High Yield Energy

Fracking Credit – JPM High Yield Energy Weekly

Welcome to this week's issue of Fracking Credit. Our J.P. Morgan HY Energy index has returned 468bps year to date, as compared to the total return of 30bps for the broader J.P. Morgan HY Index. Over the last week, Energy has returned 34bps vs 24bps for the broader HY Index.

Key Earnings This Week:

Ticker	Earnings	Guidance	Comment	Link
WFRD	Solid	Net-Positive	Strong FCF; Favorable 2027 International (ex-M.E.) outlook	Link

Key News This Week:

- Transocean on Monday announced contracts for two of its UDW drillships in the Gulf of America. The Deepwater Conqueror was awarded a five-well, 450 day contract with an undisclosed operator for ~$225 million in backlog (ex. mobe fees), translating to ~$500k/d. The contract is expected to commence in 3Q27 after the rig's program in Equatorial Guinea. The Deepwater Proteus was awarded a ten-well, 700 day contract with an undisclosed operator for $325 million in backlog (~$464k/d) commencing in 1Q27.
- On Monday, Saturn Oil & Gas announced an agreement to acquire Corex for total consideration of CAD$302 million (~CAD$252 million of cash, ~CAD $50 million worth in Saturn common shares). The acquisition adds ~7,000 bbl/d of 100% light oil volumes, bringing Saturn's liquids weighting to ~86%, and increasing SOILCN's 2026e exit production rate to 54,000 - 56,000 boe/d (FY26e average production guidance of 43,000 - 44,000 boe/d unchanged). The purchase price represents ~1.6x NOI and 82% of PDP NPV10 value. The company indicated that its target leverage ratio exiting 2027 remains unchanged at <1x. The transaction is expected to close in December.
- We hosted an investor conference call with the Venture Global management team on Wednesday following VG's power and grid framework agreements last week. See here for the call replay.

Upcoming Key Events:

- NBR 3Q26 Results (AMC) – October 27th
- PBFENE 3Q26 Results (BMO) - October 29th

Selected Trade Ideas:

- Buy VENLNG 9.000% Perpetual Preferred

Quote of the Week:

"Baseball is the only field of endeavor where a man can succeed three times out of ten and be considered a good performer." - Ted Williams

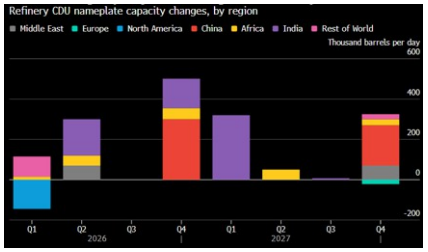
North America Corporate Credit - Energy (HY)

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Chart of the Week: 2026 Refining Capacity Growth Dependent On 4Q Starts



Source: BloombergNEF, company announcements.

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See page 43 for analyst certification and important disclosures.

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Selected J.P. Morgan Research

Credit Research

Kinder Morgan, Inc.: 3Q26: Solid Quarter; Sizeable Gas Backlog Additions Extends Runway; Upgrading to Neutral

HG Energy Rel Val Snapshot: US HG AFL; JPM Daily Credit Strategy Update - Energy vs Tech; NFG on Positive Watch at S&P/Moody's; Recent & Upcoming Earnings

Halliburton Co.: 3Q26: Mixed Quarterly Results, Favorable 2027 Outlook; Remain Underweight on Valuation

Equity Research

Crescent Energy Co: 3Q26 Preview: Formalizing Our Pro Forma Estimates for DVN Eagle Ford Transaction

JPM E&P Shale Well Watcher: MUR Makes Important Strides Offshore With the Drillbit

Helmerich & Payne: FY4Q26 Preview: Anticipating Steady NAS Growth in FY27, But a Back Half Weighted International Profile

North American Midstream: Assuming Coverage of MPLX, SUN, and WES and Maintaining Ratings; Thoughts Into 3Q

Refining Weekly: Key Refining Data for the Week Ending October 16

Energy Infrastructure/MLPs Weekly: 3Q26 Previews; Feedback on VG's Expansion into Data Center Development Biz; KGS, WMB Power Incumbents in Focus; KMI's Promising Portfolio; News Flow; Midstream Lags

JPM Shale Land Rig Analysis: Analyzing Activity Trends by Operator, Basin, and Drilling Contractor: U.S. Land Rig Activity Rises by +5 Rigs WoW

Commodity Research

European Natural Gas: Demand & Storage Tracker: First signs of the heating season

European Natural Gas: How the El Niño can steal winter

Oil Markets Weekly: Together now

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Sector Performance

Asset	Current level (STW)	%MTD Total Return	% YTD Total Return
J.P. Morgan High Yield Energy Index	211bp	1.06%	4.68%
J.P. Morgan High Yield Index	357bp	-0.02%	0.30%
S&P Energy Equity Index	1039	10.02%	54.33%
S&P 500 Equity Index	7645	-0.04%	12.68%

Source: Bloomberg Finance L.P. and J.P. Morgan

Credit

Our J.P. Morgan High Yield Energy Index has outperformed the broader J.P. Morgan High Yield Index by 108bp month to date and outperformed by 438bp year to date. The HY Energy STW is currently 211bp, 146bp tight to the broader HY index STW of 357bp.

Equities

The S&P Energy index has outperformed the S&P by 1006bps month to date and outperformed by 4165bps year to date.

Recent Economic News

Indicator	Period	Actual	Street Estimate	Prior Period	Comment
DOE US Crude Inventory Δ (Mbbls)	Oct 16	-3,060	-	-8,557	
DOE Cushing Inventory Δ (Mbbls)	Oct 16	987	-	1,862	
DOE Gasoline Inventory Δ (Mbbls)	Oct 16	-2,952	-	3,518	
DOE Distillate Inventory Δ (Mbbls)	Oct 16	1,675	-	-2,527	
DOE Refinery Utilization	Oct 16	-0.10%	-	0.80%	
Fed Funds	October	400bp	N/A	400bp	Futures imply a ~7.2% chance of a hike in October
GDP	2Q26	2.2%	1.5%	2.5%	
PPI (% y/y)	September	6.3%	5.4%	5.6%	
CPI (% y/y)	September	3.7%	3.6%	3.4%	CPI Ex Food and Energy: 2.6% vs. 2.5% consensus
Consumer Confidence	September	81.9	89.0	88.6	August revised down to 88.6 from 89.4
Nonfarm Payrolls	September	29K	90K	133K	August revised down to 133K from 162K
Unemployment Rate	September	4.2%	4.1%	4.1%	
Housing Starts	September	1,221K	1,305K	1,288K	August revised up to 1288K from 1275K
Building Permits	September	1,400K	-	1,403K	
New Home Sales (% m/m)	August	6.4%	-	-4.3%	July revised up to -4.3% from -10.5%
Existing Home Sales (% m/m)	September	1.5%	-0.8%	-3.2%	August revised down to -3.2% from -2%
S&P/CaseShiller Index (% y/y)	July	2.5%	2.2%	2.2%	
ISM Manufacturing	September	54.5	55.0	54.6	
Durable Goods Orders	August	-0.1%	-	0.9%	July revised down to 0.9% from 1.1%
Domestic Vehicle Sales	September	16.0	16.3	16.8	
Industrial Production	September	0.7%	0.4%	0.1%	

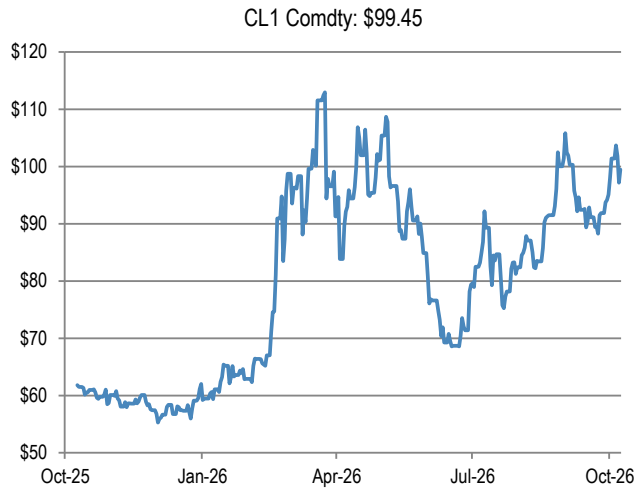
Source: Bloomberg Finance L.P. and J.P. Morgan

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Selected Commodity Indicators

Figure 1: Crude Oil Prices



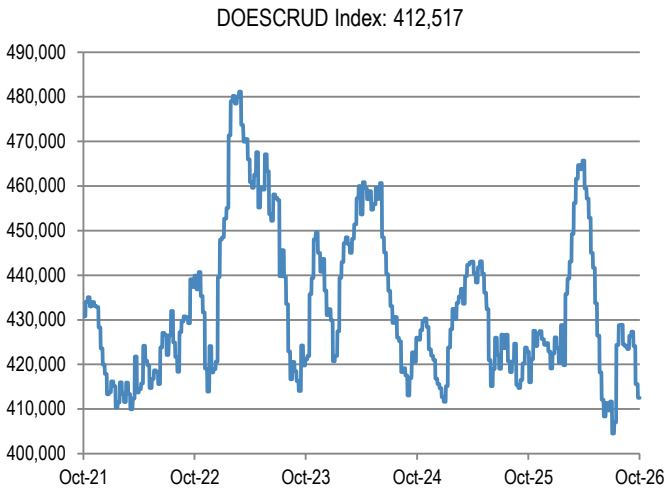
Source: Bloomberg Finance L.P.

Figure 2: Natural Gas Prices



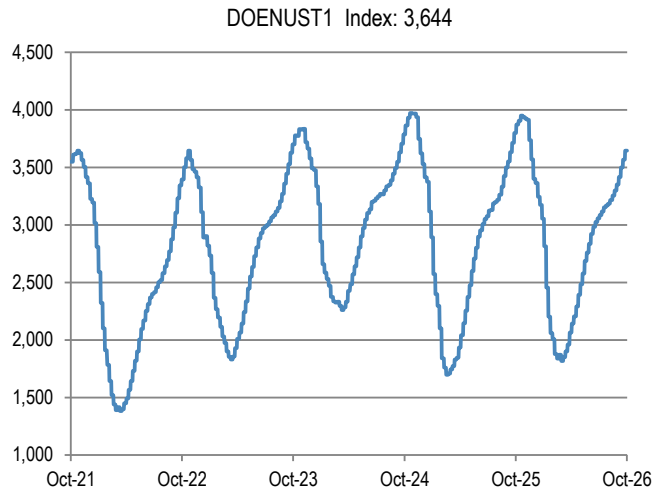
Source: Bloomberg Finance L.P.

Figure 3: Crude Oil Inventory



Source: Bloomberg Finance L.P.

Figure 4: Natural Gas Inventory

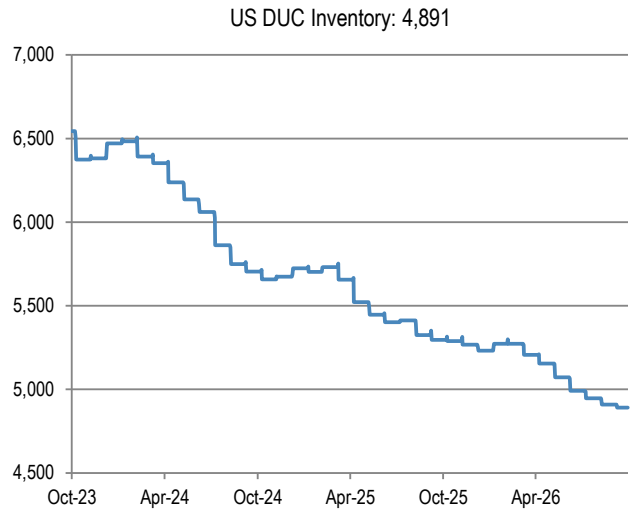


Source: Bloomberg Finance L.P.

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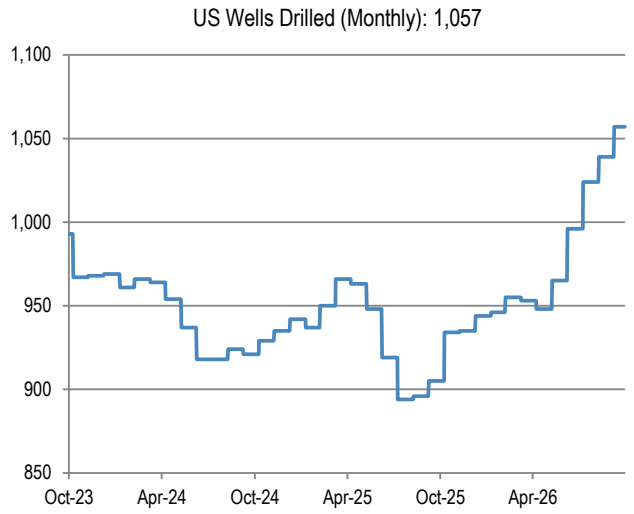
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Figure 5: US DUC Count



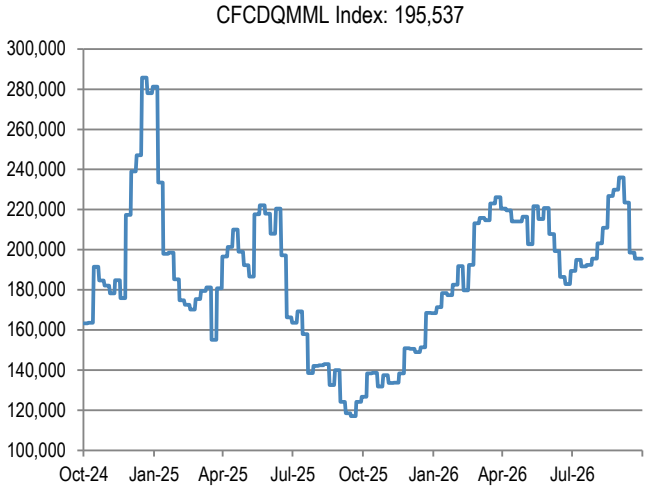
Source: Bloomberg Finance L.P.

Figure 6: US Wells Drilled



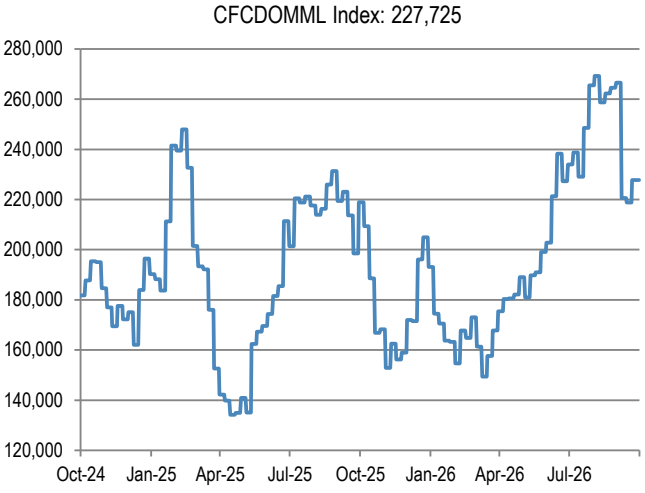
Source: Bloomberg Finance L.P.

Figure 7: Crude Oil Managed Money Longs



Source: Bloomberg Finance L.P.

Figure 8: Natural Gas Managed Money Longs

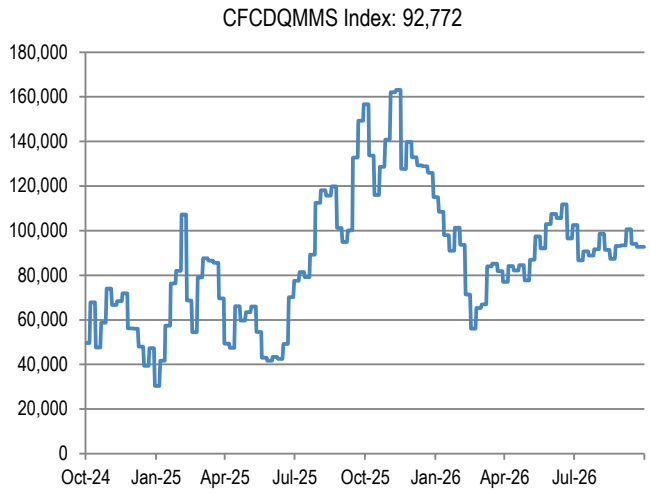


Source: Bloomberg Finance L.P.

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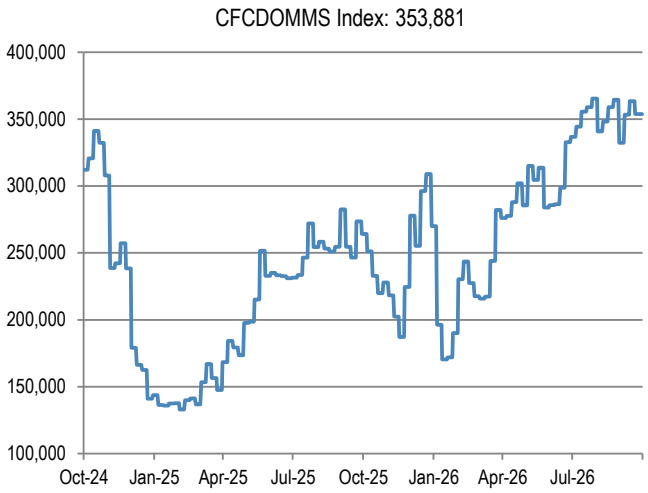
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Figure 9: Crude Oil Managed Money Shorts



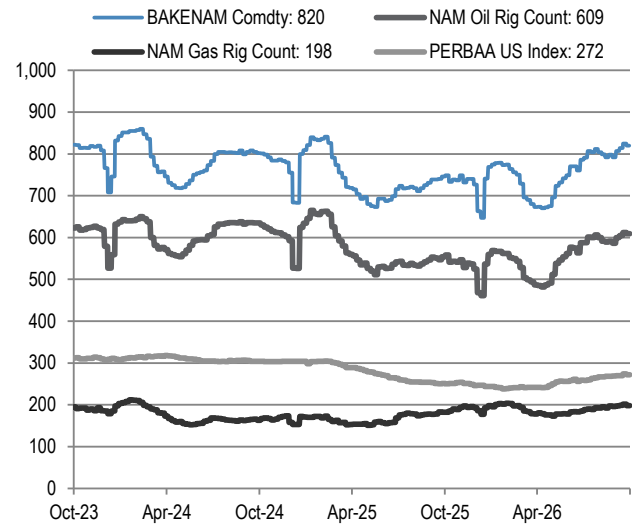
Source: Bloomberg Finance L.P.

Figure 10: Natural Gas Managed Money Shorts



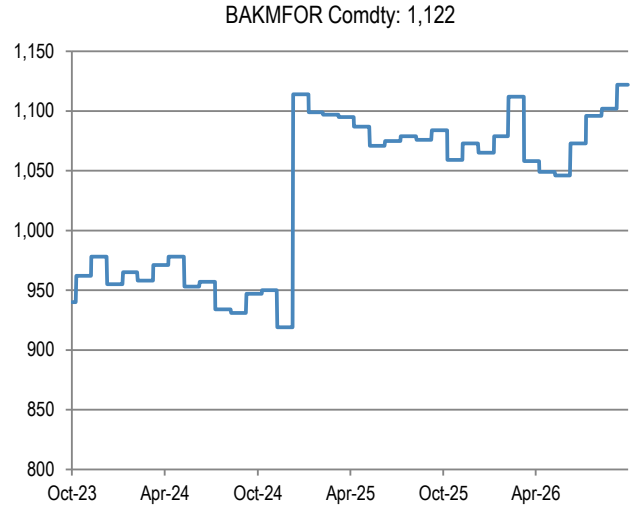
Source: Bloomberg Finance L.P.

Figure 11: North American Rig Count



Source: Bloomberg Finance L.P.

Figure 12: International Rig Count



Source: Bloomberg Finance L.P.



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Key Event Calendar

October/November

Monday	Tuesday	Wednesday	Thursday	Friday
26	**27**	**28**	**29**	**30**
NE (AMC) TGE*	BKR (AMC) EQT (AMC) EXE (AMC) NBR (AMC) OKE (AMC) PDS (AMC) RRC (AMC)	DINO (BMO) AR (AMC) AM*	CNX (BMO) CQP (BMO) DTM (BMO) FTI (BMO) LNG (BMO) PBF (BMO) WTI (AMC) AROC*	SCR*
2	**3**	**4**	**5**	**6**
CRC (AMC) CRGY (AMC) FANG (AMC) RIG (AMC) VAL (AMC) WMB (AMC)	CVI (BMO) ET (BMO) SUN (BMO) USAC (BMO) MTDR (AMC) OVV (AMC) SDRL (AMC) SM (AMC) TALO (AMC) HESM* MPLX*	VET (BMO) CHRD (AMC) CRK (AMC) GPOR (AMC) KNTK (AMC) PR (AMC) SOIL (AMC) WES (AMC) KGS* APA* WBI* MGY*	BKV (BMO) TRGP (BMO) MUR (AMC) NGL (AMC) NOG (AMC) KLXE* GEL*	CLMT (BMO) DKL (BMO) GLP* BRY*

AMC: After market close
BMO: Before market open
**Tentative earnings release date*
Source: Bloomberg Finance L.P.

Selected Macro New

Energy Department Authorizes Exchange from Northeast Home Heating Oil Reserve (U.S. DOE)

The U.S. DOE announced a Request for Proposal for an exchange of us to 315,000 barrels of ultra-low sulfur distillate (fuel oil) from the Northeast Home Heating Oil Reserve "to mitigate heightened home heating oil costs during the upcoming winter." Under the terms of the exchange, borrowing companies must return the same volume of fuel oil plus a premium so that NEHHOR is refilled ahead of the 2027–2028 heating season.

Frac Spread Shifts Into High Gear in October (RBN Energy)

The frac spread hit $7.80/MMBtu on October 19th, up 36% from $5.74/MMBtu a month earlier, driven mainly by Mont Belvieu NGLs (+26% v. Henry Hub gas +5%). The frac spread averaged ~$6.95/MMBtu through October 19, more than double the $3.16/MMBtu average in October 2025.

EU Policy Draft Softens Language on Arctic Drilling (Rigzone)

The European Union's draft of its Arctic strategy, seen by Bloomberg, contains no references to a moratorium on new oil and gas drilling in the Arctic, marking a shift in wording from the EU's 2021 stance. The report stated, "The wording has been a topic of intense discussions between the trade bloc and Norway, which has lobbied hard for the EU to abandon its climate-based opposition to oil and gas exploration in the high north."

Selected Company News

Cheniere Signs Long-Term Sale and Purchase Agreements to Supply QatarEnergy with LNG through 2054 (LNG)

Cheniere on Thursday announced that Sabine Pass Liquefaction, LLC and Corpus Christi Liquefaction, LLC, have each entered into long-term liquefied natural gas sale and purchase agreements with QatarEnergy to supply a total of 4 million tonnes per annum of LNG through 2054. Under the SPAs, QatarEnergy agreed to purchase 2 mtpa of LNG from each of SPL and CCL on a free-on-board basis for a purchase price indexed to the Henry Hub price plus a fixed fee. Deliveries under the SPAs will begin in the early 2030s and continue through the end of 2054, with 1 mtpa of the SPL SPA subject to a positive FID with respect to the first phase of the SPL Expansion Project.

Chord Energy Announces Leadership Transition (CHRD)

Chord Energy announced that Michael Lou has been appointed President & CEO. Additionally, Mr. Lou has been appointed and elected to the Chord Energy Board of Directors. Mr. Lou succeeds Danny Brown, who is stepping down immediately as President and CEO and from the Chord Energy Board of Directors to pursue another professional opportunity.

Expand Energy Corporation Names Danny Brown President and Chief Executive Officer (EXE)

Expand Energy announced that its Board of Directors appointed Daniel E. Brown as President and CEO, effective October 26th. Brown will also be appointed to the Board. Michael A. Wichterich, who has served as Interim President and CEO since February, will return to his role as Non-Executive Chairman of the Board.

Adura gets NSTA consent to develop Jackdaw North Sea gas field (Oil & Gas Journal)

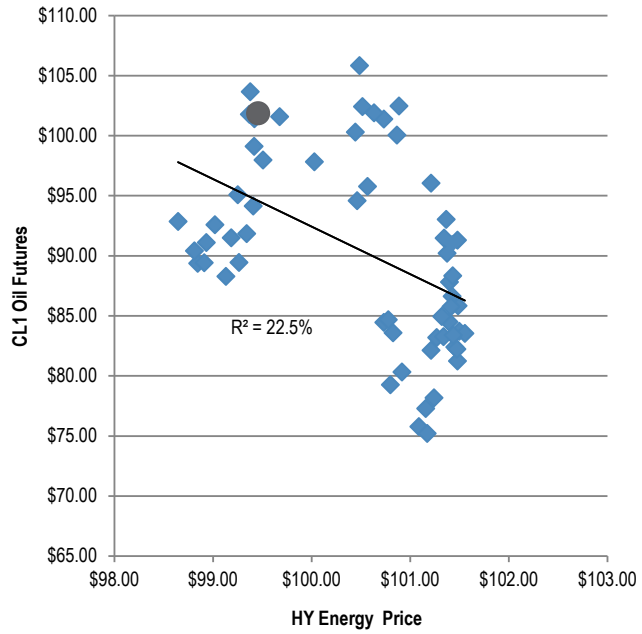
Adura Energy received North Sea Transition Authority consent to develop Jackdaw natural gas and condensate field offshore northeast Scotland. The NTSA originally granted development consent for Jackdaw to Shell UK in June 2022, but the consent was deemed unlawful and overturned but Scottish courts in January 2025.

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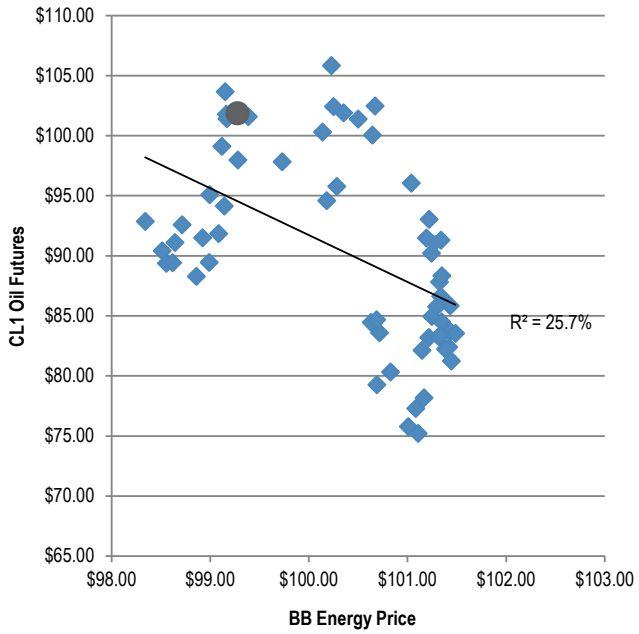
Selected Commodity/Bond Regressions

Figure 13: HY Energy vs. WTI



Source: J.P. Morgan calculations.

Figure 14: BB Energy vs. WTI



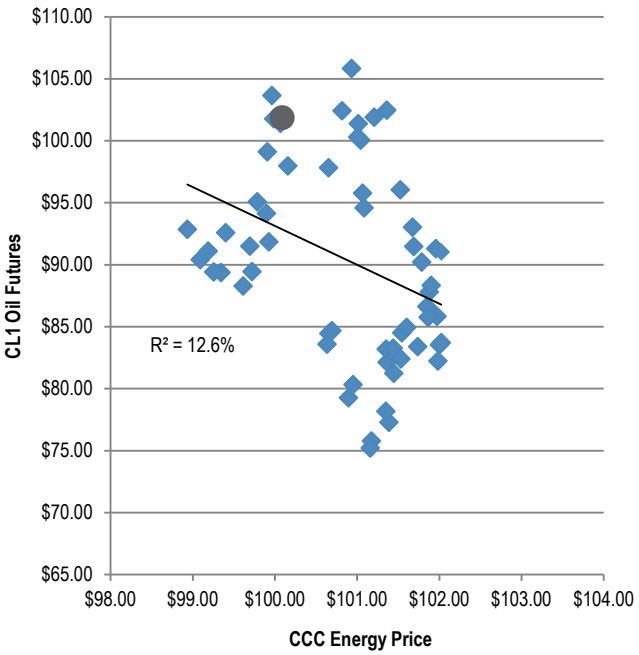
Source: J.P. Morgan calculations.

Figure 15: Single B Energy vs. WTI



Source: J.P. Morgan calculations.

Figure 16: CCC Energy vs. WTI



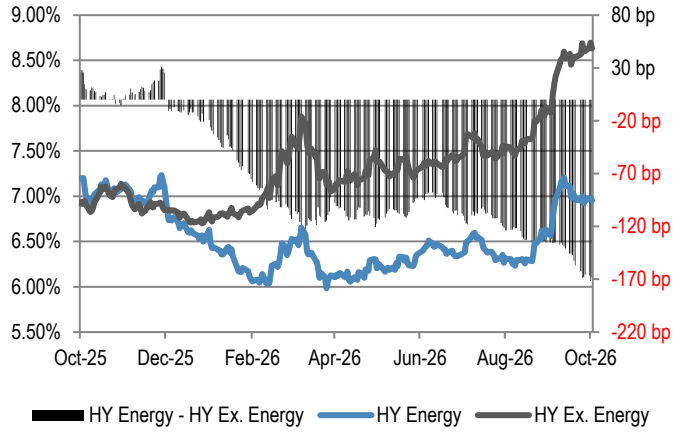
Source: J.P. Morgan calculations.

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Figure 17: HY Energy vs. HY Ex-Energy

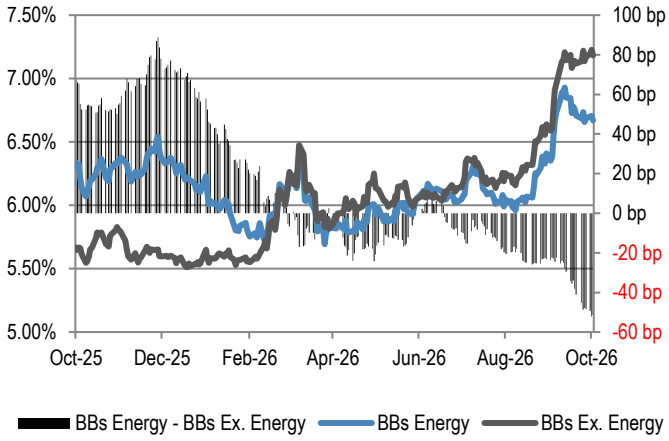
HY Energy: 6.95% | HY Ex. Energy: 8.63% | Diff: (168)bp



Source: J.P. Morgan calculations.

Figure 18: BB Energy vs. BB Ex-Energy

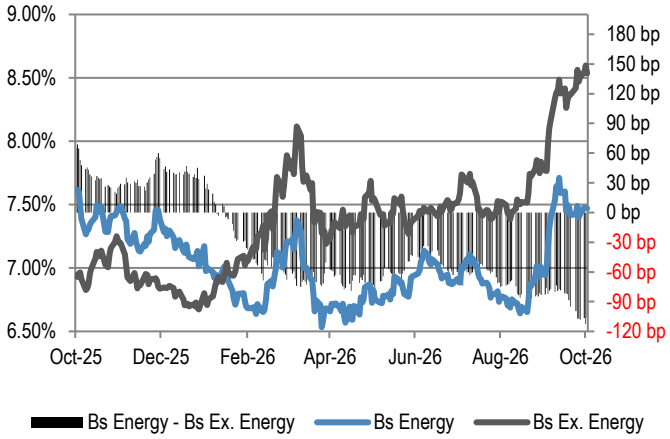
BBs Energy: 6.67% | BBs Ex. Energy: 7.18% | Diff: (51)bp



Source: J.P. Morgan calculations.

Figure 19: Single B Energy vs. Single B Ex-Energy

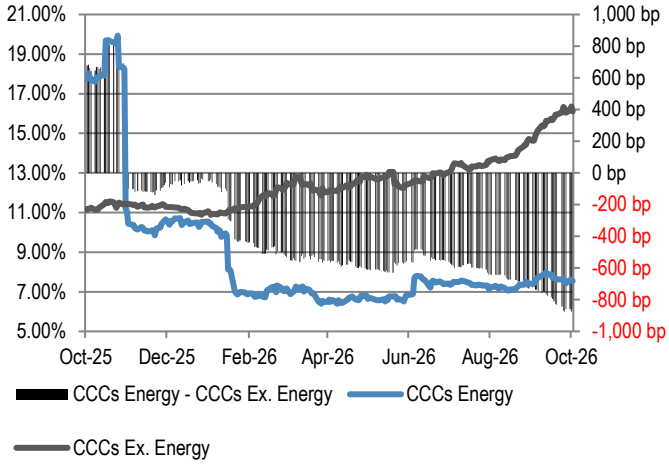
Bs Energy: 7.47% | Bs Ex. Energy: 8.54% | Diff: (106)bp



Source: J.P. Morgan calculations.

Figure 20: CCC Energy vs. CCC Ex-Energy

CCCs Energy: 7.53% | CCCs Ex. Energy: 16.10% | Diff: (857)bp



Source: J.P. Morgan calculations.

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Table 1: 52-Week Bond Ranges

Bond	Current Spread	52 Week High	52 Week Low	52 Week Mean	% of 52 Week Range	Z-Score
Oily E&Ps						
BTECN 7 3/8 03/15/32	131 bp	424 bp	112 bp	240 bp	30.9%	(1.63)
CHRD 6 3/4 03/15/33	180 bp	296 bp	153 bp	204 bp	60.6%	(0.76)
PR 5 7/8 07/01/29	115 bp	235 bp	34 bp	167 bp	48.8%	(1.53)
CRGYFN 9 3/4 10/15/30	266 bp	564 bp	149 bp	370 bp	47.2%	(1.31)
HILCRP 6 02/01/31	188 bp	394 bp	177 bp	276 bp	47.6%	(1.38)
MSSCRK 8 1/4 09/01/31	336 bp	597 bp	293 bp	436 bp	56.3%	(1.20)
MTDR 6 1/4 04/15/33	186 bp	270 bp	161 bp	213 bp	69.0%	(1.00)
MUR 6 10/01/32	148 bp	273 bp	138 bp	199 bp	54.2%	(1.55)
NOG 8 3/4 06/15/31	236 bp	523 bp	181 bp	324 bp	45.1%	(0.98)
SM 7 08/01/32	204 bp	400 bp	149 bp	264 bp	50.9%	(0.90)
TALO 9 3/8 02/01/31	234 bp	534 bp	117 bp	329 bp	43.9%	(1.12)
MGY 6 7/8 12/01/32	201 bp	313 bp	156 bp	212 bp	64.2%	(0.31)
Gassy E&Ps						
AETUNI 7 1/2 10/01/29	166 bp	289 bp	103 bp	171 bp	57.2%	(0.13)
ASCRES 5 7/8 06/30/29	135 bp	275 bp	5 bp	189 bp	49.1%	(1.57)
CNX 7 1/4 03/01/32	203 bp	263 bp	151 bp	202 bp	77.1%	0.04
CRK 5 7/8 01/15/30	262 bp	394 bp	216 bp	318 bp	66.5%	(1.50)
GPOR 6 3/4 09/01/29	193 bp	257 bp	127 bp	183 bp	75.1%	0.42
RRC 4 3/4 02/15/30	130 bp	185 bp	101 bp	143 bp	70.0%	(0.75)
RCKENE 5 1/2 10/15/29	176 bp	294 bp	143 bp	215 bp	59.8%	(1.07)
TEINEN 6 7/8 04/15/29	228 bp	374 bp	119 bp	297 bp	60.8%	(1.72)
Midstream						
AM 5 3/8 06/15/29	96 bp	210 bp	5 bp	143 bp	45.8%	(1.53)
AROC 6 5/8 09/01/32	173 bp	262 bp	151 bp	191 bp	65.8%	(0.78)
BLKCQP 5 1/2 06/15/31	161 bp	221 bp	132 bp	180 bp	73.1%	(0.96)
BLURAC 7 1/4 07/15/32	184 bp	242 bp	144 bp	187 bp	75.9%	(0.21)
BPL 4 1/2 03/01/28	125 bp	207 bp	93 bp	137 bp	60.6%	(0.58)
CNXMPF 4 3/4 04/15/30	169 bp	239 bp	127 bp	186 bp	70.9%	(0.77)
DKL 8 5/8 03/15/29	212 bp	350 bp	67 bp	240 bp	60.5%	(0.54)
FGP 5 7/8 04/01/29	240 bp	551 bp	202 bp	320 bp	43.6%	(1.24)
GEL 8 05/15/33	253 bp	376 bp	201 bp	283 bp	67.4%	(0.63)
GLP 6 7/8 01/15/29	219 bp	316 bp	67 bp	211 bp	69.2%	0.16
HARMID 7 1/2 05/15/32	213 bp	333 bp	153 bp	237 bp	64.0%	(0.60)
HESM 5 1/2 10/15/30	157 bp	201 bp	96 bp	146 bp	77.9%	0.57
INTMAT 6 1/2 08/01/29	218 bp	439 bp	205 bp	323 bp	49.8%	(1.47)
KNTK 5 7/8 06/15/30	151 bp	238 bp	111 bp	170 bp	63.5%	(0.78)
NGL 8 3/8 02/15/32	250 bp	453 bp	182 bp	289 bp	55.1%	(0.60)
NORMID 6 3/4 07/15/32	194 bp	303 bp	146 bp	227 bp	64.0%	(0.94)
NSUS 6 3/8 10/01/30	156 bp	206 bp	110 bp	141 bp	75.8%	0.87
ROCKIE 4.8 05/15/30	158 bp	216 bp	109 bp	154 bp	73.4%	0.17
SPBCN 4 1/2 03/15/29	163 bp	262 bp	138 bp	181 bp	62.3%	(0.73)
SPH 5 06/01/31	207 bp	258 bp	178 bp	210 bp	80.3%	(0.16)
SUMMPL 8 5/8 10/31/29	252 bp	519 bp	72 bp	297 bp	48.6%	(0.55)
SUN 4 1/2 04/30/30	131 bp	186 bp	99 bp	140 bp	70.2%	(0.49)
TEP 6 09/01/31	197 bp	287 bp	156 bp	214 bp	68.4%	(0.56)
TLP 8 1/2 06/15/30	344 bp	470 bp	331 bp	379 bp	73.1%	(1.10)
USAC 7 1/8 03/15/29	184 bp	261 bp	115 bp	176 bp	70.6%	0.29
Services						
NBR 8 7/8 08/15/31	319 bp	762 bp	243 bp	411 bp	41.8%	(0.75)
PDCN 6 7/8 01/15/29	218 bp	339 bp	101 bp	232 bp	64.3%	(0.34)
RIG 7 1/2 04/15/31	255 bp	600 bp	213 bp	341 bp	42.5%	(0.85)
VAL 8 3/8 04/30/30	190 bp	371 bp	15 bp	242 bp	51.2%	(0.87)
WFRD 8 5/8 04/30/30	345 bp	459 bp	50 bp	229 bp	75.2%	1.51
Refining						
CVI 5 3/4 02/15/28	163 bp	337 bp	139 bp	235 bp	48.3%	(1.51)
PBFENE 7 7/8 09/15/30	129 bp	548 bp	92 bp	317 bp	23.6%	(1.62)

Source: J.P. Morgan calculations, Bloomberg Finance L.P.

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Table 2: Regressions vs. Indices, Oil & Equities

		Regression vs. Index			Regression vs. Commodity			Regression vs. Equity		
Bond	Current Spread	Predicted	Z-score	R-squared	Predicted	Z-score	R-squared	Predicted	Z-score	R-squared
Oily E&Ps										
BTECN 7 3/8 03/15/32	113 bp	193 bp	-2.05	63.5%	198 bp	-1.67	37.3%	155 bp	-1.19	69.2%
CHRD 6 3/4 03/15/33	179 bp	180 bp	-0.08	86.4%	182 bp	-0.15	55.0%	172 bp	0.46	71.3%
PR 5 7/8 07/01/29	123 bp	156 bp	-1.04	9.8%	163 bp	-1.18	0.5%	149 bp	-0.80	8.0%
CRGYFN 9 3/4 10/15/30	252 bp	307 bp	-1.75	83.6%	317 bp	-1.13	44.2%	771 bp	-19.10	39.6%
HILCRP 6 02/01/31	181 bp	222 bp	-2.25	91.9%	226 bp	-1.12	61.0%	-	-	-
MSSCRK 8 1/4 09/01/31	336 bp	369 bp	-1.05	85.9%	371 bp	-0.69	62.8%	-	-	-
MTDR 6 1/4 04/15/33	170 bp	192 bp	-2.22	85.0%	194 bp	-1.38	54.7%	198 bp	-1.68	57.7%
MUR 6 10/01/32	148 bp	174 bp	-1.70	76.3%	178 bp	-1.24	42.6%	174 bp	-1.09	45.2%
NOG 8 3/4 06/15/31	235 bp	252 bp	-0.65	91.3%	257 bp	-0.40	61.0%	298 bp	-0.75	7.1%
SM 7 08/01/32	191 bp	208 bp	-1.06	94.0%	212 bp	-0.52	63.9%	154 bp	1.36	83.1%
TALO 9 3/8 02/01/31	221 bp	261 bp	-1.39	87.9%	269 bp	-0.84	52.0%	204 bp	0.45	79.9%
MGY 6 7/8 12/01/32	200 bp	185 bp	1.41	89.5%	189 bp	0.48	49.9%	217 bp	-0.68	41.9%
Gassy E&Ps										
AETUNI 7 1/2 10/01/29	164 bp	141 bp	1.20	76.1%	151 bp	0.39	24.5%	-	-	-
ASCRES 5 7/8 06/30/29	137 bp	171 bp	-1.25	35.1%	181 bp	-1.34	3.2%	-	-	-
CNX 7 1/4 03/01/32	176 bp	186 bp	-0.62	57.6%	192 bp	-0.72	14.7%	199 bp	-0.97	3.1%
CRK 5 7/8 01/15/30	252 bp	308 bp	-1.56	7.1%	309 bp	-1.56	4.4%	317 bp	-1.74	0.1%
GPOR 6 3/4 09/01/29	187 bp	168 bp	1.38	60.8%	171 bp	0.84	27.7%	177 bp	0.47	6.5%
RRC 4 3/4 02/15/30	128 bp	131 bp	-0.27	60.4%	136 bp	-0.50	13.6%	140 bp	-0.68	1.1%
RCKENE 5 1/2 10/15/29	169 bp	187 bp	-1.14	81.0%	194 bp	-0.85	33.5%	-	-	-
TEINEN 6 7/8 04/15/29	228 bp	270 bp	-1.58	54.8%	275 bp	-1.39	29.0%	-	-	-
Midstream										
AM 5 3/8 06/15/29	99 bp	127 bp	-1.11	30.7%	132 bp	-1.15	9.8%	139 bp	-1.37	6.1%
AROC 6 5/8 09/01/32	170 bp	173 bp	-0.29	82.5%	178 bp	-0.42	30.6%	193 bp	-1.38	43.8%
BLKCQP 5 1/2 06/15/31	151 bp	166 bp	-1.35	67.4%	169 bp	-1.11	32.2%	170 bp	-1.29	45.5%
BLURAC 7 1/4 07/15/32	194 bp	181 bp	1.07	22.2%	184 bp	0.71	2.5%	-	-	-
BPL 4 1/2 03/01/28	153 bp	133 bp	1.06	6.3%	138 bp	0.76	0.5%	-	-	-
CNXMPF 4 3/4 04/15/30	182 bp	172 bp	0.80	61.4%	176 bp	0.32	21.5%	-	-	-
DKL 8 5/8 03/15/29	208 bp	208 bp	-0.01	48.9%	222 bp	-0.29	10.3%	193 bp	0.38	41.8%
FGP 5 7/8 04/01/29	248 bp	270 bp	-0.94	84.0%	279 bp	-0.68	44.0%	578 bp	-6.69	32.1%
GEL 8 05/15/33	227 bp	245 bp	-1.36	92.3%	252 bp	-0.73	44.9%	270 bp	-0.93	3.4%
GLP 6 7/8 01/15/29	209 bp	198 bp	0.27	12.9%	210 bp	-0.02	0.0%	202 bp	0.17	4.6%
HARMID 7 1/2 05/15/32	203 bp	211 bp	-0.32	58.1%	219 bp	-0.46	20.2%	-	-	-
HESM 5 1/2 10/15/30	143 bp	139 bp	0.19	13.2%	146 bp	-0.16	0.2%	152 bp	-0.49	2.4%
INTMAT 6 1/2 08/01/29	227 bp	268 bp	-1.24	78.4%	272 bp	-0.91	53.0%	-	-	-
KNTK 5 7/8 06/15/30	137 bp	157 bp	-1.02	38.1%	163 bp	-1.11	5.7%	149 bp	-0.56	27.3%
NGL 8 3/8 02/15/32	252 bp	239 bp	0.58	86.5%	249 bp	0.07	42.0%	256 bp	-0.16	86.0%
NORMID 6 3/4 07/15/32	183 bp	200 bp	-1.05	78.0%	204 bp	-0.81	42.8%	-	-	-
NSUS 6 3/8 10/01/30	156 bp	129 bp	2.75	64.7%	133 bp	1.52	18.4%	126 bp	2.33	36.2%
ROCKIE 4.8 05/15/30	154 bp	142 bp	0.70	40.8%	148 bp	0.26	6.3%	-	-	-
SPBCN 4 1/2 03/15/29	159 bp	168 bp	-0.51	37.2%	175 bp	-0.71	5.4%	186 bp	-1.24	12.9%
SPH 5 06/01/31	200 bp	198 bp	0.13	57.4%	202 bp	-0.16	17.7%	202 bp	-0.14	8.8%
SUMMPL 8 5/8 10/31/29	246 bp	232 bp	0.65	92.3%	246 bp	0.00	42.4%	223 bp	0.58	72.9%
SUN 4 1/2 04/30/30	127 bp	126 bp	0.05	70.5%	132 bp	-0.27	20.2%	118 bp	0.75	59.8%
TEP 6 09/01/31	185 bp	189 bp	-0.46	88.7%	194 bp	-0.41	45.1%	-	-	-
TLP 8 1/2 06/15/30	337 bp	357 bp	-0.97	62.2%	360 bp	-0.86	35.6%	-	-	-
USAC 7 1/8 03/15/29	176 bp	158 bp	1.08	60.3%	162 bp	0.64	28.4%	177 bp	-0.04	26.5%
Services										
NBR 8 7/8 08/15/31	311 bp	314 bp	-0.09	91.9%	319 bp	-0.12	63.5%	378 bp	-1.43	83.0%
PDCN 6 7/8 01/15/29	208 bp	207 bp	0.04	53.4%	214 bp	-0.16	21.6%	218 bp	-0.32	37.7%
RIG 7 1/2 04/15/31	251 bp	261 bp	-0.31	88.8%	265 bp	-0.24	62.0%	313 bp	-1.07	63.7%
VAL 8 3/8 04/30/30	182 bp	201 bp	-0.54	61.4%	217 bp	-0.65	16.2%	224 bp	-0.85	27.1%
WFRD 8 5/8 04/30/30	205 bp	232 bp	-0.35	0.2%	234 bp	-0.38	0.5%	264 bp	-0.84	19.2%
Refining										
CVI 5 3/4 02/15/28	157 bp	198 bp	-1.82	77.8%	205 bp	-1.28	37.7%	155 bp	0.05	21.2%
PBFENE 7 7/8 09/15/30	129 bp	229 bp	-1.66	73.7%	235 bp	-1.27	49.4%	26 bp	2.04	81.2%

Source: J.P. Morgan calculations, Bloomberg Finance L.P.

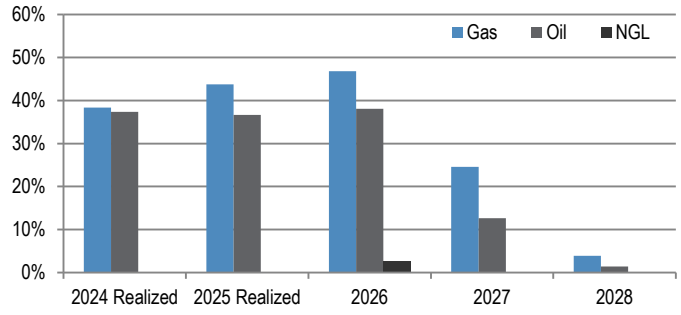
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1Q26 Hedge Position Summary

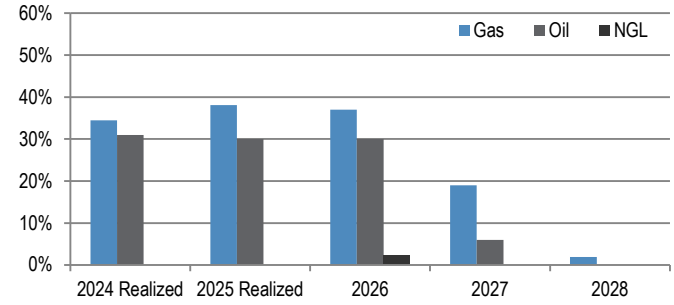
The data below are compiled largely by the J.P. Morgan Global Commodities Group and leverage data from J.P. Morgan Equity and Credit Research as well.

Figure 21: Total Hedge Percentage



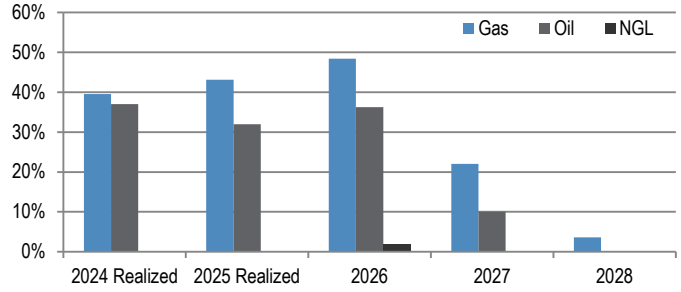
Source: J.P. Morgan Global Commodities Group.

Figure 22: Large-Cap Hedge Percentage



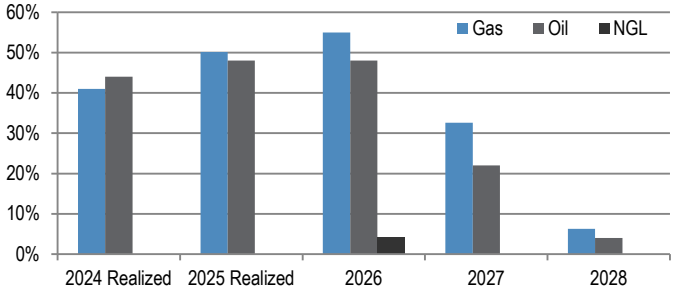
Source: J.P. Morgan Global Commodities Group.

Figure 23: Mid-Cap Hedge Percentage



Source: J.P. Morgan Global Commodities Group.

Figure 24: Small-Cap Hedge Percentage



Source: J.P. Morgan Global Commodities Group.

Table 3: Large-Cap Hedge Position Summary

	2024 Realized		2025 Realized		2026			2027		2028	
	% Gas	% Oil	% Gas	% Oil	% Gas	% Oil	% NGL	% Gas	% Oil	% Gas	% Oil
Antero[3]	3%	0%	27%	0%	68%	0%	0%	33%	0%	8%	0%
Coterra[2,8]	14%	37%	32%	47%	30%	55%	0%	13%	19%	0%	0%
Devon[8]	23%	38%	30%	33%	34%	28%	0%	6%	10%	0%	0%
Diamondback	55%	86%	57%	65%	62%	57%	0%	51%	3%	0%	0%
EOG	38%	0%	51%	0%	17%	0%	4%	4%	0%	0%	0%
EQT[6]	72%	0%	59%	0%	21%	0%	0%	6%	0%	0%	0%
Expand[6]	57%	69%	60%	22%	67%	46%	17%	41%	0%	4%	0%
Occidental	0%	0%	0%	0%	0%	14%	0%	0%	0%	0%	0%
Ovintiv	48%	24%	27%	35%	34%	25%	0%	17%	4%	5%	0%
Median	**38%**	**31%**	**32%**	**34%**	**34%**	**27%**	**0%**	**13%**	**3%**	**0%**	**0%**
Mean	**34%**	**31%**	**38%**	**30%**	**37%**	**30%**	**2%**	**19%**	**6%**	**2%**	**0%**

Note 1. Company has entered into additional oil hedges subsequent to March 31, 2026 that have been excluded from the above analysis.

Note 2. Company has entered into additional natural gas hedges subsequent to March 31, 2026 that have been excluded from the above analysis.

Note 3. Company has written call option or swaption structures that have been excluded from the above analysis.

Note 4. Company has oil hedges in 2030+.

Note 5. Company has natural gas hedges in 2030+.

Note 6. Reporting date not March 31, 2026.

Note 7. Includes some physical hedges.

Note 8. Production estimates taken from Bloomberg model consensus.

Note 9. Company has transport hedges that have been excluded from the above analysis.

Source: This report leverages hedge data from publicly available company filings and production estimates from J.P. Morgan North America Equity Research models OR estimates by J.P. Morgan Global Commodities Group when research model is unavailable; companies with less than 5% oil or gas production are not included in calculated median for respective commodity.

Table 4: Mid-Cap Hedge Position Summary

	2024 Realized		2025 Realized		2026			2027		2028	
	% Gas	% Oil	% Gas	% Oil	% Gas	% Oil	% NGL	% Gas	% Oil	% Gas	% Oil
Apache[9]	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chord[1,2,8]	4%	22%	32%	22%	23%	27%	0%	10%	13%	0%	1%
CNX[6,7]	92%	0%	84%	0%	108%	0%	0%	69%	0%	24%	0%
Crescent Energy[3]	76%	82%	67%	57%	69%	60%	0%	18%	20%	0%	0%
Permian Resources	20%	29%	36%	31%	50%	38%	0%	22%	3%	0%	0%
Range[2,3]	57%	82%	38%	0%	38%	73%	7%	20%	0%	1%	0%
SM Energy	26%	51%	45%	50%	51%	56%	6%	19%	13%	0%	0%
Median	**26%**	**29%**	**38%**	**31%**	**50%**	**38%**	**0%**	**19%**	**13%**	**0%**	**0%**
Mean	**40%**	**37%**	**43%**	**32%**	**48%**	**36%**	**2%**	**22%**	**10%**	**4%**	**0%**

Note 1. Company has entered into additional oil hedges subsequent to March 31, 2026 that have been excluded from the above analysis.

Note 2. Company has entered into additional natural gas hedges subsequent to March 31, 2026 that have been excluded from the above analysis.

Note 3. Company has written call option or swaption structures that have been excluded from the above analysis.

Note 4. Company has oil hedges in 2030+.

Note 5. Company has natural gas hedges in 2030+.

Note 6. Reporting date not March 31, 2026.

Note 7. Includes some physical hedges.

Note 8. Production estimates taken from Bloomberg model consensus.

Note 9. Company has transport hedges that have been excluded from the above analysis.

Source: This report leverages hedge data from publicly available company filings and production estimates from J.P. Morgan North America Equity Research models OR estimates by J.P. Morgan Global Commodities Group when research model is unavailable; companies with less than 5% oil or gas production are not included in calculated median for respective commodity.

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Table 5: Small-Cap Hedge Position Summary

	2024 Realized		2025 Realized		2026			2027		2028	
	% Gas	% Oil	% Gas	% Oil	% Gas	% Oil	% NGL	% Gas	% Oil	% Gas	% Oil
California Resources[8]	73%	72%	63%	59%	88%	65%	0%	77%	58%	10%	20%
Comstock Resources[8]	54%	0%	54%	0%	60%	0%	0%	24%	0%	0%	0%
Gulfport[1,2]	64%	44%	74%	48%	56%	46%	27%	34%	20%	5%	0%
Matador	0%	45%	0%	59%	37%	54%	0%	0%	8%	0%	0%
Murphy[6,7]	0%	0%	12%	0%	16%	0%	0%	2%	0%	0%	0%
NOG[3,8]	32%	68%	54%	73%	69%	57%	0%	36%	15%	6%	0%
Seneca Resources[7]	67%	0%	73%	0%	73%	0%	0%	51%	0%	22%	0%
Vermillion Energy[3,8]	38%	35%	71%	52%	45%	62%	6%	37%	27%	7%	0%
Median	**46%**	**45%**	**59%**	**59%**	**58%**	**57%**	**0%**	**35%**	**15%**	**6%**	**0%**
Mean	**41%**	**44%**	**50%**	**48%**	**55%**	**48%**	**4%**	**33%**	**22%**	**6%**	**4%**

Note 1. Company has entered into additional oil hedges subsequent to March 31, 2026 that have been excluded from the above analysis.

Note 2. Company has entered into additional natural gas hedges subsequent to March 31, 2026 that have been excluded from the above analysis.

Note 3. Company has written call option or swaption structures that have been excluded from the above analysis.

Note 4. Company has oil hedges in 2030+.

Note 5. Company has natural gas hedges in 2030+.

Note 6. Reporting date not March 31, 2026.

Note 7. Includes some physical hedges.

Note 8. Production estimates taken from Bloomberg model consensus.

Note 9. Company has transport hedges that have been excluded from the above analysis.

Source: This report leverages hedge data from publicly available company filings and production estimates from J.P. Morgan North America Equity Research models OR estimates by J.P. Morgan Global Commodities Group when research model is unavailable; companies with less than 5% oil or gas production are not included in calculated median for respective commodity.

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Table 6: Highest/Weakest R2 vs. Oil

Highest R^2	
Talos Energy 9.000% due 2029	50.2%
Weatherford International 8.250% due 2030	38.8%
Venture Global 4.125% due 2031	37.2%
Superior Plus 4.500% due 2029	36.5%
Sunoco 4.500% due 2029	34.5%

Lowest R^2	
Nabors Industries 8.875% due 2031	2.7%
Crescent Energy 8.375% due 2034	1.6%
PBF Energy 9.875% due 2030	0.6%
CVR Energy 5.750% due 2028	0.5%
Moss Creek 8.250% due 2031	0.1%

Source: J.P. Morgan calculations.

Table 7: Highest/Lowest Beta to Oil

Highest Beta	
Weatherford International 8.250% due 2030	0.40
Genesis Energy 8.875% due 2030	0.17
Sunoco 4.500% due 2029	0.11
CNX Resources 7.375% due 2031	0.11
Archrock Partners 6.625% due 2032	0.10

Lowest Beta	
Moss Creek 8.250% due 2031	0.00
CVR Energy 5.750% due 2028	0.00
Saturn Oil 9.625% due 2029	0.00
Talos Energy 9.000% due 2029	0.00
Antero Midstream 5.750% due 2028	0.00

Source: J.P. Morgan calculations.

Table 8: Cheapest/Richest vs. Oil Regression (Standard Deviations)

Cheapest Vs. Regression	
Moss Creek 8.250% due 2031	1.09
Comstock Resources 5.875% due 2030	0.66
Calumet Specialty 9.750% due 2028	0.60
CVR Energy 5.750% due 2028	0.32
W&T Offshore 10.75% due 2029	0.27

Richest Vs. Regression	
Weatherford International 8.250% due 2030	2.17
Venture Global 8.375% due 2031	1.40
PBF Energy 9.875% due 2030	0.97
Precision Drilling 6.875% due 2029	0.86
Vermilion Energy 6.875% due 2030	0.79

Source: J.P. Morgan calculations.

Table 9: Highest/Weakest R2 vs. Index

Highest R^2	
Talos Energy 9.000% due 2029	96.5%
SM Energy 7.000% due 2032	94.6%
Vermilion Energy 6.875% due 2030	93.6%
Murphy Oil 6.000% due 2032	93.0%
Gulfport Energy 6.750% due 2029	93.0%

Lowest R^2	
Comstock Resources 5.875% due 2030	15.5%
Antero Midstream 5.750% due 2028	8.6%
W&T Offshore 10.75% due 2029	7.2%
Calumet Specialty 9.750% due 2028	0.2%

Source: J.P. Morgan calculations.

Table 10: Cheapest/Richest vs. Index Regression (Standard Deviations)

Cheapest Vs. Regression	
Calumet Specialty 9.750% due 2028	1.29
W&T Offshore 10.75% due 2029	0.78
CVR Energy 5.750% due 2028	0.70
Moss Creek 8.250% due 2031	0.48
Comstock Resources 5.875% due 2030	0.36

Richest Vs. Regression	
Venture Global 8.375% due 2031	2.61
Kodiak Gas 6.750% due 2035	1.68
Weatherford International 8.250% due 2030	1.67
Ascent Resources 5.875% due 2029	1.19
CNX Resources 7.375% due 2031	1.05

Source: J.P. Morgan calculations.

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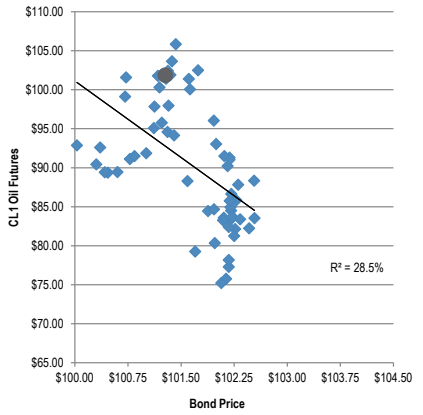
Single-Name Regressions vs. Oil

CNX Resources 7.375% 15-JAN-31 Yield to Worst



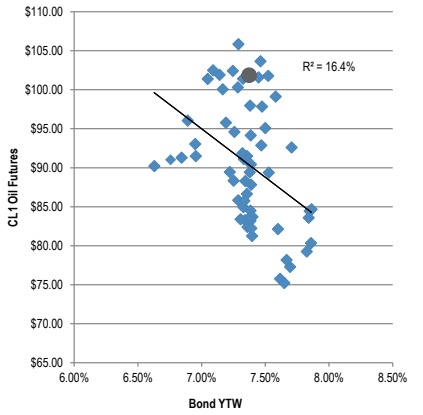
Source: JPMorgan calculations.

CNX Resources 7.375% 15-JAN-31 Price



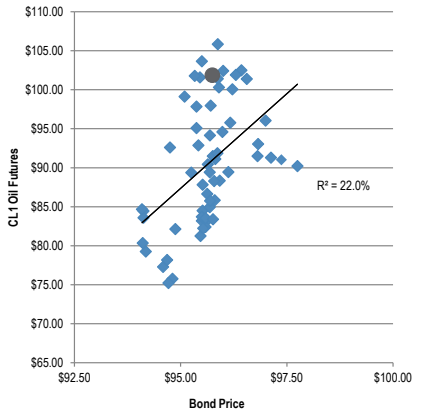
Source: JPMorgan calculations.

Comstock Resources 5.875% 15-JAN-30 Yield to Worst



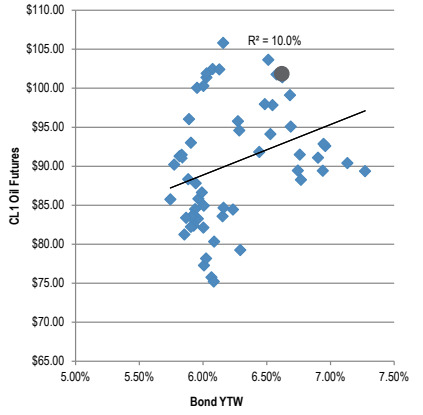
Source: JPMorgan calculations.

Comstock Resources 5.875% 15-JAN-30 Price



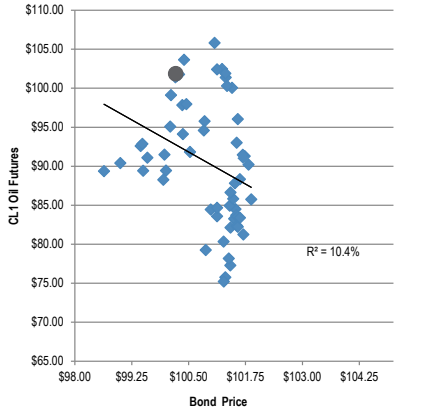
Source: JPMorgan calculations.

Gulfport Energy 6.750% 01-Sep-29 Yield to Worst



Source: JPMorgan calculations.

Gulfport Energy 6.750% 01-Sep-29 Price



Source: JPMorgan calculations.

Range Resources 4.750% 15-FEB-30 Yield to Worst



Source: JPMorgan calculations.

Range Resources 4.750% 15-FEB-30 Price

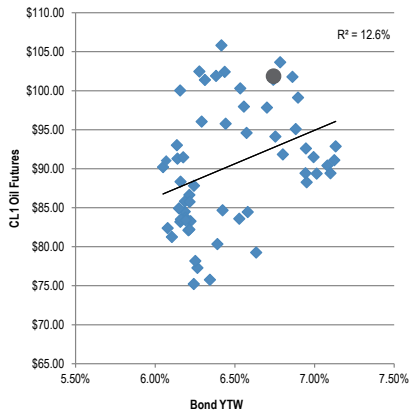


Source: JPMorgan calculations.

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SM Energy 7.000% 01-AUG-32 Yield to Worst



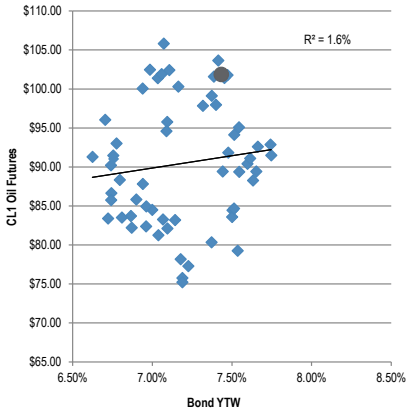
Source: JPMorgan calculations.

SM Energy 7.000% 01-AUG-32 Price



Source: JPMorgan calculations.

Crescent Energy 8.375% 15-JAN-34 Yield to Worst



Source: JPMorgan calculations.

Crescent Energy 8.375% 15-JAN-34 Price



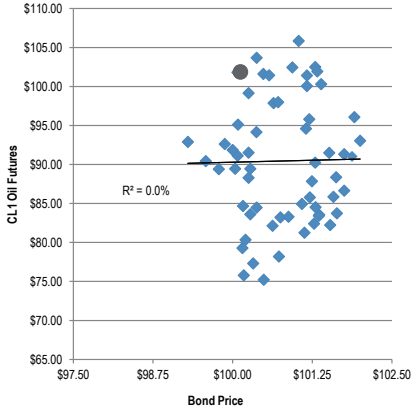
Source: JPMorgan calculations.

Moss Creek Resources 8.250% 01-SEP-31 Yield to Worst



Source: JPMorgan calculations.

Moss Creek Resources 8.250% 01-SEP-31 Price



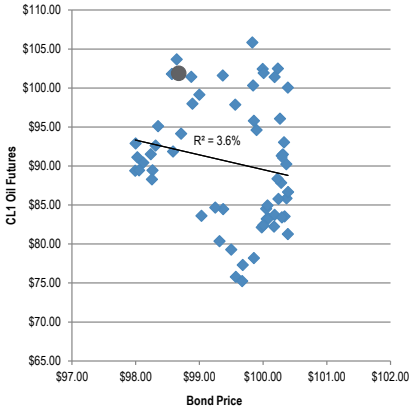
Source: JPMorgan calculations.

Vermilion Energy 6.875% 01-MAY-30 Yield to Worst



Source: JPMorgan calculations.

Vermilion Energy 6.875% 01-MAY-30 Price



Source: JPMorgan calculations.

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Transocean 6.800% 15-MAR-38 Yield to Worst



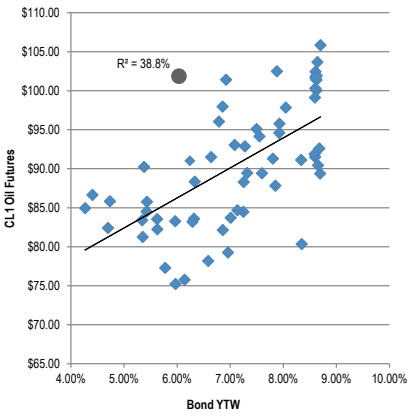
Source: JPMorgan calculations.

Transocean 6.800% 15-MAR-38 Price



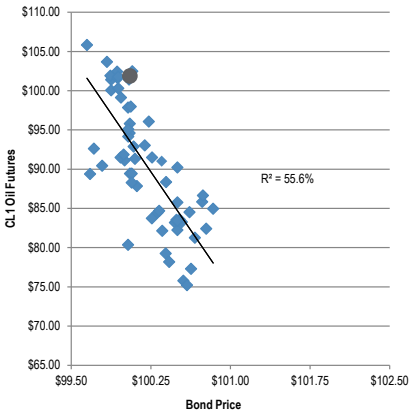
Source: JPMorgan calculations.

Weatherford International 8.250% 30-APR-30 Yield to Worst



Source: JPMorgan calculations.

Weatherford International 8.250% 30-APR-30 Price



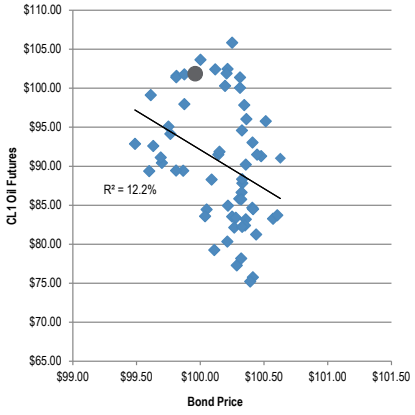
Source: JPMorgan calculations.

Precision Drilling Corporation 6.875% 15-JAN-29 Yield to Worst



Source: JPMorgan calculations.

Precision Drilling Corporation 6.875% 15-JAN-29 Price



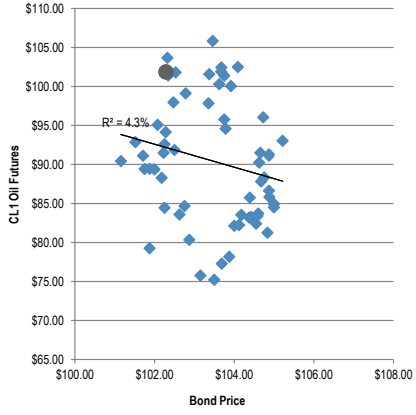
Source: JPMorgan calculations.

Nabors Industries Inc 8.875% 15-AUG-31 Yield to Worst



Source: JPMorgan calculations.

Nabors Industries Inc 8.875% 15-AUG-31 Price

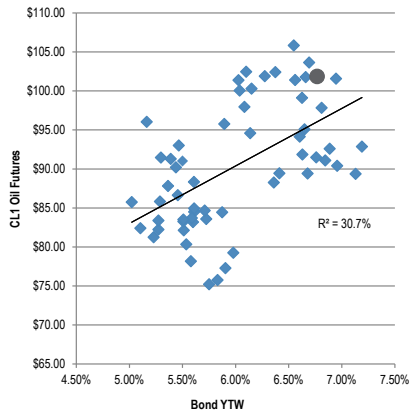


Source: JPMorgan calculations.

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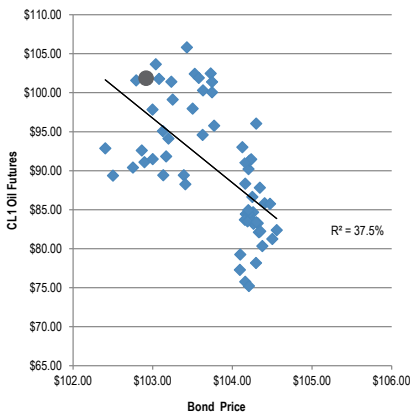
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Genesis Energy 8.875% 15-APR-30 Yield to Worst



Source: JPMorgan calculations.

Genesis Energy 8.875% 15-APR-30 Price



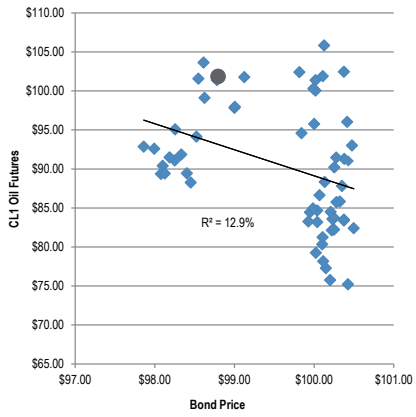
Source: JPMorgan calculations.

Kinetik 5.875% 15-JUN-30 Yield to Worst



Source: JPMorgan calculations.

Kinetik 5.875% 15-JUN-30 Price



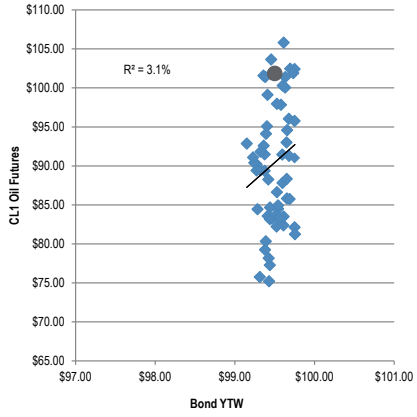
Source: JPMorgan calculations.

CVR Energy 5.750% 15-FEB-28 Yield to Worst



Source: JPMorgan calculations.

CVR Energy 5.750% 15-FEB-28 Price



Source: JPMorgan calculations.

PBF Energy Inc 9.875% 15-MAR-30 Yield to Worst



Source: JPMorgan calculations.

PBF Energy Inc 9.875% 15-MAR-30 Price



Source: JPMorgan calculations.

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Transaction Comparables

Table 11: Selected E&P Transactions

Deal Type	Date	Target Name	Acquirer	Seller	Value (mm)	Payment Type
M&A	10/8/2026	Eagle Ford assets/Devon Energy Corp	Crescent Energy Co	Devon Energy Corp	$3,850*	Cash
M&A	10/5/2026	Athabasca Oil Corporation	Cenovus Energy		C$5,700	Cash & Stock
M&A	9/16/2026	Non Operated Marcellus Asset/Chord Energy Corp	Posco International Corp	Chord Energy Corp	$550	Cash
M&A	9/2/2026	Birch Permian Holdings Inc	Diversified Energy Co	Elliott Investment Management LP	$1,800	Cash
M&A	7/27/2026	Twin Eagle Holdings NA LLC	Expand Energy Corp	Five Point Infrastructure LLC	$1,250	Cash
M&A	7/23/2026	Paloma Permian LLC	Matador Resources Co	EnCap Investments LP	$1,275	Cash
M&A	7/20/2026	Wildfire Energy LLC	Magnolia Oil & Gas Corp	Warburg Pincus LLC; Kayne Anderson Capital Advisors LP	$4,097	Cash & Stock
M&A	7/13/2026	Connacher Oil and Gas Ltd	Greenfire Resources Ltd	Cantor Fitzgerald LP	$1,277	Cash
M&A	5/28/2026	Charlie Lake assets/Tamarack Valley Energy Ltd	Unnamed Buyer		$583	Cash
M&A	5/6/2026	Portfolio of certain oil and natural gas properties/Oklahoma	Diversified Energy Co; Carlyle Group Inc	Camino Natural Resources Holdings LLC	$1,175	Cash
M&A	4/27/2026	ARC Resources Ltd	Shell PLC		$16,870	Cash & Stock
M&A	2/18/2026	Certain assets/Maverick Basin	Caturus Energy LLC	SM Energy Co	$950	Cash
M&A	2/17/2026	Anadarko oil & natural gas assets/Oklahoma	Unnamed Buyer	Ovintiv Inc	$3,000	Cash
M&A	2/2/2026	Coterra Energy Inc	Devon Energy Corp		$23,961	Stock
M&A	1/16/2026	Aethon III BR LLC; Aethon United BR LP	Mitsubishi Corp	Aethon Energy Management LLC and sponsors	$5,200	Cash
M&A	12/22/2025	LLOG Exploration Co LLC	Harbour Energy PLC	LLOG Holdings LLC	$3,200	Cash & Stock
M&A	12/8/2025	Upstream assets/HG Energy II LLC	Antero Resources Corp	HG Energy II LLC	$2,800	Cash
M&A	12/8/2025	Natuna Sea Block A field/Indonesia; Tuna development project	Prime Group Realty Trust	Harbour Energy PLC	$215	Cash
M&A	11/17/2025	Tgnr Tvl LLC	Grayrock Energy IV LLC	Tokyo Gas Co Ltd	$255	Cash
M&A	11/12/2025	Eagle Ford assets/Baytex Energy Corp	Unnamed Buyer	Baytex Energy Corp	$2,305	Cash
M&A	11/4/2025	NuVista Energy Ltd	Ovintiv Inc		$2,519	Cash or Stock
M&A	11/4/2025	Shelby Trough assets/Comstock Resources Inc	Unnamed Buyer	Comstock Resources Inc	$430	Cash
M&A	11/4/2025	Conventional oil and gas assets/Wyoming	Aethel Energy Ltd	Crescent Energy Co	$400	Cash
M&A	11/3/2025	Civitas Resources Inc	SM Energy Co		$8,289	Stock

Source: Bloomberg Finance L.P. and company reports/press releases. *Reported net purchase price.

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Table 12: Selected Services & Refining Transactions

Deal Type	Date	Target Name	Acquirer	Seller	Value (mm)	Payment Type
M&A	9/22/2026	Welltec International	Superior Energy Services Inc	PFA Pension A/S	$1,200	Cash
M&A	6/1/2026	NCS Multistage Holdings Inc	Weatherford International PLC		$134	Cash or Stock
M&A	5/29/2026	Vantage Drilling International Ltd	Eldorado Drilling AS		$201	Cash
M&A	5/14/2026	CVX International Downstream Businesses	ENEOS Holdings Inc	Chevron Corp	$2,170	Cash
M&A	5/6/2026	Enhanced Drilling Holding AS	Expro Group Holdings NV	Enhanced Well Technologies AS	$215	Cash
M&A	5/1/2026	Shallow Water Abandonment business	C-Dive LLC	Helix Energy Solutions Group Inc	$108	Cash
M&A	2/22/2026	Wilson Sons Ultratug Participacoes SA	Tidewater Inc	MSC Mediterranean Shipping Co SA	$239	Cash
M&A	2/9/2026	Valaris Ltd	Transocean Ltd		$3,150	Stock
M&A	2/2/2026	Valiant Artificial Lift Solutions LLC	Flowco Holdings Inc		$200	Cash and Stock
M&A	12/8/2025	5 jack-up rigs/Noble Corp PLC	Borr Drilling Ltd; Ocean Oilfield Drilling	Noble Corp PLC	$360	Cash and Debt
M&A	9/9/2025	WRB Refining LP	Phillips 66	Cenovus Energy Inc	$1,400	Cash
M&A	8/20/2025	Quail Tools LLC	Superior Energy Services Inc	Nabors Industries Ltd	$625	Cash
M&A	7/29/2025	Chart Industries Inc	Baker Hughes Co		$13,113	Cash
M&A	6/16/2025	Continental Disc Corp	Baker Hughes Co	Tinicum Inc	$540	Cash
M&A	5/29/2025	Land drilling rigs business/Schlumberger NV	ADNOC Drilling Co PJSC	Schlumberger NV	$112	Cash
M&A	5/15/2025	Germany & Austria retail marketing business/Germany	Stonepeak Partners LP	Phillips 66	$2,795	Cash
M&A	5/15/2025	Westcoast natural gas pipeline system/Canada	Stonlasec8 Indigenous Holdings LP	Enbridge Inc	$511	Cash
M&A	5/5/2025	VALARIS 247/Valaris Ltd	BW Energy Ltd	Valaris Ltd	$108	Cash
M&A	4/1/2025	Pintail Completions LLC	RPC Incv		$245	Cash
M&A	1/27/2025	Moser Engine Service	Atlas Energy Solutions Inc	Hilltop Holdings Inc	$220	Cash and Stock
M&A	12/23/2024	Midway Pipeline LLC	Plains All American Pipeline LP	CVR Energy Inc	$90	Cash
INV	12/6/2024	CVR Energy Inc	Icahn Enterprises LP		$330	Cash
M&A	10/30/2024	Wellbore Fishing & Rental Tools LLC	Archer Ltd		$515	Stock
M&A	10/15/2024	Parker Drilling Co	Nabors Industries Ltd		$343	Stock

Source: Bloomberg Finance L.P. and company reports/press releases.

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Table 13: Selected Midstream Transactions

Deal Type	Date	Target Name	Acquirer	Seller	Value (mm)	Payment Type
M&A	10/6/2026	Vaquero Midstream	Energy Transfer LP	Yorktown Partners	$2,625	Cash & Stock
M&A	9/16/2026	SCM PR II LLC	Plains All American Pipeline LP	Energy & Minerals Group/The,Tailwater Capital LLC	$585	Cash
AST	8/30/2026	Permian Midland Basin Assets/Brazos Midstream Holdings LLC	ONEOK Inc	Brazos Midstream Holdings LLC	$4,425	Cash
AST	8/26/2026	Crude oil gathering business/Salt Creek Midstream	Enbridge Inc	Salt Creek Midstream LLC	$600	Cash
M&A	8/6/2026	Offen Petroleum Inc	Sunoco LP	Court Square Capital Partners LP	$600	Cash
M&A	8/3/2026	Momentum Midstream LLC	Williams Cos Inc/The	Encap Flatrock Midstream	$5,500	Cash
INV	7/13/2026	Texas LNG LLC	HPS Investment Partners LLC		$500	Cash
M&A	6/17/2026	KAPS pipeline system/Northwest Alberta	Keyera Corp	Stonepeak Partners LP	$1,215	Cash
INV	6/15/2026	Pinnacle Gas Services LLC	Sixth Street Partners LLC	Comstock Resources Inc	$600	Cash
M&A	6/15/2026	Flatrock Compression Holdings LLC	Natural Gas Services Group Inc		$120	Cash & Stock
INV	5/20/2026	MidOcean Energy LLC	Arab Energy Fund /The		$120	Cash
M&A	5/6/2026	Brazos Delaware II LLC	Western Midstream Partners LP	Morgan Stanley Private Equity	$1,600	Cash & Stock
M&A	5/6/2026	Commercial fuel business/Canada	Unnamed Buyer	Cenovus Energy Inc	$275	Cash
M&A	4/22/2026	Monument Pipeline LP	Kinder Morgan Inc	ARM Energy Holdings LLC	$505	Cash
M&A	3/30/2026	Traverse Midstream Partners LLC	Two Point Zero Group PJSC		$2,250	Cash
INV	3/26/2026	MidOcean Energy LLC	EIG Global Energy Partners LLC		$100	Cash
INV	3/17/2026	MidOcean Energy LLC	Idemitsu Kosan Co Ltd		$500	Cash
M&A	2/10/2026	Chauvin Infrastructure Assets/Teine Energy Ltd	Gibson Energy Inc	Teine Energy Ltd	$400	Cash
M&A	2/5/2026	Distributed Power Solutions LLC	Kodiak Gas Services Inc		$675	Cash and Stock
M&A	1/22/2026	Eagle Ford gathering & processing asset/Kinder Morgan Inc	Unnamed Buyer	Kinder Morgan Inc	$396	Cash
M&A	12/8/2025	Midstream assets/HG Energy II LLC	Antero Midstream Corp	HG Energy II LLC	$1,100	Cash
M&A	12/4/2025	Dovetail Midstream LLC	Targa Resources Corp	Riley Exploration Permian Inc	$111	Cash
M&A	12/1/2025	Stakeholder Midstream LLC	Targa Resources Corp	Encap Flatrock Midstream	$1,250	Cash

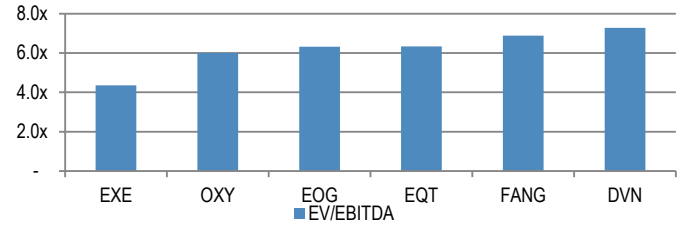
Source: Bloomberg Finance L.P. and company reports/press releases.

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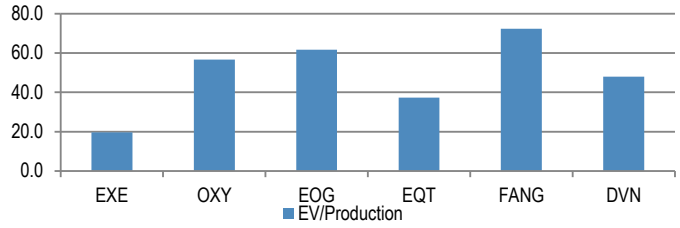
Selected Equity Comparables

Figure 25: Large Cap E&P EV/EBITDA



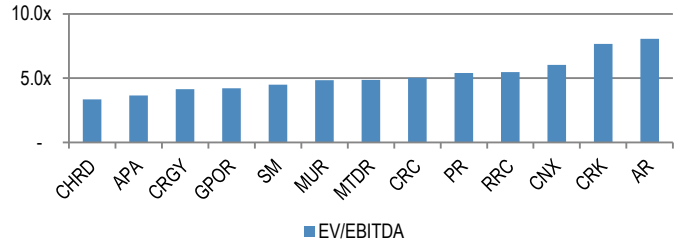
Source: Bloomberg Finance L.P.

Figure 26: Large Cap E&P EV/Production (mboe/d)



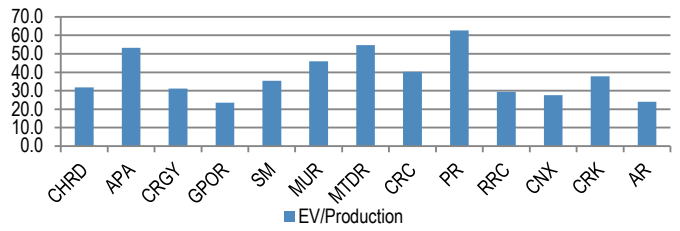
Source: Bloomberg Finance L.P.

Figure 27: Mid Cap E&P EV/EBITDA



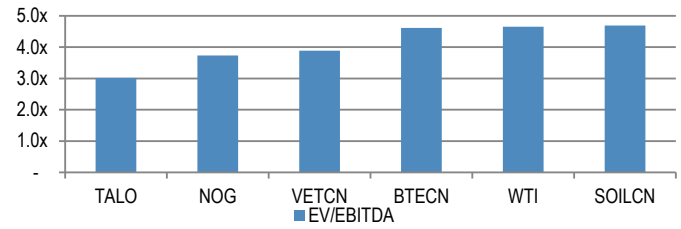
Source: Bloomberg Finance L.P.

Figure 28: Mid Cap E&P EV/Production (mboe/d)



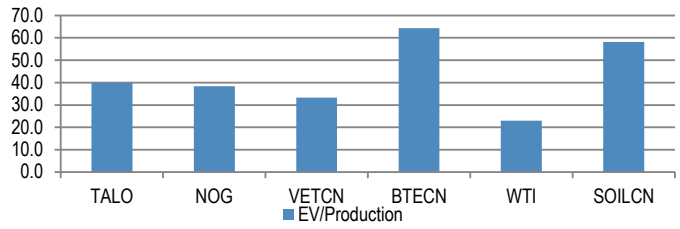
Source: Bloomberg Finance L.P.

Figure 29: Small Cap E&P EV/EBITDA



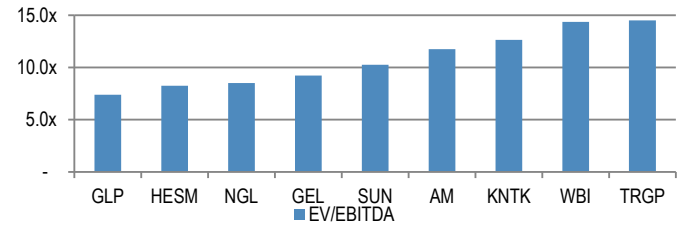
Source: Bloomberg Finance L.P.

Figure 30: Small Cap E&P EV/Production (mboe/d)



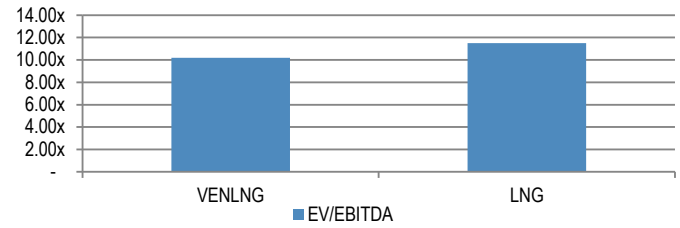
Source: Bloomberg Finance L.P.

Figure 31: G&P/Pipes/Other EV/EBITDA



Source: Bloomberg Finance L.P.

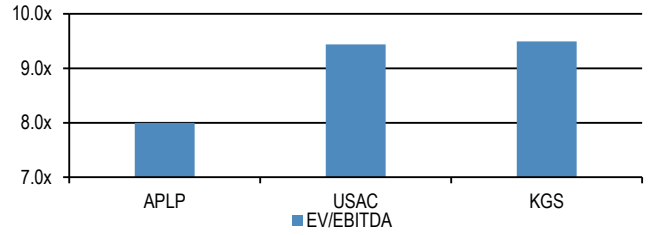
Figure 32: LNG EV/EBITDA



Source: Bloomberg Finance L.P.

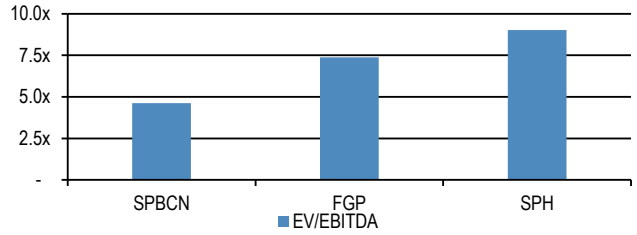
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Figure 33: Compression EV/EBITDA



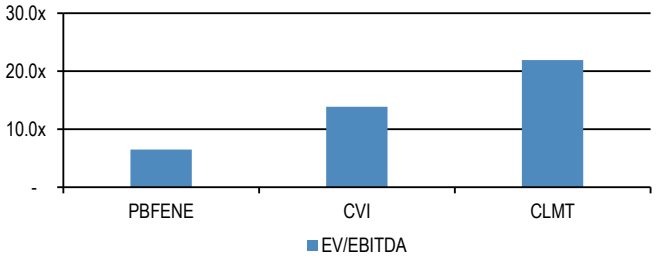
Source: Bloomberg Finance L.P.

Figure 34: Propane EV/EBITDA



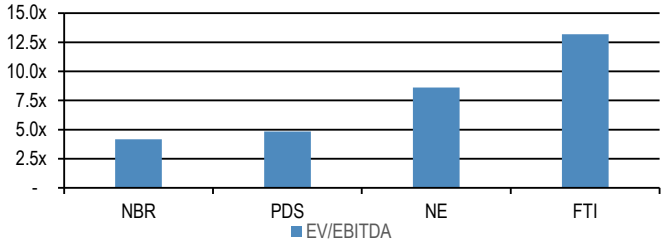
Source: Bloomberg Finance L.P.

Figure 35: Refining EV/EBITDA



Source: Bloomberg Finance L.P.

Figure 36: Services EV/EBITDA



Source: Bloomberg Finance L.P.

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Rating Agency Actions

Table 14: Select HY Energy Ratings Changes

Company Name	Date	Rating Type	Agency	Curr Rtg	Last Rtg
Nabors Industries Inc	10/21/2026	LT Issuer Default Rating	Fitch	B	B
Nabors Industries Ltd	10/21/2026	LT Issuer Default Rating	Fitch	B	B
Salt Creek Aggregator Holdco LLC	10/21/2026	LT Local Issuer Credit	S&P	B	
Salt Creek Aggregator Holdco LLC	10/20/2026	LT Corp Family Rating	Moody's	B2	
CVR Energy Inc	10/16/2026	LT Corp Family Rating	Moody's	B1	B2
EMG Utica Midstream Holdings LLC	10/14/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Crescent Energy Co	10/13/2026	LT Issuer Default Rating	Fitch	BB- *+	BB-
Crescent Energy Finance LLC	10/13/2026	LT Issuer Default Rating	Fitch	BB- *+	BB-
Select Water Solutions Inc	10/13/2026	LT Issuer Default Rating	Fitch	BB	
Select Water Solutions Inc	10/13/2026	LT Local Issuer Credit	S&P	BB	
Select Water Solutions LLC	10/13/2026	LT Issuer Default Rating	Fitch	BB	
CHC Group LLC	10/07/2026	LT Local Issuer Credit	S&P	B-	B
Athabasca Oil Corp	10/05/2026	LT Local Issuer Credit	S&P	B+ *+	B+
Rockpoint Gas Storage Inc	09/25/2026	LT Corp Family Rating	Moody's	Ba3	B1
Petroleos Mexicanos	09/23/2026	LT LC Issuer Default	Fitch	BB+	BB+
Petroleos Mexicanos	09/23/2026	LT Issuer Default Rating	Fitch	BB+	BB+
SESI LLC	09/22/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Superior Energy Services Inc	09/22/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Superior Energy Services Inc	09/22/2026	LT Local Issuer Credit	S&P	B+ *+	B+
BKV Corp	09/17/2026	LT Issuer Default Rating	Fitch	B	B
BKV Upstream Midstream LLC	09/17/2026	LT Issuer Default Rating	Fitch	B	B
Global Operating LLC	09/16/2026	LT Issuer Default Rating	Fitch	BB-	
Global Partners LP/MA	09/16/2026	LT Issuer Default Rating	Fitch	BB-	
Aethon United BR LP	09/14/2026	LT Issuer Default Rating	Fitch	B+	B *+
Wildfire Intermediate Holdings LLC	09/13/2026	LT Local Issuer Credit	S&P	BB-	B *+
Tamarack Valley Energy Ltd	09/10/2026	LT Local Issuer Credit	S&P	B+ *+	B+
Deep Blue Operating I LLC	09/08/2026	LT Local Issuer Credit	S&P	BB	BB-
WBI Operating LLC	08/31/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Deep Blue Operating I LLC	08/25/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Crescent Energy Co	08/24/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Crescent Energy Finance LLC	08/24/2026	LT Issuer Default Rating	Fitch	BB-	BB-
California Resources Corp	08/21/2026	LT Local Issuer Credit	S&P	BB-	B+
Summit Midstream Corp	08/21/2026	LT Issuer Default Rating	Fitch	B	B-
Summit Midstream Holdings LLC	08/21/2026	LT Issuer Default Rating	Fitch	B	B-
EMG Utica Midstream Holdings LLC	08/13/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Harvest Midstream I LP	08/13/2026	LT Issuer Default Rating	Fitch	BB-	BB-
Meade Pipeline Co LLC	08/12/2026	LT Issuer Default Rating	Fitch	BB+	BB+
Gulfport Energy Operating Corp	08/11/2026	LT Issuer Default Rating	Fitch	B+	B+
Weatherford International Ltd	08/11/2026	LT Issuer Default Rating	Fitch	BB	BB
Weatherford International PLC	08/11/2026	LT Issuer Default Rating	Fitch	BB	BB
AL GCX Fund VIII Holdings LLC	08/10/2026	LT Local Issuer Credit	S&P	B+	BB
Gran Tierra Energy Inc	08/10/2026	LT LC Issuer Default	Fitch	B+ *	B+
Gran Tierra Energy Inc	08/10/2026	LT Issuer Default Rating	Fitch	B+ *	B+
Moss Creek Resources Holdings Inc	08/10/2026	LT Issuer Default Rating	Fitch	B	B
Moss Creek Resources LLC	08/10/2026	LT Issuer Default Rating	Fitch	B	B
Gran Tierra Energy Inc	08/06/2026	LT Local Issuer Credit	S&P	B *	B
M6 ETX Holdings II Midco LLC	08/06/2026	LT Local Issuer Credit	S&P	B+ *+	B+
M6 ETX Holdings II Midco LLC	08/04/2026	LT Corp Family Rating	Moody's	B1 *+	B1
Citgo Holding Inc	08/03/2026	LT Issuer Default Rating	Fitch	B-	CCC+

Source: Bloomberg Finance L.P.

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New Issue

Table 15: Selected HY Energy New Issuance

Issuer	Date	Amount ($mm)	Security	Coupon	Yield	Maturity	Ratings Moody's/S&P	UoP
Howard Midstream	7/22/2026	650.0	Sr. Notes	6.63%	6.63%	1/15/2035	B1/BB-	GCP
Constellation Oil Services	7/22/2026	650.0	Sec. Notes	7.70%	7.70%	8/3/2033	B+/-	Refinancing
Magnolia Oil & Gas	7/22/2026	500.0	Sr. Notes	6.63%	6.63%	8/15/2034	Ba3/BB-	M&A
Saturn Oil & Gas	7/21/2026	575.0	Sr. Notes	8.50%	8.50%	7/30/2031	B2/B+	Refinancing, M&A
BEUSA Investments LLC	7/15/2026	800.0	Sr. Notes	7.00%	7.00%	8/1/2031	B2/B	GCP, Refinancing
Validus Energy II	7/14/2026	500.0	Sr. Notes	8.00%	8.00%	8/1/2031	B3/B	GCP
SESI LLC	7/7/2026	200.0	Sr. Sec. Notes	7.88%	7.66%	9/30/2030	B2/B+	M&A
Talos Production	7/1/2026	800.0	2L Notes	8.00%	8.00%	7/15/2034	B3/B+	Refinancing, M&A
Oceaneering International Inc	6/24/2026	500.0	Sr. Notes	6.88%	6.88%	7/15/2034	Ba3/BB	Refinancing
California Resources Corp	6/16/2026	550.0	Sr. Notes	7.25%	7.25%	1/15/2035	B1/BB-	Refinancing
Seadrill	6/15/2026	700.0	Sr. Notes	6.75%	6.75%	7/15/2034	B1/BB-	Refinancing, GCP
Noble Finance	6/1/2026	800.0	Sr. Notes	6.25%	6.25%	6/15/2034	Ba3/BB-	Refinancing
Venture Global LNG	6/1/2026	1,125.0	Sec. Notes	6.38%	6.38%	12/15/2034	B1/BB	Refinancing
Venture Global LNG	6/1/2026	1,125.0	Sec. Notes	6.63%	6.63%	6/15/2036	B1/BB	Refinancing
Borr IHC Ltd	5/27/2026	1,100.0	Sec. Notes	8.75%	8.75%	1/15/2032	B3/B+	Refinancing
Borr IHC Ltd	5/27/2026	935.0	Sec. Notes	9.00%	9.00%	1/15/2034	B3/B+	Refinancing
PBF Energy	5/26/2026	500.0	Sr. Notes	7.25%	7.25%	6/1/2034	B1/BB	Refinancing
AmeriGas Partners LP	5/11/2026	500.0	Sr. Notes	6.88%	6.88%	6/1/2031	B1/BB-	Refinancing, GCP
Harvest Midstream	5/7/2026	1,000.0	Sr. Notes	6.75%	6.75%	5/15/2034	B1/BB-	Refinancing, GCP
Kraken Oil & Gas	5/6/2026	400.0	Sr. Notes	7.13%	7.13%	5/15/2031	B3/B+	GCP
Delek Logistics	5/4/2026	800.0	Sr. Notes	6.88%	6.88%	6/1/2034	B2/BB-	Refinancing, GCP
Enquest Plc	4/21/2026	675.0	Sr. Notes	9.87%	10.13%	4/30/2031	Caa1/B+	Refinancing, GCP
Venture Global Calcasieu Pass LLC	4/20/2026	750.0	Sr. Sec. Notes	6.00%	6.00%	5/1/2036	Ba1/-	GCP

Source: Bloomberg Finance L.P.

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Relative Value

Table 16: Selected High Yield E&P Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	% Natural Gas	LTM EBITDAX	Debt/ Reserves (mcfe)	Debt/ PD Res (mcfe)	Debt/ EBITDAX	Debt/ TEV	Latest Market Capitalization
E&Ps															
Aethon United		**NEUTRAL**													
7.500%	Sr Nts	**N**	1-Oct-29	B3/B+	$1,000.0	101 65/69	6.42%	164bp	99.9%	$838	$0.43	$0.88	1.7x	N/A	N/A
Ascent Resources		**OVERWEIGHT**													
9.000%	Sr Nts	**Overweight**	1-Nov-27	B1/BB-	$347.8	100 7/8	-28.88%	-2847bp	85.1%	$1,740	$0.23	$0.32	1.2x	N/A	
5.875%	Sr Nts	**Overweight**	30-Jun-29	B1/BB-	$400.0	99 3/14	6.20%	137bp	85.1%	$1,740	$0.23	$0.32	1.2x	N/A	
6.625%	Sr Nts	**Overweight**	15-Oct-32	B1/BB-	$600.0	99 5/98	6.82%	184bp	85.1%	$1,740	$0.23	$0.32	1.2x	N/A	
6.625%	Sr Nts	**NC**	15-Jul-33	B1/BB-	$500.0	99 20/83	6.76%	176bp	85.1%	$1,740	$0.23	$0.32	1.2x	N/A	
Apache Corp		**N (Anavy)***													
7.750%	Sr Nts	**NC**	15-Dec-29	Baa3/BBB-	$71.6	103 11/46	6.59%	174bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
6.100%	Sr Nts	**NC**	15-Feb-35	Baa3/BBB-	$348.6	100 10/73	6.08%	115bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
6.000%	Sr Nts	**NC**	15-Jan-37	Baa3/BBB-	$171.9	97 5/6	6.29%	117bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
5.100%	Sr Nts	**NC**	1-Sep-40	Baa3/BBB-	$225.2	85 57/73	6.69%	152bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
5.250%	Sr Nts	**NC**	1-Feb-42	Baa3/BBB-	$157.4	85 31/71	6.80%	160bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
4.750%	Sr Nts	**NC**	15-Apr-43	Baa3/BBB-	$119.9	78 38/59	6.95%	173bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
4.250%	Sr Nts	**NC**	15-Jan-44	Baa3/BBB-	$24.2	71 35/37	7.10%	187bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
7.375%	Sr Nts	**NC**	15-Aug-47	Baa3/BBB-	$23.8	100 31/78	7.34%	206bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
5.350%	Sr Nts	**NC**	1-Jul-49	Baa3/BBB-	$56.7	79 67/77	7.16%	185bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
6.750%	Sr Nts	**NC**	15-Feb-55	Baa3/BBB-	$499.8	102 55/91	6.54%	127bp	30.7%	$5,436	$0.70	$1.00	0.8x	20%	$17,321
Antero Resources		**NC**													
5.375%	Sr Nts	**NC**	1-Mar-30	Ba1/BBB-	$600.0	98 5/41	6.00%	114bp	64.3%	$1,842	$0.07	$0.10	0.8x	10%	$12,002
Baytex Energy		**NC**													
7.375%	Sr Nts	**NC**	15-Mar-32	NR/NR	$64.1	103 7/47	5.94%	113bp	11.6%	$1,533	$1.25	$4.06	1.0x	26%	$5,143
California Resources Corp		**NC**													
7.000%	Sr Nts	**NC**	15-Jan-34	B1/BB-	$750.0	98 47/89	7.26%	224bp	13.8%	$1,241	$0.33	$0.40	1.0x	22%	$4,704
7.250%	Sr Nts	**NC**	15-Jan-35	B1/BB-	$550.0	98 1/4	7.54%	248bp	13.8%	$1,241	$0.33	$0.40	1.0x	22%	$4,704
Caturus Energy LLC		**NC**													
8.500%	Sr Nts	**NC**	15-Feb-30	B3/B	$500.0	102 5/32	7.46%	265bp							
7.125%	Sr Nts	**NC**	15-May-31	B3/B	$600.0	98 1/4	7.58%	266bp							

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 17: Selected High Yield E&P Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	% Natural Gas	LTM EBITDAX	Debt/ Reserves (mcfe)	Debt/ PD Res (mcfe)	Debt/ EBITDAX	Debt/ TEV	Latest Market Capitalization
Chord Energy		**UNDERWEIGHT**													
6.000%	Sr Nts	**NC**	1-Oct-30	Ba2/BB	$750.0	99 1/4	6.22%	132bp	25.1%	$2,345	$0.27	$0.40	0.6x	16%	$8,231
6.750%	Sr Nts	**NC**	15-Mar-33	Ba2/BB	$750.0	99 60/73	6.78%	179bp	25.1%	$2,345	$0.27	$0.40	0.6x	16%	$8,231
Continental Resources		**UW (Anavy)***													
2.268%	Sr Nts	**NC**	15-Nov-26	Baa3/BBB-	$800.0	99 17/21	5.21%	119bp	45.9%	$4,698	$0.48	$0.85	1.0x	N/A	N/A
4.375%	Sr Nts	**NC**	15-Jan-28	Baa3/BBB-	$1,000.0	98 25/32	5.41%	86bp	45.9%	$4,698	$0.48	$0.85	1.0x	N/A	N/A
5.750%	Sr Nts	**NC**	15-Jan-31	Baa3/BBB-	$1,500.0	98 33/34	6.03%	112bp	45.9%	$4,698	$0.48	$0.85	1.0x	N/A	N/A
2.875%	Sr Nts	**Underweight**	1-Apr-32	Baa3/BBB-	$800.0	85 4/5	5.97%	101bp	45.9%	$4,698	$0.48	$0.85	1.0x	N/A	N/A
4.900%	Sr Nts	**NC**	1-Jun-44	Baa3/BBB-	$700.0	79 13/43	6.96%	173bp	45.9%	$4,698	$0.48	$0.85	1.0x	N/A	N/A
Comstock Resources		**NEUTRAL**													
6.750%	Sr Nts	**Neutral**	1-Mar-29	B3/B	$1,223.9	99 40/73	6.96%	215bp	99.9%	$1,037	$0.42	$1.08	2.8x	40%	$4,102
5.875%	Sr Nts	**Neutral**	15-Jan-30	B3/B	$965.0	95 3/4	7.37%	252bp	99.9%	$1,037	$0.42	$1.08	2.8x	40%	$4,102
CNX Resources Corp		**NEUTRAL**													
7.375%	Sr Nts	**Neutral**	15-Jan-31	B1/BB	$500.0	101 7/25	6.27%	172bp	88.4%	$2,254	$0.14	$0.19	1.1x	31%	$5,286
7.250%	Sr Nts	**Neutral**	1-Mar-32	B1/BB	$600.0	101 4/9	6.57%	176bp	88.4%	$2,254	$0.14	$0.19	1.1x	31%	$5,286
5.875%	Sr Nts	**NC**	1-Mar-34	B1/BB	$500.0	95	6.75%	172bp	88.4%	$2,254	$0.14	$0.19	1.1x	31%	$5,286
Crescent Energy		**NEUTRAL**													
9.750%	Sr Nts	**Neutral**	15-Oct-30	B1/BB-	$237.2	105 5/32	6.67%	221bp	41.6%	$2,227	$0.89	$1.12	2.4x	49%	$5,471
7.625%	Sr Nts	**Neutral**	1-Apr-32	B1/BB-	$1,100.0	100 5/8	7.34%	252bp	41.6%	$2,227	$0.89	$1.12	2.4x	49%	$5,471
7.875%	Sr Nts	**Underweight**	15-Apr-32	B1/BB-	$1,000.0	101 17/40	7.24%	242bp	41.6%	$2,227	$0.89	$1.12	2.4x	49%	$5,471
7.375%	Sr Nts	**Neutral**	15-Jan-33	B1/BB-	$1,000.0	100 1/99	7.36%	253bp	41.6%	$2,227	$0.89	$1.12	2.4x	49%	$5,471
8.375%	Sr Nts	**NC**	15-Jan-34	B1/BB-	$600.0	103	7.43%	255bp	41.6%	$2,227	$0.89	$1.12	2.4x	49%	$5,471
EQT Corp		**UW (Anavy)***													
3.900%	Sr Nts	**NC**	1-Oct-27	Baa3/BBB-	$533.8	98 16/23	5.34%	88bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
5.700%	Sr Nts	**NC**	1-Apr-28	Baa3/BBB-	$500.0	100 3/5	5.24%	65bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
5.000%	Sr Nts	**NC**	15-Jan-29	Baa3/BBB-	$318.5	99	5.48%	68bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
4.500%	Sr Nts	**NC**	15-Jan-29	Baa3/BBB-	$299.3	97 10/19	5.69%	89bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
6.375%	Sr Nts	**NC**	1-Apr-29	Baa3/BBB-	$48.9	101 19/75	5.46%	84bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
7.000%	Sr Nts	**NC**	1-Feb-30	Baa3/BBB-	$674.8	103 57/92	5.65%	81bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
7.500%	Sr Nts	**NC**	1-Jun-30	Baa3/BBB-	$494.1	105 1/5	5.65%	80bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
4.750%	Sr Nts	**NC**	15-Jan-31	Baa3/BBB-	$1,090.2	96 9/37	5.76%	85bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
3.625%	Sr Nts	**Underweight**	15-May-31	Baa3/BBB-	$435.2	91 44/81	5.76%	83bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
5.750%	Sr Nts	**NC**	1-Feb-34	Baa3/BBB-	$750.0	98 3/37	6.08%	105bp	83.0%	$6,802	$0.23	$0.32	0.9x	14%	$34,197
Expand Energy Corp		**N (Anavy)***													
5.375%	Sr Nts	**NC**	1-Feb-29	Baa3/BBB-	$635.2	99 29/94	5.70%	89bp	91.9%	$5,651	$0.18	$0.24	0.9x	21%	$21,521
5.375%	Sr Nts	**NC**	15-Mar-30	Baa3/BBB-	$1,200.0	98 26/59	5.89%	102bp	91.9%	$5,651	$0.18	$0.24	0.9x	21%	$21,521
4.750%	Sr Nts	**NC**	1-Feb-32	Baa3/BBB-	$1,150.0	94 22/49	5.99%	103bp	91.9%	$5,651	$0.18	$0.24	0.9x	21%	$21,521
5.700%	Sr Nts	**Neutral**	15-Jan-35	Baa3/BBB-	$750.0	96 41/47	6.19%	113bp	91.9%	$5,651	$0.18	$0.24	0.9x	21%	$21,521

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 18: Selected High Yield E&P Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	% Natural Gas	LTM EBITDAX	Debt/ Reserves (mcfe)	Debt/ PD Res (mcfe)	Debt/ EBITDAX	Debt/ TEV	Latest Market Capitalization
Diamondback Energy		**N (Anavy)***													
5.200%	Sr Nts	**NC**	18-Apr-27	Baa2/BBB	$850.0	100 10/89	4.91%	63bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
3.500%	Sr Nts	**NC**	1-Dec-29	Baa2/BBB	$1,020.6	94 6/11	5.43%	58bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
5.150%	Sr Nts	**NC**	30-Jan-30	Baa2/BBB	$850.0	99 50/93	5.30%	56bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
3.125%	Sr Nts	**Neutral**	24-Mar-31	Baa2/BBB	$788.6	91 7/96	5.42%	66bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
6.250%	Sr Nts	**NC**	15-Mar-33	Baa2/BBB	$1,100.0	102 3/20	5.83%	84bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
5.400%	Sr Nts	**NC**	18-Apr-34	Baa2/BBB	$1,300.0	98 19/91	5.70%	80bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
5.550%	Sr Nts	**NC**	1-Apr-35	Baa2/BBB	$1,200.0	98 42/67	5.76%	83bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
4.400%	Sr Nts	**NC**	24-Mar-51	Baa2/BBB	$103.6	78 2/61	6.15%	82bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
4.250%	Sr Nts	**NC**	15-Mar-52	Baa2/BBB	$111.4	73 17/19	6.33%	99bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
6.250%	Sr Nts	**NC**	15-Mar-53	Baa2/BBB	$650.0	100 22/69	6.22%	94bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
5.750%	Sr Nts	**NC**	18-Apr-54	Baa2/BBB	$1,500.0	94 1/25	6.20%	92bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
5.900%	Sr Nts	**NC**	18-Apr-64	Baa2/BBB	$1,000.0	94 14/29	6.28%	102bp	22.3%	$9,444	$0.64	$0.92	1.5x	19%	$55,204
Gulfport Energy		**NEUTRAL**													
6.750%	Sr Nts	**Neutral**	1-Sep-29	B3/BB-	$650.0	100 20/93	6.62%	187bp	89.2%	$924	$0.19	$0.34	0.9x	23%	$2,838
Hilcorp Energy LP		**OVERWEIGHT**													
6.250%	Sr Nts	**Overweight**	1-Nov-28	Ba2/BB+	$600.0	100 1/40	5.10%	111bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
5.750%	Sr Nts	**Overweight**	1-Feb-29	Ba2/BB+	$600.0	99 14/67	6.12%	132bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
S+175	Term Loan B	**Overweight**	11-Feb-30	Baa2/BBB-	$1,000.0	99 3/4	6.42%	183bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
6.000%	Sr Nts	**Overweight**	15-Apr-30	Ba2/BB+	$500.0	98 3/8	6.53%	166bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
6.000%	Sr Nts	**Overweight**	1-Feb-31	Ba2/BB+	$600.0	97 10/29	6.72%	181bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
6.250%	Sr Nts	**Overweight**	15-Apr-32	Ba2/BB+	$500.0	96 12/35	7.07%	210bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
8.375%	Sr Nts	**Overweight**	1-Nov-33	Ba2/BB+	$600.0	104 1/2	7.29%	234bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
6.875%	Sr Nts	**Overweight**	15-May-34	Ba2/BB+	$500.0	97 45/74	7.29%	226bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
7.250%	Sr Nts	**Overweight**	15-Feb-35	Ba2/BB+	$1,000.0	98 10/33	7.53%	247bp	48.1%	$3,028	$0.36	$0.44	2.4x	N/A	
Magnolia Oil & Gas		**NC**													
6.875%	Sr Nts	**NC**	1-Dec-32	Ba3/BB-	$400.0	100 3/47	6.85%	200bp	31.5%	$885	$0.32	$0.40	0.5x	6%	$6,773
Matador Resources		**NC**													
6.500%	Sr Nts	**NC**	15-Apr-32	B1/BB-	$900.0	98 19/26	6.78%	182bp	42.5%	$2,228	$0.87	$1.42	1.6x	32%	$7,028
6.250%	Sr Nts	**NC**	15-Apr-33	B1/BB-	$750.0	97 17/25	6.70%	170bp	42.5%	$2,228	$0.87	$1.42	1.6x	32%	$7,028
Moss Creek Resources		**OVERWEIGHT**													
8.250%	Sr Nts	**Neutral**	1-Sep-31	B3/B	$750.0	100 8/65	8.19%	336bp	36.6%	$789	$0.52	$0.74	1.0x	N/A	N/A

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 19: Selected High Yield E&P Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	% Natural Gas	LTM EBITDAX	Debt/ Reserves (mcfe)	Debt/ PD Res (mcfe)	Debt/ EBITDAX	Debt/ TEV	Latest Market Capitalization
Murphy Oil Corporation		**NEUTRAL**													
7.050%	Sr Nts	**Neutral**	1-May-29	Ba3/BB	$117.6	100 46/61	6.72%	190bp	46.3%	$1,586	$0.10	$0.19	1.0x	21%	$6,075
6.000%	Sr Nts	**Neutral**	1-Oct-32	Ba3/BB	$600.0	97 24/31	6.46%	148bp	46.3%	$1,586	$0.10	$0.19	1.0x	21%	$6,075
6.500%	Sr Nts	**NC**	15-Feb-34	Ba3/BB	$500.0	98 11/71	6.82%	180bp	46.3%	$1,586	$0.10	$0.19	1.0x	21%	$6,075
5.125%	Sr Nts	**Neutral**	1-Dec-42	Ba3/BB	$339.8	85 3/4	6.57%	137bp	46.3%	$1,586	$0.10	$0.19	1.0x	21%	$6,075
Northern Oil and Gas		**NC**													
8.750%	Sr Nts	**NC**	15-Jun-31	B1/B+	$500.0	102 16/25	7.03%	235bp	41.6%	$1,537	$1.14	$1.56	1.7x	48%	$2,905
7.875%	Sr Nts	**NC**	15-Oct-33	B1/B+	$725.0	100 7/12	7.70%	281bp	41.6%	$1,537	$1.14	$1.56	1.7x	48%	$2,905
Ovintiv		**N (Anavy)***													
8.125%	Sr Nts	**NC**	15-Sep-30	Baa3/BBB-	$300.0	108 11/63	5.75%	86bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
7.375%	Sr Nts	**Neutral**	1-Nov-31	Baa3/BBB-	$500.0	106 24/31	5.80%	85bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
7.200%	Sr Nts	**NC**	1-Nov-31	Baa3/BBB-	$350.0	105 55/62	5.83%	88bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
6.250%	Sr Nts	**NC**	15-Jul-33	Baa3/BBB-	$600.0	101 77/95	5.91%	91bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
6.500%	Sr Nts	**NC**	15-Aug-34	Baa3/BBB-	$598.8	103 7/59	5.99%	95bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
6.625%	Sr Nts	**NC**	15-Aug-37	Baa3/BBB-	$389.7	103	6.24%	111bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
6.500%	Sr Nts	**NC**	1-Feb-38	Baa3/BBB-	$429.9	101 10/91	6.36%	122bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
5.150%	Sr Nts	**NC**	15-Nov-41	Baa3/BBB-	$148.6	87 25/42	6.45%	126bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
7.100%	Sr Nts	**NC**	15-Jul-53	Baa3/BBB-	$400.0	108 3/13	6.44%	117bp	50.5%	$4,366	$0.46	$0.71	1.5x	25%	$19,092
Permian Resources		**NEUTRAL**													
5.875%	Sr Nts	**Neutral**	1-Jul-29	Baa3/BBB-	$700.0	99 33/61	6.06%	123bp	28.7%	$3,910	$0.53	$0.74	0.9x	15%	$20,436
7.000%	Sr Nts	**Neutral**	15-Jan-32	Baa3/BBB-	$1,000.0	101 25/38	6.19%	138bp	28.7%	$3,910	$0.53	$0.74	0.9x	15%	$20,436
6.250%	Sr Nts	**Neutral**	1-Feb-33	Baa3/BBB-	$1,000.0	99 60/73	6.28%	129bp	28.7%	$3,910	$0.53	$0.74	0.9x	15%	$20,436
Range Resources		**NEUTRAL**													
4.750%	Sr Nts	**Neutral**	15-Feb-30	Ba2/BB+	$500.0	95 7/8	6.14%	128bp	68.7%	$1,480	$0.05	$0.07	0.6x	8%	$10,249

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 20: Selected High Yield E&P Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	% Natural Gas	LTM EBITDAX	Debt/ Reserves (mcfe)	Debt/ PD Res (mcfe)	Debt/ EBITDAX	Debt/ TEV	Latest Market Capitalization
Occidental Petroleum		**N (Anavy)***													
3.000%	Sr Nts	**NC**	15-Feb-27	NR/NR	$216.1	99 12/77	5.71%	149bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.000%	Sr Nts	**NC**	15-Nov-27	Baa3/BB+	$29.8	101 4/11	5.66%	117bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
6.625%	Sr Nts	**NC**	15-Jan-28	Baa3/BB+	$16.8	100 21/34	6.09%	154bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
8.450%	Sr Nts	**NC**	15-Feb-29	Baa3/BB+	$115.7	105 1/2	5.87%	106bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.200%	Sr Nts	**NC**	15-Mar-29	Baa3/BB+	$126.0	102 28/81	6.13%	132bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.950%	Sr Nts	**NC**	15-Apr-29	Baa3/BB+	$66.4	105 3/70	5.74%	92bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
3.500%	Sr Nts	**NC**	15-Aug-29	NR/NR	$286.2	95 2/87	5.43%	60bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
8.875%	Sr Nts	**NC**	15-Jul-30	Baa3/BB+	$1,000.0	109 16/53	5.68%	82bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
6.625%	Sr Nts	**NC**	1-Sep-30	Baa3/BB+	$855.9	102 4/5	5.69%	83bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.500%	Sr Nts	**NC**	1-May-31	Baa3/BB+	$869.6	106 67/84	5.77%	85bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.875%	Sr Nts	**NC**	15-Sep-31	Baa3/BB+	$484.7	108 1/2	5.85%	91bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
5.550%	Sr Nts	**NC**	1-Oct-34	Baa3/BB+	$808.3	99 5/26	5.68%	77bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
6.450%	Sr Nts	**NC**	15-Sep-36	Baa3/BB+	$1,711.6	102 1/8	6.16%	105bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.950%	Sr Nts	**NC**	15-Jun-39	Baa3/BB+	$321.6	112 11/17	6.47%	131bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.300%	Sr Nts	**NC**	15-Aug-39	Baa3/BB+	$247.3	81 13/25	6.44%	128bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
6.200%	Sr Nts	**NC**	15-Mar-40	Baa3/BB+	$703.1	98 19/48	6.38%	121bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.500%	Sr Nts	**NC**	15-Jul-44	Baa3/BB+	$182.8	80 22/67	6.37%	114bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.625%	Sr Nts	**NC**	15-Jun-45	Baa3/BB+	$258.4	78 3/4	6.63%	138bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
6.600%	Sr Nts	**NC**	15-Mar-46	Baa3/BB+	$985.4	100 41/52	6.53%	128bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.400%	Sr Nts	**NC**	15-Apr-46	Baa3/BB+	$291.1	77 7/18	6.46%	120bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.100%	Sr Nts	**NC**	15-Feb-47	Baa3/BB+	$224.3	73	6.52%	125bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.200%	Sr Nts	**NC**	15-Mar-48	Baa3/BB+	$222.2	74 59/76	6.38%	109bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
4.400%	Sr Nts	**NC**	15-Aug-49	Baa3/BB+	$244.6	73 32/75	6.69%	138bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
6.050%	Sr Nts	**NC**	1-Oct-54	Baa3/BB+	$634.0	96 49/90	6.31%	104bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.730%	Sr Nts	**NC**	15-Sep-96	Baa3/BB+	$54.6	102 22/25	7.51%	152bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477
7.500%	Sr Nts	**NC**	1-Nov-96	Baa3/BB+	$59.8	100 1/99	7.50%	151bp	26.0%	$12,796	$1.21	$1.70	1.2x	21%	$62,477

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 21: Selected High Yield E&P Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	% Natural Gas	LTM EBITDAX	Debt/ Reserves (mcfe)	Debt/ PD Res (mcfe)	Debt/ EBITDAX	Debt/ TEV	Latest Market Capitalization
SM Energy		**UNDERWEIGHT**													
6.500%	Sr Nts	**Underweight**	15-Jul-28	B1/BB	$400.0	100 5/32	6.40%	169bp	36.6%	$1,987	$0.69	$1.16	1.4x	23%	$9,138
6.750%	Sr Nts	**Underweight**	1-Aug-29	B1/BB	$750.0	100 59/95	6.37%	165bp	36.6%	$1,987	$0.69	$1.16	1.4x	23%	$9,138
7.000%	Sr Nts	**Underweight**	1-Aug-32	B1/BB	$750.0	100 5/8	6.74%	191bp	36.6%	$1,987	$0.69	$1.16	1.4x	23%	$9,138
6.625%	Sr Nts	**NC**	15-Apr-34	B1/BB	$1,000.0	98 7/33	6.94%	190bp	36.6%	$1,987	$0.69	$1.16	1.4x	23%	$9,138
TGNR Intermediate Holdings		**NC**													
5.500%	Sr Nts	**NC**	15-Oct-29	B3/B+	$700.0	97 3/13	6.54%	169bp							
Vermillion Energy Inc		**NEUTRAL**													
6.875%	Sr Nts	**Neutral**	1-May-30	B1/BB-	$400.0	98 40/59	7.31%	244bp	54.8%	$1,377	$1.13	$1.76	1.4x	40%	$2,882
7.250%	Sr Nts	**Neutral**	15-Feb-33	B1/BB-	$400.0	98 18/61	7.59%	260bp	54.8%	$1,377	$1.13	$1.76	1.4x	40%	$2,882
Wildfire Energy		**NC**													
7.500%	Sr Nts	**NC**	15-Oct-29	Ba3/BB-	$600.0	102 15/32	6.16%	137bp							
W&T Offshore		**UNDERWEIGHT**													
10.750%	Sr Sec Nts (2nd Lien)	**Neutral**	1-Feb-29	B3/B+	$350.0	103 46/51	7.46%	291bp	46.9%	$136	$0.46	$0.55	2.6x	42%	$587

Source: J.P. Morgan, Bloomberg Finance L.P.

Table 22: Selected High Yield Services Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Services - Offshore Drilling & Support															
Transocean Ltd.		**OVERWEIGHT**													
7.450%	Sr Nts	**Overweight**	15-Apr-27	Caa1/B	$52.3	100 26/57	6.46%	212bp	$3,965	$1,370	34.6%	2.5x	4.2x	48%	$6,791
8.000%	Sr Nts	**Overweight**	15-Apr-27	Caa1/B	$21.9	100 59/71	6.21%	187bp	$3,965	$1,370	34.6%	2.5x	4.2x	48%	$6,791
7.000%	Sr Nts	**Overweight**	1-Jun-28	NR/B	$245.5	99 41/45	7.05%	239bp	$3,965	$1,370	34.6%	2.5x	4.2x	48%	$6,791
8.250%	Sr Nts	**Overweight**	15-May-29	B3/B	$900.0	102 33/47	6.40%	175bp	$3,965	$1,370	34.6%	2.5x	3.1x	36%	$6,791
8.750%	Sr Sec Nts	**Overweight**	15-Feb-30	Ba3/B+	$763.8	102 25/49	6.71%	214bp	$3,965	$1,370	34.6%	2.5x	1.3x	14%	$6,791
7.500%	Sr Nts	**Overweight**	15-Apr-31	Caa1/B	$395.8	100 1/4	7.43%	251bp	$3,965	$1,370	34.6%	2.5x	4.2x	48%	$6,791
8.500%	Sr Nts	**Overweight**	15-May-31	B3/B	$900.0	103 3/4	5.30%	93bp	$3,965	$1,370	34.6%	2.5x	3.1x	36%	$6,791
7.875%	Sr Sec Nts	**NC**	15-Oct-32	B2/B	$500.0	103 1/8	6.96%	207bp	$3,965	$1,370	34.6%	2.5x	3.1x	29%	$6,791
6.800%	Sr Nts	**Overweight**	15-Mar-38	Caa1/B	$609.7	92 4/29	7.86%	272bp	$3,965	$1,370	34.6%	2.5x	4.2x	48%	$6,791
7.350%	Sr Nts	**Overweight**	15-Dec-41	Caa1/B	$88.3	104 12/49	6.89%	170bp	$3,965	$1,370	34.6%	2.5x	4.2x	48%	$6,791
Valaris plc		**NEUTRAL**													
8.375%	Sec Nts (2nd Lien)	**Neutral**	30-Apr-30	B1/BB	$1,100.0	102 37/50	6.45%	182bp	$2,369	$528	22.3%	5.8x	2.1x	16%	$6,402

*JPM European Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 23: Selected High Yield Services Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Weatherford International		**NEUTRAL**													
8.625%	Sr Nts	**Neutral**	30-Apr-30	Ba3/BB	$235.7	100 1/27	7.49%	345bp	$4,918	$1,047	21.3%	8.4x	1.4x	25%	$5,518
6.750%	Sr Nts	**Neutral**	15-Oct-33	Ba3/BB	$1,200.0	98 3/13	7.07%	200bp	$4,918	$1,047	21.3%	8.4x	1.4x	25%	$5,518
Services - Land															
Nabors		**NEUTRAL**													
9.125%	Sr Nts	**Neutral**	31-Jan-30	Ba3/B+	$550.0	103 7/9	7.79%	292bp	$3,185	$913	28.7%	4.4x	1.5x	66%	$1,248
8.875%	Sr Nts	**Neutral**	15-Aug-31	B3/CCC+	$550.0	102 1/13	8.03%	319bp	$3,185	$913	28.7%	4.4x	2.4x	76%	$1,248
7.625%	Sr Nts	**Neutral**	15-Nov-32	Ba3/B+	$700.0	100 79/96	7.39%	245bp	$3,185	$913	28.7%	4.4x	1.5x	66%	$1,248
Precision Drilling		**NEUTRAL**													
6.875%	Sr Nts	**Neutral**	15-Jan-29	Ba3/BB-	$400.0	99 3/4	6.99%	218bp	$1,844	$489	26.5%	7.7x	1.4x	41%	$1,070
Technip FMC		**NC**													
4.000%	Sr Nts	**NC**	15-Jun-27	NR/BBB	€ 75.0	98 13/19	5.98%	309bp	$8,502	$1,070	12.6%	9.4x	0.9x	4%	$27,255
4.000%	Sr Nts	**NC**	14-Jun-32	NR/NR	€ 100.0	83 47/88	7.69%	402bp	$8,502	$1,070	12.6%	9.4x	0.9x	4%	$27,255
3.750%	Sr Nts	**NC**	7-Oct-33	NR/NR	€ 100.0	92 5/11	5.06%	139bp	$8,502	$1,070	12.6%	9.4x	0.9x	4%	$27,255

Source: J.P. Morgan, Bloomberg Finance L.P.

Table 24: Selected High Yield Compression Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Third-Party Compression															
Archrock Partners LP		**NEUTRAL**													
6.625%	Sr Nts	**Neutral**	1-Sep-32	B1/BB-	$700.0	99 58/81	6.68%	170bp	$1,439	$815	56.6%	5.0x	3.2x	34%	$4,978
6.000%	Sr Nts	**NC**	1-Feb-34	B1/BB-	$800.0	95 79/99	6.74%	171bp	$1,439	$815	56.6%	5.0x	3.2x	34%	$4,978
Kodiak Gas Services LLC		**NEUTRAL**													
5.875%	Sr Nts	**NC**	1-Apr-31	B1/BB-	$1,000.0	97 6/17	6.57%	165bp	$1,308	$715	54.7%	3.6x	3.7x	37%	$4,456
6.500%	Sr Nts	**NC**	1-Oct-33	B1/BB-	$770.0	96 67/78	7.08%	207bp	$1,308	$715	54.7%	3.6x	3.7x	37%	$4,456
6.750%	Sr Nts	**NC**	1-Oct-35	B1/BB-	$630.0	97 1/8	7.19%	211bp	$1,308	$715	54.7%	3.6x	3.7x	37%	$4,456

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 25: Selected High Yield Pipeline Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Pipelines															
Columbia Pipeline		**NC**													
6.042%	Sr Nts	**NC**	15-Aug-28	Baa2/NR	$700.0	101 1/3	5.22%	59bp							
5.927%	Sr Nts	**NC**	15-Aug-30	Baa1/NR	$750.0	100 2/3	5.72%	84bp							
5.097%	Sr Nts	**NC**	1-Oct-31	Baa2/NR	$400.0	97 7/13	5.67%	89bp							
4.999%	Sr Nts	**NC**	17-Nov-32	Baa2/NR	$750.0	96 11/50	5.74%	91bp							
6.036%	Sr Nts	**NC**	15-Nov-33	Baa1/NR	$1,500.0	100 67/68	5.86%	85bp							
5.681%	Sr Nts	**NC**	15-Jan-34	Baa2/NR	$500.0	99 1/56	5.85%	96bp							
5.507%	Sr Nts	**NC**	15-May-36	Baa1/NR	$750.0	96 36/41	5.94%	98bp							
6.497%	Sr Nts	**NC**	15-Aug-43	Baa1/NR	$600.0	101 59/86	6.33%	108bp							
5.800%	Sr Nts	**NC**	1-Jun-45	Baa1/NR	$500.0	92 7/16	6.51%	126bp							
6.544%	Sr Nts	**NC**	15-Nov-53	Baa1/NR	$1,250.0	101 40/63	6.41%	114bp							
5.695%	Sr Nts	**NC**	1-Oct-54	Baa1/NR	$400.0	91 5/39	6.38%	110bp							
6.714%	Sr Nts	**NC**	15-Aug-63	Baa1/NR	$500.0	103 43/47	6.43%	117bp							
Gray Oak Pipeline		**NC**													
3.450%	Sr Nts	**NC**	15-Oct-27	Baa3/BBB	$400.0	98 3/31	5.47%	108bp							
NGPL Pipeco		**NC**													
3.250%	Sr Nts	**NC**	15-Jul-31	Baa3/BBB-	$725.0	89 13/34	5.85%	92bp							
7.768%	Sr Nts	**NC**	15-Dec-37	Baa3/BBB-	$500.0	109 59/97	6.54%	141bp							
Rockies Express		**NC**													
4.950%	Sr Nts	**NC**	15-Jul-29	Ba2/BB	$550.0	97 23/53	5.98%	115bp							
4.800%	Sr Nts	**NC**	15-May-30	Ba2/BB	$350.0	94 40/43	6.41%	154bp							
6.750%	Sr Nts	**NC**	15-Mar-33	Ba2/BB	$500.0	99 84/97	6.77%	178bp							
7.500%	Sr Nts	**NC**	15-Jul-38	Ba2/BB	$250.0	101 23/32	7.28%	214bp							
6.875%	Sr Nts	**NC**	15-Apr-40	Ba2/BB	$500.0	95 81/85	7.35%	219bp							
Southern Natural Gas		**NC**													
7.350%	Sr Nts	**NC**	15-Feb-31	Baa2/BBB+	$153.3	105 21/38	5.87%	96bp							
8.000%	Sr Nts	**NC**	1-Mar-32	Baa2/BBB+	$257.7	108 15/23	6.08%	112bp							
Whistler Pipeline		**NC**													
5.400%	Sr Nts	**NC**	30-Sep-29	Baa3/BBB-	$400.0	99 11/18	5.54%	81bp							
5.700%	Sr Nts	**NC**	30-Sep-31	Baa3/BBB-	$500.0	98 25/28	5.96%	102bp							
5.950%	Sr Nts	**NC**	30-Sep-34	Baa3/BBB-	$825.0	98 6/29	6.24%	119bp							
6.350%	Sr Nts	**NC**	30-Sep-44	Baa3/BBB-	$125.0	93 37/42	6.95%	169bp							

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 26: Selected High Yield Propane Distribution Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	Recent Quotes YTW	Recent Quotes Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Propane Distribution															
Amerigas Partners LP		**NEUTRAL**													
9.375%	Sr Nts	**Neutral**	1-Jun-28	B1/NR	$317.8	101 1/3	7.07%	269bp	$2,249	$358	15.9%	2.4x	4.8x		
9.500%	Sr Nts	**NC**	1-Jun-30	B1/NR	$550.0	103 64/79	7.85%	303bp	$2,249	$358	15.9%	2.4x	4.8x		
6.875%	Sr Nts	**NC**	1-Jun-31	B1/NR	$500.0	94 56/73	8.26%	333bp	$2,249	$358	15.9%	2.4x	4.8x		
Ferrellgas Partners LP		**OVERWEIGHT**													
5.875%	Sr Nts	**Overweight**	1-Apr-29	B3/B	$825.0	96 29/33	7.29%	248bp	$1,929	$324	16.8%	3.0x	4.6x	62%	$230
9.250%	Sr Nts	**NC**	15-Jan-31	B3/B	$650.0	103 25/47	7.98%	312bp	$1,929	$324	16.8%	3.0x	4.6x	62%	$230
Superior Plus Corporation		**NEUTRAL**													
4.250%	Sr Nts	**Neutral**	18-May-28	NR/BB-	CAD 500.0	99 7/62	4.84%	169bp	$2,472	$461	18.6%	4.9x	4.0x	53%	$1,440
4.500%	Sr Nts	**Neutral**	15-Mar-29	Ba3/BB-	$600.0	95 31/37	6.40%	159bp	$2,472	$461	18.6%	4.9x	4.0x	53%	$1,440
Suburban Propane Partners LP		**NC**													
5.000%	Sr Nts	**NC**	1-Jun-31	B1/BB-	$650.0	92 42/83	6.93%	200bp	$1,430	$286	20.0%	3.7x	4.3x	51%	$1,183
6.500%	Sr Nts	**NC**	15-Dec-35	B1/BB-	$350.0	93 22/47	7.50%	241bp	$1,430	$286	20.0%	3.7x	4.3x	51%	$1,183

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 27: Selected High Yield Midstream Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	Recent Quotes YTW	Recent Quotes Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Midstream															
Antero Midstream Partners		**NEUTRAL**													
5.375%	Sr Nts	**Neutral**	15-Jun-29	Ba2/BB+	$750.0	98 23/25	5.82%	99bp	$1,212	$1,139	94.0%	6.0x	3.2x	27%	$9,783
6.625%	Sr Nts	**Neutral**	1-Feb-32	Ba2/BB+	$600.0	100 1/17	6.59%	179bp	$1,212	$1,139	94.0%	6.0x	3.2x	27%	$9,783
5.750%	Sr Nts	**NC**	15-Oct-33	Ba2/BB+	$650.0	95 31/82	6.59%	157bp	$1,212	$1,139	94.0%	6.0x	3.2x	27%	$9,783
5.750%	Sr Nts	**NC**	1-Jul-34	Ba2/BB+	$600.0	95 3/16	6.55%	152bp	$1,212	$1,139	94.0%	6.0x	3.2x	27%	$9,783
Blue Racer Midstream		**NC**													
7.000%	Sr Nts	**NC**	15-Jul-29	B1/B+	$500.0	101 20/93	6.24%	154bp							
7.250%	Sr Nts	**NC**	15-Jul-32	B1/B+	$500.0	101 2/13	6.77%	194bp							
Buckeye Partners LP		**NC**													
3.950%	Sr Nts	**NC**	1-Dec-26	Ba3/BB	$600.0	99 29/38	6.06%	201bp							
4.125%	Sr Nts	**NC**	1-Dec-27	Ba3/BB	$400.0	97 20/21	6.06%	155bp							
4.500%	Sr Nts	**NC**	1-Mar-28	Ba3/BB	$500.0	97 73/79	6.11%	153bp							
6.875%	Sr Nts	**NC**	1-Jul-29	Ba3/BB	$600.0	100 25/27	6.28%	159bp							
6.750%	Sr Nts	**NC**	1-Feb-30	Ba3/BB	$500.0	100 55/69	6.36%	156bp							
6.750%	Sr Nts	**NC**	15-Aug-33	Ba3/BB	$150.0	101 17/63	6.51%	150bp							
5.850%	Sr Nts	**NC**	15-Nov-43	Ba3/BB	$400.0	84 7/44	7.51%	229bp							
5.600%	Sr Nts	**NC**	15-Oct-44	Ba3/BB	$300.0	82 1/15	7.42%	219bp							
Cheniere Corpus Christi Holdings		**NC**													
5.125%	Sr Sec Nts (1st Lien)	**NC**	30-Jun-27	Baa1/BBB+	$1,201.3	99 89/91	5.15%	75bp							$59,277
3.700%	Sr Sec Nts (1st Lien)	**NC**	15-Nov-29	Baa1/BBB+	$1,124.9	94 53/54	5.50%	65bp							$59,277
DT Midstream		**N (Anavy)***													
4.125%	Sr Nts	**NC**	15-Jun-29	Baa3/BBB-	$970.2	96 11/72	5.71%	88bp	$981	$1,166	118.9%	7.6x	2.9x	21%	$12,589
4.375%	Sr Nts	**NC**	15-Jun-31	Baa3/BBB-	$979.8	93 12/23	5.99%	106bp	$981	$1,166	118.9%	7.6x	2.9x	21%	$12,589
4.300%	Sec Nts	**NC**	15-Apr-32	Baa3/BBB-	$600.0	92 14/71	5.99%	103bp	$981	$1,166	118.9%	7.6x	2.9x	21%	$12,589
5.800%	Sec Nts	**Neutral**	15-Dec-34	Baa3/BBB-	$650.0	98 22/39	6.02%	111bp	$981	$1,166	118.9%	7.6x	2.9x	21%	$12,589

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 28: Selected High Yield Midstream Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
DCP Midstream		**N (Anavy)***													
5.625%	Sr Nts	**NC**	15-Jul-27	Baa2/BBB+	$500.0	100 32/99	4.94%	59bp							
5.125%	Sr Nts	**NC**	15-May-29	Baa2/BBB+	$600.0	99 29/78	5.39%	57bp							
8.125%	Sr Nts	**NC**	16-Aug-30	Baa2/BBB+	$300.0	108 7/8	5.51%	62bp							
3.250%	Sr Nts	**Neutral**	15-Feb-32	Baa2/BBB+	$400.0	88 38/47	5.72%	76bp							
6.450%	Sr Nts	**NC**	3-Nov-36	Baa2/BBB+	$300.0	102 11/73	6.16%	104bp							
6.750%	Sr Nts	**NC**	15-Sep-37	Baa2/BBB+	$450.0	104 5/7	6.15%	102bp							
5.600%	Sr Nts	**NC**	1-Apr-44	Baa2/BBB+	$400.0	91 47/78	6.41%	118bp							
EnLink Midstream Partners		**N (Anavy)***													
5.625%	Sr Nts	**NC**	15-Jan-28	Baa2/BBB	$500.0	100 23/80	5.21%	80bp							
6.500%	Sr Nts	**NC**	1-Sep-30	Baa2/BBB	$1,000.0	102 22/71	5.73%	87bp							
5.650%	Sr Nts	**NC**	1-Sep-34	Baa2/BBB	$500.0	97 11/17	6.03%	98bp							
5.600%	Sr Nts	**NC**	1-Apr-44	Baa2/BBB	$340.0	89 15/52	6.65%	142bp							
5.050%	Sr Nts	**NC**	1-Apr-45	Baa2/BBB	$413.4	82 1/4	6.75%	151bp							
5.450%	Sr Nts	**Neutral**	1-Jun-47	Baa2/BBB	$448.2	87 7/39	6.60%	132bp							

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 29: Selected High Yield Midstream Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Genesis Energy, L.P.		**NEUTRAL**													
8.250%	Sr Nts	**Neutral**	15-Jan-29	B2/B+	$600.0	101 19/21	6.60%	205bp	$1,915	$554	28.9%	2.0x	5.7x	60%	$1,699
8.875%	Sr Nts	**Neutral**	15-Apr-30	B2/B+	$500.0	102 11/12	6.77%	215bp	$1,915	$554	28.9%	2.0x	5.7x	60%	$1,699
7.875%	Sr Nts	**Neutral**	15-May-32	B2/B+	$700.0	101 15/19	7.10%	228bp	$1,915	$554	28.9%	2.0x	5.7x	60%	$1,699
8.000%	Sr Nts	**Neutral**	15-May-33	B2/B+	$600.0	102 41/64	7.15%	227bp	$1,915	$554	28.9%	2.0x	5.7x	60%	$1,699
Global Partners L.P.		**NEUTRAL**													
6.875%	Sr Nts	**Overweight**	15-Jan-29	B1/BB-	$350.0	99 77/82	6.90%	209bp	$17,164	$434	2.5%	3.2x	4.3x	52%	$1,650
8.250%	Sr Nts	**Overweight**	15-Jan-32	B1/BB-	$450.0	103 3/94	6.75%	195bp	$17,164	$434	2.5%	3.2x	4.3x	52%	$1,650
7.125%	Sr Nts	**NC**	1-Jul-33	B1/BB-	$450.0	99 59/99	7.20%	219bp	$17,164	$434	2.5%	3.2x	4.3x	52%	$1,650
Harvest Midstream		**NC**													
7.500%	Sr Nts	**NC**	15-May-32	B1/BB-	$500.0	101 1/2	6.85%	203bp							
6.750%	Sr Nts	**NC**	15-May-34	B1/BB-	$1,000.0	98 8/39	7.06%	202bp							
Howard Midstream Energy Partners		**NC**													
7.375%	Sr Nts	**NC**	15-Jul-32	B1/BB-	$600.0	101 1/4	6.86%	203bp							
6.625%	Sr Nts	**NC**	15-Jan-34	B1/BB-	$750.0	98 3/41	6.97%	194bp							
Hess Midstream		**NEUTRAL**													
5.125%	Sr Nts	**Neutral**	15-Jun-28	Ba1/BBB-	$550.0	98 53/59	5.83%	115bp	$1,496	$1,246	83.3%	6.2x	3.0x	36%	$6,821
5.125%	Sr Nts	**Neutral**	15-Jun-28	Ba1/BBB-	$550.0	98 53/59	5.83%	115bp	$1,496	$1,246	83.3%	6.2x	3.0x	36%	$6,821
6.500%	Sr Nts	**Neutral**	1-Jun-29	Ba1/BBB-	$600.0	100 40/73	6.13%	147bp	$1,496	$1,246	83.3%	6.2x	3.0x	36%	$6,821
4.250%	Sr Nts	**Neutral**	15-Feb-30	Ba1/BBB-	$750.0	94 31/50	6.06%	120bp	$1,496	$1,246	83.3%	6.2x	3.0x	36%	$6,821
5.500%	Sr Nts	**Neutral**	15-Oct-30	Ba1/BBB-	$400.0	97 1/7	6.32%	143bp	$1,496	$1,246	83.3%	6.2x	3.0x	36%	$6,821
Kinetik Holdings		**NEUTRAL**													
6.625%	Sr Nts	**Neutral**	15-Dec-28	Ba1/BB+	$1,050.0	100 3/4	5.93%	141bp	$1,483	$989	66.7%	4.6x	3.7x	31%	$8,952
5.875%	Sr Nts	**Neutral**	15-Jun-30	Ba1/BB+	$1,000.0	98 39/49	6.25%	137bp	$1,483	$989	66.7%	4.6x	3.7x	31%	$8,952
Martin Midstream Partners		**NC**													
11.500%	Sr Sec Nts (2nd Lien)	**NC**	15-Feb-28	Caa1/B	$400.0	99 23/31	11.69%	711bp	$719	$92	12.8%	1.6x	5.0x	84%	$85

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 30: Selected High Yield Midstream Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
NGL Energy Partners, L.P.		**NEUTRAL**													
8.125%	Sec Nts	**Neutral**	15-Feb-29	B2/B+	$900.0	102 1/4	6.32%	175bp	$4,727	$663	14.0%	2.7x	4.5x	52%	$1,933
8.375%	Sec Nts	**Neutral**	15-Feb-32	B2/B+	$1,281.0	102 13/67	7.33%	252bp	$4,727	$663	14.0%	2.7x	4.5x	52%	$1,933
NuStar Energy		**NEUTRAL**													
5.625%	Sr Nts	**Neutral**	28-Apr-27	Ba1/NR	$550.0	99 7/9	6.07%	171bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
6.375%	Sr Nts	**Neutral**	1-Oct-30	Ba1/NR	$600.0	99 71/97	6.45%	156bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
Summit Midstream Partners		**NC**													
8.625%	Sec Nts	**NC**	31-Oct-29	B3/B+	$825.0	102 11/31	7.18%	246bp	$569	$239	42.1%	2.5x	3.9x	60%	$617
Sunoco LP		**NEUTRAL**													
5.875%	Sr Nts	**NC**	15-Jul-27	Ba1/BB	$500.0	99 67/82	6.12%	171bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
5.875%	Sr Nts	**Neutral**	15-Mar-28	Ba1/BB+	$400.0	99 7/12	6.18%	159bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
7.000%	Sr Nts	**Neutral**	15-Sep-28	Ba1/BB+	$500.0	101	5.83%	138bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
7.000%	Sr Nts	**Neutral**	1-May-29	Ba1/BB+	$750.0	101 11/26	6.01%	137bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
4.500%	Sr Nts	**Neutral**	15-May-29	Ba1/BB+	$800.0	96 10/29	6.06%	124bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
4.500%	Sr Nts	**Neutral**	30-Apr-30	Ba1/BB+	$800.0	94 55/63	6.14%	127bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
4.625%	Sr Nts	**NC**	1-May-30	Ba1/BB	$800.0	95 1/12	6.20%	133bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
5.625%	Sr Nts	**NC**	15-Mar-31	Ba1/BB+	$1,000.0	97 37/72	6.28%	136bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
5.375%	Sr Nts	**NC**	15-Jul-31	Ba1/BB+	$600.0	96 2/59	6.36%	142bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
7.250%	Sr Nts	**Neutral**	1-May-32	Ba1/BB+	$750.0	101 31/43	6.50%	168bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
6.625%	Sr Nts	**NC**	15-Aug-32	Ba1/BB	$500.0	99 43/96	6.74%	176bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
6.250%	Sr Nts	**Neutral**	1-Jul-33	Ba1/BB+	$1,000.0	97 53/93	6.70%	170bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
5.875%	Sr Nts	**NC**	15-Mar-34	Ba1/BB+	$900.0	95 1/2	6.65%	162bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
5.625%	Sr Nts	**NC**	15-Jul-34	Ba1/BB+	$600.0	93 29/34	6.65%	161bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950
7.875%	Sr Nts	**NC**	PERP	Ba3/B+	$1,500.0	100 19/24	7.63%	312bp	$22,479	$1,457	6.5%	3.7x	5.3x	34%	$14,950

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 31: Selected High Yield Midstream Credits Continued

Coupon	Description	Recom.	Maturity	Ratings Moody's/ S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	LTM Sales	LTM EBITDA	LTM EBITDA Margin	EBITDA/ Interest Expense	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Tallgrass Energy/Prairie Acquiror		**NEUTRAL**													
5.500%	Sr Nts	**Neutral**	15-Jan-28	B1/B+	$750.0	99 3/7	5.98%	144bp							
7.375%	Sr Nts	**Neutral**	15-Feb-29	B1/B+	$800.0	101 29/44	6.03%	146bp							
9.000%	Sec Nts	**Neutral**	1-Aug-29	B3/B-	$400.0	102 17/70	7.11%	255bp							
S+325	Term Loan B	**Neutral**	1-Aug-29	B3/B-	$1,031.7	100 7/32	7.75%	316bp							
6.000%	Sr Nts	**Neutral**	31-Dec-30	B1/B+	$725.2	97 19/29	6.64%	174bp							
6.000%	Sr Nts	**Neutral**	1-Sep-31	B1/B+	$466.5	96 64/83	6.79%	185bp							
6.750%	Sr Nts	**NC**	15-Mar-34	B1/B+	$700.0	98 4/45	7.08%	206bp							
Targa Resources Partners		**N (Anavy)***													
5.200%	Sr Nts	**NC**	1-Jul-27	Baa2/BBB	$750.0	100 7/36	4.87%	49bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
5.000%	Sr Nts	**NC**	15-Jan-28	Baa2/BBB	$700.3	99 43/75	5.36%	81bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
6.150%	Sr Nts	**NC**	1-Mar-29	Baa2/BBB	$1,000.0	101 68/83	5.29%	60bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
4.350%	Sr Nts	**NC**	15-Jan-29	Baa2/BBB	$750.0	98 13/62	5.21%	53bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
5.500%	Sr Nts	**NC**	1-Mar-30	Baa2/BBB	$949.6	99 20/61	5.72%	86bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
4.900%	Sr Nts	**NC**	15-Sep-30	Baa2/BBB	$750.0	98 1/9	5.44%	68bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
4.875%	Sr Nts	**NC**	1-Feb-31	Baa2/BBB	$1,000.0	96 42/65	5.77%	86bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
4.000%	Sr Nts	**Neutral**	15-Jan-32	Baa2/BBB	$1,000.0	91 57/80	5.86%	91bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
4.200%	Sr Nts	**NC**	1-Feb-33	Baa2/BBB	$750.0	92	5.74%	89bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
6.125%	Sr Nts	**NC**	15-Mar-33	Baa2/BBB	$900.0	101 68/69	5.74%	88bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
6.500%	Sr Nts	**NC**	30-Mar-34	Baa2/BBB	$1,000.0	103 11/18	5.88%	99bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
5.500%	Sr Nts	**NC**	15-Feb-35	Baa2/BBB	$1,000.0	97 8/87	5.95%	102bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
5.650%	Sr Nts	**NC**	15-Feb-36	Baa2/BBB	$750.0	97 3/4	5.97%	102bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
5.400%	Sr Nts	**NC**	30-Jul-36	Baa2/BBB	$1,000.0	95 21/38	6.01%	105bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
4.950%	Sr Nts	**NC**	15-Apr-52	Baa2/BBB	$750.0	81 11/13	6.40%	111bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
6.250%	Sr Nts	**NC**	1-Jul-52	Baa2/BBB	$500.0	97 59/73	6.42%	114bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
6.500%	Sr Nts	**NC**	15-Feb-53	Baa2/BBB	$850.0	100 49/88	6.45%	117bp	$16,261	$5,181	31.9%	7.0x	3.7x	24%	$62,086
Venture Global LNG		**OVERWEIGHT**													
9.500%	Sec Nts	**Overweight**	1-Feb-29	B1/BB	$3,000.0	105 40/63	6.48%	169bp	$8,445	$3,710	43.9%				
7.000%	Sec Nts	**Overweight**	15-Jan-30	B1/BB	$1,500.0	100 7/8	6.57%	176bp	$8,445	$3,710	43.9%				
8.375%	Sec Nts	**Overweight**	1-Jun-31	B1/BB	$2,250.0	101 15/16	7.07%	241bp	$8,445	$3,710	43.9%				
9.875%	Sec Nts	**Overweight**	1-Feb-32	B1/BB	$2,000.0	105 1/8	7.38%	257bp	$8,445	$3,710	43.9%				
6.375%	Sr Sec Nts	**NC**	15-Dec-34	B1/BB	$1,125.0	94 7/8	7.22%	216bp	$8,445	$3,710	43.9%				
6.625%	Sr Sec Nts	**NC**	15-Jun-36	B1/BB	$1,125.0	95 35/64	7.27%	217bp	$8,445	$3,710	43.9%				
9.000%	Sec Nts	**Overweight**	PERP	B3/B-	$3,000.0	96 1/4	10.51%	577bp	$8,445	$3,710	43.9%				
Venture Global Calcasieu Pass		**NEUTRAL**													
3.875%	Sr Sec Nts	**Overweight**	15-Aug-29	Ba1/BBB-	$1,250.0	94 18/59	6.11%	127bp	$4,945	$2,635	53.3%				
6.250%	Sr Sec Nts	**Overweight**	15-Jan-30	Ba1/BBB-	$1,000.0	99 29/50	6.39%	154bp	$4,945	$2,635	53.3%				
4.125%	Sr Sec Nts	**Overweight**	15-Aug-31	Ba1/BBB-	$1,250.0	91 1/32	6.31%	137bp	$4,945	$2,635	53.3%				
3.875%	Sec Nts	**Overweight**	1-Nov-33	Ba1/BBB-	$1,250.0	85 3/4	6.43%	141bp	$4,945	$2,635	53.3%				
6.000%	Sec Nts	**NC**	1-May-36	Ba1/BBB-	$750.0	95 29/32	6.59%	148bp	$4,945	$2,635	53.3%				
Venture Global Plaquemines		**NEUTRAL**													
6.125%	Sr Sec Nts	**NC**	15-Dec-30	Ba2/BB+	$1,750.0	99 3/8	6.30%	139bp	$3,290	$1,995	60.6%				
7.500%	Sec Nts	**NC**	1-May-33	Ba2/BB+	$1,250.0	105 5/27	6.46%	147bp	$3,290	$1,995	60.6%				
6.500%	Sec Nts	**NC**	15-Jan-34	Ba2/BB+	$2,000.0	100 2/27	6.48%	148bp	$3,290	$1,995	60.6%				
6.500%	Sec Nts	**NC**	15-Jun-34	Ba2/BB+	$1,250.0	99 11/13	6.52%	149bp	$3,290	$1,995	60.6%				
7.750%	Sec Nts	**NC**	1-May-35	Ba2/BB+	$1,250.0	107 8/29	6.58%	152bp	$3,290	$1,995	60.6%				
6.750%	Sec Nts	**NC**	15-Jan-36	Ba2/BB+	$2,000.0	101 20/43	6.53%	145bp	$3,290	$1,995	60.6%				
Western Midstream		**OW (Anavy)***													
4.500%	Sr Nts	**NC**	1-Mar-28	Baa3/BBB-	$342.9	98 27/35	5.45%	86bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
4.750%	Sr Nts	**NC**	15-Aug-28	Baa3/BBB-	$336.3	98 19/23	5.43%	70bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
6.350%	Sr Nts	**NC**	15-Jan-29	Baa3/BBB-	$600.0	101 48/67	5.49%	69bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
4.050%	Sr Nts	**Overweight**	1-Feb-30	Baa3/BBB-	$1,057.1	95	5.74%	88bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
6.150%	Sr Nts	**NC**	1-Apr-33	Baa3/BBB-	$750.0	100 14/27	6.05%	106bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
5.450%	Sr Nts	**NC**	15-Nov-34	Baa3/BBB-	$800.0	95 13/24	6.16%	111bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
5.450%	Sr Nts	**NC**	1-Apr-44	Baa3/BBB-	$600.0	87 31/47	6.66%	143bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
5.300%	Sr Nts	**NC**	1-Mar-48	Baa3/BBB-	$700.0	83 21/46	6.78%	149bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
5.500%	Sr Nts	**NC**	15-Aug-48	Baa3/BBB-	$350.0	85 9/35	6.81%	152bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370
5.250%	Sr Nts	**NC**	1-Feb-50	Baa3/BBB-	$1,000.0	82 18/25	6.73%	142bp	$3,428	$2,268	66.2%	6.2x	3.5x	30%	$18,370

*JPM Investment Grade Covg.

Source: J.P. Morgan, Bloomberg Finance L.P.

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Table 32: Selected High Yield Refiner Credits

Coupon	Description	Recom.	Maturity	Ratings Moody's S&P	Amount Outst.	Recent Quotes Bid	YTW	Spread	Nelson Complexity Rating	LTM EBITDA	EBITDA/ Interest Expense	Debt/ Complex Barrel	Debt/ EBITDA	Debt/ TEV	Latest Market Capitalization
Refiners															
Calumet Specialty Products Partners		**NEUTRAL**													
9.750%	Sr Nts	**Neutral**	15-Jul-28	Caa1/B-	$325.0	102 4/9	6.25%	184bp	N/A	$195	0.8x	N/A	10.9x	32%	$4,335
9.250%	Sr Sec Nts (1st Lien)	**Neutral**	15-Jul-29	NR/B+	$200.0	101 39/41	0.66%	-351bp	N/A	$195	0.8x	N/A	10.9x	32%	$4,335
9.750%	Sr Sec Nts (1st Lien)	**NC**	15-Feb-31	NR/B-	$555.0	106 7/8	7.37%	224bp	N/A	$195	0.8x	N/A	10.9x	32%	$4,335
CVR Energy		**OVERWEIGHT**													
5.750%	Sr Nts	**Neutral**	15-Feb-28	B2/B+	$183.0	99 1/2	6.14%	157bp	N/A	$407	2.9x	N/A	4.3x	24%	$5,894
7.500%	Sr Nts	**NC**	15-Feb-31	B2/B+	$600.0	101 38/55	6.92%	206bp	N/A	$407	2.9x	N/A	4.3x	24%	$5,894
7.875%	Sr Nts	**NC**	15-Feb-34	B2/B+	$400.0	101 25/49	7.45%	254bp	N/A	$407	2.9x	N/A	4.3x	24%	$5,894
PBF Energy		**NEUTRAL**													
9.875%	Sr Nts	**Underweight**	15-Mar-30	B1/BB	$800.0	106 35/79	5.69%	141bp	13	$533	2.9x	$0.26	5.4x	24%	$9,394
7.250%	Sr Nts	**NC**	1-Jun-34	B1/BB	$500.0	101 4/29	6.95%	203bp	13	$533	2.9x	$0.26	5.4x	24%	$9,394

Source: J.P. Morgan, Bloomberg Finance L.P.

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Venture Global LNG - J.P. Morgan Credit Opinion History

	Date	Action	Rating/Designation	Ticker/ISIN
Issuer	24 Jul 23	Initiate	Overweight	VENLNG
8.375% Secured Notes due 2031 *	24 Jul 23	Initiate	Overweight	US92332YAB74
5yr CDS	28 Mar 25	Initiate	Long Risk	—
6.375% Sec Notes due 2034	22 Jul 26	Initiate	Overweight	US92332YAG61
6.625% Sec Notes due 2036	22 Jul 26	Initiate	Overweight	US92332YAH45

7.000% Sec Notes due 2030	20 Feb 25	Initiate	Overweight	US92332YAE14
8.125% Secured Notes due 2028	22 Jul 26	Terminate	Not Covered	US92332YAA91
9.000% PERP	20 Feb 25	Initiate	Overweight	US92332YAF88
9.500% Secured Notes due 2029	09 Jan 24	Initiate	Overweight	US92332YAC57
9.875% Secured Notes due 2032	09 Jan 24	Initiate	Overweight	US92332YAD31

***Indicates representative/primary bond/instrument.**

The table(s) above show the recommendation changes made by J.P. Morgan Credit Research Analysts in the subject company and/or instruments over the past three years (or, if no recommendation changes were made during that period, the most recent change). Notes: Effective April 11, 2016, J.P. Morgan changed its Credit Research Ratings System. Please see the Explanation of Credit Research Ratings below for the new definitions. The previous rating system no longer should be relied upon. For the history prior to April 11, 2016, please call 1-800-447-0406 or e-mail research.disclosure.inquiries@jpmorgan.com.

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IB clients**	85%	84%	87%

***Please note that the percentages may not add to 100% because of rounding.**
****Percentage of subject companies within each of the "Overweight," "Neutral" and "Underweight" categories for which J.P. Morgan has provided investment banking services within the previous 12 months.**
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Completed 23 Oct 2026 06:48 AM EDT
Disseminated 23 Oct 2026 06:48 AM EDT