



Income and Small Cap Weekly

Analysis of Oil & Gas Stocks

April 26, 2013

Whiting Petroleum (WLL) Synergistic Fracker

Symbol	WLL	Ebitda Next Twelve Months ending 3/31/14 (US\$m)	1,795
Rating	Buy	North American Natural Gas/Ebitda (%)	5
Price (\$/sh)	45.55	Natural Gas and Oil Production/Ebitda (%)	100
Pricing Date	4/25/13	Adjusted Reserves/Production NTM	8.7
Shares (mm)	119	EV/Ebitda	4.5
Market Capitalization (\$mm)	5,420	PV/Ebitda	7.3
Debt (\$mm)	2,570	Undeveloped Reserves (%)	36
Enterprise Value (EV) (\$mm)	7,990	Natural Gas and Oil Ebitda (\$/boe)	50.60
Present Value (PV) (\$mm)	13,040	Present Value Proven Reserves(\$/boe)	34.50
Net Present Value (\$/share)	88	Oil and Gas Ebitda Margin (%)	70
Debt/Present Value	0.20	Earnings Next Twelve Months (US\$/sh)	4.14
McDep Ratio - EV/PV	0.61	Price/Earnings Next Twelve Months	11
Dividend Yield (%/year)	0.0	Indicated Annual Dividend (US\$/sh)	0.00
Note: Estimated cash flow and earnings tied to one-year futures prices for oil and natural gas.			
Reported results may vary widely from estimates. Estimated present value per share revised only infrequently.			
Estimated present value presumes a long-term price for oil of US\$100 a barrel and natural gas, \$6 a million btu.			
For historical analysis of Whiting since 2009 see www.mcdep.com/4wll.htm			

Summary and Recommendation

Buy- recommended **Whiting Petroleum (WLL)**, our shale oil stock at the lowest McDep Ratio of 0.61, has another innovation, synergistic fracking, which may multiply oil recovery from shale and tight rock formations. There had been a view, held by some, that putting two horizontal wells too close would reduce the recovery by each well because the cracks propagating from one well would overlap those from the other. Instead, some drillers are finding that the amount of oil recovered by each well increases with closer spacing as the fracks appear to interact synergistically. Discussed on the April 25 earnings call, pilot tests now underway in WLL's Sanish Field in North Dakota aim to boost recovery from 10% of 22 million barrels a square mile to 15-20%. Denser well spacing also lends more confidence that the company can recover some 12%, rather than 3%, of 35 million barrels a square mile in its Red Tail prospect in the Niobrara (Mancos) formation on trend with the prolific Wattenberg field in northeast Colorado. On its other advanced project outside of North Dakota, the company is getting better results in its West Texas Wolfcamp by modifying the fracking technique. As a gauge of management confidence, Chairman Jim Volker no longer seeks a joint venture partner to spread the risk at Red Tail, but might still welcome help on the Texas project. Finally, a new stealth play in the Smackover trend in Louisiana was unexpectedly disclosed a few weeks ago in answer to an investor question. The good news on continual entrepreneurial experimentation, including synergistic fracking, keeps us excited about the prospects for Whiting and other producers in our Income and Small Cap coverage. The qualitative progress lends confidence to our quantitative analysis (see tables [Whiting](#) on pages 2-3 and [Tables ISC-1 to ISC-4](#) on pages 4-7).

Kurt H. Wulff, CFA



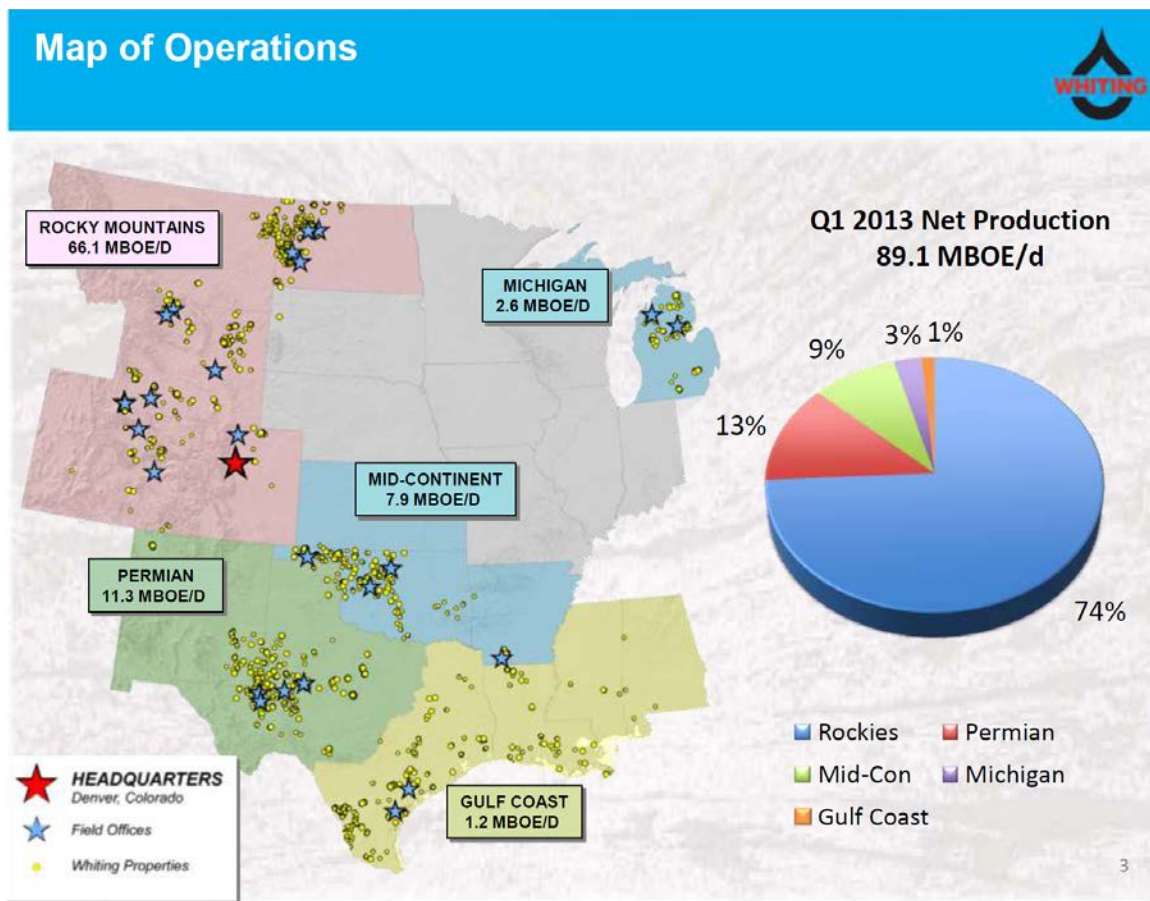
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Whiting Petroleum Corporation									
Next Twelve Months Operating and Financial Estimates									
	Q1	Q4	Year	Q1	Q2E	Q3E	Q4E	Year	Next Twelve Months
	3/31/12	12/31/12	2012	3/31/13	6/30/13	9/30/13	12/31/13	2013E	3/31/14
Volume									
Natural Gas (mmcf)	73	71	71	71	71	71	71	71	71
Days	91	92	366	90	91	92	92	365	365
Oil (mmb)	6.2	6.8	26	7.0	7.3	7.7	8.0	30	31
Oil (mbd)	69	74	71	77	80	84	87	82	85
Total (mb)	7.3	7.9	30.2	8.0	8.4	8.8	9.1	34.3	35
Total (mbd)	81	86	83	89	92	95	99	94	97
Price									
Henry Hub (\$/mmbtu)	2.73	3.40	2.79	3.34	4.18	4.35	4.43	4.08	4.38
Differential (\$/mmbtu)	(0.70)	(0.20)	(0.63)	(0.46)	(0.58)	(0.60)	(0.62)	(0.57)	(0.61)
Company (\$/mcf)	3.43	3.60	3.42	3.80	4.76	4.95	5.05	4.65	4.99
WTI Cushing (\$/bbl)	102.93	88.18	94.16	94.48	89.70	89.56	89.03	90.69	89.10
Differential	17.13	8.88	15.05	11.01	10.46	10.44	10.38	10.66	10.41
Company (\$/bbl)	85.80	79.30	79.11	83.46	79.24	79.12	78.65	80.03	78.69
Total (\$/bbl)	76.03	71.38	70.76	75.43	72.76	73.01	72.88	73.48	72.78
Revenue (\$mm)									
Natural Gas	23	23	88	24	31	32	33	120	129
Oil	536	542	2,050	581	580	609	629	2,399	2,452
Total	559	565	2,138	605	611	641	662	2,519	2,581
Expense									
Lease operating	95	98	377	100					
Production taxes	45	43	173	51					
General and administrative	34	24	108	29					
Total	174	165	658	180	186	195	202	763	786
Ebitda									
Exploration	28	48	128	37	37	37	37	148	148
Deprec., Deplet., & Amort.	156	188	685	201	201	201	201	804	804
Other	(6)	(8)	(16)	(6)				(6)	-
Ebit									
Interest	207	172	683	193	187	208	223	810	843
Interest	18	20	75	21	21	21	21	84	84
Ebt									
Income Tax	189	152	608	172	166	187	202	726	759
Income Tax	66	53	213	60	58	65	71	254	266
Net Income (\$mm)									
Per Share (\$)	1.03	0.83	3.32	0.94	0.90	1.02	1.10	3.97	4.14
Shares (millions)									
Lease operating (\$/bbl)	119	119	119	119	119	119	119	119	119
Lease operating (\$/bbl)	12.93	12.38	12.48	12.47					
Production taxes (%rev)	8.1	7.6	8.1	8.4					
General and admin (\$/bbl)	4.63	3.03	3.57	3.62					
Deprec., D,& A (\$/bbl)	21.23	23.75	22.67	25.06	23.95	22.89	22.12	23.45	22.67
Ebitda Margin	69%	71%	69%	70%	70%	70%	70%	70%	70%
Tax rate	35%	35%	35%	35%	35%	35%	35%	35%	35%

Whiting Petroleum Corporation					
Functional Cash Flow and Present Value					
	NTM Ebitda	Adjusted	PV/	Present	
	(US\$mm)	R/P	Ebitda	Value	
				(US\$mm)	
North American Natural Gas	90	7.5	10.0	900	7%
Oil	1,705	8.9	7.1	12,140	93%
	1,795	8.7	7.3	13,040	100%
Debt (US\$mm)					2,570
Net Present Value (US\$mm)					10,470
Shares (mm)					119
Net Present Value - Standard Estimate (US\$/sh)					88
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					103





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Table ISC-1										
McDep Income and Small Cap Energy Portfolio										
Debt, Segments, Cash Flow, Income and McDep Ratio										
		Price								
Symbol/Rating	(US\$/sh)	EV/	Enterprise	PV(%)	EV/	Dist.	Dist.			
B = Buy	25-Apr	Market	Value	Nat	Ebitda	NTM	Yield	McDep		
CB (see below)	2013	Cap	(\$mm)	Gas	Oil	NTM	(\$/un)	(%)	Ratio	
Small Cap Independent Producers										
PDC Energy	PDCE	45.20	1.43	2,000	30	70	9.9	-	-	0.93
Peyto Exploration and Development Cor	PEYUF	28.14	1.17	4,760	77	23	9.8	0.70	2.5	0.89
Range Resources	RRC B	77.46	1.27	15,740	68	32	14.5	0.16	0.2	0.89
Continental Resources (32%)	CLR B	79.52	1.26	5,920	21	79	6.7	-	-	0.83
Berry Petroleum Company	BRY	48.56	1.68	4,520	12	88	7.3	0.32	0.7	0.79
Halcón Resources	HK	6.60	1.88	5,200	12	88	7.0	-	-	0.78
Birchcliff Energy Ltd.	BIREF B	7.91	1.39	1,790	67	33	9.1	-	-	0.73
Cimarex Energy Company	XEC B	71.98	1.20	7,510	41	59	5.5	0.56	0.8	0.69
Denbury Resources Inc.	DNR	17.43	1.38	9,200	5	95	6.1	-	-	0.69
Whiting Petroleum Corporation	WLL B	45.55	1.47	7,990	7	93	4.5	-	-	0.61
<i>Total or Median</i>				1.38	64,600	26	74	7.1		0.79
Leveraged Cash Payers										
Linn Energy, LLC	LINE	38.63	1.69	14,790	43	57	11.4	2.90	7.5	1.15
Vanguard Natural Resources, LLC	VNR	29.00	1.59	2,460	33	67	11.9	2.40	8.3	1.09
Legacy Reserves L.P.	LGCY	27.95	1.54	2,580	19	81	10.4	2.30	8.2	0.95
Enerplus Corporation	ERF	13.65	1.65	4,400	32	68	6.2	1.05	7.7	0.75
<i>Total or Median</i>				1.62	24,200	32	68	10.9	8.0	1.02
RTF Cash Payers										
Freehold Royalties Ltd.	FRHLF	23.59	TL	1,620	27	73	11.8	1.64	6.9	1.12
Dorchester Minerals, L.P.	DMLP B	23.09	TL	710	61	39	11.0	2.04	8.8	0.85
Enduro Royalty Trust (40%)	NDRO	15.91	BL	210	41	59	7.7	1.56	9.8	0.84
Mesa Royalty Trust	MTR	25.20	BL	47	75	25	9.5	2.13	8.5	0.79
Sabine Royalty Trust	SBR	50.49	TL	740	45	55	12.7	3.96	7.8	0.78
San Juan Basin Royalty Trust	SJT B	15.48	BL	720	100	-	8.7	1.24	8.0	0.74
Hugoton Royalty Trust	HGT	9.33	BL	370	89	11	8.7	0.93	10.0	0.67
Cross Timbers Royalty Trust	CRT	28.95	TL	170	80	20	12.2	2.13	7.4	0.66
Permian Basin RT	PBT	13.01	TL	610	31	69	8.1	0.90	6.9	0.65
<i>Total or Median</i>				5,200	61	39	9.5		8.0	0.78
CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.										
McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses										
Present Value (PV) presumes long-term prices of \$100 a barrel for oil and \$6 a million btu for natural gas.										
Dist. = Income distribution. NTM = Next Twelve Months Ended March 31, 2014. Enterprise Value = Market Cap and Debt.										
TL = Top Line income sources, BL = Bottom Line income sources										



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Table ISC-2								
McDep Income and Small Cap Energy Portfolio								
Net Present Value and McDep Ratio								
			Price (\$/sh)	Shares	Market Cap (\$mm)	Net Present Value (\$/un)	Debt/ Present Value	McDep Ratio
	Symbol/ Rating		25-Apr 2013	(mm)				
Small Cap Independent Producers								
PDC Energy	PDCE		45.20	31.0	1,400	50.00	0.28	0.93
Peyto Exploration and Development Corp.	PEYUF		28.14	145.0	4,080	32.00	0.13	0.89
Range Resources	RRC	B	77.46	160.0	12,390	90.00	0.19	0.89
Continental Resources (32%)	CLR	B	79.52	59.2	4,710	100.00	0.17	0.83
Berry Petroleum Company	BRY		48.56	55.3	2,690	70.00	0.32	0.79
Halcón Resources	HK		6.60	420.0	2,770	10.00	0.37	0.78
Birchcliff Energy Ltd.	BIREF	B	7.91	163.0	1,290	12.00	0.20	0.73
Cimarex Energy Company	XEC	B	71.98	86.7	6,240	110.00	0.12	0.69
Denbury Resources Inc.	DNR		17.43	383.0	6,680	28.00	0.19	0.69
Whiting Petroleum Corporation	WLL	B	45.55	119.0	5,420	88.00	0.20	0.61
	<i>Total or Median</i>				47,670		0.19	0.79
Leveraged Cash Payers								
Linn Energy, LLC	LINE		38.63	226.0	8,730	30.00	0.47	1.15
Vanguard Natural Resources, LLC	VNR		29.00	53.1	1,540	25.00	0.41	1.09
Legacy Reserves L.P.	LGCY		27.95	60.0	1,680	30.00	0.33	0.95
Enerplus Corporation	ERF		13.65	196.0	2,680	21.00	0.30	0.75
	<i>Total or Median</i>				14,630		0.37	1.02
RTF Cash Payers								
Freehold Royalties Ltd.	FRHLF		23.59	66.2	1,560	21.00	0.04	1.12
Dorchester Minerals, L.P.	DMLP	B	23.09	30.7	710	27.00	-	0.85
Enduro Royalty Trust (40%)	NDRO		15.91	13.2	210	19.00	-	0.84
Mesa Royalty Trust	MTR		25.20	1.9	47	32.00	-	0.79
Sabine Royalty Trust	SBR		50.49	14.6	740	65.00	-	0.78
San Juan Basin Royalty Trust	SJT	B	15.48	46.6	720	21.00	-	0.74
Hugoton Royalty Trust	HGT		9.33	40.0	370	14.00	-	0.67
Cross Timbers Royalty Trust	CRT		28.95	6.0	170	44.00	-	0.66
Permian Basin RT	PBT		13.01	46.6	610	20.00	-	0.65
	<i>Total or Median</i>				5,140			0.78
B=Buy; CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.								
McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses								
Present Value presumes long-term prices of \$100 a barrel for oil and \$6 a million btu for natural gas.								



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Table ISC-3								
McDep Income and Small Cap Energy Portfolio								
Value Multiples - Rank by EV/Ebitda								
			Price (\$/sh)	Revenue	Dist/ Equity	Adjstd Resrvs/ Prod	PV/ Ebitda	EV/ Ebitda
	Symbol/ Rating		25-Apr 2013	Royalty (%)	Ebitda	NTM	NTM	NTM
Small Cap Independent Producers								
Range Resources	RRC	B	77.46		-	14.2	16.4	14.5
PDC Energy	PDCE		45.20		-	16.7	10.7	9.9
Peyto Exploration and Development Corp	PEYUF		28.14		0.24	10.6	10.9	9.8
Birchcliff Energy Ltd.	BIREF	B	7.91		-	19.5	12.5	9.1
Berry Petroleum Company	BRY		48.56		-	12.1	9.1	7.3
Halcón Resources	HK		6.60		-	4.6	9.0	7.0
Continental Resources (32%)	CLR	B	79.52		-	10.8	8.1	6.7
Denbury Resources Inc.	DNR		17.43		-	14.1	8.8	6.1
Cimarex Energy Company	XEC	B	71.98		-	7.9	7.9	5.5
Whiting Petroleum Corporation	WLL	B	45.55		-	8.7	7.3	4.5
	<i>Median</i>					11.4	9.1	7.1
Leveraged Cash Payers								
Vanguard Natural Resources, LLC	VNR		29.00		1.04	14.9	10.8	11.9
Linn Energy, LLC	LINE		38.63		0.96	13.9	9.9	11.4
Legacy Reserves L.P.	LGCY		27.95		0.83	11.0	10.9	10.4
Enerplus Corporation	ERF		13.65		0.41	6.7	8.3	6.2
	<i>Median</i>					12.4	10.4	10.9
RTF Cash Payers								
Sabine Royalty Trust	SBR		50.49	100	1.00	8.9	16.4	12.7
Cross Timbers Royalty Trust	CRT		28.95	97	0.90	13.0	18.5	12.2
Freehold Royalties Ltd.	FRHLF		23.59	88	0.82	4.6	10.5	11.8
Dorchester Minerals, L.P.	DMLP	B	23.09	77	0.97	6.4	12.9	11.0
Mesa Royalty Trust	MTR		25.20		0.81	4.9	12.1	9.5
San Juan Basin Royalty Trust	SJT	B	15.48		0.70	10.3	11.8	8.7
Hugoton Royalty Trust	HGT		9.33		0.86	13.0	13.0	8.7
Permian Basin RT	PBT		13.01	58	0.56	12.7	12.4	8.1
Enduro Royalty Trust (40%)	NDRO		15.91		0.76	6.2	9.2	7.7
	<i>Median</i>					8.9	12.4	9.5
B=Buy; CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.								
EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended March 31, 2014; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses								
Top Line Cash Payers defined as those having Revenue Royalty (see fifth column from right).								



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Table ISC-4									
McDep Income and Small Cap Energy Portfolio									
Total Return and Enterprise Value Momentum									
			Price (\$/sh)	Equity Total	Enterprise Value/				
	Symbol/		25-Apr	Return	52Wk	52Wk	50 Day	200 Day	McDep
	Rating		2013	YTD (%)	High	Low	Avg.	Avg.	Ratio
Small Cap Independent Producers									
PDC Energy	PDCE		45.20	36	0.88	1.67	0.98	1.18	0.93
Peyto Exploration and Development C	PEYUF		28.14	22	1.00	1.63	1.07	1.16	0.89
Berry Petroleum Company	BRY		48.56	45	1.00	1.29	1.04	1.13	0.79
Cimarex Energy Company	XEC	B	71.98	25	0.92	1.42	1.01	1.12	0.69
Range Resources	RRC	B	77.46	23	0.95	1.33	1.00	1.09	0.89
Birchcliff Energy Ltd.	BIREF	B	7.91	4	0.92	1.37	1.01	1.06	0.73
Denbury Resources Inc.	DNR		17.43	8	0.91	1.22	0.97	1.04	0.69
Continental Resources (32%)	CLR	B	79.52	8	0.87	1.23	0.96	1.03	0.83
Whiting Petroleum Corporation	WLL	B	45.55	5	0.84	1.17	0.96	1.00	0.61
Halcón Resources	HK		6.60	(5)	0.73	1.12	0.96	0.95	0.78
	<i>Median</i>			15	0.92	1.31	0.99	1.08	0.79
Leveraged Cash Payers									
Legacy Reserves L.P.	LGCY		27.95	20	0.96	1.15	1.03	1.04	0.95
Vanguard Natural Resources, LLC	VNR		29.00	14	0.97	1.15	1.02	1.02	1.09
Linn Energy, LLC	LINE		38.63	12	0.94	1.07	1.01	1.00	1.15
Enerplus Corporation	ERF		13.65	8	0.80	1.12	1.00	0.97	0.75
	<i>Median</i>			13	0.95	1.13	1.02	1.01	1.02
RTF Cash Payers									
Hugoton RoyaltyTrust	HGT		9.33	31	0.65	1.63	1.09	1.22	0.67
Freehold Royalties Ltd.	FRHLF		23.59	8	0.97	1.39	1.04	1.11	1.12
San Juan Basin Royalty Trust	SJT	B	15.48	16	0.82	1.28	0.99	1.05	0.74
Dorchester Minerals, L.P.	DMLP	B	23.09	18	0.96	1.16	0.99	1.04	0.85
Sabine Royalty Trust	SBR		50.49	30	0.86	1.30	1.07	1.04	0.78
Mesa RoyaltyTrust	MTR		25.20	33	0.70	1.35	1.06	1.02	0.79
Cross Timbers Royalty Trust	CRT		28.95	9	0.70	1.23	1.03	0.95	0.66
Enduro Royalty Trust (40%)	NDRO		15.91	(4)	0.76	1.06	0.99	0.92	0.84
Permian Basin RT	PBT		13.01	7	0.61	1.09	1.01	0.90	0.65
	<i>Median</i>			16	0.76	1.28	1.03	1.04	0.78

CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.

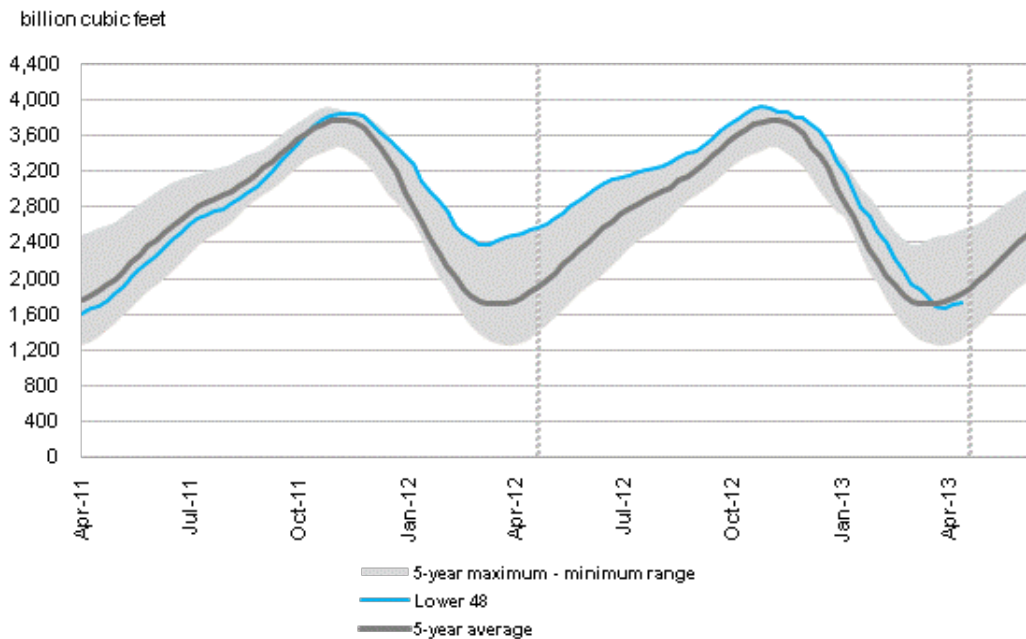


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Working gas in underground storage compared with the 5-year maximum and minimum



Source: U.S. Energy Information Administration

Disclaimer: This analysis was prepared by Kurt Wulff, Manager of McDep LLC. The firm used sources and data believed to be reliable, but makes no representation as to their accuracy or completeness. This analysis is intended for informational purposes and is not a solicitation to buy or sell a security. Past performance is no guarantee of future results.

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