

**NOx**

<b>Project Name</b>	<b>ERC Cost Effectiveness (\$1,000's/Ton)</b>	<b>Total Emission Inventory 2013 (tons/year)</b>	<b>Incentive Funding</b>	<b>Reductions Per Avg Project (lbs/yr)</b>	<b>Avg District Cost/Project</b>	<b>Project Life</b>
Replace Remote Stationary Ag Pump Engines with Electric Motors	\$28	32.54	80% of New Motor Cost at \$259/motor hp; avg motor size 231 hp	3447.68	\$47,760	30
Replace Remote Ag Booster Pump Engines with Electric Motors	\$34	30.27	80% of New Motor Cost at \$259/motor hp; avg motor size 113 hp	1382.89	\$23,414	30
Replace Nonremote Ag Stationary Pump Engines with Electric Motors	\$68	21.55	80% of New Motor Cost at \$259/motor hp; avg motor size 185 hp	1126.40	\$38,332	30
Replace Nonremote Ag Booster Pump Engines with Electric Motors	\$66	12.81	80% of New Motor Cost at \$259/motor hp; avg motor size 113hp	714.56	\$23,414	30
Replace Remote Stationary Ag Pump Engines with Electric Motors and one mile grid power extension	\$113	32.54	80% of New Motor Cost at \$259/motor hp; avg motor size 231 hp; and one mi grid extension at \$35/foot	3447.68	\$195,600	30
Replace Remote Ag Booster Pump Engines with Electric Motors and one mile grid power extension	\$283	30.27	80% of New Motor Cost at \$259/motor hp; avg motor size 113 hp; and one mi grid extension at \$35/foot	1382.89	\$171,254	30
Replace Nonremote Ag Stationary Pump Engines with Electric Motors and one mile grid power extension	\$347	21.55	80% of New Motor Cost at \$259/motor hp; avg motor size 185 hp; and one mi grid extension at \$35/foot	1126.40	\$186,172	30

Replace Nonremote Ag Booster Pump Engines with Electric Motors and one mile grid power extension	\$479	12.81	80% of New Motor Cost at \$259/motor hp; avg motor size 113hp; and one mi grid extension at \$35/foot	714.56	\$171,254	30
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**ROG**

Project Name	ERC Cost Effectiveness (\$/Ton in \$1,000s)	Total Emissions Inventory 2013 (tons/year)	Incentive Funding	Reductions Per Avg Project (lbs/yr)	District Cost/Project	Project Life
Replace Remote Stationary Ag Pump Engines with Electric Motors	\$717	1.56	80% of New Motor Cost at \$259/motor hp; avg motor size 231 hp	133.20	\$47,760	30
Replace Remote Ag Booster Pump Engines with Electric Motors	\$421	2.75	80% of New Motor Cost at \$259/motor hp; avg motor size 113 hp	111.30	\$23,414	30
Replace Nonremote Ag Stationary Pump Engines with Electric Motors	\$2,371	1.11	80% of New Motor Cost at \$259/motor hp; avg motor size 185 hp	32.33	\$38,332	30
Replace Nonremote Ag Booster Pump Engines with Electric Motors	\$2,365	0.63	80% of New Motor Cost at \$259/motor hp; avg motor size 113hp	19.80	\$23,414	30
Replace Remote Stationary Ag Pump Engines with Electric Motors and one mile grid power extension	\$2,937	1.56	80% of New Motor Cost at \$259/motor hp; avg motor size 231 hp; and one mi grid extension at \$35/foot	133.20	\$195,600	30
Replace Remote Ag Booster Pump Engines with Electric Motors and one mile grid power extension	\$3,077	2.75	80% of New Motor Cost at \$259/motor hp; avg motor size 113 hp; and one mi grid extension at \$35/foot	111.30	\$171,254	30

Replace Nonremote Ag Stationary Pump Engines with Electric Motors and one mile grid power extension	\$11,517	1.11	80% of New Motor Cost at \$259/motor hp; avg motor size 185 hp; and one mi grid extension at \$35/foot	32.33	\$186,172	30
Replace Nonremote Ag Booster Pump Engines with Electric Motors and one mile grid power extension	\$17,299	0.63	80% of New Motor Cost at \$259/motor hp; avg motor size 113hp; and one mi grid extension at \$35/foot	19.80	\$171,254	30

**PM**

<b>Project Name</b>	<b>ERC Cost Effectiveness (\$/Ton in \$1,000s)</b>	<b>Total Emissions Inventory 2013 (tons/year)</b>	<b>Incentive Funding</b>	<b>Reductions Per Avg Project (lbs/yr)</b>	<b>District Cost/Project</b>	<b>Project Life</b>
Replace Remote Stationary Ag Pump Engines with Electric Motors	\$717	0.83	80% of New Motor Cost at \$259/motor hp; avg motor size 231 hp	133.20	\$47,760	30
Replace Remote Ag Booster Pump Engines with Electric Motors	\$421	1.18	80% of New Motor Cost at \$259/motor hp; avg motor size 113 hp	111.30	\$23,414	30
Replace Nonremote Ag Stationary Pump Engines with Electric Motors	\$2,371	0.84	80% of New Motor Cost at \$259/motor hp; avg motor size 185 hp	32.33	\$38,332	30
Replace Nonremote Ag Booster Pump Engines with Electric Motors	\$2,365	0.60	80% of New Motor Cost at \$259/motor hp; avg motor size 113hp	19.80	\$23,414	30
Replace Remote Stationary Ag Pump Engines with Electric Motors and one mile grid power extension	\$2,937	0.83	80% of New Motor Cost at \$259/motor hp; avg motor size 231 hp; and one mi grid extension at \$35/foot	133.20	\$195,600	30

Replace Remote Ag Booster Pump Engines with Electric Motors and one mile grid power extension	\$3,077	1.18	80% of New Motor Cost at \$259/motor hp; avg motor size 113 hp; and one mi grid extension at \$35/foot	111.30	\$171,254	30
Replace Nonremote Ag Stationary Pump Engines with Electric Motors and one mile grid power extension	\$11,517	0.84	80% of New Motor Cost at \$259/motor hp; avg motor size 185 hp; and one mi grid extension at \$35/foot	32.33	\$186,172	30
Replace Nonremote Ag Booster Pump Engines with Electric Motors and one mile grid power extension	\$17,299	0.60	80% of New Motor Cost at \$259/motor hp; avg motor size 113hp; and one mi grid extension at \$35/foot	19.80	\$171,254	30

# Ag Pump Engine Electrification Emission and Cost Data Documentation

## Total Inventory

Per the Agricultural Engine Air Toxics Regulation, owners of stationary and booster pump engines are required to report engine and use specifications to the air district. There are four basic categories of engines.

- 1 Remote well pump engines
- 2 Remote booster pump engines
- 3 Nonremote well pump engines
- 4 Nonremote booster pump engines

We used these categories because

- 1 Remote engines are not subject to lower emission standards whereas nonremote engines are subject to such standards.
- 2 Costs for stationary well engines may be different (more feasible) than booster pump engines, which are typically wheel mounted.

Total Emissions were calculated per each category and pollutant by:

$$TE = \sum HP \times Load \times Hours \times BaseEmissionFactor / (454 * 2000)$$

### Where

TE is the total emissions per pollutant (NOx, ROG, and PM) and category

HP is the HP for each specific engine in that category.

Load is average engine load, from Carl Moyer 2011 Guidance Table,

Appendix D, Table D-10 (0.65).

Hours is engine hours/yr for each engine

BaseEF for remote engines are emission factors for the current engine from Carl Moyer

2011 Guidance, Appendix D, Tables D-11 and D12 (see below)

BaseEF for nonremote engines are Tier 3 emission factors because the engines must meet Tier 3 under the stationary ATCM.

454\*2000 converts grams to tons

**Table D-11  
Uncontrolled Off-Road Diesel Engines  
Emission Factors (g/bhp-hr)**

Horsepower	Model Year	NOx	ROG	PM10
25 – 49	pre-1988	6.51	2.21	0.547
	1988 +	6.42	2.17	0.547
50 – 119	pre-1988	12.09	1.73	0.605
	1988 +	8.14	1.19	0.497
120+	pre-1970	13.02	1.59	0.554
	1970 – 1979	11.16	1.20	0.396
	1980 – 1987	10.23	1.06	0.396
	1988 +	7.60	0.82	0.274

**Table D-12  
Controlled Off-Road Diesel Engines  
Emission Factors (g/bhp-hr)<sup>(a)</sup>**

Horsepower	Tier	NOx	ROG	PM10
25-49	1	5.26	1.74	0.480
	2	4.63	0.29	0.280
	4 Interim	4.55	0.12	0.128
	4 Final	2.75	0.12	0.008
50-74	1	6.54	1.19	0.552
	2	4.75	0.23	0.192
	3 <sup>(b)</sup>	2.74	0.12	0.192
	4 Interim	2.74	0.12	0.112
	4 Final	2.74	0.12	0.008
75-99	1	6.54	1.19	0.552
	2	4.75	0.23	0.192
	3	2.74	0.12	0.192
	4 Phase-Out	2.74	0.12	0.008
	4 Phase-In/ Alternate NOx	2.14	0.11	0.008
	4 Final	0.26	0.06	0.008
100-174	1	6.54	0.82	0.274
	2	4.17	0.19	0.128
	3	2.32	0.12	0.112
	4 Phase-Out	2.32	0.12	0.008
	4 Phase-In/ Alternate NOx	2.15	0.06	0.008
	4 Final	0.26	0.06	0.008
175-299	1	5.93	0.38	0.108
	2	4.15	0.12	0.088
	3	2.32	0.12	0.088
	4 Phase-Out	2.32	0.12	0.008
	4 Phase-In/ Alternate NOx	1.29	0.08	0.008
	4 Final	0.26	0.06	0.008

## **Incentive Funding**

ARB, PG&E, SCE, San Joaquin Valley APCD, Santa Barbara APCD Moyer staff, and a local company that secured ERCs by replacing combustion engines with electric motors were contacted to see if it is possible to come up with generic costs to replace a diesel pump engine with an electric motor. This proved to be very difficult because: (1) costs are driven by site specific considerations; and (2) many district grant programs placed different restrictions on eligible costs (e.g., motor only).

The San Joaquin Valley APCD indicated that its program covered 50% to 80% of total project costs and paid \$150 per motor hp.

The handful of projects funded by the Santa Barbara APCD came in at \$259 per installed motor hp. It appears that the cost component of these projects included labor and required components in addition to the motor. This dollar amount/hp is in the range estimated by the San Joaquin Valley APCD (\$188 to \$300 per hp). So this value was used.

We assumed that engine owner would be willing to pay 20% of the project costs. Hence, the per hp estimated APCD cost is \$207/installed hp (80% X \$257).

A major problem with electrification of ag pump engines is the availability of grid power. Having to extend grid power can radically increase costs. Without doing site specific assessments, it is impossible to determine which engines require extensions, how long and over what type of terrain. Move over, there are no publically available maps that show the full power network.

For this assessment we therefore assumed that average replacement would require a one mile grid extension. PG&E roughly estimated costs at \$25/foot; which is \$132,000 per mile. Mr. Glenn Oliver, Feeport-McMoRan Oil & Gas, said a grid extension cost them \$314,000/mile. For this assessment we assumed \$35/foot.

## **Reductions Per Average Project**

For remote engines per project emission reductions were calculation by converting the difference between the actual emissions and emissions of a Tier 4 engine operating at the same hours and load. For nonremote engines per project emission reductions were calculated using the difference between Tier 3 emissions and Tier 4 emissions of an engine operating at the same hours and load.

## **Average District Cost Per Project**

The average district cost was derived by multiplying the average hp per category by 60%, to reflect the fact that electric motor hp is typically ~60% that of the diesel engine they replace (discussion with PG&E and ARB). That hp was then multiplied by the cost/hp value as given in the incentive funding section above. For costs with the mile grid extension, the \$35/hp or \$184,800 per mile cost was added to the engine replacement costs.

**Project Life**

This is the life allowed under APCD regulations (there is actually no limit).

**ERC Cost-Effectiveness**

ERC Cost-Effectiveness is the total cost to replace all engines per category divided by the total amount of pollution reduced for that category, per pollutant, in tons per year.

Doc Type	Permit Number	Permit Suffix	Permit Status	Device No	Application Date	Final Issued Date	Company Name	Operator Company Name	New In Use	Engine Use	Remote Engine	Stationary Portable ATCM	Facility No	Facility Desc
<b>ACTIVE REMOTE STATIONARY ENGINES</b>														
Reg	12493		Active	111009	02/19/2008	03/19/2008	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Water Well Pump	1	Stationary ATCM	11317	Grimmway - Simon/Foothill (PE029,PE211,PE297)
Reg	12523		Active	111240	02/28/2008	05/20/2008	Sutter Home Vineyards	Sutter Home Vineyards	InUse	Irrigation Pump	1	Stationary ATCM	10965	Los Alamos Vineyard
Reg	13633		Active	108417	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Water Well Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13641		Active	109348	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Water Well Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13642		Active	112030	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Water Well Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	12563		Active	111316	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Water Well Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12566		Active	111321	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Water Well Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12567		Active	111322	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Water Well Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12534		Active	111272	02/29/2008	05/28/2008	Aguajitos Ranch	Aguajitos Ranch	InUse	Electrical Power	1	Stationary ATCM	10971	Aguajitos Ranch
Reg	12747		Active	111450	05/14/2008	07/25/2008	Cambria Vineyards	Cambria Vineyards	InUse	Water Well Pump	1	Stationary ATCM	10934	Cambria Vineyards
Reg	12748		Active	111462	05/14/2008	07/24/2008	Cambria Vineyards	Cambria Vineyards	InUse	Water Well Pump	1	Stationary ATCM	10934	Cambria Vineyards
Reg	12779	01	Active	111487	06/04/2012	06/08/2012	El Rancho Espanol de Cuyama	El Rancho Espanol de Cuyama	InUse	Irrigation Pump	1	Stationary ATCM	11062	El Rancho Espanol de Cuyama
Reg	12780	01	Active	111488	06/04/2012	06/08/2012	El Rancho Espanol de Cuyama	El Rancho Espanol de Cuyama	New	Irrigation Pump	1	Stationary ATCM	11062	El Rancho Espanol de Cuyama
Reg	12781	01	Active	111489	06/05/2012	06/08/2012	El Rancho Espanol de Cuyama	El Rancho Espanol de Cuyama	InUse	Irrigation Pump	1	Stationary ATCM	11062	El Rancho Espanol de Cuyama
Reg	12796		Active	111498	06/12/2008	07/22/2008	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Water Well Pump	1	Stationary ATCM	11069	Grimmway Richards-Serrano Ranch (PE312, PE313)
Reg	12751	01	Active	114878	07/03/2012	07/26/2012	Cambria Vineyards	Cambria Vineyards	In-Use	Water Well Pump	1	Stationary ATCM	11403	Cambria Vineyards - Santa Maria Mesa Road
Reg	13553	01	Active	113673	08/01/2012	08/17/2012	Menzies Ranch	Kern Ridge Growers, LLC.	In-Use	Water Well Pump	1	Stationary ATCM	11338	Kern Ridge Growers - Menzies Ranch
Reg	13552	01	Active	113656	08/19/2012	08/17/2012	Menzies Ranch	Kern Ridge Growers, LLC.	In-Use	Water Well Pump	1	Stationary ATCM	11338	Kern Ridge Growers - Menzies Ranch
Reg	12898		Active	111835	09/15/2008	09/18/2008	El Rancho Tajiguas	El Rancho Tajiguas	InUse	Water Well Pump	1	Stationary ATCM	11106	El Rancho Tajiguas
Reg	12899		Active	111836	09/15/2008	09/18/2008	El Rancho Tajiguas	El Rancho Tajiguas	InUse	Water Well Pump	1	Stationary ATCM	11106	El Rancho Tajiguas
Reg	12946		Active	111893	10/16/2008	10/24/2008	Thompson Ranch	Thompson Ranch	InUse	Water Well Pump	1	Stationary ATCM	11118	Thompson Ranch
Reg	12412		Active	110798	11/19/2007	02/22/2008	Cambria Vineyards	Cambria Vineyards	New	Other	1	Stationary ATCM	10934	Cambria Vineyards
Reg	14023		Active	111484	10/15/2012	10/19/2012	Cambria Vineyards	Cambria Vineyards	New	Water Well Pump	1	Stationary ATCM	11048	Cambria Vineyards - Byron
Reg	12411		Active	110659	11/19/2007	02/22/2008	Cambria Vineyards	Cambria Vineyards	New	Other	1	Stationary ATCM	10934	Cambria Vineyards
Reg	12410		Active	110866	11/19/2007	02/22/2008	Cambria Vineyards	Cambria Vineyards	New	Other	1	Stationary ATCM	10934	Cambria Vineyards
<b>ACTIVE REMOTE STATIONARY ENGINES Emission Totals and Engine HP average</b>														
<b>ACTIVE REMOTE BOOSTER ENGINES</b>														
Reg	12511	01	Active	111221	01/09/2009	01/15/2009	Innovative Produce, Inc.	Innovative Produce, Inc.	InUse	Booster Pump	1	Stationary ATCM	10962	Innovative Produce, Inc.
Reg	12512	01	Active	111222	01/09/2009	01/15/2009	Innovative Produce, Inc.	Innovative Produce, Inc.	InUse	Booster Pump	1	Stationary ATCM	10962	Innovative Produce, Inc.
Reg	12491	02	Active	386200	02/14/2013	03/29/2013	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Booster Pump	1	Stationary ATCM	11401	Grimmway Farms - Harvey Russell North Yard (PE213)
Reg	12492	02	Active	114792	02/14/2013	03/29/2013	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Booster Pump	1	Stationary ATCM	11317	Grimmway - Simon/Foothill (PE029,PE211,PE297)
Reg	13632	03	Active	386256	02/14/2013	03/29/2013	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	1	Stationary ATCM	11317	Grimmway - Simon/Foothill (PE029,PE211,PE297)
Reg	13635		Active	109349	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13636		Active	109350	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13637		Active	109351	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13638		Active	109354	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13640		Active	109353	02/28/2011	03/15/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	12564		Active	111317	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12569		Active	111324	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12571		Active	111326	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12573		Active	111332	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12574		Active	111333	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12575		Active	111334	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12577		Active	111336	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12578		Active	111337	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12579		Active	111340	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12580		Active	111341	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12581		Active	111342	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12582		Active	111344	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12583		Active	111346	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12584		Active	111350	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12586		Active	111356	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12587		Active	111357	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12588		Active	111359	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12589		Active	111360	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12590		Active	111361	02/29/2008	06/13/2008	Betteravia Farms	Betteravia Farms	InUse	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	13124		Active	112485	03/09/2009	03/20/2009	Betteravia Farms	Betteravia Farms	New	Booster Pump	1	Stationary ATCM	10846	Betteravia Farms
Reg	12756		Active	111486	05/19/2008	07/22/2008	Nojoqui Falls Ranch	Nojoqui Falls Ranch	InUse	Booster Pump	1	Stationary ATCM	11050	Nojoqui Falls Ranch
Reg	12501	01	Active	111197	06/06/2012	06/08/2012	Apache Canyon Ranch	Apache Canyon Ranch	InUse	Booster Pump	1	Stationary ATCM	10960	Apache Canyon Ranch
Reg	12502	01	Active	111196	06/06/2012	06/08/2012	Apache Canyon Ranch	Apache Canyon Ranch	InUse	Booster Pump	1	Stationary ATCM	10960	Apache Canyon Ranch
Reg	12797		Active	111499	06/12/2008	07/22/2008	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Booster Pump	1	Stationary ATCM	11069	Grimmway Richards-Serrano Ranch (PE312, PE313)
Reg	12535	01	Active	114953	08/09/2012	09/06/2012	Baroda Farms	Baroda Farms	In-Use	Booster Pump	1	Stationary ATCM	10937	Baroda Farms
Reg	12869		Active	111684	08/11/2008	08/18/2008	Cambria Vineyards	Cambria Vineyards	New	Booster Pump	1	Stationary ATCM	11048	Cambria Vineyards - Byron
Reg	12870		Active	111685	08/11/2008	08/18/2008	Cambria Vineyards	Cambria Vineyards	New	Booster Pump	1	Stationary ATCM	11048	Cambria Vineyards - Byron
Reg	12871		Active	111686	08/11/2008	08/18/2008	Cambria Vineyards	Cambria Vineyards	New	Booster Pump	1	Stationary ATCM	11048	Cambria Vineyards - Byron
Reg	14281		Active	386506	08/27/2013		W.m. Bolthouse Farms, Inc.	W.m. Bolthouse Farms, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10459	W.m. Bolthouse Farms
Reg	14282		Active	386507	08/27/2013		W.m. Bolthouse Farms, Inc.	W.m. Bolthouse Farms, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10459	W.m. Bolthouse Farms
Reg	14283		Active	386508	08/27/2013		W.m. Bolthouse Farms, Inc.	W.m. Bolthouse Farms, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10459	W.m. Bolthouse Farms
Reg	14284		Active	386509	08/27/2013		W.m. Bolthouse Farms, Inc.	W.m. Bolthouse Farms, Inc.	In-Use	Booster Pump	1	Stationary ATCM	10459	W.m. Bolthouse Farms
Reg	12540	01	Active	111286	09/27/2011	10/03/2011	Rancho Sisquoc	Rancho Sisquoc	InUse	Booster Pump	1	Stationary ATCM	10976	Flood Ranch Co. dba Rancho Sisquoc

Reg	12541	01	Active	111287	09/27/2011	10/03/2011	Rancho Sisquoc	Rancho Sisquoc	In-Use	Booster Pump	1	Stationary ATCM	10976	Flood Ranch Co. dba Rancho Sisquoc
Reg	13548		Active	113650	10/04/2010	03/21/2013	Campbell Ranches	Campbell Ranches	In-Use	Booster Pump	1	Stationary ATCM	11336	Campbell Ranches
Reg	13549		Active	113651	10/04/2010	03/21/2013	Campbell Ranches	Campbell Ranches	In-Use	Booster Pump	1	Stationary ATCM	11336	Campbell Ranches
Reg	13550		Active	113652	10/04/2010	03/21/2013	Campbell Ranches	Campbell Ranches	In-Use	Booster Pump	1	Stationary ATCM	11336	Campbell Ranches
<b>ACTIVE REMOTE BOOSTER ENGINES Emission Totals and Engine HP average</b>														
<b>ACTIVE NONREMOTE STATIONARY ENGINES</b>														
Reg	12530	01	Active	111248	01/09/2009	01/14/2009	Farmers' West	Farmers' West	In-Use	Electrical Power	0	Stationary ATCM	10967	Farmers' West
Reg	13602		Active	111289	01/24/2011	01/27/2011	Sierra Madre Ranch Holdings, LLC.	Mesa Vineyard Management	New	Irrigation Pump	0	Stationary ATCM	10979	Sierra Madre Ranch Holdings, LLC.
Reg	13603		Active	111290	01/24/2011	01/27/2011	Sierra Madre Ranch Holdings, LLC.	Mesa Vineyard Management	New	Water Well Pump	0	Stationary ATCM	10979	Sierra Madre Ranch Holdings, LLC.
Reg	13604		Active	111291	01/24/2011	01/27/2011	Sierra Madre Farms	Mesa Vineyard Management	New	Irrigation Pump	0	Stationary ATCM	10980	Sierra Madre Farms
Reg	12520		Active	111237	02/28/2008	05/20/2008	Sutter Home Vineyards	Sutter Home Vineyards	New	Irrigation Pump	0	Stationary ATCM	10965	Los Alamos Vineyard
Reg	12521		Active	111238	02/28/2008	05/20/2008	Sutter Home Vineyards	Sutter Home Vineyards	New	Water Well Pump	0	Stationary ATCM	10965	Los Alamos Vineyard
Reg	12522		Active	111239	02/28/2008	05/20/2008	Sutter Home Vineyards	Sutter Home Vineyards	New	Irrigation Pump	0	Stationary ATCM	10965	Los Alamos Vineyard
Reg	12524		Active	111241	02/28/2008	05/20/2008	Sutter Home Vineyards	Sutter Home Vineyards	New	Irrigation Pump	0	Stationary ATCM	10965	Los Alamos Vineyard
Reg	12525		Active	111242	02/28/2008	05/20/2008	Sutter Home Vineyards	Sutter Home Vineyards	New	Irrigation Pump	0	Stationary ATCM	10965	Los Alamos Vineyard
Reg	12551		Active	111302	02/29/2008	05/30/2008	OSR Enterprises, Inc.	OSR Enterprises, Inc.	In-Use	Other	0	Stationary ATCM	10981	OSR Enterprises, Inc.
Reg	12553		Active	111304	02/29/2008	05/30/2008	Main Street Farms, Inc.	Main Street Farms, Inc.	In-Use	Water Well Pump	0	Stationary ATCM	11058	Main Street Farms - Prell Road
Reg	12592		Active	111369	02/29/2008	06/24/2008	Santa Maria Public Airport District	G&S Farms	New	Water Well Pump	0	Stationary ATCM	10989	Santa Maria Public Airport District
Reg	12557		Active	111147	02/29/2008	10/06/2009	Boavista Farms	Boavista Farms	New	Irrigation Pump	0	Stationary ATCM	10985	Boavista Farms - Andrews Avenue
Reg	12591		Active	111368	02/29/2008	06/23/2008	Santa Maria Public Airport District	G&S Farms	New	Water Well Pump	0	Stationary ATCM	10989	Santa Maria Public Airport District
Reg	12603	01	Active	111386	03/11/2013	03/14/2013	Truth Tree Ranch	Truth Tree Ranch	In-Use	Other	0	Portable ATCM	10996	Truth Tree Ranch
Reg	12644	02	Active	111399	03/15/2012	04/02/2012	Chumash Vineyard, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	11010	Chumash Vineyard, LLC. - Camp 4
Reg	12645	02	Active	111402	03/15/2012	04/02/2012	Chumash Vineyard, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	11010	Chumash Vineyard, LLC. - Camp 4
Reg	12646	02	Active	111403	03/15/2012	04/02/2012	Chumash Vineyard, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	11010	Chumash Vineyard, LLC. - Camp 4
Reg	12647	02	Active	111404	03/15/2012	04/02/2012	Chumash Vineyard, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	11010	Chumash Vineyard, LLC. - Camp 4
Reg	12648	02	Active	111405	03/15/2012	04/02/2012	Chumash Vineyard, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	11010	Chumash Vineyard, LLC. - Camp 4
Reg	12649	02	Active	111406	03/15/2012	04/02/2012	Chumash Vineyard, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	11010	Chumash Vineyard, LLC. - Camp 4
Reg	12597	01	Active	111376	03/22/2012	03/27/2012	Happy Canyon Vineyards, LLC.	Coastal Vineyard Care Associates	In-Use	Irrigation Pump	0	Stationary ATCM	10993	Happy Canyon Vineyards, LLC. - Ag
Reg	12456	01	Active	110972	03/23/2010	03/26/2010	Acquistapace Farms	Acquistapace Farms	In-Use	Water Well Pump	0	Stationary ATCM	10943	Acquistapace Farms
Reg	13662		Active	113460	03/29/2011	04/05/2011	Tri-County Pistachio	Tri-County Pistachio	New	Water Well Pump	0	Stationary ATCM	11324	Tri-County Pistachio
Reg	13428		Active	113052	04/02/2010	05/10/2010	Colomos Berry Farms	Colomos Berry Farms	New	Water Well Pump	0	Stationary ATCM	11298	Colomos Berry Farms
Reg	13429		Active	113053	04/02/2010	05/10/2010	South Coast Ag Services	South Coast Ag Services	New	Water Well Pump	0	Stationary ATCM	11299	South Coast Ag Services
Reg	13436		Active	113054	04/12/2010	05/10/2010	Rincon Pacific	Rincon Pacific	In-Use	Water Well Pump	0	Stationary ATCM	11301	Rincon Pacific
Reg	13907		Active	110880	04/13/2012	05/18/2012	Ruby Farm, Inc.	Ruby Farm, Inc.	New	Water Well Pump	0	Stationary ATCM	10933	Ruby Farm, Inc. - 1955 A Street
Reg	12655		Active	111428	04/14/2008	10/01/2008	Primavera Harvest, Inc.	Primavera Harvest, Inc.	New	Water Well Pump	0	Stationary ATCM	11014	Primavera Harvest - Robinson Ranch
Reg	12509	01	Active	111215	05/03/2010	05/05/2010	Bradley Land Co.	Bradley Land Co.	New	Water Well Pump	0	Stationary ATCM	10961	Bradley Land Co.
Reg	13685		Active	113903	05/16/2011	06/06/2011	Windset Farms	Windset Farms	New	Electrical Power	0	Stationary ATCM	11360	Windset Farms
Reg	12503	01	Active	111195	06/06/2012	06/08/2012	Apache Canyon Ranch	Apache Canyon Ranch	In-Use	Other	0	Stationary ATCM	10960	Apache Canyon Ranch
Reg	12504	01	Active	111194	06/06/2012	06/08/2012	Apache Canyon Ranch	Apache Canyon Ranch	In-Use	Other	0	Stationary ATCM	10960	Apache Canyon Ranch
Reg	12505	01	Active	111193	06/06/2012	06/08/2012	Apache Canyon Ranch	Apache Canyon Ranch	New	Other	0	Stationary ATCM	10960	Apache Canyon Ranch
Reg	12609	01	Active	111396	06/06/2012	06/14/2012	Ruby Farm, Inc.	Ruby Farm, Inc.	In-Use	Water Well Pump	0	Stationary ATCM	10999	Ruby Farm, Inc.
Reg	12838		Active	111503	07/08/2008	10/02/2008	San Ysidro Farms, Inc.	San Ysidro Farms, Inc.	In-Use	Water Well Pump	0	Stationary ATCM	10936	San Ysidro Farms
Reg	14280		Active	386472	08/06/2013		Glad-Way Gardens	Glad-Way Gardens	New	Irrigation Pump	0	Stationary ATCM	11453	Glad-Way - Clark Ave.
Reg	12602	01	Active	111377	08/07/2012	08/17/2012	Kamap Property Management	Kamap Property Management	New	Other	0	Portable ATCM	10995	Rancho Vista Del Mundo
Reg	13459		Active	113190	06/04/2010	06/10/2010	Baroda Farms	Baroda Farms	New	Irrigation Pump	0	Stationary ATCM	10937	Baroda Farms
Reg	12401		Active	110797	11/13/2007	03/04/2008	Boavista Farms	Boavista Farms	In-Use	Water Well Pump	0	Stationary ATCM	10931	Boavista Farms
Reg	12425		Active	110888	11/21/2007	03/05/2008	Betteravia Farms	Betteravia Farms	New	Water Well Pump	0	Stationary ATCM	10846	Betteravia Farms
Reg	12426		Active	110926	11/21/2007	03/05/2008	Betteravia Farms	Betteravia Farms	New	Water Well Pump	0	Stationary ATCM	10846	Betteravia Farms
Reg	12427		Active	110927	11/21/2007	03/05/2008	Betteravia Farms	Betteravia Farms	New	Water Well Pump	0	Stationary ATCM	10846	Betteravia Farms
Reg	12428		Active	110928	11/21/2007	03/05/2008	Betteravia Farms	Betteravia Farms	New	Water Well Pump	0	Stationary ATCM	10846	Betteravia Farms
Reg	12429		Active	110930	11/21/2007	03/05/2008	Betteravia Farms	Betteravia Farms	New	Water Well Pump	0	Stationary ATCM	10846	Betteravia Farms
Reg	12430		Active	110661	11/21/2007	03/05/2008	Betteravia Farms	Betteravia Farms	New	Water Well Pump	0	Stationary ATCM	10846	Betteravia Farms
Reg	13299		Active	110881	09/21/2009	10/06/2009	Boavista Farms	Boavista Farms	In-Use	Irrigation Pump	0	Stationary ATCM	10957	Boavista Farms - The Dias Ranch
<b>ACTIVE NONREMOTE STATIONARY ENGINES Emission Totals and Engine HP average</b>														
<b>ACTIVE NONREMOTE BOOSTER ENGINES</b>														
Reg	13639	02	Active	386253	02/14/2013	03/29/2013	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	In-Use	Booster Pump	0	Stationary ATCM	11428	Grimmway Farms - Serrano 01 (PE242)
Reg	13629		Active	111186	02/24/2011	03/03/2011	Colli Farms Inc.	Colli Farms Inc.	New	Booster Pump	0	Stationary ATCM	10958	Colli Farms Inc
Reg	12527		Active	111245	02/29/2008	05/20/2008	County of Santa Barbara/Laguna Sanitation District	County of Santa Barbara/Laguna Sanitation District	In-Use	Booster Pump	0	Stationary ATCM	10966	Laguna Sanitation District WWTP
Reg	12529		Active	111247	02/29/2008	05/20/2008	County of Santa Barbara/Laguna Sanitation District	County of Santa Barbara/Laguna Sanitation District	In-Use	Booster Pump	0	Stationary ATCM	10966	Laguna Sanitation District WWTP
Reg	12554		Active	111305	02/29/2008	05/30/2008	Main Street Farms, Inc.	Main Street Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10982	Main Street Farms - Main Street
Reg	12556		Active	111307	02/29/2008	05/30/2008	Main Street Farms, Inc.	Main Street Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10982	Main Street Farms - Main Street
Reg	12560		Active	111541	02/29/2008	10/01/2008	Joseph & Sons, Inc.	Joseph & Sons, Inc.	New	Booster Pump	0	Stationary ATCM	10988	Joseph & Sons, Inc.
Reg	12526		Active	111244	02/29/2008	05/20/2008	County of Santa Barbara/Laguna Sanitation District	County of Santa Barbara/Laguna Sanitation District	New	Booster Pump	0	Stationary ATCM	10966	Laguna Sanitation District WWTP
Reg	12531	01	Active	111249	03/11/2010	04/28/2010	Destiny Farms, LLC.	Destiny Farms, LLC.	In-Use	Booster Pump	0	Stationary ATCM	10968	Destiny Farms, LLC.
Reg	12517	01	Active	111233	03/14/2013	04/12/2013	Teixeira Farms, Inc.	Teixeira Farms, Inc.	In-Use	Booster Pump	0	Stationary ATCM	02468	Teixeira Farms, Inc.
Reg	12518	01	Active	111234	03/14/2013	04/12/2013	Teixeira Farms, Inc.	Teixeira Farms, Inc.	New	Booster Pump	0	Stationary ATCM	02468	Teixeira Farms, Inc.
Reg	12519	01	Active	111235	03/14/2013	04/12/2013	Teixeira Farms, Inc.	Teixeira Farms, Inc.	New	Booster Pump	0	Stationary ATCM	02468	Teixeira Farms, Inc.
Reg	13454	01	Active	113154	03/22/2012	04/01/2012	Harbor View Farms, LLC.	Harbor View Farms, LLC.	In-Use	Booster Pump	0	Stationary ATCM	11310	Boyd Ranch
Reg	13653		Active	111229	03/30/2011	04/05/2011	B & D Farms Inc.	B & D Farms Inc.	New	Booster Pump	0	Stationary ATCM	10963	B & D Farms - Eleventh Street
Reg	13664		Active	111230	03/30/2011	04/05/2011	B & D Farms Inc.	B & D Farms Inc.	New	Booster Pump	0	Stationary ATCM	10963	B & D Farms - Eleventh Street

Reg	12414	01	Active	110833	04/24/2008	05/14/2008	River Edge Farms	River Edge Farms	New	Booster Pump	0	Stationary ATCM	11004	River Edge Farms -5793 W. Main
Reg	12508	01	Active	111214	05/03/2010	05/05/2010	Bradley Land Co.	Bradley Land Co.	In-Use	Booster Pump	0	Stationary ATCM	10961	Bradley Land Co.
Reg	13687		Active	113911	05/18/2011	06/06/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Booster Pump	0	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13688		Active	113912	05/18/2011	06/06/2011	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Booster Pump	0	Stationary ATCM	10735	Grimmway Farms - Cuyama
Reg	13458		Active	113191	06/04/2010	06/10/2010	Baroda Farms	Baroda Farms	New	Booster Pump	0	Stationary ATCM	10937	Baroda Farms
Reg	13465	01	Active	111191	06/04/2012	06/08/2012	Gold Coast Farms, Inc.	Gold Coast Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10959	Gold Coast Farms
Reg	12515	01	Active	111231	06/04/2012	06/11/2012	B & D Farms Inc.	B & D Farms Inc.	InUse	Booster Pump	0	Stationary ATCM	11047	B & D Farms - Flowers Street
Reg	13503	01	Active	113461	06/05/2012	06/08/2012	Tri-County Pistachio	Tri-County Pistachio	In-Use	Electrical Power	0	Stationary ATCM	11324	Tri-County Pistachio
Reg	12607	02	Active	111394	06/06/2012	06/14/2012	Ruby Farm, Inc.	Ruby Farm, Inc.	In-Use	Booster Pump	0	Stationary ATCM	10999	Ruby Farm, Inc.
Reg	12608	01	Active	111395	06/06/2012	06/14/2012	Safari Harvesting & Farming	Safari Harvesting & Farming	In-Use	Booster Pump	0	Stationary ATCM	11395	Safari Harvesting
Reg	13466	02	Active	111192	06/21/2012	06/22/2012	Gold Coast Farms, Inc.	Gold Coast Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10959	Gold Coast Farms
Reg	12689	01	Active	111429	06/23/2010	07/07/2010	Grimmway Enterprises, Inc.	Grimmway Enterprises, Inc.	New	Booster Pump	0	Stationary ATCM	11023	Grimmway - Erro Dairy Ranch (PE293)
Reg	13518		Active	113528	08/16/2010	09/02/2010	Main Street Farms, Inc.	Main Street Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10982	Main Street Farms - Main Street
Reg	13519		Active	113527	08/16/2010	09/02/2010	Main Street Farms, Inc.	Main Street Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10982	Main Street Farms - Main Street
Reg	13520		Active	113524	08/16/2010	09/02/2010	Cambria Vineyards	Cambria Vineyards	New	Booster Pump	0	Stationary ATCM	11048	Cambria Vineyards - Byron
Reg	13540		Active	113557	09/23/2010	09/29/2010	Glad-a-Way Gardens	Glad-a-Way Gardens	New	Booster Pump	0	Stationary ATCM	11002	Glad-a-Way Por la Mar
Reg	13541		Active	113558	09/23/2010	09/29/2010	Glad-a-Way Gardens	Glad-a-Way Gardens	New	Booster Pump	0	Stationary ATCM	11001	Sanders Ranch #7
Reg	12417		Active	110870	11/19/2007	03/04/2008	San Ysidro Farms, Inc.	San Ysidro Farms, Inc.	InUse	Booster Pump	0	Stationary ATCM	10936	San Ysidro Farms
Reg	12418		Active	110871	11/19/2007	03/04/2008	San Ysidro Farms, Inc.	San Ysidro Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10936	San Ysidro Farms
Reg	12416		Active	110868	11/19/2007	03/04/2008	San Ysidro Farms, Inc.	San Ysidro Farms, Inc.	New	Booster Pump	0	Stationary ATCM	10936	San Ysidro Farms
Reg	12422		Active	110855	11/21/2007	02/26/2008	Baroda Farms	Baroda Farms	InUse	Booster Pump	0	Stationary ATCM	10937	Baroda Farms
Reg	12438		Active	110932	12/12/2007	03/24/2008	Babe Farms, Inc.	Babe Farms, Inc.	InUse	Booster Pump	0	Stationary ATCM	10940	Babe Farms
Reg	12439		Active	110933	12/12/2007	03/24/2008	Babe Farms, Inc.	Babe Farms, Inc.	InUse	Booster Pump	0	Stationary ATCM	10940	Babe Farms
Reg	12451		Active	110936	12/27/2007	03/18/2008	Laetitia Vineyard and Winery	Laetitia Vineyard and Winery	InUse	Booster Pump	0	Stationary ATCM	10941	Laetitia Vineyard and Winery
Reg	12452		Active	110938	12/27/2007	03/18/2008	Laetitia Vineyard and Winery	Laetitia Vineyard and Winery	InUse	Booster Pump	0	Stationary ATCM	10941	Laetitia Vineyard and Winery

ACTIVE NONREMOTE BOOSTER ENGINES Emission Totals and Engine HP average

Facility Address	Facility City	Assessor Parcel Number	Coordinate System	Coordinates	Located Within One Quarter Mile Of RSHArea	Is ESGenerator Exempt	Is Rental Unit	Make
Simon/Foothill (PE211, PE213, PE297)	Cuyama	149-150-23	Lat/Long	34 deg 54 min 18.241 sec N, 119 deg 34 min 6.715 sec W	0	0	0	Caterpillar
8090 Cat Canyon Road	Los Alamos	101-300-05	Lat/Long	34 deg 46 min 0.570 sec N, 120 deg 15 min 4.770 sec W	0	0	0	Deutz
Grimmway Farms - Cuyama	Cuyama	149-310-003	DecimalLat/Long	None	0	0	0	2004
Grimmway Farms - Cuyama	Cuyama	149-310-002	DecimalLat/Long	None	0	0	0	1991
Grimmway Farms - Cuyama	Cuyama	149-300-004	DecimalLat/Long	None	0	0	0	Caterpillar
1/2 Mile North of Brown Road	Santa Maria	99-010-49	Lat/Long	34 deg 45 min 53.834 sec N, 120 deg 26 min 12.411 sec W	0	0	0	Cummins
1/2 Mile North of Brown Road	Santa Maria	113-100-20	Lat/Long	34 deg 56 min 13.770 sec N, 120 deg 32 min 49.220 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-080-23	Lat/Long	34 deg 56 min 13.770 sec N, 120 deg 32 min 49.220 sec W	0	0	0	Deutz
575 Refugio Canyon Road	Goleta	81-100-24	Lat/Long	34 deg 30 min 29.990 sec N, 120 deg 4 min 4.655 sec W	0	1	0	Deutz
		129-220-051	Lat/Long	34 deg 52 min 29.040 sec N, 120 deg 15 min 28.610 sec W	0	0	0	Volvo Penta
		129-110-007	Lat/Long	34 deg 52 min 29.040 sec N, 120 deg 15 min 28.610 sec W	0	0	0	Volvo Penta/Deutz
Mile Marker 47, Highway 166	New Cuyama	147-010-003,004,005,006,007,009,010,011,012	Lat/Long	35 deg 2 min 20.820 sec N, 119 deg 57 min 41.340 sec W	0	0	0	Perkins
Mile Marker 47, Highway 166	New Cuyama	147-010-003,004,005,006,007,009,010,011,012	Lat/Long	34 deg 2 min 20.820 sec N, 119 deg 57 min 41.340 sec W	0	0	0	Perkins
Mile Marker 47, Highway 166	New Cuyama	147-010-003,004,005,006,007,009,010,011,012	Lat/Long	35 deg 2 min 20.820 sec N, 119 deg 57 min 41.340 sec W	0	0	0	Allis Chalmers
Richards-Serrano Ranch (PE312, PE313)	Cuyama	149-170-13, 12	DecimalLat/Long	None	0	0	0	Caterpillar
6175 Santa Maria Mesa Road	Santa Maria	129220054	Lat/Long	34 deg 51 min 46.250 sec N, 120 deg 15 min 40.610 sec W	0	0	0	Deutz
		151-060-002	Lat/Long	34 deg 47 min 22.900 sec N, 119 deg 26 min 54.800 sec W	0	0	0	Caterpillar
		151-060-002	Lat/Long	34 deg 47 min 22.900 sec N, 119 deg 26 min 49.300 sec W	0	0	0	Caterpillar
14000 Calle Real	Goleta	081-010-08	Lat/Long	34 deg 28 min 3.830 sec N, 120 deg 6 min 23.310 sec W	0	0	0	John Deere
14000 Calle Real	Goleta	081-010-60	Lat/Long	34 deg 28 min 3.830 sec N, 120 deg 6 min 23.310 sec W	0	0	0	John Deere
1 Mile North of Palmer Road on Hwy 101	Santa Maria	101-060-002	Lat/Long	34 deg 48 min 25.600 sec N, 120 deg 20 min 37.100 sec W	0	0	0	John Deere
		129-110-007	Lat/Long	34 deg 52 min 42.000 sec N, 120 deg 16 min 51.000 sec W	0	0	0	Volvo Penta
5475 Chardonnay Lane	Santa Maria	129-220-052	Lat/Long	34 deg 51 min 47.960 sec N, 120 deg 14 min 42.850 sec W	0	0	0	New Holland
		129-110-007	Lat/Long	34 deg 52 min 42.000 sec N, 120 deg 16 min 51.000 sec W	0	0	0	Volvo Penta
		129-110-007	Lat/Long	34 deg 52 min 42.000 sec N, 120 deg 16 min 51.000 sec W	0	0	0	Volvo Penta
2325 Bonita Lateral Road	Santa Maria	117-160-22, 117-160-02, 117-020-16	Lat/Long	34 deg 58 min 22.280 sec N, 120 deg 29 min 47.130 sec W	0	0	0	John Deere
2325 Bonita Lateral Road	Santa Maria	117-160-22, 117-160-02, 117-020-16	Lat/Long	34 deg 58 min 22.280 sec N, 120 deg 29 min 47.130 sec W	0	0	0	John Deere
Harvey Russell North Yard (PE029)	Cuyama	149-160-32	DecimalLat/Long	None	0	0	0	Caterpillar
Simon/Foothill (PE211, PE213, PE297)	Cuyama	149-170-13	DecimalLat/Long	None	0	0	0	Caterpillar
Simon/Foothill (PE211, PE213, PE297)	Cuyama	149-310-002	DecimalLat/Long	None	0	0	0	Caterpillar
Grimmway Farms - Cuyama	Cuyama	149-300-004	DecimalLat/Long	None	0	0	0	2006
Grimmway Farms - Cuyama	Cuyama	149-010-030	DecimalLat/Long	None	0	0	0	2006
Grimmway Farms - Cuyama	Cuyama	149-310-003	DecimalLat/Long	None	0	0	0	2006
Grimmway Farms - Cuyama	Cuyama	149-310-003	DecimalLat/Long	None	0	0	0	2006
Grimmway Farms - Cuyama	Cuyama	149-300-004	DecimalLat/Long	None	0	0	0	2006
1/2 Mile North of Brown Road	Santa Maria	113-140-10	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	128-064-05	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	128-064-05	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-064-02	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-140-10	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	128-064-05	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-050-49	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	92-231-01	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-080-06	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-080-06	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-140-10	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-050-49	Lat/Long	34 deg 57 min 22.160 sec N, 120 deg 28 min 16.800 sec W	0	0	0	Ishikawajima-Shibaura
3000 Allis Road	Gaviota	081-020-031	Lat/Long	34 deg 31 min 53.000 sec N, 120 deg 11 min 30.000 sec W	0	0	0	Deutz
Apache Canyon Ranch	Maricopa	096-211-044	Lat/Long	34 deg 54 min 17.665 sec N, 119 deg 31 min 5.519 sec W	0	0	0	Cummins
Apache Canyon Ranch	Maricopa	149-170-09	Lat/Long	34 deg 53 min 14.326 sec N, 119 deg 30 min 53.962 sec W	0	0	0	Cummins
Richards-Serrano Ranch (PE312, PE313)	Cuyama	149-170-13,12	DecimalLat/Long	None	0	0	0	Caterpillar
4305 W. Central Avenue	Lompoc	093-040-27	Lat/Long	34 deg 39 min 53.360 sec N, 120 deg 29 min 19.270 sec W	0	0	0	John Deere
5475 Chardonnay Lane	Santa Maria	129-220-052	Lat/Long	34 deg 51 min 25.610 sec N, 120 deg 14 min 5.530 sec W	0	0	0	John Deere
5475 Chardonnay Lane	Santa Maria	129-220-052	Lat/Long	34 deg 51 min 36.070 sec N, 120 deg 14 min 47.060 sec W	0	0	0	John Deere
5475 Chardonnay Lane	Santa Maria	129-220-029	Lat/Long	24 deg 51 min 36.540 sec N, 12 deg 13 min 47.740 sec W	0	0	0	John Deere
Santa Ynez River	Santa Ynez		Lat/Long	34 deg 54 min 20.100 sec N, 119 deg 32 min 50.100 sec W	0	0	0	Cummins
Santa Ynez River	Santa Ynez		Lat/Long	34 deg 55 min 40.100 sec N, 119 deg 39 min 60.100 sec W	0	0	0	John Deere
Santa Ynez River	Santa Ynez		Lat/Long	34 deg 54 min 5.100 sec N, 119 deg 34 min 30.100 sec W	0	0	0	John Deere
Santa Ynez River	Santa Ynez		Lat/Long	34 deg 55 min 20.100 sec N, 119 deg 31 min 30.100 sec W	0	0	0	John Deere
6600 Foxen Canyon Road	Santa Maria	33-010-14	Lat/Long	34 deg 50 min 54.000 sec N, 120 deg 14 min 30.860 sec W	0	0	0	John Deere

6600 Foxen Canyon Road	Santa Maria	33-010-14	LatLong	34 deg 50 min 54.000 sec N, 120 deg 14 min 30.860 sec W	0	0	0	John Deere
1119 W. Laurel Avenue	Lompoc			None	0	0	0	John Deere
1119 W. Laurel Avenue	Lompoc			None	0	0	0	Detroit
1119 W. Laurel Avenue	Lompoc		UTM	0 m E, 0 m N (Zone: 0, Datum: 0)	0	0	0	John Deere
5300 Foothill Road	Carpinteria	001-020-030, 001-020-031, 001-020-006, 001-020-032	LatLong	34 deg 24 min 38.400 sec N, 119 deg 30 min 24.320 sec W	0	1	0	Caterpillar
2570 Prell Road	Santa Maria	129-010-07	LatLong	34 deg 54 min 20.460 sec N, 120 deg 22 min 4.990 sec W	0	0	0	Cummins
2570 Prell Road	Santa Maria	129-020-040	LatLong	34 deg 54 min 56.340 sec N, 120 deg 21 min 24.640 sec W	0	0	0	Deutz
2570 Prell Road	Santa Maria	129-020-058, 129-020-062, 129-020-063	LatLong	34 deg 53 min 54.460 sec N, 120 deg 21 min 23.130 sec W	0	0	0	Cummins
8090 Cat Canyon Road	Los Alamos	101-300-06	LatLong	34 deg 45 min 3.090 sec N, 120 deg 15 min 28.280 sec W	0	0	0	Isuzu
8090 Cat Canyon Road	Los Alamos	101-300-05	LatLong	34 deg 45 min 36.130 sec N, 120 deg 15 min 31.310 sec W	0	0	0	John Deere
8090 Cat Canyon Road	Los Alamos	101-300-06	LatLong	34 deg 46 min 2.760 sec N, 120 deg 15 min 25.180 sec W	0	0	0	John Deere
8090 Cat Canyon Road	Los Alamos	101-300-06	LatLong	34 deg 45 min 37.500 sec N, 120 deg 15 min 58.300 sec W	1	0	0	John Deere
8090 Cat Canyon Road	Los Alamos	101-300-06	LatLong	34 deg 45 min 42.744 sec N, 120 deg 23 min 27.940 sec W	0	0	0	Deutz/John Perkins
8090 Cat Canyon Road	Los Alamos	128-095-03	LatLong	34 deg 54 min 48.980 sec N, 120 deg 22 min 26.670 sec W	1	0	0	Caterpillar/Perkins
2600 Prell Road	Santa Maria	128-100-014	LatLong	34 deg 54 min 39.700 sec N, 120 deg 28 min 25.770 sec W	0	0	0	John Deere
3998 Andrews Avenue	Garey	111-231-17	LatLong	34 deg 53 min 16.910 sec N, 120 deg 18 min 31.580 sec W	0	0	0	Deutz
1550 Farren Road	Goleta	79-060-45	LatLong	34 deg 28 min 50.550 sec N, 119 deg 55 min 10.500 sec W	0	0	0	Perkins
4070 Baseline	Santa Ynez	141-121-51-00, 141-140-10-00	LatLong	34 deg 38 min 7.510 sec N, 120 deg 3 min 29.390 sec W	1	0	0	Deutz
4070 Baseline	Santa Ynez	141-121-51-00, 141-140-10-00	LatLong	34 deg 37 min 7.510 sec N, 120 deg 3 min 29.390 sec W	1	0	0	Deutz
4070 Baseline	Santa Ynez	141-121-51-00, 141-140-10-00	LatLong	34 deg 38 min 7.510 sec N, 120 deg 3 min 29.390 sec W	1	0	0	Deutz
4070 Baseline	Santa Ynez	141-121-51-00, 141-140-010-00	LatLong	34 deg 38 min 7.510 sec N, 120 deg 3 min 29.390 sec W	1	0	0	Deutz
4070 Baseline	Santa Ynez	141-121-51-00, 141-140-010-00	LatLong	34 deg 38 min 7.510 sec N, 120 deg 3 min 29.390 sec W	1	0	0	Deutz
1140 Secretariat Drive	Santa Ynez	141-250-009	LatLong	34 deg 36 min 24.990 sec N, 120 deg 1 min 41.870 sec W	0	0	0	Deutz
1615 W. Main Street	Santa Maria		LatLong	34 deg 55 min 21.410 sec N, 120 deg 33 min 47.740 sec W	0	0	0	Deutz
3380 Highway 33	Maricopa	149-220-022	LatLong	34 deg 51 min 21.000 sec N, 119 deg 29 min 5.000 sec W	0	0	0	Deutz
1735 A Street	Santa Maria	117-82-016	LatLong	34 deg 55 min 47.540 sec N, 120 deg 27 min 57.820 sec W	0	0	0	John Deere
1750 E. Betteravia Road	Santa Maria		LatLong	34 deg 55 min 25.530 sec N, 120 deg 23 min 54.070 sec W	0	0	0	John Deere
1341 Prell Road	Santa Maria	128-092-04	LatLong	34 deg 55 min 6.160 sec N, 120 deg 24 min 48.850 sec W	0	0	0	Caterpillar
1955 A Street	Santa Maria	117-770-01	LatLong	34 deg 55 min 11.000 sec N, 120 deg 28 min 7.640 sec W	0	0	0	John Deere
Robinson Ranch	Santa Maria	111-040-007	LatLong	34 deg 54 min 54.480 sec N, 120 deg 28 min 16.880 sec W	0	0	0	John Deere
1650 Black Road	Santa Maria	129-010-001	LatLong	34 deg 53 min 45.600 sec N, 120 deg 23 min 57.200 sec W	0	0	0	Cummins
Apache Canyon Ranch	Maricopa	117-310-02	LatLong	34 deg 55 min 44.040 sec N, 120 deg 29 min 1.900 sec W	0	0	0	Caterpillar
Apache Canyon Ranch	Maricopa	149-170-10	LatLong	34 deg 53 min 47.835 sec N, 119 deg 30 min 20.442 sec W	0	0	0	Deutz
Apache Canyon Ranch	Maricopa	149-170-10	LatLong	34 deg 53 min 47.835 sec N, 119 deg 30 min 20.442 sec W	0	0	0	Deutz
Apache Canyon Ranch	Maricopa	149-170-10	LatLong	34 deg 53 min 47.835 sec N, 119 deg 30 min 20.442 sec W	0	0	0	Deutz
1735 A Street	Santa Maria		LatLong	34 deg 50 min 46.580 sec N, 120 deg 20 min 0.440 sec W	0	0	0	Caterpillar
San Ysidro Farms	Los Alamos		LatLong	34 deg 35 min 57.320 sec N, 126 deg 26 min 33.890 sec W	0	0	0	John Deere
2689 E. Clark	Santa Maria	129-010-012	LatLong	34 deg 33 min 45.490 sec N, 120 deg 23 min 57.020 sec W	0	0	0	John Deere
1400 San Marcos Pass Road	Santa Barbara	153-340-20	LatLong	34 deg 27 min 58.210 sec N, 119 deg 46 min 17.600 sec W	0	0	0	Morbank
4305 W. Central Avenue	Lompoc	093-020-013	LatLong	34 deg 40 min 11.240 sec N, 120 deg 31 min 56.930 sec W	0	0	0	John Deere
1565 Black Road	Santa Maria	113-120-09	LatLong	34 deg 56 min 6.420 sec N, 120 deg 29 min 27.180 sec W	0	0	0	Deutz
1/2 Mile North of Brown Road	Santa Maria	113-110-02	LatLong	34 deg 56 min 37.440 sec N, 120 deg 31 min 39.210 sec W	0	0	0	John Deere
1/2 Mile North of Brown Road	Santa Maria	113-110-02	LatLong	34 deg 56 min 56.190 sec N, 120 deg 31 min 57.920 sec W	0	0	0	John Deere
1/2 Mile North of Brown Road	Santa Maria	113-140-03	LatLong	34 deg 56 min 14.338 sec N, 120 deg 31 min 32.232 sec W	0	0	0	John Deere
1/2 Mile North of Brown Road	Santa Maria	113-050-50	LatLong	34 deg 57 min 54.889 sec N, 120 deg 31 min 16.324 sec W	0	0	0	John Deere
1/2 Mile North of Brown Road	Santa Maria	099-010-49	LatLong	34 deg 45 min 22.161 sec N, 120 deg 24 min 41.155 sec W	0	0	0	John Deere
1/2 Mile North of Brown Road	Santa Maria	099-010-49	DecimalLatLong	None	0	0	0	John Deere
3998 Andrews Avenue	Garey	129-100-07	LatLong	34 deg 52 min 45.000 sec N, 120 deg 18 min 29.000 sec W	0	0	0	Deutz
Serrano 01 (PE242)	Cuyama	149-170-12 & 13	DecimalLatLong	None	0	0	0	Caterpillar
830 Foxen Canyon Road	Santa Maria		LatLong	34 deg 55 min 11.730 sec N, 120 deg 21 min 38.910 sec W	1	0	0	John Deere
		113-24-005, 113-210-15, 113-240-011, 113-240-13	LatLong	34 deg 54 min 5.400 sec N, 120 deg 30 min 18.290 sec W	0	0	0	John Deere
		113-24-005, 113-210-15, 113-240-011, 113-240-13	LatLong	34 deg 53 min 59.940 sec N, 120 deg 30 min 21.700 sec W	0	0	0	John Deere
4300 W. Main Street	Guadalupe	113-080-024, 113-080-018	LatLong	34 deg 57 min 11.830 sec N, 120 deg 34 min 20.460 sec W	1	0	0	Deutz
4300 W. Main Street	Guadalupe	113-080-024, 113-080-018	LatLong	34 deg 57 min 21.370 sec N, 120 deg 34 min 10.190 sec W	1	0	0	Deutz
		113-24-005, 113-210-15, 113-240-011, 113-240-13	LatLong	34 deg 39 min 46.800 sec N, 120 deg 25 min 56.700 sec W	0	0	0	John Deere
		113-24-005, 113-210-15, 113-240-011, 113-240-13	LatLong	34 deg 54 min 30.120 sec N, 120 deg 31 min 42.980 sec W	0	0	0	John Deere
621 S. Smith Street	Santa Maria		LatLong	34 deg 56 min 49.440 sec N, 120 deg 26 min 35.420 sec W	1	0	0	Deutz
285 Ray Road	Santa Maria	113-090-10-000	LatLong	34 deg 57 min 12.550 sec N, 120 deg 30 min 16.810 sec W	0	0	0	John Deere
285 Ray Road	Santa Maria	113-090-10-000	LatLong	34 deg 57 min 12.550 sec N, 120 deg 30 min 16.810 sec W	1	0	0	John Deere
285 Ray Road	Santa Maria	113-090-10-000	LatLong	34 deg 57 min 12.550 sec N, 120 deg 30 min 16.810 sec W	1	0	0	John Deere
2701 Foxen Canyon Road	Santa Maria		LatLong	34 deg 54 min 44.840 sec N, 120 deg 21 min 7.410 sec W	0	0	0	John Deere
Eleventh Street	Guadalupe	113-040-01-00, 115-020-15-00, 115-043-02-00	LatLong	34 deg 58 min 22.690 sec N, 120 deg 33 min 25.600 sec W	1	0	0	International
Eleventh Street	Guadalupe	113-04001-00, 115-020-15-00, 115-043-02-00	LatLong	34 deg 58 min 22.690 sec N, 120 deg 33 min 25.600 sec W	1	0	0	John Deere

5793 W. Main Street	Guadalupe	113-030-02	LatLong	34 deg 58 min 7.000 sec N, 120 deg 36 min 16.000 sec W	0	0	0	Deutz
		129-010-001	LatLong	34 deg 53 min 45.600 sec N, 120 deg 23 min 57.200 sec W	0	0	0	Volvo Penta
Grimmway Farms - Cuyama	Cuyama	149-310-002	DecimalLatLong	None	0	0	0	Caterpillar
Grimmway Farms - Cuyama	Cuyama	149-310-002	DecimalLatLong	None	0	0	0	Caterpillar
4305 W. Central Avenue	Lompoc	093-020-013	LatLong	34 deg 40 min 11.240 sec N, 120 deg 31 min 56.930 sec W	0	0	0	John Deere
851 S. St. Highway 1	Guadalupe	113-070-07-00 3	LatLong	34 deg 56 min 42.900 sec N, 120 deg 34 min 49.500 sec W	0	0	0	Deutz
Flowers Street	Guadalupe	113-040-02-00	LatLong	34 deg 58 min 21.170 sec N, 120 deg 33 min 33.080 sec W	1	0	0	John Deere
3380 Highway 33	Maricopa	149-230-60	LatLong	34 deg 49 min 35.000 sec N, 119 deg 23 min 13.000 sec W	1	0	0	Cummins
1735 A Street	Santa Maria		LatLong	34 deg 55 min 24.840 sec N, 120 deg 24 min 52.820 sec W	0	0	0	Caterpillar
1238 E. Betteravia Road	Santa Maria		LatLong	34 deg 55 min 22.340 sec N, 120 deg 24 min 33.830 sec W	0	0	0	Caterpillar
851 S. St. Highway 1	Guadalupe	113-070-07 00 3	LatLong	34 deg 56 min 42.900 sec N, 120 deg 34 min 49.500 sec W	0	0	0	Deutz
		149-160-22	DecimalLatLong	None	0	0	0	Caterpillar
4300 W. Main Street	Guadalupe	113-080-024, 113-080-018	LatLong	34 deg 57 min 6.570 sec N, 120 deg 33 min 54.280 sec W	1	0	0	Deutz
4300 W. Main Street	Guadalupe	113-080-024, 113-080-018	LatLong	34 deg 57 min 6.570 sec N, 120 deg 33 min 54.280 sec W	1	0	0	Deutz
5475 Chardonnay Lane	Santa Maria	129-220-052	LatLong	34 deg 51 min 36.070 sec N, 120 deg 14 min 47.060 sec W	0	0	0	New Holland
1070 More Ranch Road	Goleta	129-170-13,14	LatLong	34 deg 25 min 9.460 sec N, 119 deg 48 min 50.210 sec W	0	0	0	Deutz
2650 E. Clark	Santa Maria	129-170-13, 14	LatLong	34 deg 51 min 27.300 sec N, 120 deg 21 min 38.840 sec W	0	0	0	Deutz
San Ysidro Farms	Los Alamos		LatLong	34 deg 56 min 35.340 sec N, 120 deg 33 min 2.980 sec W	1	0	0	Deutz
San Ysidro Farms	Los Alamos		LatLong	34 deg 56 min 35.340 sec N, 120 deg 33 min 2.980 sec W	1	0	0	John Deere
San Ysidro Farms	Los Alamos		LatLong	34 deg 56 min 35.340 sec N, 120 deg 33 min 2.980 sec W	1	0	0	Deutz
4305 W. Central Avenue	Lompoc	093-020-013	LatLong	34 deg 40 min 21.990 sec N, 120 deg 31 min 40.910 sec W	0	0	0	Cummins
1485 N. Blosser Road	Santa Maria	117-170-050	LatLong	34 deg 58 min 3.000 sec N, 120 deg 27 min 13.000 sec W	1	0	0	John Deere
1485 N. Blosser Road	Santa Maria	117-170-050	LatLong	34 deg 58 min 3.000 sec N, 120 deg 27 min 13.000 sec W	1	0	0	John Deere
3412 Hwy 33	Ventucopa	149-250-004	LatLong	34 deg 50 min 13.640 sec N, 119 deg 27 min 46.890 sec W	0	0	0	Deutz
3412 Hwy 33	Ventucopa	149-230-050	LatLong	34 deg 49 min 21.640 sec N, 119 deg 27 min 37.540 sec W	1	0	0	AB Volvo Penta

Model	Serial No	Operator ID	Physical Size	Model Year	EPAEngine Tier	EPAEngine Family	Annual Hours	Base NOx		Base ROG		Base PM		New NOx		New ROG		Total New PM	NOx lbs red	Total ROG lbs	ROG lbs red	PM Tons	PM lbs red	hp	
								Load	EF	EF	EF	EF	EF	EF	EF										
C27 ACERT	TWM00522	PE297	801	01/01/2007	2	7CPXL27.0ESL	2500	0.65	3.79	0.12	0.088	2.24	0.06	0.016	10,866	4,444	344	172	252	206	801				
BF6M1013CP	691749		228	02/01/2002	1	2DZXL07.1004	380	0.65	5.93	0.38	0.108	0.26	0.06	0.008	736	703	47	40	13	12	228				
C18TATAAC	WJH00103	PE190	575	01/01/2004	2	4CPXL6.1ESK	1000	0.65	3.79	0.12	0.088	0.26	0.06	0.008	3,120	2,906	99	49	72	66	575				
C27 ACERT	TWM00274	PE263	801	01/01/2006	2	6CPXL27.2ESL	3250	0.65	3.79	0.12	0.088	0.26	0.06	0.008	14,126	13,157	447	224	328	298	801				
C15 ACERT	JRE07247	PE331	440	01/01/2008	3	8CPXL15.2ESW	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	3,654	3,244	189	94	139	126	440				
QSM-11-C	35068538		275	09/01/2002	1	2CEXL0661AAC	3000	0.65	5.93	0.38	0.108	0.26	0.06	0.008	7,004	6,697	449	378	128	118	275				
BF6L914C	8689890		155	11/01/2004	2	4DZXL065038	2900	0.65	4.17	0.19	0.128	0.26	0.06	0.008	2,684	2,516	122	84	82	77	155				
BF6L914C	8689884		155	01/01/2004	2	4DZXL065037	3700	0.65	4.17	0.19	0.128	0.26	0.06	0.008	3,424	3,210	156	107	105	99	155				
td	td		83	Pre-1996	0	n/a	48								0	0	0	0	0	0					
TWD 740 VE	2071135239		275	01/01/2000	1	n/a	1500	0.65	5.93	0.38	0.108	0.26	0.06	0.008	3,502	3,349	224	189	64	59	275				
TAD 720 VE	5300625897		233	01/01/2001	1	1DZXL071004	3500	0.65	5.93	0.38	0.108	0.26	0.06	0.008	6,924	6,620	444	374	126	117	233				
YD50701U707605D			216	Pre-1996	0	n/a	1000	0.65	7.6	0.82	0.274	0.26	0.06	0.008	2,350	2,270	254	235	85	82	216				
11046-441	RG51236		95		2	7PKX1044RG1	800	0.65	4.75	0.23	0.192	0.26	0.06	0.008	517	489	25	18	21	20	95				
25000 1-7451-73631	25-04828		268	Pre-1996	0	n/a	100													0					
C13 ACERT	LGK10348	PE312	385	01/01/2008	3	8CPXL15ESK	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	3,197	2,839	165	83	121	110	385				
F6L914	8685743		117	01/01/2004	2	4DZXL065035	300	0.65	4.17	0.19	0.128	0.26	0.06	0.008	210	196	10	7	6	6	117				
n/a		N/A	200	01/01/1998	1	n/a														0					
3406 DI	92U66402		200	01/01/2000	1	n/a														0					
4239DF001	T04239D91234		78	Pre-1996	0	n/a	24													0					
4239DF001	T04239D191237		78	Pre-1996	0	n/a	24													0					
4045F275D			102	01/01/2003	2	3JDXL068041	2000	0.65	4.17	0.19	0.128	0.26	0.06	0.008	1,218	1,142	55	38	37	35	102				
TAD 942 VE	7009107347		340	01/01/2005	2	5VFXL09.4ACA	50													0					
S-140	0986831		156	01/01/2011	3	BNHXL06.7DAA	3000	0.65	2.32	0.12	0.112	0.26	0.06	0.008	1,555	1,380	80	40	75	70	156				
TAD 721 VE	5310011096		236	01/01/2005	2	5VFXL07.1034	55													0					
TAD 721 VE	5310011095		236	01/01/2005	2	5VFXL07.1034	25													0					
							No Engines:	16	Total emissions & reductions in tons & avg hp										32.54	27.58	1.56	1.07	0.83	0.75	231

4045F150	T04045T885294		110	01/01/2002	1	n/a	800	0.65	6.54	0.82	0.274	0.26	0.06	0.008	824	791	103	96	35	34	110
4045F150	T04045T744298		110	01/01/1997	1	n/a	800	0.65	6.54	0.82	0.274	0.26	0.06	0.008	824	791	103	96	35	34	110
3056E	35602163	PE213	174	01/01/2005	2	5PKXL06.0VK1	2500	0.65	4.17	0.19	0.128	0.26	0.06	0.008	2,597	2,435	118	81	80	75	174
3056E	35602161	PE211	174	01/01/2005	2	5PKXL06.0VK1	2500	0.65	4.17	0.19	0.128	0.26	0.06	0.008	2,597	2,435	118	81	80	75	174
3306DIT	64Z30489	PE029	190	01/01/2000	1	YCPXL10.5MRF	3250	0.65	5.93	0.38	0.108	0.26	0.06	0.008	5,243	5,013	336	283	95	88	190
C7 ACERT	JTF00428	PE236	225	01/01/2006	3	6CPXL07.2ESL	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,868	1,659	97	48	71	64	225
C7 ACERT	JTF00433	PE237	225	01/01/2006	3	6CPXL07.2ESL	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,868	1,659	97	48	71	64	225
C7 ACERT	JTF00437	PE238	225	01/01/2006	3	6CPXL07.2ESL	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,868	1,659	97	48	71	64	225
C7 ACERT	JTF00467	PE239	225	01/01/2006	3	6CPXL07.2ESL	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,868	1,659	97	48	71	64	225
C6.6 ACERT	66801163	PE243	202	01/01/2006	3	6PKXL06.6PJ1	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,677	1,489	87	43	64	58	202
8521269	101		101	10/01/1998	1	XDXL06.1008	2000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,891	1,816	237	220	79	77	101
BF6L912	837729		113	Pre-1996	0	n/a	2000	0.65	8.14	1.19	0.497	0.26	0.06	0.008	2,634	2,550	385	366	161	158	113
BF6L912	6435634		113	Pre-1996	0	n/a	1500	0.65	8.14	1.19	0.497	0.26	0.06	0.008	1,975	1,912	289	274	121	119	113
BF6L913	85024549		113	11/01/1997	1	VDZ61R8DARC	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8502550		113	11/01/1997	1	VDZ61R8DARC	1500	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,587	1,524	199	184	66	65	113
BF6L913	8496725		113	11/01/1997	1	VDZ61R8DARC	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8502547		113	11/01/1997	1	VDZ61R8DARC	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8536952		113	06/01/1998	1	WDZXL061009	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8537625		113	06/01/1998	1	WDZXL061007	2500	0.65	6.54	0.82	0.274	0.26	0.06	0.008	2,645	2,540	332	307	111	108	113
BF6L913	8537626		113	06/01/1998	1	WDZXL061009	1200	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,270	1,219	159	148	53	52	113
BF6L913	8501638		113	04/01/1998	1	WDZXL061009	1500	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,587	1,524	199	184	66	65	113
BF6L913	8501639		113	04/01/1998	1	WDZXL061009	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8501640		113	04/01/1998	1	WDZXL061009	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8501641		113	04/01/1998	1	WDZXL061009	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF6L913	8513693		113	11/01/1997	1	VDZ61R8DARC	1500	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,587	1,524	199	184	66	65	113
BF6L913	8537627		113	06/01/1998	1	WDZXL061009	1000	0.65	6.54	0.82	0.274	0.26	0.06	0.008	1,058	1,016	133	123	44	43	113
BF3L913	8537407		55	06/01/1998	1	WDZXL061007	2000	0.65	6.54	0.82	0.274	0.274	0.12	0.008	1,030	987	129	110	43	42	55
BF3L913	8537406		55	06/01/1998	1	WDZXL061007	1000	0.65	6.54	0.82	0.274	0.274	0.12	0.008	515	493	65	55	22	21	55
BF3L913	8537405		55	06/01/1998	1	WDZXL061007	1500	0.65	6.54	0.82	0.274	0.274	0.12	0.008	772	740	97	83	32	31	55
3024CT	G4P09098		69	02/01/2004	2	4H3XL2.22N4T	500	0.65													



BF4L914	tdb			97		2	5DZXL06.5043	2000	0.65	2.74	0.12	0.192	0.26	0.06	0.008	761	689	33	17	53	51	97		
TWD740VE	tdb			203	01/01/2001	1	n/a	4000	0.65	2.32	0.12	0.088	0.26	0.06	0.008	2,697	2,395	140	70	102	93	203		
C7 ACERT	JTF10796	PE414		225	01/01/2010	3	ACPXL07.2E5L	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,868	1,659	97	48	71	64	225		
C6.6 ACERT	66614479	PE415		202	01/01/2010	3	APXL06.6PJ1	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,677	1,489	87	43	64	58	202		
4045TF 280	PE4045L086422	10937		80	01/01/2009	3	9JDX0Y.5112	2400	0.65	2.74	0.12	0.192	0.26	0.06	0.008	753	682	33	16	53	51	80		
D914L06	8836660			116	01/01/2010	3	ADZXL06.5075	288													0			
4045D	T077732			80	01/01/1999	1	n/a	3382	0.65	2.74	0.12	0.192	0.26	0.06	0.008	1,061	961	46	23	74	71	80		
6CTA8.3-G2	45964586			75	01/01/2000	1	YCEXL0505ABA	1100	0.65	2.74	0.12	0.192	0.26	0.06	0.008	324	293	14	7	23	22	75		
3056	1ML01563			129	01/01/2000	1	n/a	452	0.65	2.32	0.12	0.088	0.26	0.06	0.008	194	172	10	5	7	7	129		
3056	1ML00809			129	01/01/2000	1	n/a	1272	0.65	2.32	0.12	0.088	0.26	0.06	0.008	545	484	28	14	21	19	129		
D914L05	8821685			97	01/01/2008	3	8DZXL06.5095	288													0			
C7 ACERT	JTF01990	PE293		225	01/01/2007	3	7CPXL0725SL	2500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,868	1,659	97	48	71	64	225		
D914L05	8828152	MSF #247		97	02/01/2009	3	9DZXL06.5095	1500	0.65	2.74	0.12	0.192	0.26	0.06	0.008	571	517	25	12	40	38	97		
D914L05	8828153	MSF #210		97	02/01/2009	3	9DZXL06.5095	1500	0.65	2.74	0.12	0.192	0.26	0.06	0.008	571	517	25	12	40	38	97		
4457A MLF	693751			125	09/01/2009	3	9NHXL04.5DAA	500	0.65	2.32	0.12	0.088	0.26	0.06	0.008	208	184	11	5	8	7	125		
D914L06	08828109	FR CHA21-774312		115.9	01/01/2009	3	9DZXL06.5075	350													0			
D914L06	08828107	FR CHA21-774312		116	01/01/2009	3	9DZXL06.5075														0			
F6L914	8701819			113	01/01/2004	2	4DZXL06.5035	2075	0.65	2.32	0.12	0.088	0.26	0.06	0.008	779	692	40	20	30	27	113		
4045TF270	PE4045T481552			99	06/20/2005	2	5DZXL04.5083	2193	0.65	2.74	0.12	0.192	0.26	0.06	0.008	852	771	37	19	60	57	99		
F6L914	8735405			113	01/01/2005	2	5DZXL06.5035	2400	0.65	2.32	0.12	0.088	0.26	0.06	0.008	901	800	47	23	34	31	113		
4BT3.3	H032933			85	09/09/2003	1	3CEXL03.3AAB	900	0.65	2.74	0.12	0.192	0.26	0.06	0.008	300	272	13	7	21	20	85		
TD4045T	783592	Babe Farms #3		99	10/10/1999	1		350													0			
4045T	887575	Babe Farms #5		99	02/01/2002	1		925	0.65	2.74	0.12	0.192	0.26	0.06	0.008	359	325	16	8	25	24	99		
BF6L913C	DIN/ISO 3046 IFN			177	01/01/2000	1	YDZXL06.1008														0			
TWD1031VE	21003184			284	01/01/2001	1	1VPXL09.6ABA	2064	0.65	2.32	0.12	0.088	0.26	0.06	0.008	1,947	1,729	101	50	74	67	284		
									No Engines:	32														
																Tons emissions & reductions and avg hp		12.81	11.43	0.63	0.32	0.60	0.56	113



Tried to get generic cost data from PG&E and SCE without success. PG&E did get a rough estimate of costs to bring in power where the grid does not reach: \$25/foot.

ARB provided data as follows:

	\$/hp
- <b>100-&lt;150 hp</b> is approximately <b>\$16,600</b>	\$133
- <b>150 -&lt;200 hp</b> is approximately <b>\$23,400</b>	\$134
- <b>200 - &lt;250 hp</b> is approximately <b>\$32,200</b>	\$143

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11/8/2013

SJVAPCD said that funding at \$150/hp covers 50%-80% of project costs.

Glenn Oliver said :

\$313,700/mile for electric line install. No well motor costs included.

We expect a little over 6 tons ERCs. Figure total ERC generation costs about \$375,000/ton for 10 engines between 36 & 49 bhp

Glenn Oliver

Freeport-McMoRan Oil & Gas - Sr. EH&S Advisor

The cost / hp for the handful of SBAPCD ag pump projects came in at: \$259

To be conservative for this assessment I am going to use:

Replace cost per hp:	\$259
Operator cost share (20%)	\$52
Net cost per hp	\$207

Grid extension cost/mile (\$35/foot X 5280 ft/mi)	\$184,800
Operator cost share (20%)	\$36,960
Net cost per mile	\$147,840

	Cost/hp	Median HP	Cost/Replacement
<b>ACTIVE REMOTE STATIONARY ENGINES</b>	\$207	231	\$47,760
<b>ACTIVE REMOTE BOOSTER ENGINES</b>	\$207	113	\$23,414
<b>ACTIVE NONREMOTE STATIONARY ENGINES</b>	\$207	185	\$38,332
<b>ACTIVE NONREMOTE BOOSTER ENGINES</b>	\$207	113	\$23,414