

Impact of Covid-19 on Oil Demand and Pricing

USAAE Presentation May 4, 2020

Sam Van Vactor

Economic Insight

503 222-2425 • svv@econ.com

Oil Demand Collapse

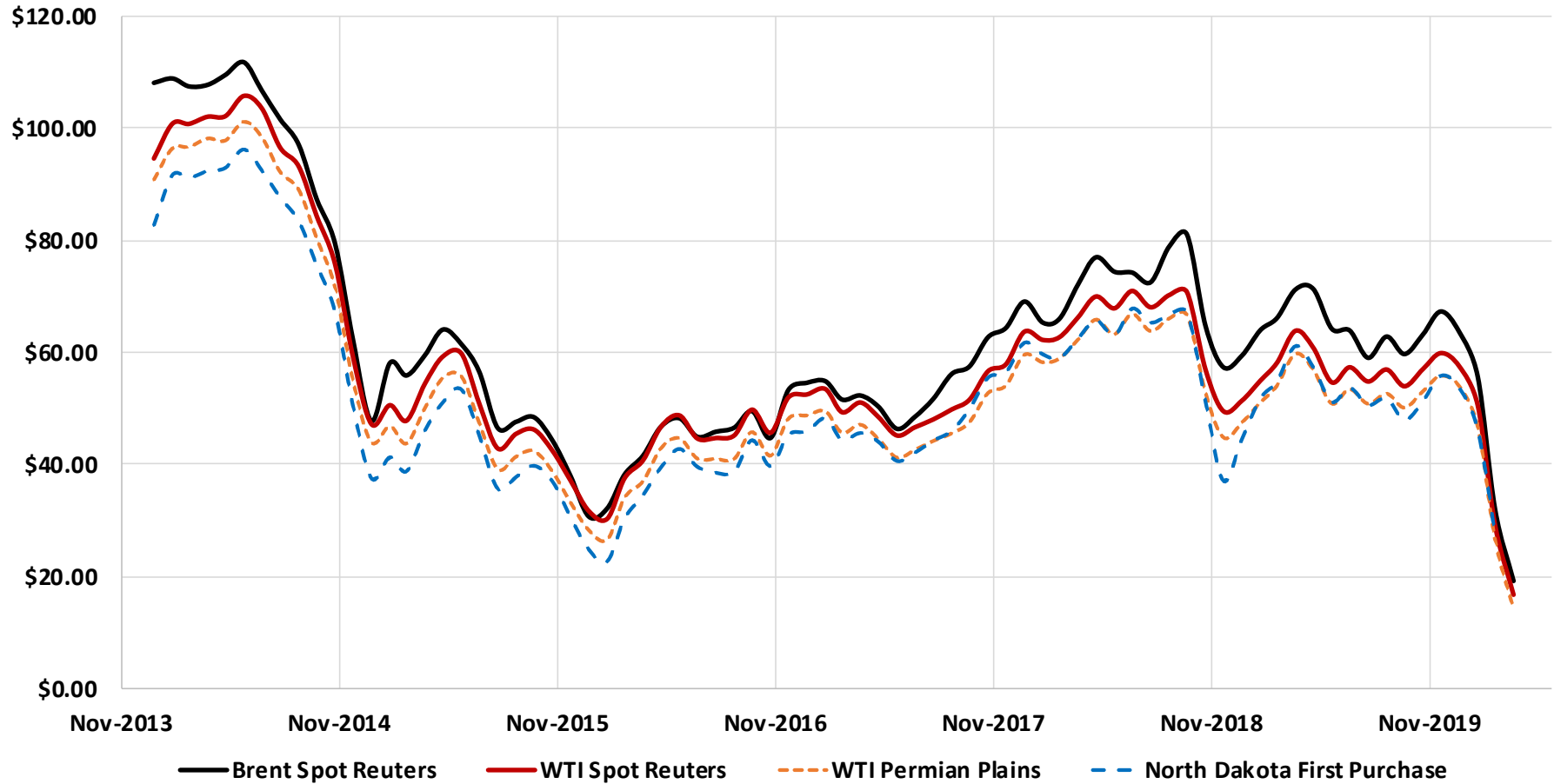
- The drop in petroleum product demand slowed deliveries from refineries to retail outlets.
- Refineries and tank farms ran out of storage space and cancelled or reduced crude oil purchases.
- Reduced buying, filled crude oil pipelines and field storage tanks, ultimately leading to shut-in production.
- Shut-ins can be very costly, leading to negative pricing.

EIA Weekly Petroleum Status Report April 29, 2020						
Date	Stocks	Petroleum Products	Gasoline	Kerosene	Diesel	Other
4/3/20	1,954,770	14,446	5,065	755	3,807	3,669
4/10/20	1,976,540	13,797	5,081	463	2,757	4,133
4/17/20	2,002,071	14,103	5,311	612	3,128	3,944
4/24/20	2,013,630	15,763	5,860	800	3,164	4,514
YOY Change						
4/3/20	3.7%	-28.9%	-48.3%	-47.8%	0.7%	-9.4%
4/10/20	4.6%	-30.6%	-46.1%	-72.3%	-17.8%	-7.7%
4/17/20	5.4%	-31.0%	-43.6%	-66.4%	-17.6%	-14.4%
4/24/20	5.3%	-21.8%	-36.5%	-58.3%	-24.9%	15.4%

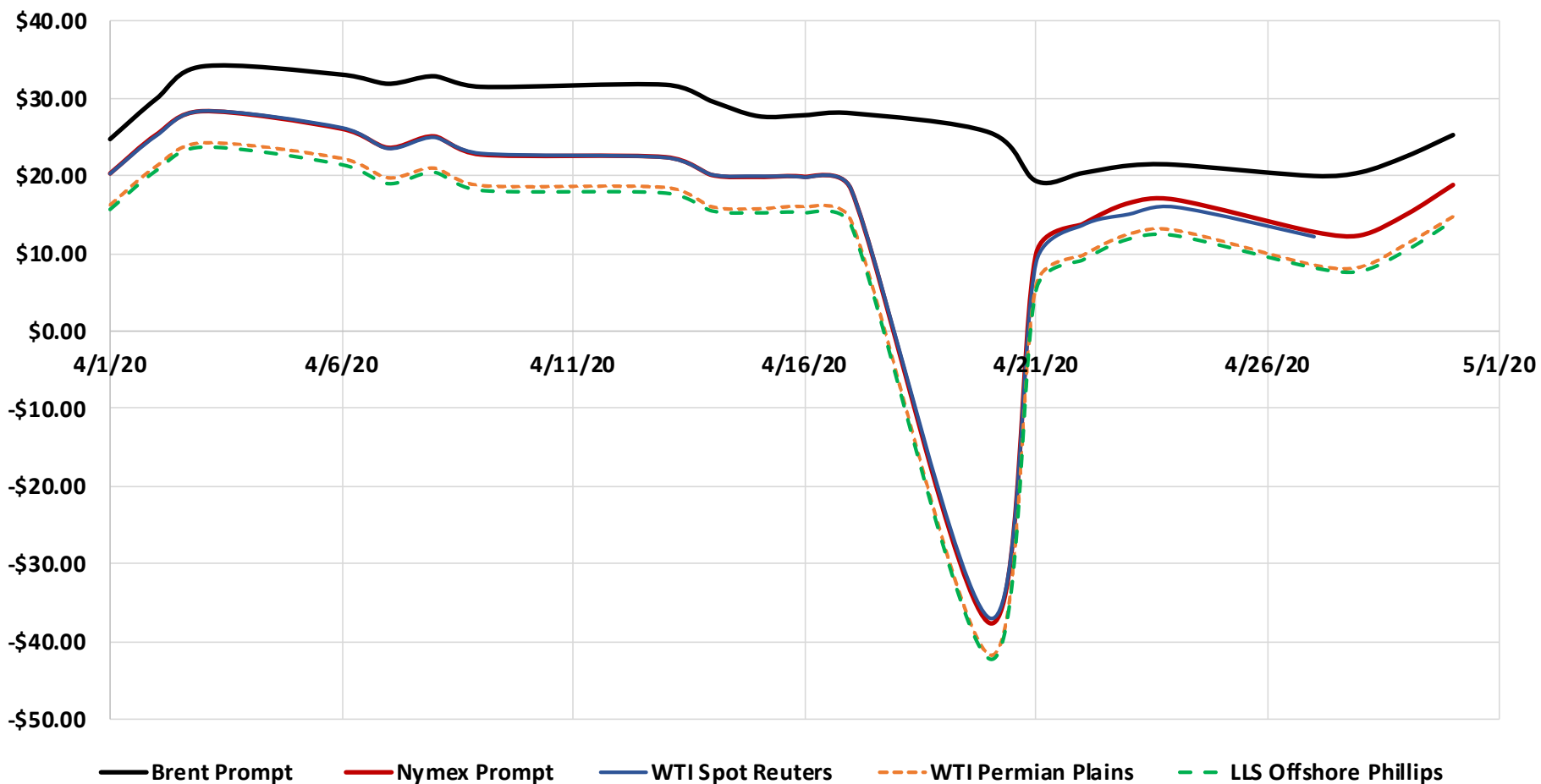
Impact of Oil Futures Prices on Field Prices

- Crude oil prices vary depending on the quality and location of the stream.
- Historically sales prices were indexed to prices “posted” by companies actively buying crude oil. Posted prices, in turn, were based on a “benchmark” crude oil price depicting the general market.
- For years, the benchmark crude oil was Arabian Light; either its official sales price (OSP) or spot prices cited by the trade press.
- However, since the development of Nymex’s crude oil futures market, its prices have played an increasingly important role in setting U.S. field prices in the physical market.
- Specifically, the Nymex prompt price for West Texas Intermediate (WTI) at Cushing, Oklahoma is the primary basis of most U.S. indices, impacting prices for most sales contracts.
- In most cases U.S. trade press prices also follow the Nymex prompt price for WTI at Cushing, Oklahoma with adjustment for quality, location, and local conditions.
- On April 20th, the Prompt price for Nymex’s contract for deliveries of WTI at Cushing closed at **-\$37.63**, impacting prices on up to 11 million barrels of crude oil.

Comparison Benchmark Crude Oils and U.S. Field Prices



Comparison Benchmark Crude Oil Prices and U.S. Field Prices



Shell Posted Prices for April 20, 2020

Click on a Page: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [Monthly Averages](#), [Gravity Pages](#)

AREA	GRAVITY	PRICE				
		Date	4/17/2020	4/20/2020	4/21/2020	4/22/2020
		Bulletin #	20-074	20-075	20-076	20-077
CALIFORNIA	- BUENA VISTA	WOR	\$20.65	\$16.15	\$11.90	\$15.65
	- MIDWAY SUNSET	WOR	\$16.10	\$11.60	\$7.35	\$11.10
ALABAMA/FLORIDA	- PANHANDLE	KY	\$11.52	(\$44.38)	\$3.22	\$7.02
FOUR CORNERS	- OTHER (INC. GR. ANETH & ISMAY FIELDS)	KY	\$14.07	(\$41.83)	\$5.77	\$9.57
	- SWEET	KY	\$13.58	(\$42.32)	\$5.28	\$9.08
KANSAS	- COMMON	FLAT	\$7.38	(\$48.52)	(\$0.92)	\$2.88
	- SOUTHWEST	FLAT	\$7.43	(\$48.47)	(\$0.87)	\$2.93
LOUISIANA	- NORTH SWEET	CY	\$14.77	(\$41.13)	\$6.47	\$10.27
	- SOUTH SOUR (ONSHORE)	KY	\$11.08	(\$44.82)	\$2.78	\$6.58
	- SOUTH SWEET (ONSHORE)	KY	\$13.25	(\$42.75)	\$5.00	\$8.75
MISSISSIPPI	- EAST MISSISSIPPI	L	\$8.17	(\$47.73)	(\$0.13)	\$3.67
	- WEST MISSISSIPPI	CY	\$13.74	(\$42.16)	\$5.44	\$9.24
NEBRASKA	- WESTERN SWEET	CY	\$10.37	(\$45.53)	\$2.11	\$5.88
OKLAHOMA	- NORTHWEST	KY	\$13.25	(\$42.65)	\$4.95	\$8.75
	- PANHANDLE	C	\$14.35	(\$41.55)	\$6.05	\$9.85
	- SOUR	YY	\$2.65	(\$53.25)	(\$5.65)	(\$1.85)
	- SWEET (EXCEPT PANHANDLE & NORTHWEST)	KY	\$14.65	(\$41.25)	\$6.35	\$10.15
	- EAST TEXAS AREA	CY	\$14.63	(\$41.27)	\$6.33	\$10.13
TEXAS/NEW MEXICO	- EAST TEXAS FIELD	FLAT	\$14.63	(\$41.27)	\$6.33	\$10.13
	- GIDDINGS	CY	\$8.38	(\$47.52)	\$0.08	\$3.88
	- GULF COAST LIGHT	CY	\$8.38	(\$47.52)	\$0.08	\$3.88
	- GULF COAST LOW COLD TEST	FLAT	\$12.88	(\$43.02)	\$4.58	\$8.38
	- NORTH TEXAS SOUR	KY	\$13.55	(\$42.35)	\$5.25	\$9.05
	- NORTH TEXAS SWEET	CY	\$14.70	(\$41.20)	\$6.40	\$10.20
	- PANHANDLE	C	\$14.20	(\$41.70)	\$5.90	\$9.70
	- SOUTH TEXAS HEAVY	JI1	\$8.38	(\$47.52)	\$0.08	\$3.88
	- SOUTH TEXAS LIGHT	CY	\$8.38	(\$47.52)	\$0.08	\$3.88
	- SOUTH TEXAS SOUR	LY	\$1.05	(\$54.85)	(\$7.25)	(\$3.45)
	- WEST CENTRAL TEXAS	CY	\$15.68	(\$40.22)	\$7.38	\$11.18
	- WEST TEXAS/NEW MEXICO INTERMEDIATE	CY	\$14.90	(\$41.00)	\$6.60	\$10.40
- WEST TEXAS/NEW MEXICO SOUR	LY	\$15.24	(\$40.66)	\$6.94	\$10.74	

Trade Press Characterization of the Price Collapse

- As noted, crude oil sales contracts, royalty payments, etc. are usually indexed to an average of posted prices or to prices published by the trade press.
- All posting companies reviewed appeared to have accepted the Nymex prompt settlement price on April 20th with the usual differentials for location and quality.
- On the other hand, the trade press tried to capture pricing behavior in specific locations. For example, Argus Media reported the following:

<u>Crude Oil Location</u>	<u>Previous Differential</u>	<u>4/20 Differential</u>	<u>Final Price</u>
• WTI Houston	+\$3.50	+\$16.50	-\$21.13
• Mars	+\$1.75	+\$11.00	-\$26.63
• WTI Midland	+\$0.375	+\$12.00	-\$25.63

- Nonetheless, negative crude oil prices in the final hours of the May-20 Nymex crude oil contract had a serious impact on pricing throughout the region.