

# **Phillips 66 San Francisco Refinery Tar Sands Expansion Project — Background**

**Communities for a Better Environment (CBE)**

**Greg Karras, Senior Scientist  
[www.CBECAL.org](http://www.CBECAL.org)**

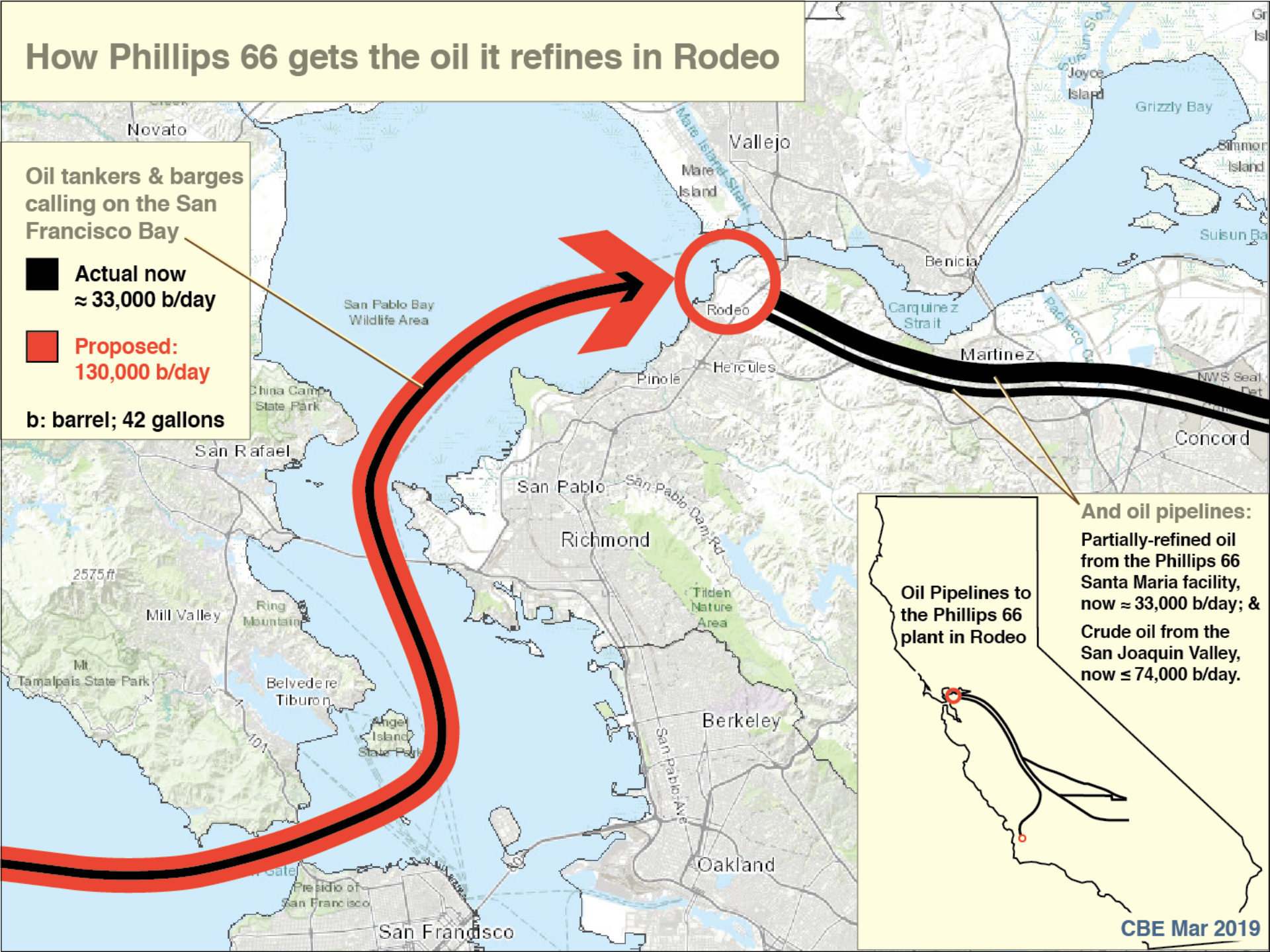
# How Phillips 66 gets the oil it refines in Rodeo

Oil tankers & barges calling on the San Francisco Bay

■ Actual now  
≈ 33,000 b/day

■ Proposed:  
130,000 b/day

b: barrel; 42 gallons



And oil pipelines:

Partially-refined oil from the Phillips 66 Santa Maria facility, now ≈ 33,000 b/day; & Crude oil from the San Joaquin Valley, now ≤ 74,000 b/day.

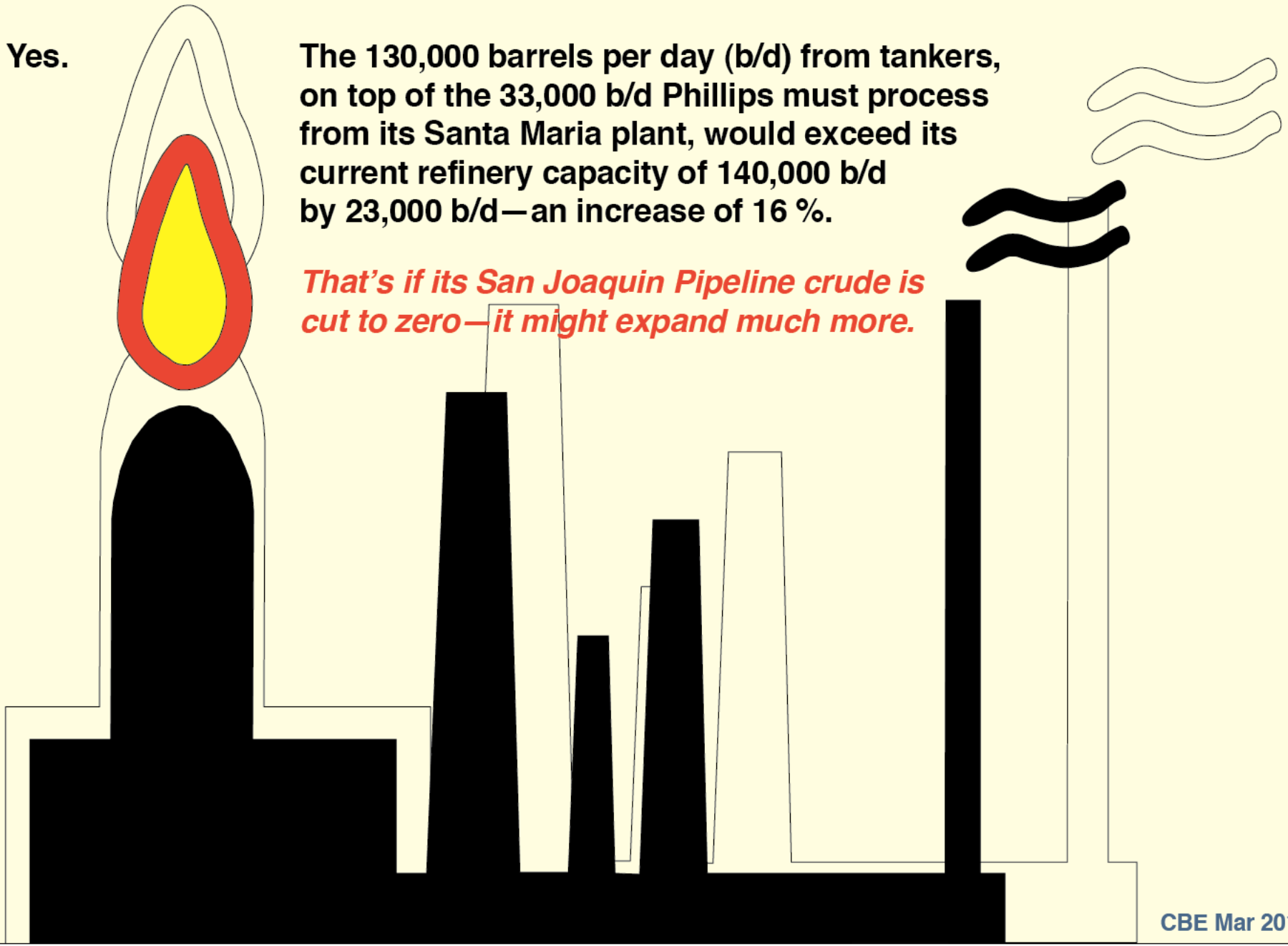
Oil Pipelines to the Phillips 66 Santa Maria facility, now ≈ 33,000 b/day; & Crude oil from the San Joaquin Valley, now ≤ 74,000 b/day.

## Could the QUANTITY of oil refined at the Rodeo facility change?

Yes.

The 130,000 barrels per day (b/d) from tankers, on top of the 33,000 b/d Phillips must process from its Santa Maria plant, would exceed its current refinery capacity of 140,000 b/d by 23,000 b/d—an increase of 16 %.

*That's if its San Joaquin Pipeline crude is cut to zero—it might expand much more.*

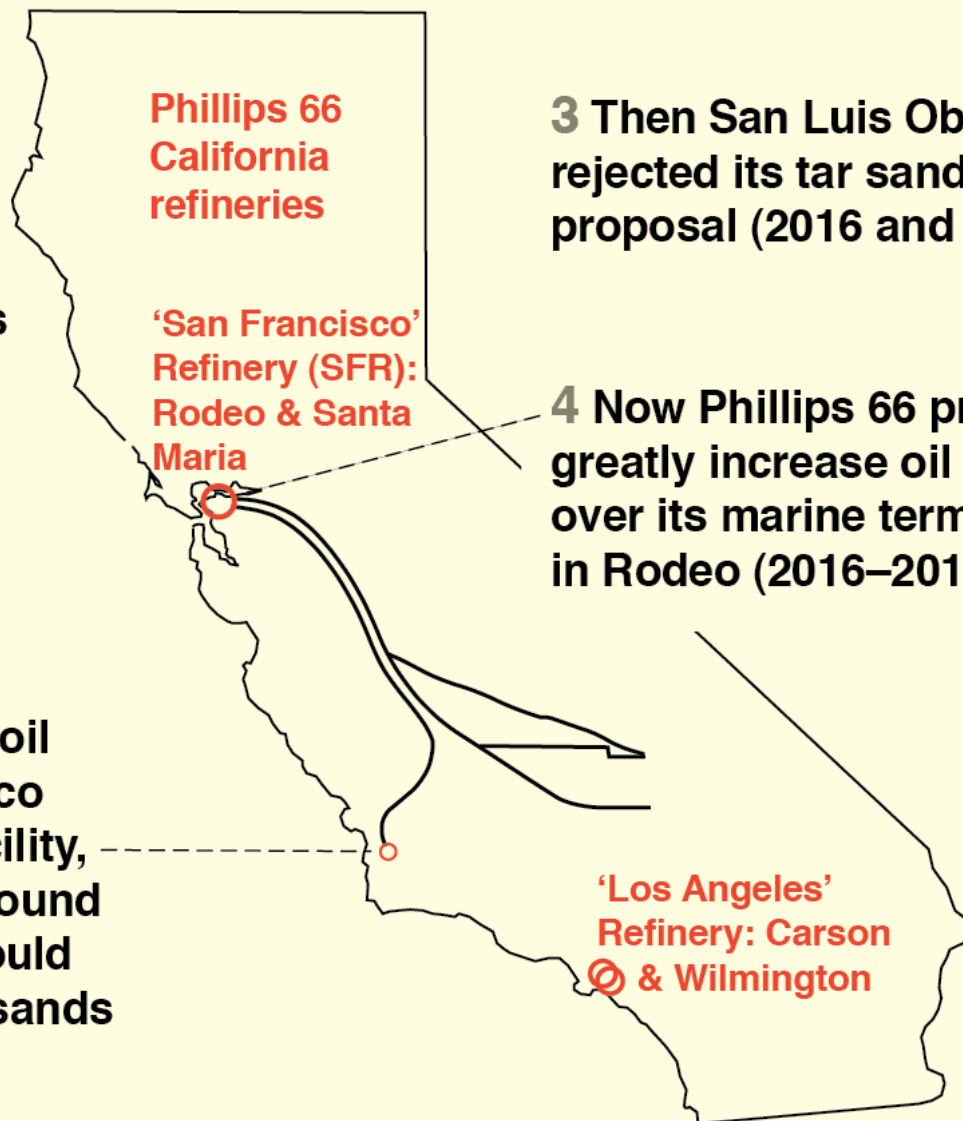


## Could the TYPE of oil refined at Rodeo change?

Yes. Oil tankers carry different oils than this refinery gets by pipeline.

**1** Phillips 66 told investors it would switch over its California refineries to “Canadian Heavy” oil (2012, 2013).

**2** When it tried to get that oil by train to its San Francisco Refinery’s Santa Maria facility, San Luis Obispo County found that “Canadian Heavy” would be from the Canadian tar sands (2014).



**3** Then San Luis Obispo County rejected its tar sands by rail proposal (2016 and 2017).

**4** Now Phillips 66 proposes to greatly increase oil imports over its marine terminal in Rodeo (2016–2019).



The image below is from a “Phillips 66 Barclays CEO Power Conference” investors presentation by Phillips 66 CEO Greg Garland (2013).

Notice Garland’s first specific refining objective: “Process more advantaged crudes.”

Notice that the Rodeo refining facility is shown.

Then Phillips’ CEO shows where it would get “more advantaged crudes” ...

## REFINING ENHANCE RETURNS



Process more advantaged crudes

Expand export capability

Increase yields

Decrease costs

Optimize portfolio

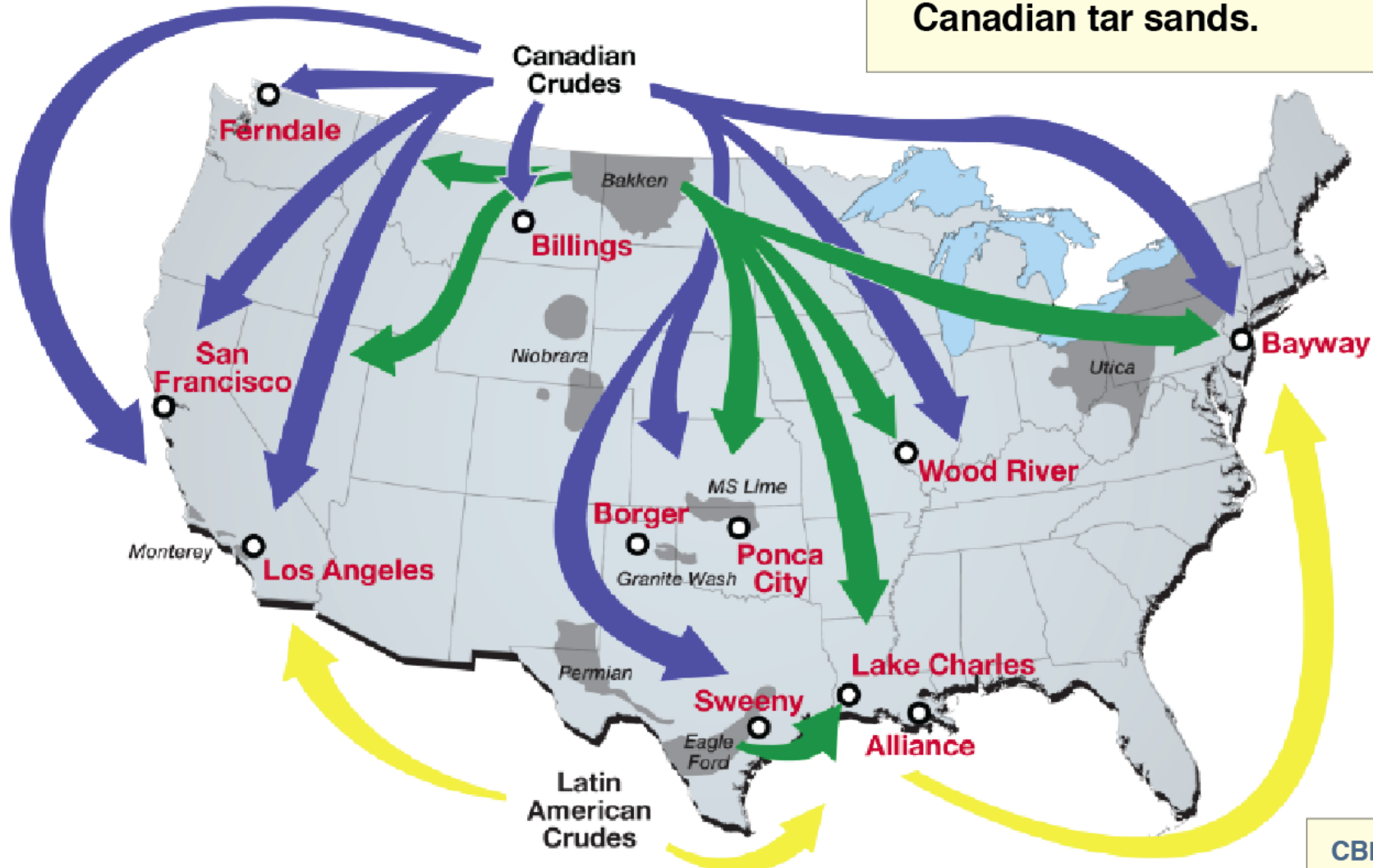


San Francisco Refinery, Rodeo Facility. San Francisco, California.

# REFINING ADVANTAGED CRUDE

Image: Phillips 66 Barclays “CEO Power Conference” (2013).

**Blue arrows:** planned increases in Phillips 66 import and refining of oil streams originating in the Canadian tar sands.





## Some key parts of a tar sands expansion project at Rodeo.

Import more tar sands dilbit\* oils: **proposed marine terminal (wharf) expansion.**

Convert the very heavy oils in dilbit\* to profitable engine fuel feedstock: **proposed hydrocracking expansion.**

Recover the very light diluent oils in the dilbit\* for use & export sales: **proposed “propane recovery” facilities.**

\* Dilbit: Diluted bitumen. Very light “diluent” oils are blended into very heavy, bitumen-derived tar sands oil to thin it for transport.

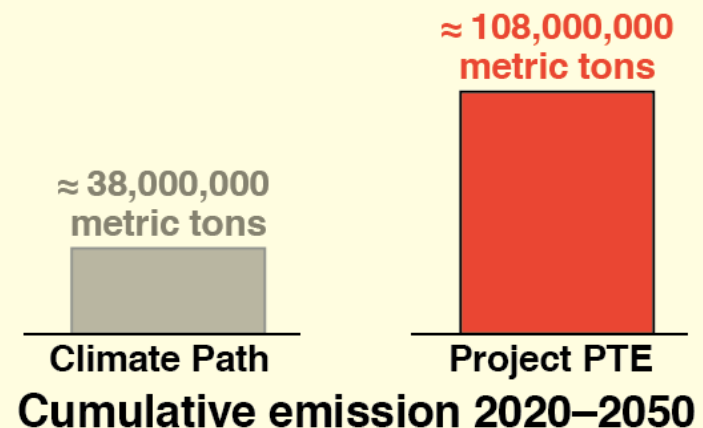
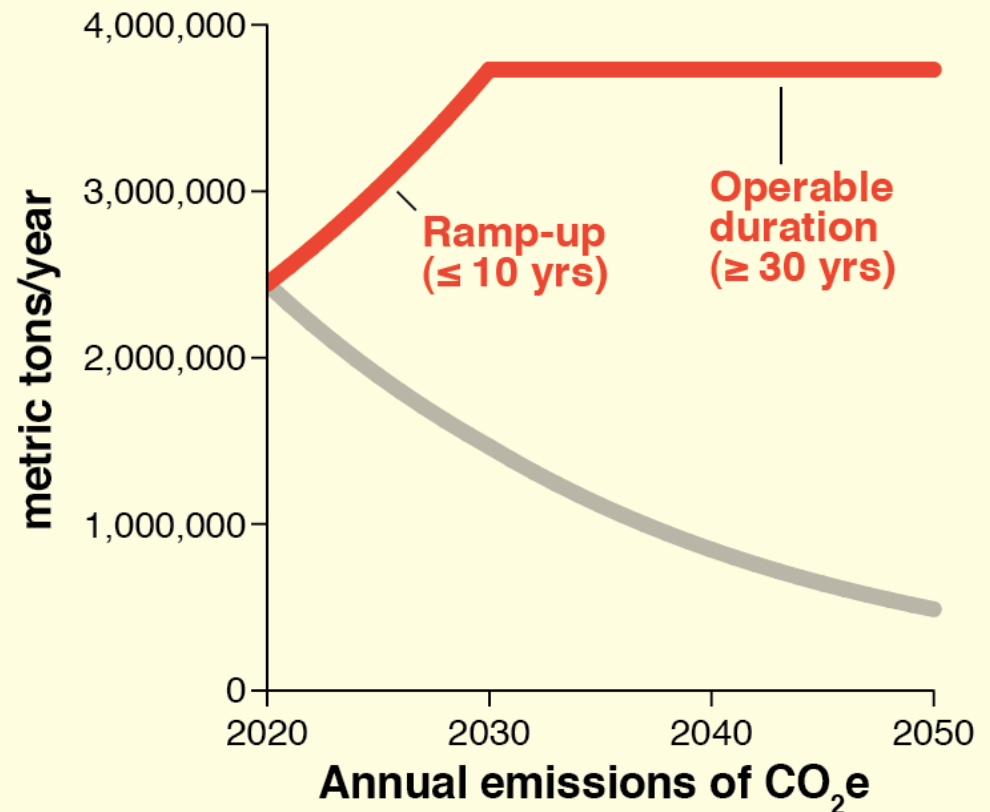
--- Refinery property line.

## Climate impacts example.

A conservative estimate of tar sands expansion project potential to increase greenhouse gas emissions from the San Francisco Refinery.\*

- Project potential to emit (PTE)
- Pathway to California's climate protection targets (Climate Path)

\* Includes only SFR refining and associated hydrogen production and coke processing emissions.





## Air pollution examples.

Potential emission  
increases from:

Burning *more* fuel  
to refine more oil

Burning *more* fuel  
to refine tar sands

Burning *dirtier* fuel  
gas from expanded  
coking to refine  
tar sands oil

Actual emissions excess  
from decisions that linked  
a fuel gas cleanup measure  
to approval of the “Propane  
Recovery Project”

**PM<sub>2.5</sub>**

**SO<sub>2</sub>**

**Other pollutants**



**Refinery hazards example: Catastrophic pipe rupture and fire  
Chevron refinery in Richmond, CA  
August 6, 2012  
15,000 seek emergency room care**

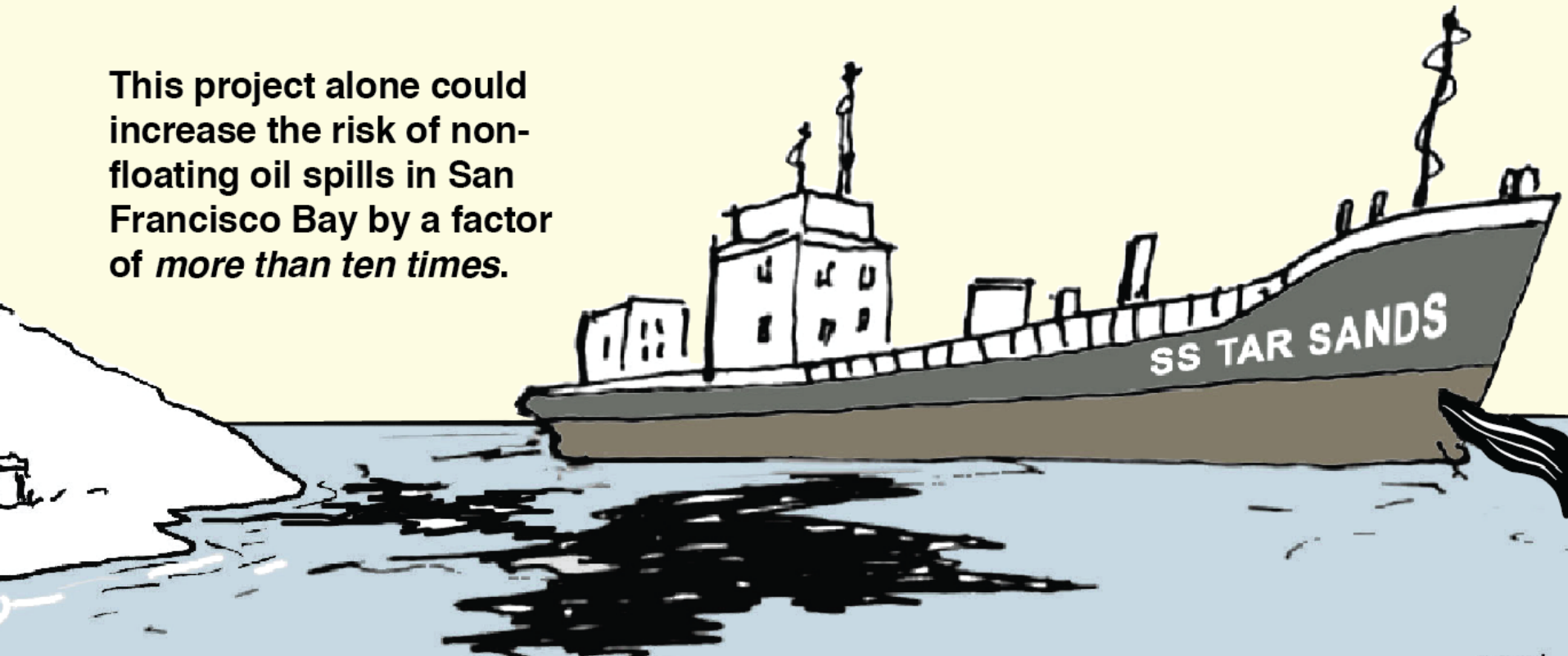
**Corrosion from higher-sulfur oil was  
a causal factor in this disaster**

**Average sulfur content of crude oils**

- **Refined by Chevron then:  $\approx 1.5$  wt. %**
- **Canadian tar sands dilbit:  $\approx 3.5$  wt. %**

## Oil spill impacts example.

This project alone could increase the risk of non-floating oil spills in San Francisco Bay by a factor of *more than ten times*.



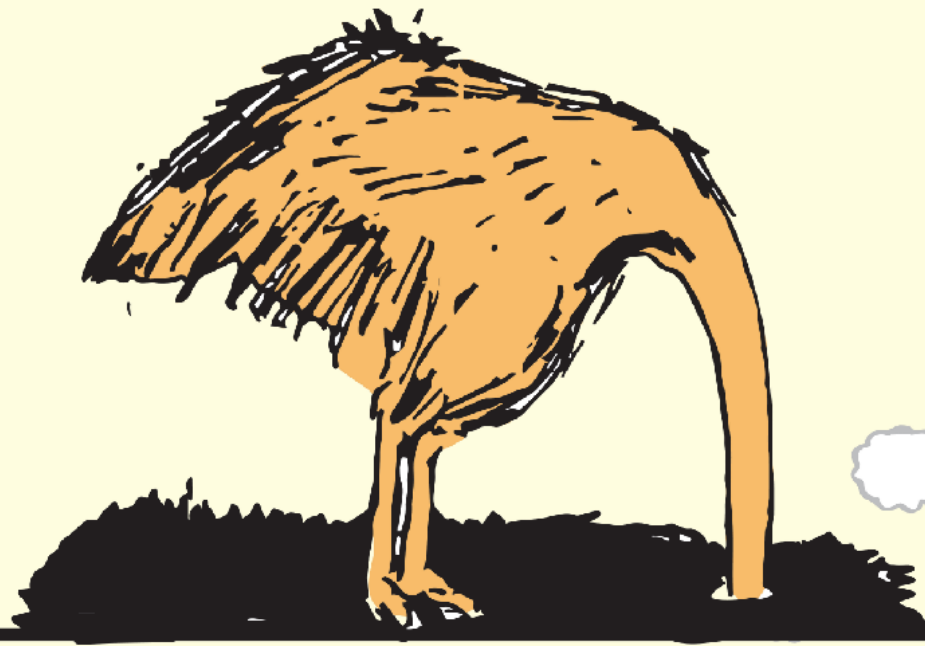
Tar sands bitumen sinks in water when spilled.



That poses a unique and serious oil spill risk.



## What's Contra Costa County doing?



**Oil refinery  
expansion?  
I don't see it.**