

SECTION 4.4

OIL AND GAS PRODUCTION MISCELLANEOUS PROCESSES

(November 1986)

EMISSION INVENTORY SOURCE CATEGORY

Petroleum Production and Marketing / Oil and Gas Production

EMISSION INVENTORY CODES (CES CODES) AND DESCRIPTION

310-312-1600-0000 (82016) Oil Production Fugitive Losses - Well Cellars

310-314-1600-0000 (82024) Oil Prod. Fugitive Losses - Oil/Water Separators

310-316-1600-0000 (46425) Oil Production Fugitive Losses - Unspecified

310-346-1600-0000 (46433) Tertiary Oil Production Wells - Unspecified

310-348-1600-0000 (82222) Tertiary Oil Production - Pseudo Cyclic Wells

310-350-1600-0000 (82230) Oil Production - Heavy Oil Test Stations

METHODS AND SOURCES

This methodology only includes documentation for *Pseudo cyclic wells* (CES 82222). Pseudo cyclic wells are found only in Kern county. It was discussed in a 1986 meeting between Kern county APCD and ARB that certain wells should be treated as pseudo cyclic wells. It was assumed that each pseudo cyclic well would act like a steam drive well for half the time and as an injection well for the other half of the time. An injection well has an emission factor of zero and a steam drive well has an emission factor of 220.3 lbs/day/well.¹

CALCULATION OF THE EMISSION FACTOR

EF for pseudo cyclic wells

$$= \frac{[(\text{steam drive well EF})(\# \text{ of operating days})] + [(\text{injection well EF})(\# \text{ of operating days})]}{(\text{number of days in a year})}$$

$$= \frac{[(220.3 \text{ lbs./day/well})(182.5 \text{ operating days})] + [(0 \text{ lbs/day/well})(182.5 \text{ operating days})]}{365 \text{ days/year}}$$

$$= 110.2 \text{ lbs/day/well}$$

REFERENCES

1. KVB, Inc., Emission Characteristics of Crude Oil Production Operations in California (January 1983), contract #A8-127-31.

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Table I
 1987 Area Source Emissions
 Activity: Oil & Gas Extraction
 Process: Petroleum & Related
 Entrainment: Process Loss
 Dimn: Tertiary Operation Fugitive
 CES: 82222
 Process Rate Unit: Well-Year

AB	County	Process Rate	TOG Emis. (Tons / Year)	CO Emis. (Tons / Year)	NOX Emis. (Tons / Year)	SOX Emis. (Tons / Year)	PM Emis. (Tons / Year)
SJV	KERN	99	2153.90	0.00	0.00	0.00	0.00
TOTAL		99	2153.90	0.00	0.00	0.00	0.00

Fraction of Reactive Organic Gases (FROG): .9120
 (Reactive Organic Gases (ROG) Emissions = TOG X FROG)
 Fraction of PM10 (FRPM10): .6100
 (PM10 Emissions = PM X FRPM10)