	Influence	=(2010   2/1999   2) * LINE 5	20	0.4 0.3	0.0	02 03	0.7	3.0	0.7		0.2
221	Sub regional Contribution	=(2010 Sr1/1999 Sr2) * LINE 6	2.0	0.2 0.1	0.2	0.1 0.1	0.3	3.2	0.7		0.1
223	+ Natural Background contribution	=LINE 2	0.9	0.0 0.0	0.1	0.0 0.0	0.1	0.5	0.1	0.0	0.1
225	2010 projected Annual Resul	49.46	5 23.9	1.5 0.9	1.5	1.3 0.6	3.6	Linear 11.6	3.2	0.0	1.3
226	2010 projected Annual Resul Modeling comparisons	47.8; 40 46	3 linear nitrate projection 6 IMS95 nitrate modeling					4.5			
228	Current 2002-2004 Design value = 51	49.28	B CMAQ nitrate modeling					1.4			
230		48.86 49.31	Average of all three Average of CMAQ and IMS95					0.4 9.0			
231								CMAO			
232								5.2			
234								3.2			
235								1.6			
237								10.5			
238	end										

Image: set of the function of the set of th		San Joaquin Valley Unified Ai	ir Pollution Control District			-
Image: section decomposition of biology and section decomposition of biology and section decomposition de		A Rekorsfield Colden State	B General Note: during the months of March to	C Geologic and Construction	D E Mobile Exhaust	F Secondary sources
Under US-SUB_11 - SUB_2000         Under State		Dakerstield Golden State,	June, this is the ony episode of this type	speciation determined from	speciation determined	less than one
169. Job Column 1         169. Job Column 1         Number of the second		05/20/02, Design value	detected in the last ten years	PM2.5 value	from PM2.5 value	microgram
Image: Part of the second second separate for the original second seco		189, Geologic exceptional				minimis and not
Image: second	1	episode	Wind related episode, atypical for time of year, not	From CMB	From CMB	modeled
2         No.1         1000 Second Transport Control in the Transport of Transport Control in the Transport of the Tra		Ener course contribution nom Analysis	from nitrates or vegetative burning			
Image: Description of the second se	2		BOD 05/00/00 400	402.00	5.40	
set         Standpuroff deal         print or stables is not adapted to local on the state state of the set of the state state of the set of the state state of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set	3	Line 1 Line2 Natural and Transport Contribution,	Portion not included in rollback analysis, removed	natural sources emoved prior to	0, no natural background,	
Add         Add bit is projected Music constraintion         Control design of projected Music constraintion         Control design of projected Music constraintion           4         1         200         2.0         0.0         0           5         1         2.0         2.0         0.0         0           6         1         1         1         5         0         0         0           6         1         1         1         5         0         0         0         0           7         1         1         1         1         1         0         0         0         0           8         1         1         1         1         1         1         0         <		see "Background" sheet	prior to rollback as not subject to local control,	rollback as not subject to local	transport estimated at 0	
Sec 2			added back to projected future concentrations	future concentrations		
4         Number 2         200         200         0.0           5         Number 2         Numbe				<5%		
4						
5         No.2 and Section 2000         0.0         0.0           6         1000         1000         1000         1000         1000         1000           7         No.2 and Section 2000         Section 2000         10000         1000	4					
Use 1         International methods and the second of	5	LINE 2	2.00	2.0	0.0	
6         LHC 3         LHC		Line 3 Net for Rollback	Net for Rollback			
1         1010         1010         1010         1010         701,0010 (2014)           Assa of Pulsace.         500,000 (2014)         500,000 (2014)         701,0010 (2014)         701,0010 (2014)           8         UP4 (2014)         500,000 (2014)         500,000 (2014)         701,0010 (2014)         701,0010 (2014)           9         UP4 (2014)         500,000 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)           11         UP4 (2014)         6010 (2014)         50,000 (2014)         100,000 (2014)         100,000 (2014)           11         UP4 (2014)         6010 (2014)         6010 (2014)         100,000 (2014)         100,000 (2014)           11         UP4 (2014)         6010 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)           12         UP4 (2014)         6010 (2014)         10,000 (2014)         100,000 (2014)         100,000 (2014)           13         UP4 (2014)         6010 (2014)         10,000 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)           14         UP4 (2014)         60,000 (2014)         10,000 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)         100,000 (2014)         100	6			101.0		
Kees of Subures         Control water         Control water         Control water         Control water           8         Control water         Subsect         50.5         2.7	1	LINE 3 Line4 Local Contribution PM2.5-PM10	187.00 Source contribution from smallest area of	181.6 50%PM10 of net	5.4 70%PM10.50%PM2.5	
Build of the second s		Area of Influence	influence, representative of large particle primary		of net	
B         ortical contribution Area of Inflames         Control         Control <thcontrol< th="">         Contro         C</thcontrol<>			source area, includes all PM size emissions in the			
9         Unit 4         0.55         0.0.8         2.7           10% FM 100 SUM And DMM and Sum	8		emission estimates			
Lamb Control Control Control (Control (Contro) (Control (Control (Control (Control (Control (Cont	9	LINE 4	93.50	90.8	2.7	
Image: second of method of method specified completes immain and specified completes immainter andinter specimpletes immainter and specified completes immainter an		of PM2.5	Romed back against local PM2.5 area of influence emission estimates - episode specific adjustments	10%PM10	15%PM10 30%PM2.5	
10         10.2         10.2         10.2         10.2         10.2           Like SD regional Contribution interesticity and public duration interesticity and public duratis interesti			based on meteorology and episode duration			
Image: Control of the back spaint specified Councy(te)) emiltings         Image: Control of the back spaint specified Councy(te)) emiltings         Image: Control of the back spaint spaint space specified councy(te)) emiltings           13         LNE 8         16.2         0.8         <	10	LINE 5	40.70	18.2	16	
Image: speech of speech quarter based on meteorology and episode duration         18.07         18.2         0.8           12         Lunc P legional Contribution         Photos speech or dijustments based on emissions and episode duration         30%PM10         5%PM10         0.3           13         LKR 7         64.78         64.43         0.3		Line6 Sub regional Contribution	Rolled back against specified County(ies) emission	10%PM10	10%PM10 15%PM2.5	
12         Interface         162         0.8           13         LNF P Regional Contribution         Relief back spained Valences assome sample spained spained back spained Valences assome spained spained back spained Valences assome spained spained back spained Valences assome spained spained back spained Valences and Spained Spaine			estimates - episode specific adjustments based on			
13         Leff Regional Contribution         0.8         0.8           14         Helf Regional Contribution         Stude that scalar appropriate seasonal or annual meteorology and episode durations based on meteorology and episode durations based on meteorology and episode durations based on meteorology and episode durations         Stude that scalar appropriate seasonal or annual meteorology and episode durations         Stude that scalar appropriate seasonal or annual meteorology and episode durations         PMI0 provem condex         P	12		meteorology and episode duration			
Lear Regional Contribution         Roles back against Valleywide emission estimates associated Emissions Categories         SymPh10 SymPle2.5           Associated Emissions Categories         Based upon appropriate seasonal or annual inventory         64.5         0.3         0.3           Associated Emissions Categories         Based upon appropriate seasonal or annual inventory         FM10 Diamonal Categories         PM10, TOC & CO Gmfare apprinteril, Includes Im- PM10 Construction         PM10, TOC & CO Gmfare apprinteril, Includes Im- PM10, TOC & CO Imfare apprinteril, Incl	13	LINE 6	18.97	18.2	0.8	
14         meteorology and episode duration         5475         54         90.3		Line7 Regional Contribution	Rolled back against Valleywide emission estimates	30%PM10	5%PM10 5%PM2.5	
Star         94.5         0.5         0.3           Associated Emissions Categories Associated Emissions Categories PM10 part of adds PM10 part of adds	14		meteorology and episode duration			
Addicated Emission Langonis         Babel upon appopniate search of annual inventory         PMI 0 pavel faces PMI	15	LINE 7	54.75	54.5	0.3	
PM10 10m operations + PM10 0 construction         PM10, TOG & CO throad equipment and brack wear CO presented to add minimal mass           16         1000 Effective forwares         care of effective emissions inventory, each on a separate line for automated calculations         CO presented to add minimal mass           17         2000 Effective forwares         care of effective emissions inventory, each on a separate line for automated calculations         CO presented to add minimal mass           18         Annue PM10, TOG & CO throad equipment to add to a separate line for automated calculations         CO presented to add minimal mass           19         Annue PM10, TOG & CO throad equipment to add to add to a separate line for automated calculations            10         Annuel COGS 2:14         2.5 Kem         2.8 Kem         2.8 Kem           10         Brite Add distingents         Sin Kem         2.8 Kem         2.8 Kem           113         DB trainingent woments         Sin Kem         2.8 Kem         2.4 Fer           13         DB trainingent woments         Sin Kem         2.8 Kem         2.4 Fer           13         DB trainingent woments         Sin Kem         2.8 Kem         2.4 Fer           13         DB trainingent woments         Sin Kem         2.8 Kem         2.4 Fer           13         DB trainingent woments         Sin Kem         2.		Associated Emissions Categories	Based upon appropriate seasonal or annual inventory	PM10 paved roads+ PM10 unpaved roads+	mobile+	
PM10 construction         equipment PM10 construction         PM10 Col 2 CD Tame CO presumed to add minimal mass CO presumed to add minimal mass CO presumed to add minimal mass           16         PM10         L1= 12         minimal mass CO presumed to add minimal mass           17         PM10         L1= 12         minimal mass           18         PM10         L1= 12         minimal mass           20         with ARB EMFAC adjustments         Sin Kern         33.95         2.76           21         PM10         L1= 12         2.80				PM10 farm operations +	PM10, TOG & CO offroad	
equipment, includes tire and brake wear CO presumed to add minimal mass           17 2008 Emission inventory, each on a separate line for automated calculations).         Constant wear CO presumed to add minimal mass           17 2008 Emission inventory, each on a separate line for automated calculations).         Constant inventory, each on a separate line for automated calculations).           11:09         Constant inventory, each on a separate line for automated calculations).           2">20         Manual Colspan="2">Constant inventory, each on a separate line for automated calculations).           2">20         Annual Colspan="2">Constant inventory, each on a separate line for automated calculations).           2">20         Manual Colspan="2">Constant inventory, each on a separate line for automated calculations).           2">20         21         PMID 2010 El with new controls         En Fern         29.9           28         20.4           29.82         2.04           29.9           28.9         2.04           28.9         2.04           28.9         2.04           29.9         2.176				PM10 construction	equipment PM10, TOG & CO farm	
and Datase Wear J Colspan="2">Colspan="2"Colspan="					equipment, includes tire	
Home in the second home is a secon					and brake wear CO presumed to add	
T         2002 Emissions inventory         (area of influence emissions inventory, each on a separate line for automated calculations)         (1)           13         Annual CCOS 2.14         12-4 Kem         33.35         2.76           13         Annual CCOS 2.14         12-4 Kem         33.35         2.76           21         win ARB EMFAC adjustmets         Sin Kem         33.35         2.76           21         win ARB EMFAC adjustmets         Sin Kem         32.38         2.16           22         Annual CCOS 2.14         12-4 Kem         33.35         2.76           23         Min ARB EMFAC adjustmets         Sin Kem         23.39         2.44           24         Annual CCOS 2.14         12-4 Kem         2.94         74.52           24         Min ARB EMFAC adjustmets         Sin Kem         2.97         74.52           25         Min ARB EMFAC adjustmets         Sin Kem         2.97         74.52           25         Min ARB EMFAC adjustmets         Sin Kem         2.97         74.52           26         Sin Kem         2.97         2.47         11.29         2.44           25         Kem         2.97         11.21         2.92         2.44           27         Min 2.01<	16				minimal mass	
Annual TRUOS 2:14         L2. Kern         131.9         2.76           20         with ARB EMFAC adjustments         R = Kir         333.9         27.6           21         with ARB EMFAC adjustments         R = Kir         22.85         15.37           21         Annual CCOS 2:14         L2 = Kern         21.85         21.85           22         Mith ARB EMFAC adjustments         R = Kern         23.99         23.99           23         State EMFAC adjustments         R = Kern         23.99         24.45           23         State EMFAC adjustments         R = Kern         23.92         24.4           23         State Emissions thwentory	17	2000 Emissions Inventory	(area of influence emissions inventory, each on a se	parate line for automated calculat	tions)	
20         with ARB EMPAC adjustments         Sre Kern         33.95         2.76           20         ROG         L1=12         26.50         15.37         21.85           27         Annual CCOS 2.14         L2 Kern         22.89         23.99           28         with ARB EMPAC adjustments         Sre Kern         23.99         23.99           29         With ARB EMPAC adjustments         Sre Kern         23.99         24.47           2010         Exe Mark         29.82         2.04         114.52           2031         Sre Kern         29.76         2.47         12.45           2031         Sre Kern         29.76         2.47         12.45           2031         Sre Kern         29.76         2.47         12.45           2031         L2 Kern         13.82         2.04         12.47           2031         L2 Kern         13.82         2.04         12.81           2031         Re S.N         13.81         13.85         12.47           2031         Re G. 2010 EI with action plan         L1=12         13.92         13.93           2031         Re G. 2010 EI with new controls         L1=12         13.93         13.93           203	19	Annual CCOS 2.14	L1= 12 L2= Kern	33.95	2.76	
PCG         L1+12         PCG         21.85           27         Anual CCOS 21.4         L2 Kern         29.99           28         with ARE EMFAC adjustments         Six Kern         29.99           29         with ARE EMFAC adjustments         Six Kern         29.99           21         Six Kern         29.99           23         PM10 2010 El with new controls         L1=12         9.82           133         D31 Emissions Inventors         L2= Kern         29.78           135         Six Kern         29.78         2.47           136         Six Kern         29.78         2.47           137         Re SJV         169.13         13.85           137         Re SJV         169.13         13.85           137         Re SJV         189.13         13.85           138         PM10 2010 El with action plan         L1=12         8.82         2.04           139         L2= Kern         28.78         2.47         141           140         Six Kern         15.58         15.90         15.90           151         L2= Kern         15.58         15.90         16.58           152         Six Kern         15.58         1	20	with ARB EMFAC adjustments	Sr= Kern R= SIV	33.95	2.76	
Annual CCOS 2.14         L2: Kem         29.99           23         with ARE BMRAC distances is Kem         114.02           23         Res SUV         114.02           24         with ARE BMRAC distances is Kem         114.02           24         With Res Controls         114.12           25         Bernsteines inventors         114.12           25         Bernsteines inventors         114.12           26         Bernsteines inventors         124.14           26         Bernsteines inventors         124.14           27         Bernsteines inventors         124.14           27         Bernsteines inventors         124.14           27         Bernsteines inventors         124.14           28         Bernsteines inventors         114.12           28         Bernsteines inventors         114.12           29         Bernsteines inventors         114.12           29         Bernsteines inventors         114.12           29         Bernsteines inventors         115.38           29         Bernsteines inventors         115.38           200         Cold Contribution PM2.5-PM10 Area of influence o	26	ROG	L1= 12	220.50	21.85	
29         Construction         R=S/V         Image: construct of the second o	27	Annual CCOS 2.14 with ARB EMEAC adjustments	L2= Kern Sr= Kern		29.99	
1-32 AUU Entational Number V       1       9.82       2.04         135       L2 - Kem       29.78       2.47         136       Sf - Kem       29.78       2.47         137       R = S.V       139.13       138.5         137       R = S.V       139.13       138.5         137       R = S.V       139.13       138.5         138       PM10 2010 EI with action plan       L1= 12       8.82       2.04         139       L2 - Kem       28.78       2.47         140       Sf = Kem       28.78       2.47         140       Sf = Kem       28.78       2.47         141       R = S.V       18.13       13.85         150       ROG 2010 EI with new controls       L1= 12       11.29         151       L2 - Kem       15.98       15.98         152       Sf = Kem       15.98       15.98         153       Re S.V       96.71       11.29         154       ROG 2010 EI no action plan change       12.12       11.29         155       Sf = Kem       15.98       15.98         157       Coal Contribution Area of Influence of 2010 L1/1999 St 2/1 LINE 4       7.6       1.2	29		R= SJV		174.52	
135       L2=Kem       22.7         136       Sr=Kem       22.7         137       R=SJV       189.13       13.85         137       PM10 2010 El with action plan       L=12       8.82       2.04         137       L2=Kem       8.82       2.04       1.112         138       PM10 2010 El with action plan       L=12       8.82       2.04         137       Re SJV       188.13       13.85       1.129         130       RG 2010 El with new controls       L=12       1.129       1.129         151       L2=Kem       1.129       1.129       1.129         152       Sr=Kem       1.598       1.129       1.129         153       Re SJV       1.129       1.129       1.129         154       ROG 2010 El no action plan change       1.120       1.129       1.129         155       L2=Kem       1.120       1.120       1.120       1.121         154       ROG 2010 El no action plan change       1.1120       1.120       1.120       1.120         154       Rod 200 Kinbukto Projecton       1.120       1.120       1.120       1.120       1.120       1.120       1.120       1.120       1.120	134	PM10 2010 EI with new controls	L1= 12	9.82	2.04	
137         129.16         129.16         129.16           138         PM10 2010 EI with action plan         L1= 12         8.82         2.04           139         L2= Kem         28.78         2.47           140         St= Kem         28.78         2.47           141         St= Kem         28.78         2.47           150         RCG 2010 EI with new controls         L1= 12         188.13         13.85           151         L2= Kem         15.98         15.29         15.98           152         St= Kem         15.98         15.98         15.98           153         RCG 2010 EI no action plan change         L1= 12         11.29         15.98           154         RCG 2010 EI no action plan change         L1= 12         15.98         15.98           155         St= Kem         15.98         15.98         15.98           157         R= S.V/         15.98         15.98         15.98           156         St= Kem         15.98         15.98         15.98           157         Res S.V         96.71         12         0.7           102010 Rotinback Projection         -         2010 L/1/1999 L1)* LINE 4         15.9         0.7	135		L2= Kern	29.78	2.47	
1-36         PM10 2010 El with action plan         L1= 12         8.82         2.04           139         L2= Kem         28.78         2.47	137		R= SJV	189.13	13.85	
140         5:::: Kein         20::: 0         2:: 4:: 1           131         R.=.S.V         188.18         13.85           150         ROG 2010 EI with new controls         11=12         11:29           151         L2=: Kern         115.98         15.86           152         Sr=: Kern         15.98         15.98           153         R = S.V         96.71         15.86           154         ROG 2010 EI no action plan change         L1=12         11.29           155         Sr=: Kern         115.98         15.88           156         Sr=: Kern         115.98         15.98           157         R = S.V         96.71         15.98           156         Sr=: Kern         15.98         15.98           157         R = S.V         96.71         12.00           12010 Bolback Projection         =(2010 L1/1999 L1) * LINE 4         79.6         1.2         0.7           121         Mithence of         =(2010 L1/1999 Sr2) * LINE 5         15.9         0.7         0.4           121 Sub regional Contribution         =(2010 Sr1/1999 Sr2) * LINE 7         45.5         0.1         0.1           2101 Roliback Projection with additionos         =(2010 L1/1999 L1) * LINE 7	138	PM10 2010 EI with action plan	L1= 12	8.82	2.04	
Instrument         Image: Non-Subject of Subject of Subj	140		Sr= Kern	28.78	2.47	
151       L2= Kem       15.98         152       Sr= Kem       15.98         153       R= SJV       96.71         154       R.E.SJV       96.71         155       Sr= Kem       11.29         155       Sr= Kem       15.98         156       Sr= Kem       15.98         157       R= SJV       96.71         210 Rollback Projection       15.98         157       R= SJV       96.71         211 GOLG Contribution PM2.5-PM10 Area of       =(2010 L1/1999 L1) * LINE 4       79.6       1.2       0.7         212 Influence	141	ROG 2010 EI with new controls	K= SJV L1= 12	188.13	13.85	
Diff Refin         Diff Refin         13.98           133         RCG 2010 EI no action plan change         L1=12         96.71           134         RCG 2010 EI no action plan change         L1=12         11.29           135         L2= Kern         11.29         11.29           135         L2= Kern         11.598         11.598           136         Sir = Kern         11.508         96.71           137         R= S.JV         96.71         11.508           137         R= S.JV         96.71         11.508           137         R= S.JV         96.71         11.20           140         Contribution PM2.5-PM10 Area of Influence of e(2010 L1/1999 L1) * LINE 4         79.6         1.2         0.7           120         Influence         =(2010 L1/1999 Sr2) * LINE 5         15.9         0.7         0.4           138         Regional Contribution         =(2010 Sr1/1999 Sr2) * LINE 7         45.5         0.1         0.1           141         Varia Background contribution         =LINE 2         2.0         0.0         11           2010 projected result         2010 L1/1999 L1) * LINE 4         15.9         2.4         1.4         14           2010 projected result         2.010 L1/1999 L1	151		L2= Kern		15.98	
154         RCG 2010 El no action plan change         L1= 12         11.29           155         L2= Kern         15.98         15.98           156         Sr = Kern         15.98         96.71           157         R= S.V         96.71         96.71           150         coal Contribution PM2.5-PM10 Area of Influence of Local Contribution Area of Influence         = (2010 L1/1999 L1) * LINE 4         79.6         1.2         0.7           121         brit regional Contribution Area of Influence of Local Contribution         = (2010 Sr1/1999 Sr2) * LINE 5         15.9         0.7         0.4           1215         Regional Contribution         = (2010 Sr1/1999 Sr2) * LINE 6         15.9         0.4         0.2           1216         Haturg Background contribution         = (2010 R/1999 Sr2) * LINE 7         45.5         0.1         0.1           1216         Houting Background contribution         = LINE 2         2.0         0.0         0           1217         Regional Contribution PM2.5-PM10 Area of Influence of LINE 2         162.81         159.0         2.4         1.4           2010 projected result         2.010 L1/1999 L1) * LINE 4         71.5         1.2         0.7           1011         Influence         = (2010 L1/1999 L1) * LINE 4         71.5         1	153		R= SJV		15.98 96.71	
156         Site Kern         15.98           157         R= SJV         96.71           158         Contribution PM2.5-PM10 Area of Local Contribution PM2.5-PM10 Area of Local Contribution Area of Influence of Local Contribution Area of Influence of Local Contribution Area of Influence of Local Contribution         = (2010 L1/1999 L1) * LINE 4         79.6         1.2         0.7           113         Stre regional Contribution         = (2010 L2/1999 L2) * LINE 5         15.9         0.7         0.4           1158         Regional Contribution         = (2010 Sr1/1999 Sr2) * LINE 6         15.9         0.4         0.2           1216         Haturg Background contribution         = (2010 R/1999 R) * LINE 7         45.5         0.1         0.1           1216         Naturg Background contribution         = (2010 R/1999 R) * LINE 7         45.5         0.1         0.1           1210         projected result         20.0         0         0         0           2010 projected result         152.9         0.4         0.2         0         0           1211         Influence of Influence of In	154 155	ROG 2010 EI no action plan change	L1= 12		11.29	]
137         Control Relikack Projection         96.71           211         2010 Rolikack Projection	156		Sr= Kern		15.98	
Local Contribution PM2.5-PM10 Area of Influence         =(2010 L1/1999 L1)* LINE 4         79.6         1.2         0.7           212 Influence         Local Contribution Area of Influence of Local Contribution         =(2010 L2/1999 L2)* LINE 5         15.9         0.7         0.4           213 PM2.5	157 211	2010 Rollback Projection	R= SJV		96.71	
12 minuterice	212	Local Contribution PM2.5-PM10 Area of	=(2010 L1/1999 L1) * LINE 4	79.6	1.2 0.7	
213 PM2.5	212	Local Contribution Area of Influence of	=(2010 L2/1999 L2) * LINE 5	15.9	0.7 0.4	
215         Discrete         105         0.2           215         Regional Contribution         = (2010 R/1999 R)* LINE 7         45.5         0.1         0.1           216         Hater and the second optimum	213 214	PM2.5 Sub regional Contribution	=(2010 Sr1/1999 Sr2) * LINE 6	15.0	04 02	
210 + Natural Background contribution       = LINE 2       2.0       0.0         211       2010 Rolitack Projected result       162.81       159.0       2.4       1.4         218       controls	215	Regional Contribution	=(2010 R/1999 R) * LINE 7	45.5	0.1 0.1	
2010 Roliback Projection with additional controls         100.0         2.4         1.4           218 controls         Local Contribution PM2.5-PM10 Area of Influence         =(2010 L1/1999 L1)* LINE 4         71.5         1.2         0.7           219 Influence         =(2010 L2/1999 L2)* LINE 5         15.4         0.7         0.4           220 PM2.5         =(2010 Sr1/1999 Sr2)* LINE 5         15.4         0.4         0.2           221 Sub regional Contribution         =(2010 R1999 Sr2)* LINE 7         45.3         0.1         0.1           222 Regional Contribution         =(2010 R1999 R)* LINE 7         45.3         0.1         0.1           223 + Natural Background contribution         =(2010 R1999 R)* LINE 7         45.3         0.1         0.1           224 2010 projected result with action plan         =1NE 2         2.0         0.0         224         2010 poieted result with action plan         1           225 Current 2002-2004 Design value = 189         2.4         1.4         225         227         Local action plan BACM geologic reduction tons         1         227           226         Kattion plan BACM geologic reduction tons         1         228         228         233         234         234	∠16 217	+ Natural Background contribution 2010 projected result	= LINE 2 162.81	2.0	0.0 2.4 1 A	
2/16 controls         Image: Control of the contr		2010 Rollback Projection with additional	102.01	133.0	2.1 1.4	
219     Influence     110     110       Local Contribution Area of Influence of 220 PM2.5     =(2010 L2/1999 L2) * LINE 5     15.4     0.7     0.4       221     Sub regional Contribution     =(2010 Sr1/1999 Sr2) * LINE 6     15.4     0.4     0.2       222     Regional Contribution     =(2010 R/1999 R) * LINE 7     45.3     0.1     0.1       223     Sub regional Contribution     =(2010 R/1999 R) * LINE 7     45.3     0.1     0.1       224     2010 projected result with action plan     =LINE 2     2.0     0.0       224     2010 projected result with action plan     153.39     149.5     2.4     1.4       225     Current 2002-2004 Design value = 189     226     227     Local action plan BACM geologic reduction tons     1       226     SJV action plan BACM geologic reduction tons     1     228     228     231	218	controls	=(2010   1/1999   1) * LINE 4	71 5	1.2 0.7	
Local Contribution Area of Influence of 220 PM2.5         = (2010 L2/1999 L2) * LINE 5         15.4         0.7         0.4           221 Sub regional Contribution         = (2010 Sr1/1999 Sr2) * LINE 6         15.4         0.4         0.2           222 Regional Contribution         = (2010 R/1999 Sr2) * LINE 7         45.3         0.1         0.1           223 Sub regional Contribution         = (2010 R/1999 R) * LINE 7         45.3         0.1         0.1           223 42 010 projected result with action plan         = LINE 2         2.0         0.0         1           224 2010 projected result with action plan         = 1039         149.5         2.4         1.4           225 Current 2002-2004 Design value = 189         226         227         Local action plan BACM geologic reduction tons         1         227           226         SUV action plan BACM geologic reduction tons         1         228         228         1	219	Influence		/1.5	0.7	
Intro         Intro         Intro         Intro           221         Sub regional Contribution         =(2010 Sr1/1999 Sr2)*LINE 6         15.4         0.4         0.2           222         Regional Contribution         =(2010 R/1999 R)*LINE 7         45.3         0.1         0.1           223         H Natural Background contribution         =LINE 2         2.0         0.0         -           224         2010 projected result with action plan         153.39         149.5         2.4         1.4           225         Current 2002-2004 Design value = 189         226         -         -         -           226         Local action plan BACM geologic reduction tons         1         -         -         -           228         SuV action plan BACM geologic reduction tons         1         -         -         -	220	Local Contribution Area of Influence of	=(2010 L2/1999 L2) * LINE 5	15.4	0.7 0.4	
2222 Regional Contribution         =(2010 R/1999 R)*LINE 7         45.3         0.1         0.1           223 + Natural Background contribution         = LINE 2         2.0         0.0         -           224 2010 projected result with action plan         153.39         149.5         2.4         1.4           225 Current 2002-2004 Design value = 189         226         -         -         -           226         Local action plan BACM geologic reduction tons         1         -         -           228         SUV action plan BACM geologic reduction tons         1         -         -	221	Sub regional Contribution	=(2010 Sr1/1999 Sr2) * LINE 6	15.4	0.4 0.2	
ZZ-2         readurate backsground contribution         = LINE 2         2.0         0.0           ZZ4         2010 projected result with action plan         153.39         149.5         2.4         1.4           ZZ5         Current 2002-2004 Design value = 189               ZZ6         Local action plan BACM geologic reduction tons         1              Z27         Local action plan BACM geologic reduction tons         1              Z28         SuV action plan back geologic reduction tons         1	222	Regional Contribution	=(2010 R/1999 R) * LINE 7	45.3	0.1 0.1	
225         Current 2002-2004 Design value = 189	223 224	<ul> <li>Natural Background contribution</li> <li>2010 projected result with action plan</li> </ul>	= LINE 2 	2.0	0.0	
Local action plan BACM geologic reduction tons         1           227         Local action plan BACM geologic reduction tons         1           228         Gravitation plan BACM geologic reduction tons         1	225	Current 2002-2004 Design value = 189		. 10.0		
SJV action plan BACM geologic reduction tons 1	226 227		Local action plan BACM geologic reduction tops	1		
	228		SJV action plan BACM geologic reduction tons	1		

	r												
_	A	В	С	D	E	F	G	Н	I	J	К	L	М
	Hanford, 1/7/01 analyzed	General Note	Geologic and Construction	Mobile I	Exhaust	Tire and Brake Wear	Organic Carb	on	Vegetative Burning	Ammonium	Ammonium	Marine	Unassigned
	episode 185, scaled to									Nitrate including associated water	Sulfate		
1	11/4/02 Design Value 161									mondaring associated water			
~	Line1 Source Contribution from Analysis	From CMB analysis of most similar day to design day	From CMB	From	CMB	From CMB	Estimated portion of mas	s included in	From CMB minus estimated Organic	From CMB	From CMB	From CMB, if present	Unaccounted mass fro
23	LINE 1	HAN 1/7/01 195 cooled to 124 44/4/02	2E 00		40	1.40	Vegetative Burning	1=30%	Carbon from other sources	91.05	6.00	0.00	CMB, if any.
5	Line 1 Line2 Natural and Transport Contribution, see	Portion not included in rollback analysis, removed	35.86 see background sheet for	0, no natural	wu background,	1.42 0, no natural background,	5.99 see background sheet f	or numerical	16.32 see background sheet for numerical	see background sheet for numerical	5.06 see background sheet for	0.00 100% because marine	0, background estimat
	"Background" sheet	prior to rollback as not subject to local control, added	numerical estimate and episode	transport es	timated at 0	transport estimated at 0	estimate and episode	adjustment.	estimate and episode adjustment.	estimate and episode adjustment.	numerical estimate and episode	salts are a natural	at maximum, no
		back to projected future concentrations	adjustment. Removed prior to				Removed prior to rolls	ack as not	Removed prior to rollback as not subject	Removed prior to rollback as not subject	adjustment. Removed prior to	emission	additional background
			control, added back to projected				project to local control, a	entrations	future concentrations. No wildfires	future concentrations	control, added back to projected		esumate for unexplaine mass
			future concentrations				Includes biogenic emis	sions = 20%	except 10/21/99. Includes biogenic	=5%	future concentrations	1	mass
4 5	LINE 2	11 55	-5%	0	0	0.0	14		emissions = 20%	41	1.0		
-	Line 3 Net for Rollback	Net for Rollback, default percentages adjustable for	1.0		•	0.0	1.4		0.0	Net for non-linear rollback, default	1.0	Removed entirely from	
0		episode characteristics, applicable to all columns								percentages adjustable for episode		rollback, added back to	
7	LINE 3	except as indicated	34.1	10	4	14	5.6		13.1	characteristics 77.8	51	result	0.0
	Line4 Local Contribution PM2.5-PM10 Area of	Source contribution from smallest area of influence,	149.45 34.1 12.4 1.4 5.6 a of influence, 70%PM10 50%PM2.5 70%PM10 50%PM2.5 70%PM10 50%PM2.5 70%PM10 50%PM2.5					M2.5	70%PM10 50%PM2.5	70%PM10 50%PM2.5	70%PM10 50%PM2.5	\ /	70%PM10 50%PM2.5
	Influence	representative of large particle primary source area,	of net	of	net	of net	of net		of net	of net, non-linear rollback	of net	$\land$ /	of net
		Includes all PM size emissions in the area - Rolled										$\land$ /	
8		estimates											
9	LINE 4	81.82	23.8	6.	2	1.0	2.8	10.5	6.5	38.9	2.5		0.0
	Eines Local Contribution Area of Influence of PM2.5	Rolled back against local PM2.5 area of influence	15%PM10 30%PM2.5	15%PM10	30%PM2.5	15%PM10 30%PM2.5	15%PM10 30%P	M2.5	15%PM10 30%PM2.5	15%PM10 30%PM2.5 non-linear rollback	15%PM10 30%PM2.5	$ \land /$	15%PM10 30%PM2.5
~		based on meteorology and episode duration										$\langle \rangle$	
U	LINES		5.	+	7	0.0	l		2.2	22.1		. Х	
	LINE 5 Line6 Sub regional Contribution	39.51 Rolled back against specified County(ies) emission	5.1 10%PM10 15%PM2 5	10%PM10	15%PM2.5	0.2 10%PM10 15%PM2 5	1.68 10%PM10 15%P	M2.5	3.9 10%PM10 15%PM2 5	23.4 10%PM10 15%PM2.5 populinear	1.5 10%PM10 15%PM2 5	. /\ .	0.0 10%PM10 15%PM2 5
		estimates - episode specific adjustments based on	10 /or WITO 10 /or WI2.0	10 /or WITU	10 /0F WZ.0	10 Jon WITO 10 Jon WIZ.0	10/01/01/01/07/01		10/0FW10 10/0FW2.0	rollback	10 /or WTO 10 /or WI2.3		10 /0F MITO 10 /0F WIZ.0
2		meteorology and episode duration											
<del>3</del>	LINE 6	e / C	3.4	1	9	0.1	0.84		2.0	11.68	0.76		0.0
	Line7 Regional Contribution	Rolled back against Valleywide emission estimates -	5%PM10 5%PM2.5	5%PM10	5%PM2.5	5%PM10 5%PM2.5	5%PM10 5%PN	12.5	5%PM10 5%PM2.5	5%PM10 5%PM2.5 non-linear rollback	5%PM10 5%PM2.5		5%PM10 5%PM2.5
4		episode specific adjustments based on meteorology										/	
5	LINE 7	and episode duration 7 47	17	0	6	0.1	0.28		0.7	3.89	0.25	./ \	0.0
	Associated Emissions Categories	Based upon appropriate seasonal or annual inventory	PM10 paved roads+	PM10, ROG 8	CO onroad	Tire and brake wear as	Total ROG minus motor	vehicle, OC	PM10 & CO residential burning +	Total E.I. NOx (+ bacterial soil NOx	Total SOx	None, natural emission	Total PM10 minus
			PM10 unpaved roads+	mobile+	00	predicted by EMFAC2002	may also include a small	portion of	PM10 & CO waste burning and disposal	estimate removed as natural		from the ocean, bay and	PM10 windblown for
			PM10 tarm operations +	PM10, ROG 8	CO offroad		otherwise unassigned ele	emental	PM10 cooking	Previous method set acide a portion		deita waters	episodes which are not bigb wind
				PM10, ROG 8	CO farm		PM10 & CO Area, Station	nary	CO presumed to add minimal mass	from rollback calculations due to lack of			nga milu
				equipment			CO presumed to add min	imal mass		Ag E.I. NOx and ammonia sources,			
				CO presumed	to add					emissions data are now included, this			
6			l	minimal mass						set-aside is not required			
8	2000 Emissions Inventory	(area of influence emissions inventory, each on a sep	arate line for automated calculation						Tulare Range burning adjusted				
ğ	Seasonal CCOS 2.14	L2= Areas 5,6,7,8,10	40.52	1.86		0.05	4.03		0.38	2			8.6
0	with ARB November EMFAC adjustments	Sr= Kings, Tulare	43.90	2.06		0.27	4.72		3.42	r			54.4
1	Nor	R= SJV	185.24	12.15		1.88	25.21		23.79				248.2
3	NUX Seasonal CCOS 2 14	L1= Areas 5 6 7 8 10		+			·			19.34 84 40			
4	with ARB November EMFAC adjustments	Sr= Kings, Tulare		1			i			73.59			
25	PCC.	R= SJV								560.34			
27	KUG Seasonal CCOS 2 14	L I = Aleas 5 6 7 8 10		·	4.63		I	6.06					
8	with ARB November EMFAC adjustments	Sr= Kings, Tulare			26.92			15.92					
9		R= SJV			165.41				And the second data			And the second statement of the se	
ĭ	SUX Seasonal CCOS 2 14	L1= Area 5			103.41		·	150.70					
2	00000101000002.11	1 2- Areas 5 6 7 8 10			103.41			150.70			2.27		
3		L2= Areas 5,6,7,8,10 Sr= Kings, Tulare			105.41			150.70			2.27 3.96 1.76		
		L2= Areas 5,6,7,8,10 Sr= Kings, Tulare R= SJV			103.41			150.70	Tolor Door Long to a line of		2.27 3.96 1.76 31.09		
38 38	2010 Emissions Inventory PM10 2010 EI with new controls	L2= Areas 5.6.7.8.10 Sr= Kings, Tulare R= SJV	6.23	0.26	100.41	0.07	0.36	150.70	Tulare Range burning adjusted		2.27 3.96 1.76 31.09		72
55 38 39	2010 Emissions Inventory PM10 2010 El with new controls	L2= Areas 5,6,7,8,10 Sr= Kings, Tulare R= SJV L1= Area 5 L2= Areas 5,6,7,8,10	6.23	1.60		0.07	0.36	150.70	Tulare Range burning adjusted 0,32 2,80		2.27 3.96 1.76 31.09		7.2 42.6
38 39 10	2010 Emissions Inventory PM10 2010 EI with new controls	L2=Areas 5.6.7.8.10 Sr= Kings, Tulare R= SUV L1=Area 5 L2=Areas 5.6.7.8.10 Sr= Kings, Tulare	6.22 33.22 35.77	0.26 1.60 1.78		0.07 0.39 0.38	0.36	150.70	Tulare Range burning adjusted 0.33 2.80 2.84 2.84		2.27 3.96 1.76 31.09		7.2 42.6 46.2
55 38 39 40 41 46	2010 Emissions Inventory PM10 2010 El with new controls	L2= Areas 5.6.7.8.10 Sire: Kings, Tulare R= SJV L1= Areas 5.6.7.8.10 L2= Areas 5.6.7.8.10 Sire: Kins, Tulare R= SJV L1= Area 5 L1= Area 5	6.22 33.23 35.74 156.72	8 0.26 8 1.60 9 1.78 9 10.04		0.07 0.39 0.38 2.52	0.36 4.62 5.45 27.36	150.70	Tulare Range burning adjusted 0.32 2.80 2.84 19.60	12.05	2.27 3.96 1.76 31.09		7.2 42.6 46.2 216.2
55 38 39 40 41 46 47	2010 Emissions Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls	L2= Areas 5, 6, 7, 8, 10 Srr Kings, Tulare R- SJV L1= Areas 5, 6, 7, 8, 10 Srr Kings, Tulare R- SJV L1= Areas 5, 7, 8, 10 L1= Areas 5, 7, 8, 10	6.23 33.23 35.74 156.73	8 0.26 8 1.60 9 1.78 8 10.04		0.07 0.39 0.38 2.52	0.36 4.62 5.45 27.36	150.70	Tulare Range burning adjusted 0.33 2.88 2.84 19.60	12.05 55.40	2.27 3.96 1.76 31.09		7.2 42.6 46.2 216.2
38 39 40 41 46 47 48	2010 Emessions Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls	L22 Areas 5,67,8,10 Ser Krings, Lutare Re- SJV L22 Areas 5,6,7,8,10 L22 Areas 5,6,7,8,10 Ser Krings, Tulare Re- SJV L23 Areas 5,67,8,10 L24 Areas 5,67,8,10 L24 Areas 5,67,8,10	6.22 33.22 35.74 156.73	3 0.26 3 1.60 3 1.78 3 10.04		0.07 0.39 0.38 2.52	0.36 4.62 5.45 27.36	150.70	Tulare Range burning adjusted 0.33 2.80 2.80 19.60	12.05 55.40 46.39	2.27 3.96 1.76 31.09		7.2 42.6 46.2 216.2
55 38 39 40 41 46 47 48 49 54	2010 Eminations Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls BOG 2010 EI with new controls	L2= Areas 5,6,7,8,10 Sr: Krings, Tulare R= 5,17 L1:= Areas 5,6,7,8,10 Se: Krings, Tulare L1:= Areas 5,6,7,8,10 Se: Krings, Tulare L2= Areas 5,6,7,8,10 Sr: Krings, Tulare R= 5,17 L3= Areas 5,6,7,8,10 Sr: Krings, Tulare L3= Areas 5,6,7,8,10 Sr: Krings, Tulare Sr: Krings, Tu	<u>6.23</u> 33.23 35.75 156.72	8 0.26 9 1.60 9 1.78 10.04	2 90	0.07 0.39 0.38 2.52	0.36 4.62 5.45 27.36	5 28	Tulare Range burning adjusted 0.32 2.84 19.60	12.05 55.40 96.53 362.62	2.27 3.96 1.76 31.09		7.2 426 46.2 216.2
53 38 39 40 41 46 47 48 9 54 55	2010 Emissions inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls	L2a Areas 5, 6, 7, 8, 10 Sir Köng, Liaw Re SUV Lia Areas 5, 7, 3, 10 Sir King, Tulare Re SUV Lia Areas 5, 6, 7, 8, 10 Lia Areas 5, 6, 7, 8, 10 Lia Areas 5, 6, 7, 8, 10 Lia Areas 5, 7, 8, 10 Lia Are	6.22 33.21 35.71 156.73	8 0.26 0 1.60 0 1.78 10.04	2.90	0.07 0.39 0.38 2.52	0.36 4.62 5.45 27.36	5.28 17.08	Tulare Range burning adjusted 0.32 2.80 2.80 19.60	12.05 5.40 5.40 362.02	2.27 3.96 1.77 31.09		7.2 42.6 46.2 216.2
	2010 Emissions Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls	L2a Areas 5,67,8,10 Sar Krings, Tulano Ra- SJV L2a Areas 5,67,8,10 Sar Krings, Tulano Car Krings, Tulano Sar Krings, Tulano Sar Krings, Tulano Sar Krings, Tulano	6.22 33.23 35.75 156.72	3 0.26 3 1.60 9 1.78 3 10.04	2.90 16.55 17.52	0.07 0.33 0.38 2.52	0.36 4.62 5.45 27.36	5.28 17.08 14.59	Tulare Range burning adjusted 0.32 2.80 2.84 19.60	12.05 6540 46.39 362.62	2.27 3.96 1.76 31.09		7.2 42.6 46.2 216.2
33 39 40 41 46 47 48 9 55 56 57 57 57	2010 Emissions Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls	L2a Areas 5,67,8,10 L2a Areas 5,7,8,10 L3A Areas 5 L3A Area	6 22 33 22 35 75 156 77	3 0.26 3 1.60 0 1.78 10.04	2.90 16.55 17.52 92.78	0.07 0.39 0.38 2.52	0.36 4.62 5.45 27.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.33 2.84 19.60	12.05 55.40 46.39 362.62	227 336 176 3109		7.2 426 462 216.2
33 39 40 41 46 47 48 49 55 56 57 62 57 62 53	2010 Emissions inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOx 2010 EI	L2a Areas 5, 6, 7, 8, 10 Sar Kongs, Tulare Ra- SJV L2a Areas 5, 7, 8, 10 L2a Areas 5, 7, 8, 10 Sar Kongs, Tulare Ra- SJV L1a Areas 5, 7, 8, 10 Sar Kongs, Tulare Ra- SJV	6.23 33.23 35.77 156.73	3 0.26 3 1.60 0 1.78 3 10.04	2.90 16.55 17.52 92.78	0.07 0.33 0.38 2.52	0.36 4.62 5.45 27.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.33 2.84 2.84 19.60	12.05 55.40 46.3 362.62	2.27 3.96 1.76 31.09		722 426 462 2162
33 38 39 40 41 46 47 48 9 55 56 57 2 36 4 55 57 2 56 57 57 56 57 57 56 57 57 56 57 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 57 57 57 57 57 57 57 57 57 57 57 57	2010 Eminations Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOx 2010 EI	L2a Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Lia Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Srx Kings, Tulare Rac SJV Lia Areas 5, 67, 8, 10 Srx Kings, Tulare	6.22 33.22 35.75 156.72	0.26 1.60 1.78 10.04	2.90 16.55 17.52 92.78	0.07 0.33 0.38 2.62	0.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.32 2.84 2.84 19.60	12.05 55.40 96.53 362.62	2.27 3.96 1.76 31.09 2.62 2.62 4.28 1.67		7.2 42.8 46.2 216.2
33 38 39 40 41 46 47 48 9 55 56 57 2 34 65 57 2 56 57 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56	2010 Entersions inventory PM10 2010 E1 with new controls NOx 2010 E1 with new controls ROG 2010 E1 with new controls SOX 2010 E1 2010 Rollback Projectory with additional	L2a Areas 5,67,8,10 Ser Kongs, Tularo Re SUV L1a Areas 5,67,8,10 L2a Areas 5,67,8,10 Ser Kongs, Tulare Re SUV L1a Areas 5,67,8,10 Ser Kongs, Tulare L1a Area 5,67,8,10 Ser Kongs, Tulare L1a Areas 5,67,8,10 Ser Kongs, Tulare Re SUV L1a Areas 5,67,8,10 L1a Areas 5	6.22 33.27 35.71 156.72	0 0.26 0 1.60 0 1.78 10.04	2.90 16.55 17.52 92.78	0.07 0.33 0.33 2.52	0.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.33 2.80 2.80 19.60	12.05 5540 46.39 362.62	2.27 3.96 1.76 31.09 2.62 2.62 4.28 1.67 3.381		7.2 426 426 216.2 216.2
33 39 40 41 46 47 48 9 55 56 57 57 56 57 57 57 57 57 57 57 57 57 57 57 57 57	2010 Eminations Investory PMI0 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI 2010 Rollback Projection with additional controls	L2a Areas 5,67,8,10 Ser Kings, Tulan Re-SJV L2a Areas 5,67,8,10 L2a Areas 5,67,8,10 Ser Kings, Tulan Re-SJV L2a Areas 5,67,8,10 Ser Kings, Tulan Re-SJV L1a Areas 5,67,8,10 Ser Kings, Tulan Re-SJV L2a Areas 5,67,8,10 Ser Kings, Tulan Re-SJV Ser Kings, Tulan Re-SJV Ser Kings, Tulan Re-SJV Ser Kings, Tulan Re-SJV	6.22 33.22 35.75 156.73	0 0.26 0 1.09 0 1.78 10.04	2.90 16.55 17.52 92.78	0.07 0.33 0.38 2.52	0.38 5.66 27.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.32 2.80 2.84 1950	12.05 55.40 46.39 362.62	2.27 3.96 1.76 31.09 2.26 2.26 2.26 2.26 2.26 2.26 2.26 3.3.01 3.3.01		7.2 420 442 216.2 216.2
389011678955572345 18	2010 Entertained Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOx 2010 EI SOx 2010 EI Local Controlsuion PM2.5-PM10 Area of	L2= Areas 5, 6, 7, 8, 10 Srr Kings, Tulare R= 5JV L2= Areas 5, 6, 7, 8, 10 L2= Areas 5, 6, 7, 8, 10 Sr Kings, Tulare R= 5JV L1= Area 5 R= 5JV L1= Area 5 L2= Areas 5, 6, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 5, 7, 8, 10 Sr Kings, Tulare R= SJV L1= Area 5, 5, 7, 8, 10 Sr Kings, Tulare L1= Area 5, 5, 7, 8, 10 Sr Kings, Tulare L1= Area 5, 7, 10 Sr Kings,	<u>6.22</u> 33.22 35.75 156.72	2 <u>0.26</u> 1.60 1.78 10.04	2.90 16.55 17.52 92.78	0.07 0.33 0.38 2.52	0.36 4.62 5.45 27.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.32 2.80 2.80 19.60 19.60	12.05 55.40 96.20 302.62 20.1	2,27 3,395 1,76 31,09 2,425 4,28 4,28 4,28 1,10 3,3,81 2,9		72 420 420 2162
33 38 39 40 41 46 47 48 49 55 56 57 52 56 57 52 56 57 52 56 57 52 56 57 52 56 57 52 56 57 52 56 57 52 56 57 57 56 57 57 56 57 57 56 57 57 57 57 57 57 57 57 57 57 57 57 57	2010 Emissions Inventory     PM10 2010 EI with new controls     NOx 2010 EI with new controls     ROG 2010 EI with new controls     SOx 2010 EI     SOx 2010 EI     SOx 2010 EI     Controls     Controls     Controls     Controls     Controls     Controls     Controls	L2a Areas 5,67,8,10 Ser Kings, Tulare Are SUV L1a Areas 5,67,8,10 L2a Areas 5,67,8,10 L2a Areas 5,67,8,10 L2a Areas 5,67,8,10 L2a Areas 5,67,8,10 Ser Kings, Tulare Are SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 Ser Kings, Tulare R = SUV L1a Area 5,67,8,10 L1a Ar	6.22 33.23 35.75 156.73	0.266 1.600 1.78 10.04	2.90 16.55 17.52 92.78	0.07 0.33 0.38 2.52	0.36 4.62 5.45 27.36	5.28 17.08 14.59 134.93	Tulare Range burning adjusted 0.33 2.80 2.84 1950	12.05 55.40 46.33 362.62 29.1	2.27 3.96 1.76 31.09 2.62 4.28 1.67 33.81 2.9		7.2 426 446 216.2
33 33 33 33 33 33 44 46 47 48 49 55 55 55 55 55 55 55 55 55 5	2010 Emissions Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOx 2010 EI Controls SOx 2010 EI Controls Contro	L2= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= SJV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 6, 7, 10 Sir Kings, Tulare R= SJV L3= Areas 5, 6, 7, 10 Sir Kings, Tulare R= SJV L3= Areas 5, 6, 7, 10 Sir Kings, Tulare R= SJV L3= Areas 5, 6, 7, 10 Sir Kings, Tulare R= SJV Sir Kings, Tulare R= SJV Sir Kings, Tulare R= SJV Sir	6.22 33.23 35.75 156.73 	2 0.26 1.60 1.78 10.04 2.8 1.6 1.6 1.6 1.78 1.78 1.78 1.78 1.78 1.78 1.78 1.78 1.78 1.80 1.80 1.80 1.78 1.80 1.78 1.80 1.78 1	2.90 16.55 17.52 92.78 1.9	0.07 0.33 0.38 2.52 1.5 1.5 0.3	0.36 4.62 5.45 27.36 	5.28 17.08 14.59 134.93 1.2 0.8	Tulare Range burning adjusted 0.32 280 280 19.60 19.60 5.4 5.4 3.2	1406 5540 5540 36262 36262 201 201 180	227 3.99 1,77 31.09 2.62 4.28 4.28 1.67 3.3.81 2.9 1.6		7.2 426 426 216.2
3383904146748994555672336455 18 19 201	2010 Entersions Investory PM10 2010 E1 with new controls NOx 2010 E1 with new controls ROG 2010 E1 with new controls SOx 2010 E1 2010 Rothack Projection with additional controls Local Contribution PM2 5-PM10 Area of Influence Local Contribution Area of Influence of PM2.5 Site transmal Controlution	L2a Areas 5, 6, 7, 8, 10 Sir Kings, Tularo Re SJV L2a Areas 5, 6, 7, 8, 10 L2a Areas 5, 6, 7, 8, 10 L2a Areas 5, 6, 7, 8, 10 L2a Areas 5, 7, 8, 10 Sir Kings, Tularo Re SJV L2a Areas 5, 6, 7, 8, 10 Sir Kings, Tularo Re SJV L1a Area 5, 6, 7, 8, 10 Sir Kings, Tularo Re SJV L1a Area 5, 7, 8, 10 Sir Kings, Tularo Re SJV =(2010 L1/1999 L1)* LINE 4 =(2010 L1/1999 L1)* LINE 5 =(2010 Sir L1999 Sir V LINE 5 =(2010 Sir L1999 Sir V LINE 5	623 3323 3575 156.75 156.75 19.7 19.7 19.7 19.7 19.7 19.7 19.7 19.7	2 0.26 1 1.60 1.78 1.004 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8	2.90 16.55 17.52 92.78 1.9	0.07 0.33 0.33 2.52 1.5 1.5 0.3	0.36 4.62 5.45 27.36 1.5 1.5	5.28 17.08 14.59 134.93 1.2 0.8	Tulare Range burning adjusted 0.33 2.84 19.60 19.60 19.60 19.60 19.60 19.61 19	12.05 5540 46.39 362.62 20.1 29.1 18.0	2,27 3,96 1,176 31,09 2,00 2,262 4,28 1,67 3,381 3,29 1,67 3,381 3,29 1,67 3,381 2,9 2,9 1,6 1,67 3,381 3,67 3,95 1,67 6,77 6,77 6,77 6,77 6,77 6,77 6,77		7.2 426 426 2162 2162 2162 2162 2162 2162
33 38 39 41 46 47 48 49 45 56 57 57 57 57 57 57 57 57 57 57	2010 Eminational Invention PMI0 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI SOX 2010 EI Cost Controls Cost Control Cost Control Cost Cost Control Co	L2= Areas 5,67,8,10 Sr: Krong, Tulare R= 5JV L1= Areas 5,67,8,10 Sr: Krong, Tulare R= 5JV L1= Areas 5,67,8,10 Sr: Krong, Tulare R= 5JV L1= Areas 5,67,8,10 Sr: Krong, Tulare L2= Areas 5,67,8,10 Sr: Krong, Tulare R= 5JV L1= Areas 5,67,8,10 Sr: Krong, Tulare L2= Areas 5,67,8,10 Sr: Krong, Tulare R= 5JV =(2010 L1/1999 L1)* LINE 4 =(2010 L2/1999 L2)* LINE 5 =(2010 Sr/1999 S/2)* LINE 6 =(2010 Sr/1999 Y: LINE 7	6 22 33 22 35 75 156.72 198.72 199.74 19.7	2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8	2.90 16.55 17.52 92.78 1.9 1.2 0.6	0.07 0.33 0.38 2.52 1.5 1.5 0.3 0.3 0.3 0.3 0.3 0.3 0.1 0.1	0.36 0.36 5.42 27.36 27.36 15 1.5 1.0 0.5 0.2	5.28 17.08 14.59 134.93 1.2 0.8 0.4 0.4	Tulare Range burning adjusted 0.32 2.84 19.60 2.94 19.60 5.4 5.4 3.2 5.4 0.5 6.6 0.5	29.1 2005 25.40 362.62 362.62 362.62 29.1 18.0 8.8 30 29.1	227 3.96 1.76 31.09 2.62 4.28 4.28 1.67 3.381 2.9 1.6 0.7 0.7 0.3 0.3		7.2 42.6 42.6 216.2 216.
33 38 39 40 41 46 47 48 49 45 55 57 52 56 57 63 64 5 18 19 20 21 22 23	2010 Entertaining Inventory PMI0 2010 EI with new controls NOx 2010 EI with new controls NOX 2010 EI with new controls Controls SOx 2010 EI Controls Controls Controls Sub regional Contribution Regional Contribution Regional Contribution	L2= Areas 5, 67, 8, 10 Srx Kings, Tutano Re- SUV L1= Areas 5, 67, 8, 10 L2= Areas 5, 67, 8, 10 Srx Kings, Tutare Re- SUV L1= Area 5, 67, 8, 10 Srx Kings, Tutare L1= Area 5, 67, 8, 10 Srx Kings, Tutare L1= Area 5, 67, 8, 10 Srx Kings, Tutare Re- SUV L1= Area 5, 67, 8, 10 Srx Kings, Tutare Re- SUV L1= Area 5, 67, 8, 10 Srx Kings, Tutare Re- SUV =(2010 L1/1999 L1) * LINE 4 =(2010 Sr1/1999 Sr2) * LINE 6 =(2010 Sr1/1999 Sr2) * LINE 7 = LINE 2	8.22 33.23 35.75 156.75 156.75 19.75 19.7 19.7 19.7 4.2 2.2 2.2 1.4 1.4 1.4	2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8	2.90 16.55 17.52 92.78 1.9 1.9 1.2 0.6	0.07 0.33 0.38 2.52 1.5 0.3 0.3 0.3 0.3 0.3 0.2 0.1 0.0	0.36 4.62 5.45 27.36 1.5 1.5 1.0 0.5 0.2 1.4	5.28 17.08 14.59 134.93 1.2 0.8 0.4 0.1	Tulare Range burning adjusted 0.33 2.84 2.84 19.60 19.60 4.60 5.4 5.4 5.4 0.5 3.3 0.5 3.3	12.05 5540 46.39 382.62 28.1 18.0 18.0 8.8 3.0 4.1	227 3.96 1.76 3109 2.62 4.28 1.67 3.384 2.9 1.67 3.34 1.67 3.34 1.67 3.36 1.67 3.36 1.67 3.30 1.00 1.00 1.00 1.00 1.00 1.00 1.00		72 426 426 2162 2162 2162 2162 2162 2162
33 38 39 40 41 46 47 48 9 55 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 55 57 57	2010 Eminational Investory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI 2010 Rolback Projection with additional controls Local Contribution PM2.5-PM10 Area of Influence Local Contribution Area of Influence of PM2.5 Sub regional Contribution + Natural Background contribution + Natural Background contribution + Natural Background contribution	L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Are SJV L2= Areas 5, 6, 7, 8, 10 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Are SJV L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Are SJV L1= Area 5, 6, 7, 8, 10 Six Kings, Tutare Are SJV L1= Area 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare L2= Areas 5, 7, 10 Six Ki	6.22 33.22 35.75 156.73 195.73 19.7 19.7 19.7 4.2 2.8 14.4 14. 14. 2.8 2.9 14.7 15.7 19.7 19.7 19.7 19.7 19.7 19.7 19.7 19	2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 3.0 3.0 0.0 5.5 5.5	2.90 16.55 17.55 92.78 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9	0.07 0.33 0.38 2.62 15 0.3 0.3 0.5 0.3 0.3 0.2 0.1 0.1 0.1 0.2 1	0.36 4.62 5.46 27.36 27.36 1.5 1.5 1.5 1.5 1.0 0.5 0.2 1.4 4.5	150.70 5.28 17.08 14.59 134.93 134.93 1.2 0.8 0.4 0.1 2.5	Tulare Range burning adjusted 0.32 2.80 2.84 1950 5.4 5.4 3.2 5.4 5.4 3.2 1.6 0.5 3.3 1.4	12.05 55.40 46.33 362.62 29.1 18.0 8.8 3.0 1.4.1 6.30	2,27 3.96 1.76 3.109 2,262 4.28 4.28 1.67 3.3.81 2.9 1.6 0.7 0.3 1.0 0.5	0.0	7 2 426 452 215.2 15.2 15.2 15.2 15.2 15.2 15.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
33 38 39 40 44 47 8 49 455 56 57 23 40 57 23 40 57 23 56 57 23 64 5 18 19 20 21 22 32 42 57 23 40 1 9 20 21 22 23 22 57 22 22 22 22 22 22 22 22 22 22 22 22 22	2010 Enteriore Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls ROG 2010 EI with new controls SOx 2010 EI Controls Contro	L2= Areas 5.67.8.10 Srr Kings, Tulare R= 5.07 L2= Areas 5.67.8.10 L2= Areas 5.67.8.10 Sr Kings, Tulare R= 5.17 L1= Area 5.67.8.10 L2= Areas 5.67.8.10 L2= Areas 5.67.8.10 Sr Kings, Tulare R= 5.07 L1= Area 5.67.8.10 L1= Area 5.67.8.10 Sr Kings, Tulare R= 5.07 L1= Area 5.67.8.10 L1= Area 5.67.8.10 Sr Kings, Tulare R= 5.07 Sr Kings, Tulare R=	6.22 33.22 35.75 156.75 156.75 199.75	2 0.26 1.60 1.78 10.04 2.8 1.6 0.8 0.3 0.0 5.5	2.90 16.55 17.52 92.78 1.9 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.38 2.52 1.5 0.3 0.2 0.1 0.3 0.2 0.1 0.0 0.2.1	0.36 4.62 5.45 27.36 1.5 1.5 1.0 0.5 0.2 1.4	150.70 5.28 17.08 14.59 134.93 1.2 0.8 0.4 0.1 2.5	Tulare Range burning adjusted 0.32 2.80 19.60 19.60 5.4 5.4 5.4 0.5 3.2 1.6 0.5 3.3 1.4.0	29-1 12.05 55.40 46.9 352.62 29-1 18.0 18.0 8.8 3.0 4.1 16.0 4.1 16.0 4.1	227 3.96 1.76 3.109 2262 4.22 4.22 1.22 1.22 1.22 1.22 1.22 1.2	0.0	7 2 426 426 2162 2162 2162 2162 2162 2162
3383904446778495455657235465 18 19 2012232425657235465 18 19 20122232425672	2010 Emissions Inventory     PM10 2010 EI with new controls     NOx 2010 EI with new controls     NOx 2010 EI with new controls     ROG 2010 EI with new controls     SOx 2010 EI     SOX	L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 6, 7, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 7, 10 Six Kings, Tutare Re SJV L1= Area 5 L2= Areas 5, 7, 10 Six Kings, Tutare L2	6.22 3322 35.75 156.73 156.73 19.7 19.7 19.7 19.7 19.7 19.7 19.7 19.7	2 0.26 0 1.60 0 1.78 10.94 10.95	2.90 16.55 17.52 92.78 1.9 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.33 2.52 1.5 0.3 0.2 0.2 0.1 0.0 0.0 0.2.1	0.36 5.66 27.36 27.36 1.5 1.5 1.5 0.2 1.4 4.5	150.70 5.28 17.08 14.55 134.93 1.2 0.8 0.4 0.1 2.5	Tulare Range burning adjusted 0.33 2.84 2.84 19.60 19.60 19.60 19.60 19.60 5.4 3.2 16 3.3 3.3 14.0	12.05 55.00 66.03 36.22 36.23 28.1 18.0 8 8 8 30 4.1 18.0 6.30 4.1 28.1 28.1 28.1 28.1 28.1 28.1 28.1 28	2,27 3.96 1.76 31.09 2.66 4.22 4.22 1.67 3.361 3.07 1.67 0.3 0.0 0.0 0.65		7.2 426 446 216.2
33 38 39 40 41 46 47 48 9 45 55 57 20 34 55 57 20 34 55 57 20 34 55 57 20 34 55 57 20 34 55 57 20 34 55 57 20 34 57 57 20 34 57 57 57 20 34 57 57 57 57 57 57 57 57 57 57 57 57 57	2010 Eministrat Inventory PM10 2010 EI with new controls NOx 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI Control Contro	L2= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV L2= Areas 5, 7, 10 Sir Kings, Tulare R= 5JV Sir	6 22 332/23 35.7 156.72 156.72 19.7 19.7 19.7 19.7 19.7 19.7 19.7 19.7	2.8 2.5 2.5 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8	2.90 16.55 17.52 92.78 1.9 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.38 2.52 1.5 0.3 0.3 0.5 0.5 0.3 0.2 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.36 4.62 5.45 27.36 1.5 1.5 1.0 0.5 0.2 1.4 4.5	150.70 5.28 17.08 14.59 134.93 1.2 0.8 0.4 0.1 0.1 0.1	Tulare Range burning adjusted 0.33 2.86 2.86 19.60 19.60 5.4 5.4 3.2 16 0.3 3.3 14.0	29- 20- 20- 20- 20- 20- 20- 20- 20	227 3.96 1.76 3109 2.62 4.28 4.28 1.67 33.81 2.9 1.6 0.7 0.3 1.0 0.7 0.3 1.0 0.7 0.3 1.0 0.7 0.3 1.0 0.7 0.3 1.0 0.7 0.3 1.0 0.7 0.3 1.0 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0		7.2 42.6 216.2 2 216.2 2 216.2 2 216.2 2 216.2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
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	2010 Eminational Investory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI SOX 201	L2= Areas 5, 6, 7, 8, 10 L2= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= SJV L1= Areas 5, 7, 8, 10 Sir Kings, Tulare R= SJV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= SJV L1= Areas 5, 6, 7, 8, 10 Sir Kings, Tulare R= SJV L1= Areas 5, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 7, 8, 10 Sir Kings, Tulare R= SJV L2= Areas 5, 7, 10 Sir Kings, Tulare R= SJV L2= A	6 22 332 22 35 77 156.72 156.72 196.72 197.7 197	28 28 28 28 28 28 28 20 28 28 20 28 20 28 20 28 20 28 20 28 20 28 20 28 20 28 20 28 20 28 20 28 20 28 20 26 20 26 20 26 20 26 20 26 20 26 20 26 20 20 20 20 20 20 20 20 20 20 20 20 20	2,90 16,55 17,55 22,78 22,78 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.38 2.52 15 0.3 0.38 0.38 0.39 0.39 0.39 0.00 0.00 2.1	0.36 4.62 5.43 27.36 27.36 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	150.70 5.22 17.05 14.59 134.93 134.93 1.2 0.8 0.4 0.1 2.5	Tulare Range burning adjusted 232 2484 19.60 54 54 54 32 16 33 33 14.0	29.1 29.1 29.1 29.1 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1	227 3.96 1/7 3109 2.62 4.28 4.28 1.67 3.3.81 2.9 1.6 0.7 0.7 0.7 0.7 0.7 0.7 0.6.5	00	7.2 42.6 42.2 216.2 216.2 216.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	2010 Emissions Inventory     PM10 2010 EI with new controls     NOx 2010 EI with new controls     NOx 2010 EI with new controls     ROG 2010 EI with new controls     SOx 2010 EI     SOX	L2= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare L1= Areas 5, 67, 8, 10 Sr Krings, Tulare L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 67, 8, 10 Sr Krings, Tulare R= SJV L1= Areas 5, 7, 10 Sr Krings, Tulare R= SJV L1= Areas 5,	6.23 33,22 35,75 156,75	2 0.26 3 1.60 1.78 3 10.64 10.64 10.64 2 2.8 2 2.8 2 1.66 3 0.0 0 5.5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2.90 16.55 17.52 92.76 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.38 2.52 1.5 0.3 0.2 0.1 0.0 2.1	0.36 4.62 5.45 27.36 1.5 1.5 1.0 0.5 0.2 1.4 4.5	150.70 5.28 17.08 14.59 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 135.76 155.76	Tulare Range burning adjusted 0.33 2.84 2.84 19.60 19.60 5.4 5.4 3.2 5.4 19.60 19.	221 12.05 55.40 46.39 362.62 362.	227 396 177 3109 262 428 167 3381 29 29 16 0.7 0.3 1.0 6.5	0.0	7 2 42.6 42.6 216.2 2 216.2 2 216.2 2 216.2 2 216.2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	2010 Eminational Investory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI 2010 Rolback Projection with additional controls Local Contribution PM2.5-PM10 Area of Influence Local Contribution PM2.5-PM10 Area of Influence of PM2.5 Sub regional Contribution PM2.5 Sub regional Contribution + Natural Background contribution 2010projected Annual Result Modeling comparisons Current 2002-2004 Design value = 181	L2= Areas 5, 67, 8, 10 L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano R= SJV L1= Areas 5, 67, 8, 10 Sr: Krong, Tulano R= SJV L1= Areas 5, 67, 8, 10 Sr: Krong, Tulano R= SJV L1= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 67, 8, 10 Sr: Krong, Tulano L2= Areas 5, 10 L2= Areas	6.22 33.22 35.75 156.73 156.73 195.74 19.77 19.77 19.77 4.2 2.2.5 14.7 19.77 4.2 2.5 14.7 19.77 19.77 4.2 19.77 19	2 0.26 1.60 1.60 1.0.4 10.44 2.8 1.6 0.8 0.3 0.0 5.5	1.0.41 2.90 16.55 16.55 92.78 1.9 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.38 2.52 15 0.3 0.3 0.5 0.5 0.3 0.2 0.1 0.0 0.0 0.0 2.1	0.36 4.62 5.43 27.36 27.36 15 15 15 10 0.5 0.5 0.2 1.4 4.5	130.70 5.28 17.08 17.08 134.93 144.93 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94 144.94	Tulare Range burning adjusted 0.33 2.80 2.84 1950 5.4 5.4 3.2 1.6 0.5 3.3 14.0	200 1200 540 544 4639 36262 3626 362626 362662 362662 362662 362662 36266	227 3.96 1/76 3109 2.62 4.28 4.28 1.67 3.381 2.9 1.6 0.7 0.3 0.10 6.5	0.0	7.2 42.6 42.2 216.2 216.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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3383904446748494555675636465 18 19 22122324256728293031323344467884555675636465 18 19 221223242567282930313233445	2010 Emissions Investory     PM10 2010 EI with new controls     NOx 2010 EI with new controls     NOx 2010 EI with new controls     ROG 2010 EI with new controls     SOX 2010 EI     SOX	L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare R= SJV L2= Areas 5, 6, 7, 8, 10 L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare R= SJV L2= Areas 5, 6, 7, 8, 10 Six Kings, Tutare R= SJV L1= Area 5, 6, 7, 8, 10 Six Kings, Tutare R= SJV L1= Area 5, 6, 7, 8, 10 Six Kings, Tutare R= SJV =(2010 L1/1999 L1)* LINE 4 =(2010 L1/1999 L1)* LINE 5 =(2010 L7/1999 R)* LINE 5 =(2010 R/1999 R)* LINE 7 = LINE 2 131,92 132,44	6.22 33.22 35.75 156.75	2 0.26 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.60 1.55 1.60 1.55 1.60 1.55 1.60	2.90 16.55 17.52 92.78 1.9 1.9 1.2 0.6 0.2 3.9	0.07 0.33 0.38 2.62 15 0.3 0.3 0.3 0.3 0.2 0.1 0.0 0.2.1	0.36 4.63 5.46 277.36 277.36 1.5 1.5 1.5 1.5 0.2 1.4 4.5	130.70 5.28 17.08 14.59 134.93 134.93 134.93 134.93 134.93 134.93 134.93	Tulare Range burning adjusted 0.33 2.84 2.84 19.60 19.	29.1 12.05 55.0 46.0 46.0 46.0 46.0 46.0 40.0 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 18.0 29.1 20.1	2,27 3,96 1,76 3109 2,262 2,62 4,282 1,67 3,381 2,9 1,67 3,36 1,67 3,36 1,67 3,36 1,67 3,36 1,67 3,36 1,67 3,36 1,67 3,58 1,67 3,59 1,67 4,77 4,77 4,77 4,77 4,77 4,77 4,77 4		7.2 426 426 2162 2162 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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	2010 Emissions Investory PM10 2010 EI with new controls NOx 2010 EI with new controls ROG 2010 EI with new controls ROG 2010 EI with new controls SOX 2010 EI SOX	L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L2= Areas 5, 67, 8, 10 Six Kings, Tutav L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav R= SIV L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 67, 8, 10 Six Kings, Tutav L1= Area 5 L2= Areas 5, 7, 10 Six Kings, Tutav L2= Are	6.23 33:23 35:73 156.75	2 0.26 3 1.60 1.78 3 10.64 10.64 10.64 10.64 0.68 0.3 0.0 5.5 0.0 0.5 5.5 0.0 0.5 0.5	2.90 16.55 17.52 92.78 1.9 1.9 1.2 0.6 0.2 2 3.9	0.07 0.33 0.38 2.52 1.5 0.3 0.2 0.1 0.0 0.2 1 0.0 0.2 1	0.36 5.66 27.36 27.36 3.7.36 3	150.70 5.22 17.08 14.59 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 134.93 135.74 14.59 134.93 135.74 14.59 134.93 135.75 14.59 134.93 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 14.59 135.75 14.59 135.75 14.59 135.75 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 135.75 14.59 14.59 135.75 14.59 14	Tulare Range burning adjusted 0.33 2.84 2.84 19.60 19.60 19.60 5.4 32 16 0.5 3.3 14.0	29.1 12.05 55.40 46.39 382.62 382	227 396 177 3109 200 200 200 200 200 200 167 3380 167 3380 167 0.7 0.3 100 6.5	0.0	72 426 426 2162 2162 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

#### San Joaquin Valley Unified Air Pollution Control District

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1	A Hanford, alternative site data used for 11/4/02 Design Value 161	B General Note: Scaling used to estimate speciation due to lack of precise match of analyzed observations with design value event	C Geologic and Construction	D E Mobile Exhaust	F Tire and Brake Wear	G H Organic Carbon	l Vegetative Burning	J Ammonium Nitrate including associated water	K Ammonium Sulfate	L Marine	M Unassigned
	Line1 Source Contribution from Analysis	From CMB analysis of most similar day to design day	Mass minus Visalia secondary	From Hanford annual CMB Nov/Dec	From Hanford annual CMB MV/T&B ratio	Estimated portion of mass included in Vegetative Burning =30%	From Visalia secondary minus estimated Organic Carbon from other	From Visalia PM2.5 secondary	From Corcoran PM10	From CMB, if present	Unaccounted mass from CMB, if any.
2		Visalia 11/4/02 secondary data and Corcoran 11/4/02 PM10 sulfate data used for HAN 161 11/4/02, carbon distribution based on Hanford	110.80	<u>11 1/25.9 * total carbon</u> 5.13	1.08	2.49	5.80	32.25	3.45	0.00	0.00
2	Line2 Natural and Transport Contribution, see "Background" sheet	Portion not included in rollback analysis, removed prior to rollback as not subject to local control, added back to projected future concentrations	see background sheet for numerical estimate and episode adjustment. Removed prior to rollback as not subject to local control, added back to projecter future concentrations	0, no natural background, transport estimated at 0	0, no natural background, transport estimated at 0	see background sheet for numerica estimate and episode adjustment. Removed prior to rollback as not subject to local control, added back to projected future concentrations. Includes biogenic emissions = 20%	see background sheet for numerical estimate and episode adjustment. Removed prior to rollback as not subject to local control, added back to projected future concentrations. No wildfires except 10/21/99. Includes	see background sheet for numerical estimate and episode adjustment. Removed prior to rollback as not subject to local control, added back to projected future concentrations =5%	see background sheet for numerical estimate and episode adjustment. Removed prior to rollback as not subject to local control, added back to projected future concentrations	100% because marine salts are a natural emission	0, background estimate at maximum, no additional background estimate for unexplained mass
6	LINE 2 Line 3 Net for Rollback	9.81 Net for Rollback, default percentages adjustable for episode characteristics, applicable to all columns excent as indicated	5.5	0.0	0.0	0.5	1.2	1.6 Net for non-linear rollback, default percentages adjustable for episode characteristics	1.0	Removed entirely from rollback, added back to result	
5	LINE 3 Line4 Local Contribution PM2.5-PM10 Area of Influence	151.19 Source contribution from smallest area of influence representative of large particle primary source area includes all PM size emissions in the area - Rolled back against local area of influence emission estimates.	105.3 70%PM10 50%PM2.5 of net	5.1 70%PM10 50%PM2.5 of net	1.1 70%PM10 50%PM2.5 of net	2.0 70%PM10 50%PM2.5 of net	4.6 70%PM10 50%PM2.5 of net	30.6 70%PM10 50%PM2.5 of net, non-linear rollback	2.5 70%PM10 50%PM2.5 of net	0.0	0.0 70%PM10 50%PM2.5 of net
1	LINE 4     Line5 Local Contribution Area of Influence     of PM2.5	96.86 Rolled back against local PM2.5 area of influence emission estimates - episode specific adjustments based on meteorology and episode duration	73.7 15%PM10 30%PM2.5	2.6 15%PM10 30%PM2.5	0.8 15%PM10 30%PM2.5	1.0 15%PM10 30%PM2.5	2.3 15%PM10 30%PM2.5	15.3 15%PM10 30%PM2.5 non-linear rollback	1.2 15%PM10 30%PM2.5		0.0 15%PM10 30%PM2.5
1	LINE 5 Line6 Sub regional Contribution	29.41 Rolled back against specified County(ies) emission estimates - episode specific adjustments based on meteorology and episode duration	15.8 10%PM10 15%PM2.5	1.5 10%PM10 15%PM2.5	0.2 10%PM10 15%PM2.5	0.60 10%PM10 15%PM2.5	1.4 10%PM10 15%PM2.5	9.2 10%PM10 15%PM2.5 non-linear rollback	0.7 10%PM10 15%PM2.5		0.0 10%PM10 15%PM2.5
1.	LINE 6 Line7 Regional Contribution	17.36 Rolled back against Valleywide emission estimates episode specific adjustments based on meteorolog and episode duration	10.5 5%PM10 5%PM2.5	0.8 5%PM10 5%PM2.5	0.1 5%PM10 5%PM2.5	0.30 5%PM10 5%PM2.5	0.7 5%PM10 5%PM2.5	4.60 5%PM10 5%PM2.5 non-linear rollback	0.37 5%PM10 5%PM2.5		0.0 5%PM10 5%PM2.5
1	LINE /      Associated Emissions Categories	Based upon appropriate seasonal or annual <sup>7,50</sup> inventory	PM10 paved roads+ PM10 unpaved roads+ PM10 farm operations + PM10 construction	DM10, ROG & CO onroad mobile+ PM10, ROG & CO offroad equipment PM10, ROG & CO farm equipment CO presumed to add minimal mass	Tire and brake wear as predicted by EMFAC2002	Color Total ROG minus motor vehicle, OC may also include a small portion of otherwise unassigned elemental carbon PM10 & CO Area, Stationary CO presumed to add minimal mass	PM10 & CO residential burning + PM10 & CO vaste burning and disposal reduced 98% by no burn status PM10 cooking CO presumed to add minimal mass	Lotal E.J. NOX (+ bacterial soil NOX estimate removed as natural background) "Previous method set aside a portion from rollback calculations due to lack of Ag E.I. NOX and ammonia sources, emissions data are now included, this set-aside is not required	Total SOx	None, natural emission from the ocean, bay and delta waters	Total PM10 minus PM10 windblown for episodes which are not high wind
1	2000 Emissions Inventory	(area of influence emissions inventory, each on a s	eparate line for automated calcul	ation		1 1	Tulare Range burning adjusted				
17	B PM10	L1= Area 5	7.56	0.29	0.05	0.33	0.38				8.61
2	Seasonal CCOS 2.14 with ARB November EMEAC adjustments	L2= Areas 5,6,7,8,10 Sr- Kings Tulare	40.52	2.06	0.28	4.03	3.42				50.11
Z		R= SJV	185.24	12.15	1.88	25.21	23.79				248.28
22222	NOx     NOx     Seasonal CCOS 2.14     with ARB November EMFAC adjustments	L1= Area 5 L2= Area 5.6.7.8.10 Si= Kings, Tulare R= SJV		100				19.34 84.40 73.59 560.34			
2	KOG     Seasonal CCOS 2.14     with ARB November EMFAC adjustments	L1= Area 5 L2= Areas 5,6,7,8,10 Sr= Kings, Tulare		4.63 26.08 26.92		6.06 19.09 15.92					
3	J SOx	L1= Area 5				150.70			2.27		
3	Seasonal CCOS 2.14	L2= Areas 5.6.7.8.10							3.96		
3.	2	Sr= Kings, Tulare							1.76		
13	3 2010 Emissions Inventory	- 00V					Tulare Range burning adjusted		51.03		
13	8 PM10 2010 EI with new controls	L1= Area 5	6.23	0.26	0.07	0.36	0.32				7.24
14	0	Sr= Kings, Tulare	35.23	1.78	0.38	5.45	2.84				42.05
14		R= SJV	156.75	10.04	2.52	27.36	19.60				216.26
14	7 NOX 2010 EI With new controls	L1= Area 5 L2= Areas 5.6.7.8.10						12.05			
14	8	Sr= Kings, Tulare						46.39			
15	4 ROG 2010 EI with new controls	L1= Area 5		2 00		5.25		362.62			
15	5	L2= Areas 5,6,7,8,10		16.55		17.08					
15	7	Sr= Kings, l'ulare R= SJV		92 78		14.59	8				
16	2 SOx 2010 EI	L1= Area 5				104.00			2.62		
16	4	L2= Areas 5,6,7,8,10 Sr= Kings Tulare		·····					4.28		
16	5	R= SJV							33.81		
21	2010 Rollback Projection with additional										
21	Local Contribution PM2.5-PM10 Area of Influence	=(2010 L1/1999 L1) * LINE 4	60.7	1.2 0.8	1.1	0.5 0.4	1.9	11.5	1.4		0.0
22	Local Contribution Area of Influence of 0 PM2.5	=(2010 L2/1999 L2) * LINE 5	12.9	0.7 0.5	0.2	0.3 0.3	1.1	7.1	0.8		0.0
22	2 Regional Contribution	=(2010 R/1999 R) * LINE 7	4.5	0.1 0.1	0.2	0.1 0.1	0.6	3.5	0.3		0.0
22	3 + Natural Background contribution	= LINE 2	5.5	0.0	0.0	0.5	1.2	1.6	1.0	0.0	0.0
22	4 2010projected Annual Result	133.68	92.2	2.3 1.6	1.6	1.6 0.9	5.0	24.8	3.7	0.0	0.0
22	6 2010 projected Annual Result	129.96	linear nitrate projection				1	jumear 95			
22	7 Modeling comparisons	133.68	IMS95 nitrate modeling					6.0			
122	o current 2002-2004 Design value = 161	134.09	Average of all through					2.9			
23	0	132.58	Average of CMAQ and IMS95	<u> </u>	1		L	1.0			
23	1										
23	2							CMAQ			
23	3							11.7			
23	4						l	7.2			
23	0						ļ	3.5			
					1			10		1 1	
23	7							1.2			
23	7 8 end							23.6			

February 16, 2006

	San Joaquin Valley Unified A	Air Pollution Control District									
	A	B	C	D E	F	G H	Negetative Drawing	J	K	L	M
	Corcoran, design value	General Note: Not scaled to design value because difference between observation and design value	Geologic and Construction	Mobile Exhaust	Tire and Brake Wear	Organic Carbon	Vegetative Burning	Ammonium Nitrate	Ammonium Sulfate	Marine	Unassigned
	10/29/02 168, analyzed	is within uncertainty range for model projection and unscaled value is higher. Also, co-located						including associated water			
1	using unscaled episode	monitor provides 171 for same 10/29/02 event.									
2	Line1 Source Contribution from Analysis	From CMB analysis of most similar day to design day	From CMB	From CMB	From CMB	Estimated portion of mass included in	From CMB minus estimated Organic	From CMB	From CMB	From CMB, if present	Unaccounted mass from
2	LINE 1	COP 10/21/99 174	92.7	15.38	0.0	Vegetative Burning =30% 5.47	Carbon from other sources 12.76	24.6	3.5	0.00	CMB. if anv. 19.64
	ine2 Natural and Transport Contribution,	Portion not included in rollback analysis, removed	see background sheet for	0, no natural background,	0, no natural background,	see background sheet for numerical	see background sheet, includes biogenic	see background sheet for numerical	see background sheet for	100% because marine	0, background estimate
	see "Background" sheet	prior to rollback as not subject to local control, added back to projected future concentrations, except for tire	numerical estimate and episode adjustment. Removed prior to	transport estimated at 0	transport estimated at 0	estimate and episode adjustment. Removed prior to rollback as not	emissions = 20% removed prior to rollback as not subject to local control,	estimate and episode adjustment. r Removed prior to rollback as not subjec	numerical estimate and episode adjustment. Removed prior to	salts are a natural emission	at maximum, no additional background
		fire and wildfire emissions unique to this episode.	rollback as not subject to local			subject to local control, added back to	added back to projected future	to local control, added back to projected	rollback as not subject to local		estimate for unexplained
			future concentrations			Includes biogenic emissions = 20%	emissions estimated as 10 micrograms	=5%	future concentrations		mass
4			=5%				will not be added back to the fu				
5	LINE 2 ine 3 Net for Rollback	16.51 Net for Rollback, default percentages adjustable for	4.6	0.0	0.0	1.1	8.6	1.2 Net for non-linear rollback, default	1.0	Removed entirely from	
6		episode characteristics, applicable to all columns						percentages adjustable for episode		rollback, added back to	
7	LINE 3	except as indicated 157.49	88.1	15.4	0.0	4.4	4.2	23.3	2.5	0.0	19.6
	Line4 Local Contribution PM2.5-PM10 Area of Influence	Source contribution from smallest area of influence, representative of large particle primary source area.	70%PM10 50%PM2.5 of net	70%PM10 50%PM2.5 of net	70%PM10 50%PM2.5 of net	70%PM10 50%PM2.5 of net	70%PM10 50%PM2.5 of net	70%PM10 50%PM2.5 of net, non-linear rollback	70%PM10 50%PM2.5 of net	$\land$ /	70%PM10 50%PM2.5 of net
		includes all PM size emissions in the area - Rolled								$\land$ /	
8		estimates									
э	LINE 4 Line5 Local Contribution Area of Influence of	100.29 Rolled back against local PM2.5 area of influence	61.7 15%PM10 30%PM2.5	7.7 15%PM10 30%PM2.5	0.0 15%PM10 30%PM2.5	2.2 15%PM10 30%PM2.5	2.1 15%PM10 30%PM2.5	11.7 15%PM10 30%PM2.5 non-linear	1.2 15%PM10 30%PM2.5		13.7 15%PM10 30%PM2.5
	PM2.5	emission estimates - episode specific adjustments based on meteorology and episode duration						rollback			
10	INC C		40.0	L	0.0	101	10	70	0.7	Х	
	Line6 Sub regional Contribution	31.09 Rolled back against specified County(ies) emission	13.2 10%PM10 15%PM2.5	4.6 10%PM10 15%PM2.5	0.0 10%PM10 15%PM2.5	1.31 10%PM10 15%PM2.5	1.3 10%PM10 15%PM2.5	7.0 10%PM10 15%PM2.5 non-linear	0.7 10%PM10 15%PM2.5		2.9 10%PM10 15%PM2.5
		estimates - episode specific adjustments based on meteorology and episode duration						rollback			
12	1015 0	notes orgy and episode duration						0.55	0.57		
13	Line 7 Regional Contribution	18.24 Rolled back against Valleywide emission estimates -	8.8 5%PM10 5%PM2.5	2.3 5%PM10 5%PM2.5	0.0 5%PM10 5%PM2.5	U.66 5%PM10 5%PM2.5	U.6 5%PM10 5%PM2.5	3.50 5%PM10 5%PM2.5 non-linear rollback	0.37 5%PM10 5%PM2.5		2.0 5%PM10 5%PM2.5
14		episode specific adjustments based on meteorology and episode duration								/	
15	LINE 7	7.87	4.4	0.8	0.0	0.22	0.2	1.17	0.12	Ness seturitariat	1.0
	Associated Emissions Categories	Based upon appropriate seasonal or annual inventory	PM10 paved roads+ PM10 unpaved roads+	mobile+	predicted by EMFAC2002	may also include a small portion of	PM10 & CO residential burning + PM10 & CO waste burning and disposal	estimate removed as natural	Iotal SOX	from the ocean, bay and	PM10 windblown for
			PM10 farm operations + PM10 construction	PM10, ROG & CO offroad		otherwise unassigned elemental	reduced 98% by no burn status	background)		delta waters	episodes which are not
			PWITO CONStruction	PM10, ROG & CO farm		PM10 & CO Area, Stationary, Cooking	g CO presumed to add minimal mass	from rollback calculations due to lack of			nign wind
				equipment CO presumed to add		CO presumed to add minimal mass		Ag E.I. NOx and ammonia sources, emissions data are now included this			
16				minimal mass				set-aside is not required			
17 18	2000 Emissions Inventory PM10	(area of influence emissions inventory, each on a sep- II 1= Area 6	arate line for automated calculation	0.06		0.91	Tulare Range burning adjusted				6.00
19	Seasonal CCOS 2.14	L2= Areas 5,6,7,8	4.99	1.43	0.01	3.44	0.24				48.66
20	with AKB October EMFAC adjustments	R= SJV	43.90 185.24	2.06	0.27	4.72	3.47 23.79				54.42 248.28
22 23	NOx Seasonal CCOS 2.14	L1= Area 6 L2= Areas 5.6.7.8						4.65			
24	with ARB October EMFAC adjustments	Sr= Kings, Tulare						70.30			
26	ROG	R= SJV L1= Area 6		0.83		1.03	6	538.81			
27 28	Seasonal CCOS 2.14 with ARB October EMFAC adjustments	L2= Areas 5.6,7,8 Sr= Kings, Tulare		20.30		17.62	2				
29 30	SU-	R= SJV		156.66		150.70	1				
31	Seasonal CCOS 2.14	L2= Areas 5,6,7,8									
32 33		Sr= Kings, Tulare R= SJV							1.76		
133 138	2010 Emissions Inventory PM10 2010 El with new controls	I 1- Area 6	4 22	0.05	0.04	0.99	Tulare Range burning adjusted				5 40
139	. mill 2010 El with new controls	L2= Areas 5,6,7,8	4.23	1.25	0.51	4.00	2.67				37.97
140		R= SJV	35.79 156.75	1.76	0.38	5.45 27.36	2.84				46.21 216.26
146 147	NOx 2010 EI with new controls	L1= Area 6 L2= Areas 5.6.7.8						2.86			
148 170		Sr= Kings, Tulare						44.41			
154	ROG 2010 EI with new controls	L1= Area 6		0.54		0.95	5	351.50			
100		L2= Areas 5,6,7,8 Sr= Kings, Tulare		12.42		15.99	8				
157 162	SOx 2010 EI	R= SJV		89.18		134.93	8		0.00		
163	004 2010 21	L2= Areas 5,6,7,8							3.22		
165		R= SJV							1.67 33.81		
218	2010 Rollback Projection with additional controls										
	Local Contribution PM2.5-PM10 Area of	=(2010 L1/1999 L1) * LINE 4	52.3	3.8 2.5	0.0	1.2 1.0	1.7	8.7	1.1		12.2
219	Insuence Local Contribution Area of Influence of	=(2010 L2/1999 L2) * LINE 5	9.7	2.0 1.4	0.0	0.8 0.6	1 0	53	0.8		23
220	PM2.5										
222	Sub regional Contribution Regional Contribution	=(2010 ST1/1999 St2) - LINE 6 =(2010 R/1999 R) * LINE 7	7.2	0.3 0.2	0.0	0.4 0.3	0.5	2.6	0.3		1.7
223	+ Natural Background contribution	= LINE 2	4.6	0.0	0.0	1.1	8.6	1.2	1.0	0.0	0.0
224	zo to projected Annual Result	146.16	//.5	7.1 4.9	0.0	3.5 2.0	12.0	Linear	3.4	0.0	17.0
226	2010 projected Annual Result Modeling comparisons	143.25 146.16	linear nitrate projection					7.2			
228	Current 2002-2004 Design value = 168	145.09	CMAQ nitrate modeling					2.2			
230		144.83	Average of all three Average of CMAQ and IMS95					0.8			
231				ļ				CMAQ			
232								UMAU 8.1			
234								5.0			
235								2.5			
236							ļ	0.8			
201		+						10.4			

## San Joaquin Valley Unified Air Pollution Control District Source Apportionment of PM10 Concentrations Determined by Chemical Mass Balance (in ug/m3)

Using CRPAQS Data and Fugitive Dust Profiles Selected By District

Green highlight indicates accepted results used for rollback analysis Design Value Episodes

District and CRPAQS Episodes above standard but less severe than design value episode

CRPAQS Episodes more severe than design value

Higlighted, black text are poor performance values

Red text were rejected, retested with revised chemistry estimation

							Wood	Wood	MV	MV								Geo-		
							Burning	Burning	Exhaust	Exhaust	TiresAndBr	TiresAndB	Nitrate	Nitrate	Sulfate	Sulfate	Geo- logical	logical	Geological	
SITEID	DATE	CONC	UCONC	% Mass	RSQ	CHI SQ	Mass	Unc	Mass	Unc	akes Mass	rakes Unc	Mass	Unc	Mass	Unc	Mass	Unc	Profile	Unassigned
Novemb	er 1999																			
BGS	11/14/99	183	9.2	91.1	1.0	1.0	16.5	7.0	6.1	4.2	1.9	1.5	85.3	6.9	6.3	0.6	50.6	10.5	FDBACNOV	16.27
Winter 2	000/2001													-						
BGS	1/1/01	205	10.3	93.6	1.0	0.9	23.3	6.3	6.7	4.7	1.3	1.7	95.4	7.8	7.0	0.7	58.2	9.6	FDBACJAN	13.07
BGS	1/4/01	208	10.5	93.6	1.0	0.9	23.6	6.4	6.8	4.8	1.3	1.7	96.6	7.9	7.1	0.7	58.9	9.7	FDBACJAN	13.23
BGS	1/7/01	174	8.8	93.6	1.0	0.9	19.8	5.4	5.7	4.0	1.1	1.4	81.0	6.6	6.0	0.6	49.4	8.1	FDBACJAN	11.09
COP	1/7/01	165	8.4	91.7	1.0	0.5	20.5	6.2	7.6	4.3	0.9	0.7	84.8	7.5	6.8	0.7	30.8	5.5	FDCOPJAN	13.66
HAN	1/7/01	185	9.6	102.9	1.0	0.4	27.6	9.7	14.7	7.8	1.7	1.1	96.9	7.9	7.2	0.7	42.4	7.7	FDCOPJAN	-5.38
HAN	1/7/01	185	scaled to	remove	overes	stimate	26.7850		14.2530		1.6312		94.1627		6.9605		41.2076			0.0000

Estimated PM10 Source Contributions for Corcoran During October 1999 Episode Concentrations and Source Contributions are in ug/m3

SITEID	DATE	CONC	UCONC	%	RSQ	CHI	Wood B	urning	MV Ex	chaust	Nitra	ate	Sulfa	ite	Geolo	ogical	Geological	Unassigned
				Mass		SQ	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc	Profile	
Corcora	an-Patterso	on					WBOa	kEuc										
COPC	10/21/99	174	17.4	88.7	0.8	2.9	18.2	18.2 14.9		10.2	24.6	2.7	3.5	0.6	92.7	9.1	FDCOPOCT	19.64

		-		Design	Sum of	Bu	rning	Motor	Veh	nicle	Tire/B	rake	S	ulfate	Nitr	ate	Geolog	jical	Geological	
SITEID	CONC	UCONC	PCMASS	Value	species			Mass			Mass		Mass		Mass		Mass		Profile	Unassigned
BGS	57.7	3.6	98.5	57.0	55.6	6.3	2.3		3.6	2.4	1.1	1.2	3.0	0.3	14.9	1.3	26.7	5.8	FDKERANN	1.4
This and	alysis prov	vides a sea	asonally ac	ljusted a	nnual ave	rage, us	ing the Ja	anuary e	piso	de to i	eflect th	e dom	inant v	vinter che	mistry.					
Bakers	field Gold	len State	Monthly				Bu	ırning		Motor	Vehicle	Tire/E	Brake	Su	Ilfate	Nit	rate	G	eological	
SITEID	DATE	CONC	UCONC	PCMAS	RSQ	CHISQ	Mass	Unc	I	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc	
BGS	1/1/01	205	10.3	93.6	1.0	0.9	23.3	(	6.3	6.7	4.7	1.3	1.7	7.0	0.7	95.4	7.8	58.2	9.6	
BGS	Feb	24.4	1.9	96.4	1.0	0.7	4.1		2.3	1.7	1.3	0.6	0.6	1.2	0.1	5.1	0.6	10.9	3.2	
BGS	Mar	22.2	2.1	107.7	1.0	1.0	2.1		2.2	2.1	1.4	0.6	0.6	1.9	0.2	5.5	0.6	11.7	3.1	
BGS	Apr	31.5	2.4	107.8	1.0	0.4	6.3	:	3.2	2.1	1.7	0.5	0.7	3.0	0.3	4.9	0.6	17.3	4.6	
BGS	May*	34.6	2.5	118.5	1.0	0.5	0.3		0.4	5.3	2.6			3.1	0.3	4.5	0.5	27.8	5.7	
BGS	Jun*	41.3	2.7	102.7	1.0	0.6	0.9		0.4	5.1	2.6			3.8	0.3	3.1	0.4	29.4	6.0	
BGS	Jul*	37.0	2.6	101.3	0.9	2.2	7.1		1.1	0.2	1.4	2.4	1.4	2.1	0.2	2.2	0.3	23.4	5.9	
BGS	Aug*	43.5	2.6	97.8	1.0	1.2	4.1		0.8	2.2	1.9	0.5	1.4	2.5	0.3	2.9	0.4	30.2	6.5	
BGS	Sep*	78.6	4.7	98.3	0.9	1.2	3.5		1.4	4.5	3.3	0.8	2.7	3.0	0.4	3.6	0.4	61.9	12.5	
BGS	Oct*	36.1	2.8	83.9	1.0	1.0	3.5		0.7	1.6	1.3	1.4	1.0	1.9	0.2	5.2	0.6	16.7	4.3	
BGS	Nov	48.4	2.9	86.3	1.0	0.4	7.9	:	3.4	4.6	2.7	0.6	0.7	2.2	0.2	14.0	1.2	12.3	3.1	
BGS	Dec	90.2	5.1	87.4	1.0	0.6	12.5		5.1	7.0	4.2	2.1	1.2	4.3	0.4	32.2	2.7	20.9	5.4	
Min		22.2	1.9	83.9	0.9	0.4	0.3	(	0.4	0.2	1.3	0.5	0.6	1.2	0.1	2.2	0.3	10.9	3.1	
Avg		57.7	3.6	98.5	1.0	0.9	6.3		2.3	3.6	2.4	1.1	1.2	3.0	0.3	14.9	1.3	26.7	5.8	
Max		205.0	10.3	118.5	1.0	2.2	23.3	(	6.3	7.0	4.7	2.4	2.7	7.0	0.7	95.4	7.8	61.9	12.5	

## ANNUAL Average, based on CMB results for February to December 2000 plus the Jan 2001 Episode

NOTES: Burning profile was switched from wood burning to agricultural burning based on ARB monthly emissions inventory estimates. Asterisk \* denotes AgBWheat profile used; \*\* denotes WBAImond (some AgBWheat/WBAImond used in April/May)

	Source Profiles		
Ja	n-May and Nov-		
	Dec	<u>June-Oct</u>	
Burning	22 WBOakEuc	27 AgBWheat*	
Sulfate	57 Amsul	57 Amsul	
Nitrate	60 Amnit	60 Amnit	
Motor Vehicle	65 CAMV	65 CAMV	
Tire/Brake	67 TireBrke	67 TireBrke	Note: (not used if run came out negative)
Geological	92 FDHANANN	92 FDHANANN	
	93 FDFREANN	93 FDFREANN	
	94 FDVCSANN	94 FDVCSANN	
	95 FDKERANN	95 FDKERANN	

### Visalia observation secondary chemical composition used for Hanford alternative analysis

DATE	SITE_NAME	PM10_OBS_STD	PM25_OBS	Coarse	PM2.5Mass_Speciation	AmNitrate	Nitrate	AmmSulfateOld	OC	EC	GeologicalOld	Elements
11/4/2002	2 Visalia-N Church Street	105	48	57	50	32.25	25	1.794	14	0.5	2.1036	0.5495

Date	SITE_NAME	PM10Stnd		PM10Mass_Speciation	AmmNitrate	AmmSulfate	
11/4/02	Corcoran-Patterson Avenue	136			29.67	3.45	

### Hanford PM10 Composition assumed based on PM2.5 chemical composition data for Visalia

11/4/2002

Hanford-S Irwin Street 161

AmNitrate	AmmSulfate	OC	EC	GeologicalOld
32.25	3.45	14	0.5	110.8

## Hanford carbon distribution

ANNUAL Average CMB analysis for November and December from 2003 PM SIP

Hanfor	d Monthly						Burning		Motor Vehicle		Tire/Brake		Sulfate		Nitrate		Geological	
SITEID	DATE	CONC	UCONC	PCMASS	RSQ	CHISQ	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc	Mass	Unc
HAN	Nov	46.4	2.8	107.6	1.0	0.4	13.5	3.6	4.8	2.9	1.0	0.5	2.4	0.3	17.7	1.5	10.5	2.7
HAN	Dec	62.8	3.6	89.4	1.0	0.5	12.4	3.4	4.4	2.5	0.9	0.5	3.7	0.4	23.9	2.1	10.7	2.8
Sum							25.9		9.1		1.9							
								Sum MV+1	&B	11.1								

Proportion of Burning to MV+T&B = 11.1/25.9

This information is used to calculate the breakdown of carbon sources for the alternative Hanford evaluation

MV to T&B ratio	MV	9.12744	T/B	1.9241	sum =	11.0515	
Vehicle fractions	MV=	0.825901	T/B=	0.1741			

This information is used to calculate the breakdown of vehicle carbon for the alternative Hanford evaluation

0.825901 0.1741

		Rollback	default i	percentage, ad	just by episode pror	erties		
			Local	PM2.5	Sub regional	Regional	Total	
		Default 2.5-10	70	15	10	5	100	
		Default 2.5	50	30	15	5	100	
		Note: distributi	on of ant	hropogenic co	ntribution after subt	raction of ba	ckground	
	Mapping of local, PM2.5-local,							
	and sub-regional based on							
	trajectory analysis				Areas used			
24-hr date	Site Name	Value	Local	PM2.5	Sub regional	Regional	# of dates	
11/6/97	Corcoran-Patterson Avenue	199						
12/31/98	Bakersfield-Golden State Highway	159						
4/40/00	Visalia-N Church Street	160	40	10.40	16 a ma	0.11/	1	
1/12/99	Olidale-3311 Manor Street	156	12	12,13	Kern	SJV	1	
10/21/99	Erospo Drummond Stroot	174	0	5,0,7,8	Kings-Tulare	SJV	2	
	Turlock-S Minaret Street	162	3	3,4	Stanislaus-Merced	SIV	3	
11/14/99	Bakersfield-Golden State Highway	183	12	6781012	Kings-Tulare-Kern	SJV	5	
12/11/99	Hanford-S Irwin Street	183	12	0,7,0,10,12	Tailings Falare Rent	001	5	
12/17/99	Corcoran-Patterson Avenue	174	6	6.8	Kings-Tulare	SJV	6	
12/23/99	Fresno-Drummond Street	168	3	3.4.7	Fresno-Tulare	SJV	7	
	Hanford-S Irwin Street	156	5	5,6,8	Kings-Tulare	SJV	8	
1/1/01	Bakersfield-5558 California Avenue	186	12	9,10,11,12	Kern	SJV	9	
	Bakersfield-Golden State Highway	205	12	9,10,11,12	Kern	SJV	10	
	Clovis-N Villa Avenue	155	3	3,4	Fresno-Madera	SJV	11	
	Fresno-1st Street	193	3	3,4	Fresno-Madera	SJV	12	
	Fresno-Drummond Street	186	3	3,4	Fresno-Madera	SJV	13	
	Oildale-3311 Manor Street	158	12	9,10,11,12	Kern	SJV	14	
1/4/01	Bakersfield-5558 California Avenue	190	12	10,12,13	Kern	SJV	15	
	Bakersfield-Golden State Highway	208	12	10,12,13	Kern	SJV	16	
	Fresno-Drummond Street	159	3	3,4	Fresno-Madera	SJV	17	
1/7/04	Oildale-3311 Manor Street	195	12	10,12,13	Kern	SJV	18	
1/7/01	Bakerstield-5558 California Avenue	159	12	10,12	Kern	SJV	19	
	Bakerstield-Golden State Highway	174	12	10,12	Kern	SJV	20	
	Hapford S Invin Stroot	100	5	5,67,910	Kings-Tulare-Kern	SJV	21	
	Modesto-14th Street	160	5	5,0,7,0,10	St-Mo-Mo- Fr-Tu	SIV	22	
11/9/01	Hanford-S Irwin Street	155	5	578	Kings-Tulare	SIV	23	
				0,1,0	range ratare			
					Areas used			
Annual	County	Value	Local	PM2.5	Sub regional	Regional		
	Kern	57	12	Kern	Kern	SJV		
	PM-10 SIP R	egions						
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