



MERCER CAPITAL

2023 Energy Purchase Price Allocation Study

October 2023



BUSINESS VALUATION &
FINANCIAL ADVISORY SERVICES

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Table of Contents

About Mercer Capital	i	Midstream	12
Summary	1	Key Themes	13
Exploration & Production	2	Transactions	14
Key Themes	3	Intangible Allocations	15
Transactions	4,5	Refiners and Marketers	16
Intangible Allocations	6	Key Themes	17
PP&E and Reserve Detail	7	Transactions	18
Oilfield Services	8	Intangible Allocations	19
Key Themes	9	Appendix	20
Transactions	10	Screening Criteria & Methodology	21
Intangible Allocations	11	Disclaimers	22

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Founded in 1982, Mercer Capital offers a broad range of services including financial reporting valuation, corporate valuation, litigation and expert testimony consulting, family business advisory services, gift and estate tax valuation, M&A advisory, fairness opinions, and ESOP and ERISA valuation services.

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For information regarding this study, please contact one of the following professionals.



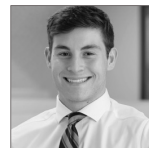
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Industry Segments

- Exploration & Production
- Oilfield Services
- Midstream
- Refining & Marketing

OIL AND GAS TEAM



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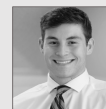
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MERCER CAPITAL'S Oil and Gas Industry Resources

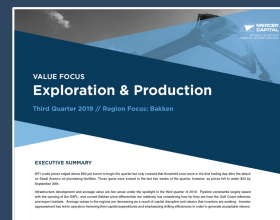
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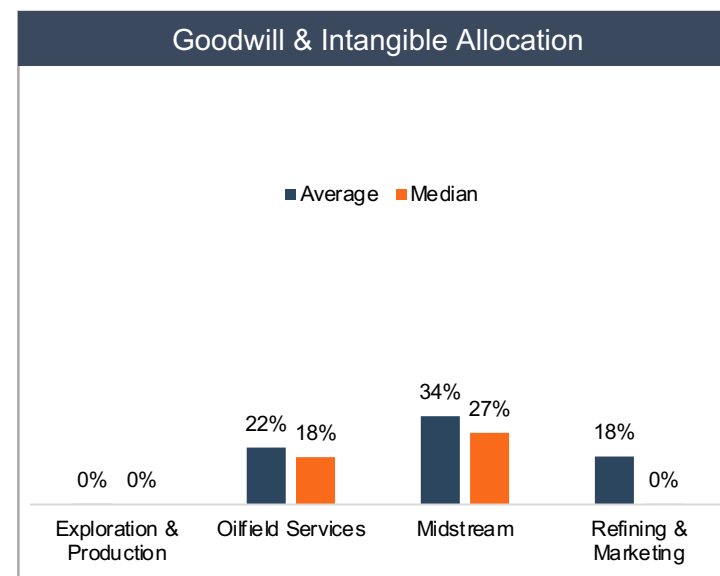
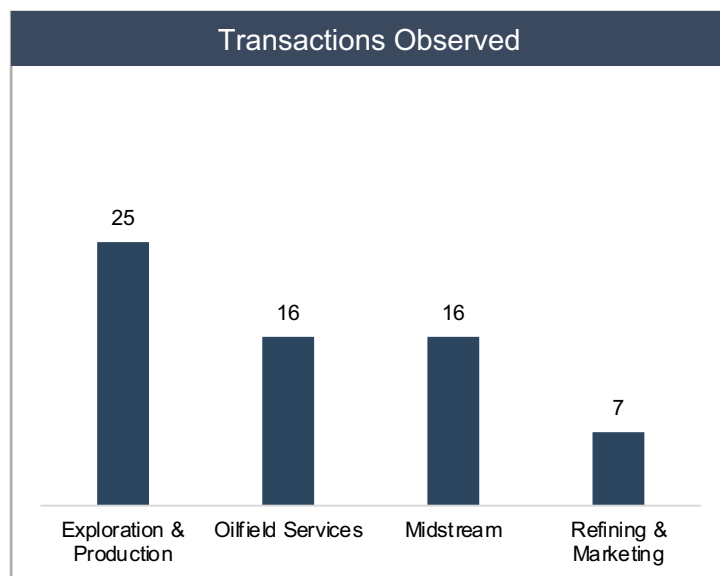


This newsletter provides an overview of the industry through supply and demand analysis, commodity pricing, and public market performance. In addition, each quarter focuses on a different region (Eagle Ford, Permian, Bakken, and Appalachia).

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Summary

- Intangibles comprised 90% of S&P's total market value in 2020 according to a study by Ocean Tomo. Prior analysis has suggested intangible concentration for the energy sector is under half of that (36%) and this year's study corroborates this. None of the four subsectors we analyzed exceeded that percentage.
- Across the four subsectors analyzed, total M&A activity increased in 2022 based on total deal count, driven by the increase in deal count for the oilfield services, midstream, and refining and marketing subsectors. Deal volume lagged in exploration and production space, with one less deal than the 26 in 2021. An [Enverus study](#) found that upstream deal volume fell by 13% in 2022, noting that large-cap publics dominated deal activity due to strong balance sheets and favorable market valuations. In reality, the decrease in total exploration and production deal activity is likely lower than this analysis would suggest by the inherent nature of the companies analyzed, which are derived as the constituents of an E&P index.



Exploration & Production

Key Themes

Exploration & Production

- Consistent with historical trends, over 90% of Fair Value was encapsulated in PP&E – specifically dominated by oil & gas reserve values (Level 3 Inputs).⁽¹⁾
 - 23 of 25 transactions reported reserve values
 - 21 of 25 transactions reported proved (PDP, PDNP, & PUD) reserves
 - 6 of the 21 transactions reporting proved reserves also reported a split between proved (PDP, PDNP, & PUD) and unproved (Probable, Possible)
 - Wherein a split was recorded, more reserves were proved vs. unproved. The average was 56% of purchase consideration for proved vs. 41% unproved.
- Ten transactions recorded PP&E other than reserves
- Only one of the 25 transactions had intangibles (Whiting/Oasis merger of equals forming Chord Energy), compared to ten last year
 - This transaction recorded deferred tax assets at 6% of purchase consideration (categorized as Other Intangible Assets)
- The discounted cash flow method was the most cited valuation method for all reserve categories. The market method was also cited for arriving at Fair Value for unproven reserves.

(1): *Fair Value* and *Level 3 Input* are valuation and accounting terms, as defined under U.S. GAAP in ASC 820.

Transactions

Exploration & Production

Target	Acquirer	Announce Date	Basin / Play	Purchase Consideration	Identifiable Intangibles					Goodwill
					Developed Technology	In Process Research & Development	Trademarks & Trade Names	Customer-Related Assets	Other Intangible Assets	
Dollar Allocation (\$000s)										
Veritas	Northern Oil and Gas, Inc.	10/1/2021	Permian Basin	\$410,017	-	-	-	-	-	-
Interests from Chisholm Energy Operating, LLC	Earthstone Energy, Inc.	12/15/2021	Delaware Basin	\$642,485	-	-	-	-	-	-
ANKOR E&P Holdings Corp, KOA Energy LP	W&T Offshore, Inc.	1/5/2022	Offshore Gulf of Mexico	\$60,495	-	-	-	-	-	-
Falcon Minerals Corp.	Sitio Royalties Corp.	1/12/2022	Eagle Ford, Appalachian	\$715,516	-	-	-	-	-	-
Bighorn Asset Company LLC	Earthstone Energy, Inc.	1/30/2022	Midland Basin	\$746,885	-	-	-	-	-	-
Uinta AssetCo, LLC	Crescent Energy Co.	2/15/2022	Uinta Utah Basin	\$863,600	-	-	-	-	-	-
Great Western Petroleum, LLC	PDC Energy, Inc.	2/28/2022	Wattenberg Field, Colorado	\$2,349,019	-	-	-	-	-	-
Whiting Petroleum Co	Oasis Petroleum Inc. (Chord Energy Corp.)	3/7/2022	Williston Basin	\$4,151,152	-	-	-	-	\$228,574	-
Incline Bakken, LLC	Northern Oil and Gas, Inc.	4/1/2022	Williston Basin	\$160,155	-	-	-	-	-	-
Properties from Private Seller	W&T Offshore, Inc	4/1/2022	Offshore Gulf of Mexico	\$24,181	-	-	-	-	-	-
SandPoint Resources, LLC	Silverbow Resources, Inc.	4/14/2022	Eagle Ford	\$84,810	-	-	-	-	-	-
Sundance Energy, Inc.	Silverbow Resources, Inc.	4/14/2022	Eagle Ford	\$402,493	-	-	-	-	-	-
Undisclosed	Comstock Resources, Inc.	4/30/2022	East Texas	\$35,600	-	-	-	-	-	-
Colgate Energy Partners III MidCo, LLC and Related Entities	Permian Resources Corp.	5/19/2022	Permian Basin	\$4,220,743	-	-	-	-	-	-
Certain Assets from Summit Midstream Partners, LP	Matador Resources Co	6/9/2022	Delaware Basin	\$82,501	-	-	-	-	-	-
Titus Oil and Gas Corp.	Earthstone Energy, Inc.	6/27/2022	Delaware Basin	\$625,017	-	-	-	-	-	-
Foundation Minerals, LLC	Sitio Royalties Corp.	6/27/2022	Permian Basin	\$320,600	-	-	-	-	-	-
Momentum Minerals Operating, LP	Sitio Royalties Corp.	6/30/2022	Permian Basin	\$213,300	-	-	-	-	-	-
TransGlobe Energy Corp.	VAALCO Energy, Inc.	7/13/2022	International	\$420,521	-	-	-	-	-	-
Laredo Petroleum, Inc.	Northern Oil and Gas, Inc.	8/17/2022	Midland Basin	\$110,258	-	-	-	-	-	-
Brigham Minerals	Sitio Royalties Corp.	9/6/2022	Permian, Anadarko, DJ, Williston	\$2,744,823	-	-	-	-	-	-
Alpha Energy Partners	Northern Oil and Gas, Inc.	9/30/2022	Midland Basin	\$164,300	-	-	-	-	-	-
FireBird Energy, LLC	Diamondback Energy, Inc.	10/14/2022	Midland Basin	\$1,673,000	-	-	-	-	-	-
Certain properties in Delaware Basin from Private Seller	Northern Oil and Gas, Inc.	11/1/2022	Permian Basin	\$131,773	-	-	-	-	-	-
Ensign Natural Resources	Marathon Oil Corp.	11/2/2022	Eagle Ford	\$3,163,000	-	-	-	-	-	-
Count				25	-	-	-	-	1	-
Percentage				na	-	-	-	-	4%	-
Average				\$980,650	-	-	-	-	\$9,143	-
Median				\$410,017	-	-	-	-	-	-

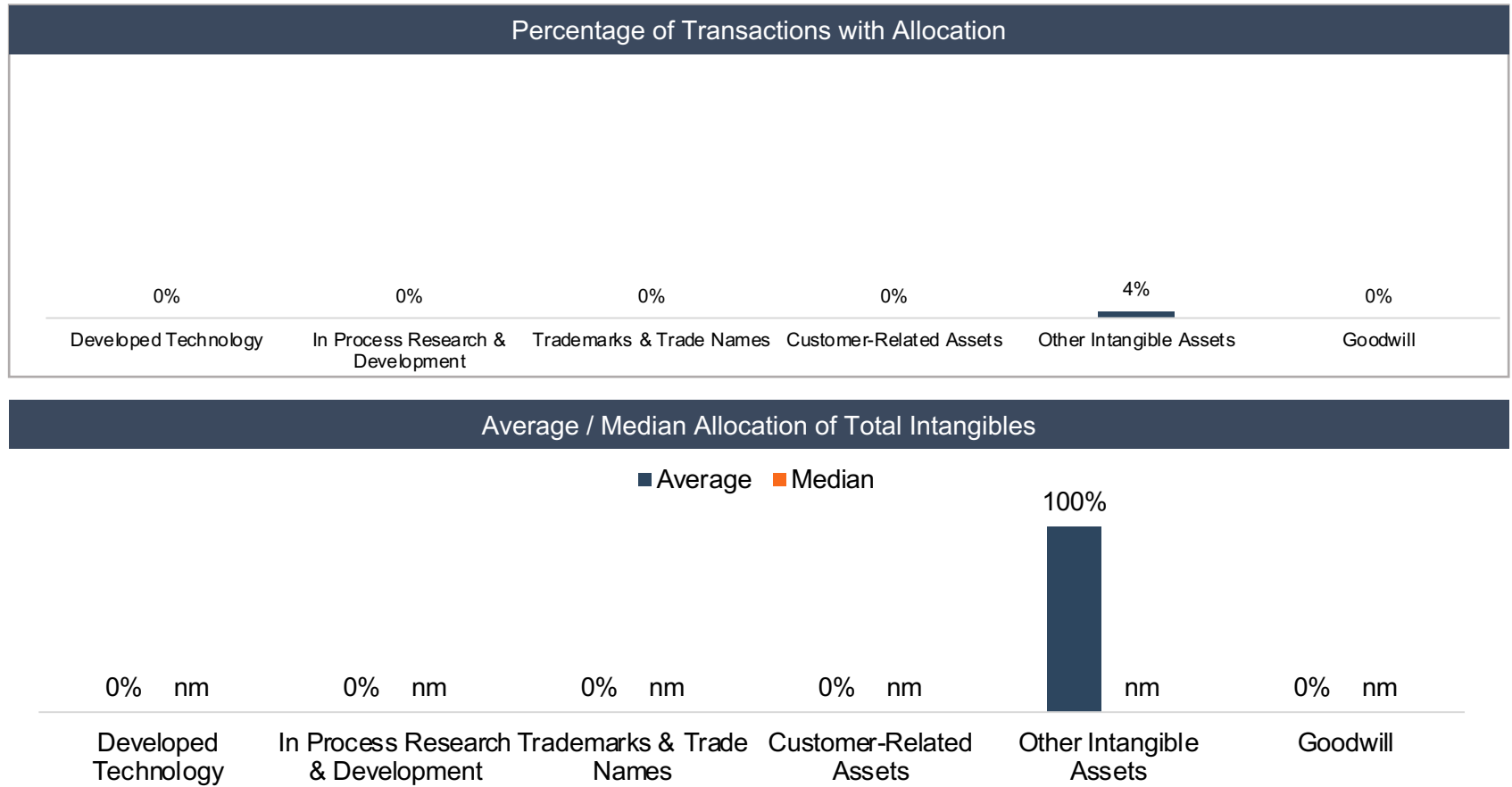
Transactions *(Continued)*

Exploration & Production

					Identifiable Intangibles					
					Developed Technology	In Process Research & Development	Trademarks & Trade Names	Customer-Related Assets	Other Intangible Assets	Goodwill
Target	Acquirer	Announce Date	Basin / Play	Purchase Consideration						
Percentage Allocation										
Veritas	Northern Oil and Gas, Inc.	10/1/2021	Permian Basin	\$410,017	-	-	-	-	-	-
Interests from Chisholm Energy Operating, LLC	Earthstone Energy, Inc.	12/15/2021	Delaware Basin	642,485	-	-	-	-	-	-
ANKOR E&P Holdings Corp, KOA Energy LP	W&T Offshore, Inc.	1/5/2022	Offshore Gulf of Mexico	60,495	-	-	-	-	-	-
Falcon Minerals Corp.	Sitio Royalties Corp.	1/12/2022	Eagle Ford, Appalachian	715,516	-	-	-	-	-	-
Bighorn Asset Company LLC	Earthstone Energy, Inc.	1/30/2022	Midland Basin	746,885	-	-	-	-	-	-
Uinta AssetCo, LLC	Crescent Energy Co.	2/15/2022	Uinta Utah Basin	863,600	-	-	-	-	-	-
Great Western Petroleum, LLC	PDC Energy, Inc.	2/28/2022	Wattenberg Field, Colorado	2,349,019	-	-	-	-	-	-
Whiting Petroleum Co	Oasis Petroleum Inc. (Chord Energy Corp.)	3/7/2022	Williston Basin	4,151,152	-	-	-	-	6%	-
Incline Bakken, LLC	Northern Oil and Gas, Inc.	4/1/2022	Williston Basin	160,155	-	-	-	-	-	-
Properties from Private Seller	W&T Offshore, Inc	4/1/2022	Offshore Gulf of Mexico	24,181	-	-	-	-	-	-
SandPoint Resources, LLC	Silverbow Resources, Inc.	4/14/2022	Eagle Ford	84,810	-	-	-	-	-	-
Sundance Energy, Inc.	Silverbow Resources, Inc.	4/14/2022	Eagle Ford	402,493	-	-	-	-	-	-
Undisclosed	Comstock Resources, Inc.	4/30/2022	East Texas	35,600	-	-	-	-	-	-
Colgate Energy Partners III MidCo, LLC and Related Entities	Permian Resources Corp.	5/19/2022	Permian Basin	4,220,743	-	-	-	-	-	-
Certain Assets from Summit Midstream Partners, LP	Matador Resources Co	6/9/2022	Delaware Basin	82,501	-	-	-	-	-	-
Titus Oil and Gas Corp.	Earthstone Energy, Inc.	6/27/2022	Delaware Basin	625,017	-	-	-	-	-	-
Foundation Minerals, LLC	Sitio Royalties Corp.	6/27/2022	Permian Basin	320,600	-	-	-	-	-	-
Momentum Minerals Operating, LP	Sitio Royalties Corp.	6/30/2022	Permian Basin	213,300	-	-	-	-	-	-
TransGlobe Energy Corp.	VAALCO Energy, Inc.	7/13/2022	International	420,521	-	-	-	-	-	-
Laredo Petroleum, Inc.	Northern Oil and Gas, Inc.	8/17/2022	Midland Basin	110,258	-	-	-	-	-	-
Brigham Minerals	Sitio Royalties Corp.	9/6/2022	Permian, Anadarko, DJ, Williston	2,744,823	-	-	-	-	-	-
Alpha Energy Partners	Northern Oil and Gas, Inc.	9/30/2022	Midland Basin	164,300	-	-	-	-	-	-
FireBird Energy, LLC	Diamondback Energy, Inc.	10/14/2022	Midland Basin	1,673,000	-	-	-	-	-	-
Certain properties in Delaware Basin from Private Seller	Northern Oil and Gas, Inc.	11/1/2022	Permian Basin	131,773	-	-	-	-	-	-
Ensign Natural Resources	Marathon Oil Corp.	11/2/2022	Eagle Ford	3,163,000	-	-	-	-	-	-
Average					-	-	-	-	0%	-
Median					-	-	-	-	-	-

Intangible Allocations

Exploration & Production



PP&E and Reserves Detail

Exploration & Production

Target	Acquirer	Basin / Play	Purchase Consideration	Proved Reserves	Unproved Reserves	Other Reserves	Total Reserves	Other PP&E
Dollar Allocation (\$000s)								
Veritas	Northern Oil and Gas, Inc.	Permian Basin	\$410,017	\$383,755	\$26,262	-	\$410,017	-
Interests from Chisholm Energy Operating, LLC	Earthstone Energy, Inc.	Delaware Basin	\$642,485	\$642,485	-	-	\$642,485	-
ANKOR E&P Holdings Corp, KOA Energy LP	W&T Offshore, Inc.	Offshore Gulf of Mexico	\$60,495	\$54,299	-	-	\$54,299	-
Falcon Minerals Corp.	Sitio Royalties Corp.	Eagle Ford, Appalachian	\$715,516	\$200,773	\$491,231	-	\$692,004	\$278
Bighorn Asset Company LLC	Earthstone Energy, Inc.	Midland Basin	\$746,885	\$746,116	-	-	\$746,116	-
Uinta AssetCo, LLC	Crescent Energy Co.	Uinta Utah Basin	\$863,600	-	-	-	-	\$863,600
Great Western Petroleum, LLC	PDC Energy, Inc.	Wattenberg Field, Colorado	\$2,349,019	\$2,091,301	-	-	\$2,091,301	\$7,035
Whiting Petroleum Co	Oasis Petroleum Inc. (Chord Energy Corp.)	Williston Basin	\$4,151,152	\$3,211,043	-	-	\$3,211,043	\$31,244
Incline Bakken, LLC	Northern Oil and Gas, Inc.	Williston Basin	\$160,155	\$160,155	-	-	\$160,155	-
Properties from Private Seller	W&T Offshore, Inc.	Offshore Gulf of Mexico	\$24,181	\$22,632	-	-	\$22,632	-
SandPoint Resources, LLC	Silverbow Resources, Inc.	Eagle Ford	\$84,810	\$84,810	-	-	\$84,810	-
Sundance Energy, Inc.	Silverbow Resources, Inc.	Eagle Ford	\$402,493	\$397,401	-	-	\$397,401	-
Undisclosed	Comstock Resources, Inc.	East Texas	\$35,600	-	-	\$18,800	\$18,800	\$16,800
Colgate Energy Partners III MidCo, LLC and Related Entities	Permian Resources Corp.	Permian Basin	\$4,220,743	\$3,297,400	\$633,025	-	\$3,930,425	\$4,175
Certain Assets from Summit Midstream Partners, LP	Matador Resources Co	Delaware Basin	\$82,501	-	-	-	-	\$74,100
Titus Oil and Gas Corp.	Earthstone Energy, Inc.	Delaware Basin	\$625,017	\$625,017	-	-	\$625,017	-
Foundation Minerals, LLC	Sitio Royalties Corp.	Permian Basin	\$320,600	\$131,300	\$189,300	-	\$320,600	-
Momentum Minerals Operating, LP	Sitio Royalties Corp.	Permian Basin	\$213,300	\$139,100	\$74,200	-	\$213,300	-
TransGlobe Energy Corp.	VAALCO Energy, Inc.	International	\$420,521	\$273,885	-	-	\$273,885	\$2,099
Laredo Petroleum, Inc.	Northern Oil and Gas, Inc.	Midland Basin	\$110,258	\$110,258	-	-	\$110,258	-
Brigham Minerals	Sitio Royalties Corp.	Permian, Anadarko, DJ, Williston	\$2,744,823	\$873,050	\$1,783,162	-	\$2,656,212	\$200
Alpha Energy Partners	Northern Oil and Gas, Inc.	Midland Basin	\$164,300	\$164,300	-	-	\$164,300	-
FireBird Energy, LLC	Diamondback Energy, Inc.	Midland Basin	\$1,673,000	\$1,558,000	-	-	\$1,558,000	\$114,000
Certain properties in Delaware Basin from Private Seller	Northern Oil and Gas, Inc.	Permian Basin	\$131,773	\$131,773	-	-	\$131,773	-
Ensign Natural Resources	Marathon Oil Corp.	Eagle Ford	\$3,163,000	-	-	\$3,159,000	\$3,159,000	-
Count			25	21	6	2	23	10
Percentage			na	84%	24%	8%	92%	40%
Average			\$980,650	\$611,954	\$127,887	\$127,112	\$866,953	\$44,541
Median			\$410,017	\$164,300	-	-	\$320,600	-

Note: Not all transactions included a breakout of reserves and other PP&E. If only PP&E was listed, we have assumed 100% of this value is attributable to reserves.

PP&E and Reserves Detail *(Continued)*

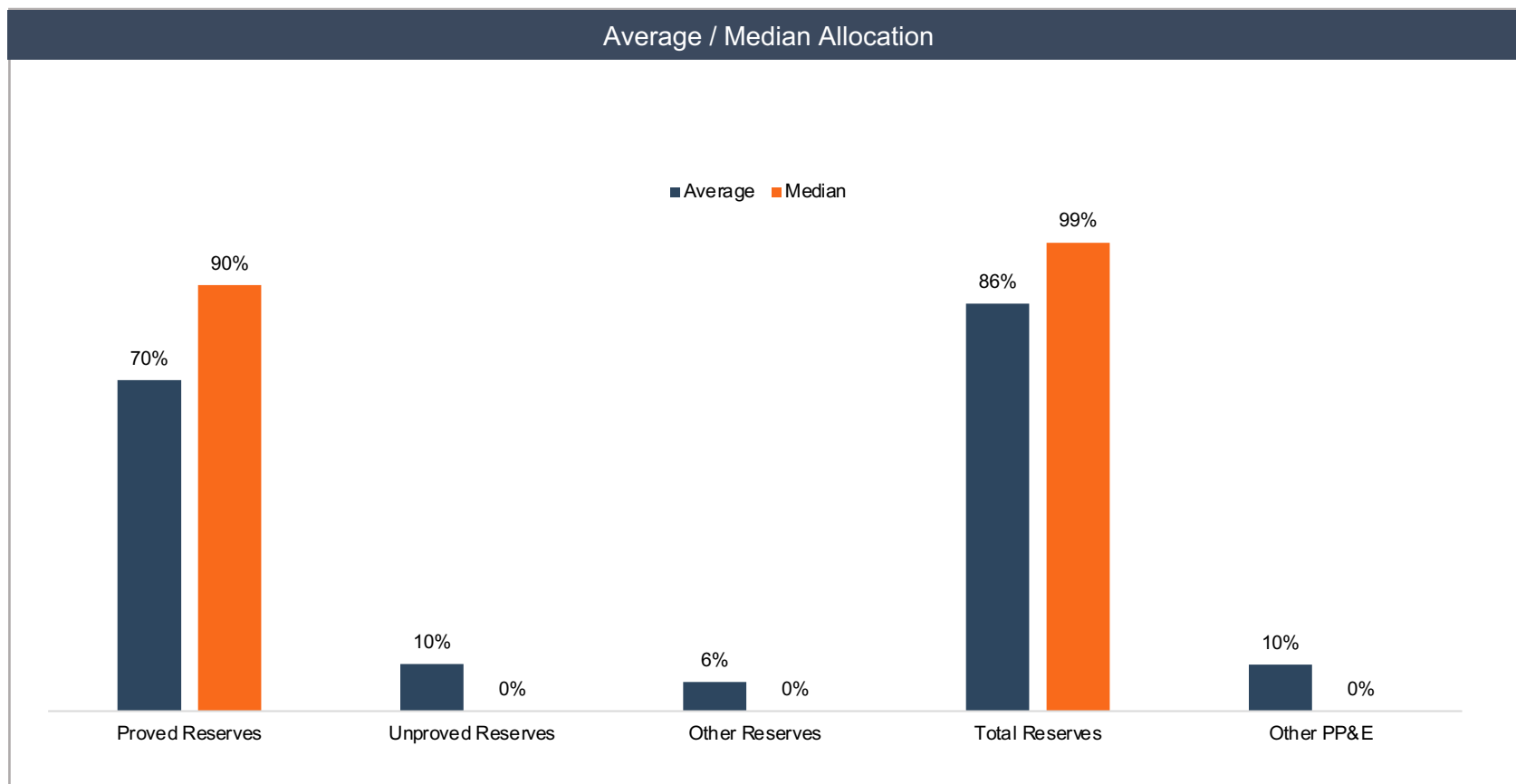
Exploration & Production

Target	Acquirer	Basin / Play	Purchase Consideration	Proved Reserves	Unproved Reserves	Other Reserves	Total Reserves	Other PP&E
Percentage Allocation								
Veritas	Northern Oil and Gas, Inc.	Permian Basin	\$410,017	94%	6%	-	100%	-
Interests from Chisholm Energy Operating, LLC	Earthstone Energy, Inc.	Delaware Basin	642,485	100%	-	-	100%	-
ANKOR E&P Holdings Corp, KOA Energy LP	W&T Offshore, Inc.	Offshore Gulf of Mexico	60,495	90%	-	-	90%	-
Falcon Minerals Corp.	Sitio Royalties Corp.	Eagle Ford, Appalachian	715,516	28%	69%	-	97%	0%
Bighorn Asset Company LLC	Earthstone Energy, Inc.	Midland Basin	746,885	100%	-	-	100%	-
Uinta AssetCo, LLC	Crescent Energy Co.	Uinta Utah Basin	863,600	-	-	-	-	100%
Great Western Petroleum, LLC	PDC Energy, Inc.	Wattenberg Field, Colorado	2,349,019	89%	-	-	89%	0%
Whiting Petroleum Co	Oasis Petroleum Inc. (Chord Energy Corp.)	Williston Basin	4,151,152	77%	-	-	77%	1%
Incline Bakken, LLC	Northern Oil and Gas, Inc.	Williston Basin	160,155	100%	-	-	100%	-
Properties from Private Seller	W&T Offshore, Inc.	Offshore Gulf of Mexico	24,181	94%	-	-	94%	-
SandPoint Resources, LLC	Silverbow Resources, Inc.	Eagle Ford	84,810	100%	-	-	100%	-
Sundance Energy, Inc.	Silverbow Resources, Inc.	Eagle Ford	402,493	99%	-	-	99%	-
Undisclosed	Comstock Resources, Inc.	East Texas	35,600	-	-	53%	53%	47%
Colgate Energy Partners III MidCo, LLC and Related Entities	Permian Resources Corp.	Permian Basin	4,220,743	78%	15%	-	93%	0%
Certain Assets from Summit Midstream Partners, LP	Matador Resources Co	Delaware Basin	82,501	-	-	-	-	90%
Titus Oil and Gas Corp.	Earthstone Energy, Inc.	Delaware Basin	625,017	100%	-	-	100%	-
Foundation Minerals, LLC	Sitio Royalties Corp.	Permian Basin	320,600	41%	59%	-	100%	-
Momentum Minerals Operating, LP	Sitio Royalties Corp.	Permian Basin	213,300	65%	35%	-	100%	-
TransGlobe Energy Corp.	VAALCO Energy, Inc.	International	420,521	65%	-	-	65%	0%
Laredo Petroleum, Inc.	Northern Oil and Gas, Inc.	Midland Basin	110,258	100%	-	-	100%	-
Brigham Minerals	Sitio Royalties Corp.	Permian, Anadarko, DJ, Williston	2,744,823	32%	65%	-	97%	0%
Alpha Energy Partners	Northern Oil and Gas, Inc.	Midland Basin	164,300	100%	-	-	100%	-
FireBird Energy, LLC	Diamondback Energy, Inc.	Midland Basin	1,673,000	93%	-	-	93%	7%
Certain properties in Delaware Basin from Private Seller	Northern Oil and Gas, Inc.	Permian Basin	131,773	100%	-	-	100%	-
Ensign Natural Resources	Marathon Oil Corp.	Eagle Ford	3,163,000	-	-	100%	100%	-
Average				70%	10%	6%	86%	10%
Median				90%	-	-	99%	-

Note: Not all transactions included a breakout of reserves and other PP&E. If only PP&E was listed, we have assumed 100% of this value is attributable to reserves.

PP&E and Reserves Detail *(Continued)*

Exploration & Production



Note: Not all transactions included a breakout of reserves and other PP&E. If only PP&E was listed, we have assumed 100% of this value is attributable to reserves.

Oilfield Services

Key Themes

Oilfield Services

- While Oilfield Services purchase price allocations are typically much more heavily weighted toward goodwill and other intangible assets, as compared to the tangible asset-intensive E&P and Midstream industries. Some of our prior PPA studies showed average intangible assets' contribution to purchase prices in the 40% to 70% range, before plunging to 21% in our 2021 study and 18% in our 2022 study. In our current study, intangible assets averaged 22% of total purchase prices.
- The transactions we examine in this analysis span a variety of subsectors. Unsurprisingly, the two largest subsectors by total purchase consideration were pressure pumping/hydraulic fracturing and drilling services. It is worth noting that there was only one transaction in the drilling services subsector, although this transaction accounted for over half of the total purchase consideration of the group.
- Customer-Related Assets and Goodwill were both recorded in 44% of transactions, followed by Other Intangible assets at 38%. Developed Technology was recorded in 6% of transactions, dropping from 36% last year. Trademarks & Tradenames were also recorded at a 6% rate. No intangible assets were recorded as In Process Research and Development in the 2022 transactions within the oilfield services group.
- Last year we noted that Developed Technology made up the largest percentage of the total purchase price allocated to intangible assets. This year, there was a shift towards both Customer-Related Assets and Goodwill, at 50% and 30% average allocation of total intangible values, respectively. Other Intangible Assets ranked third place at 13%. Developed Technology experienced a significant decrease to an average of 6% of total intangible value. Trademarks & Trade Names averaged 2%.

Transactions

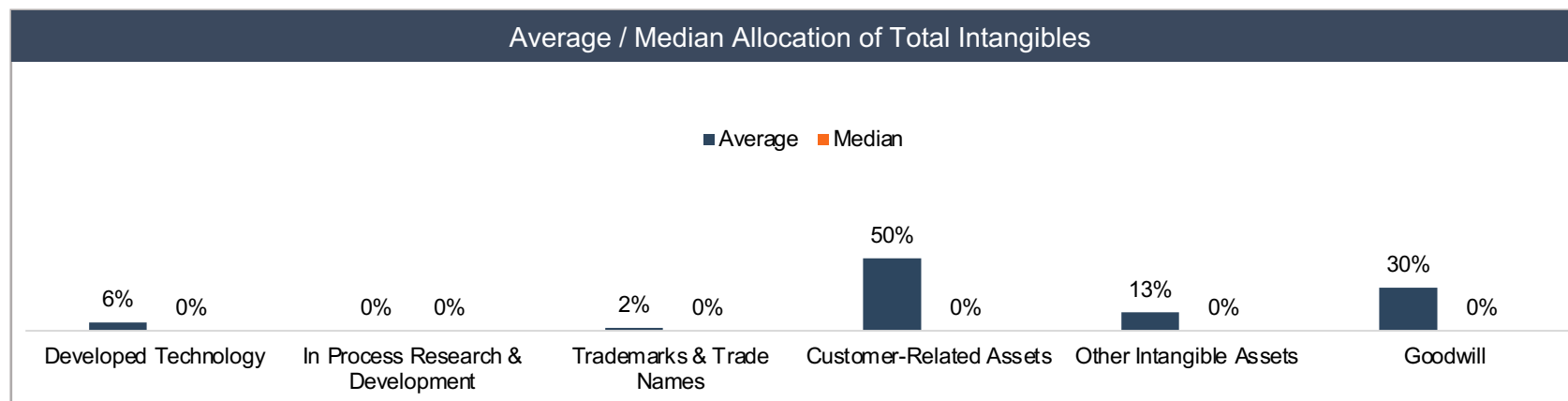
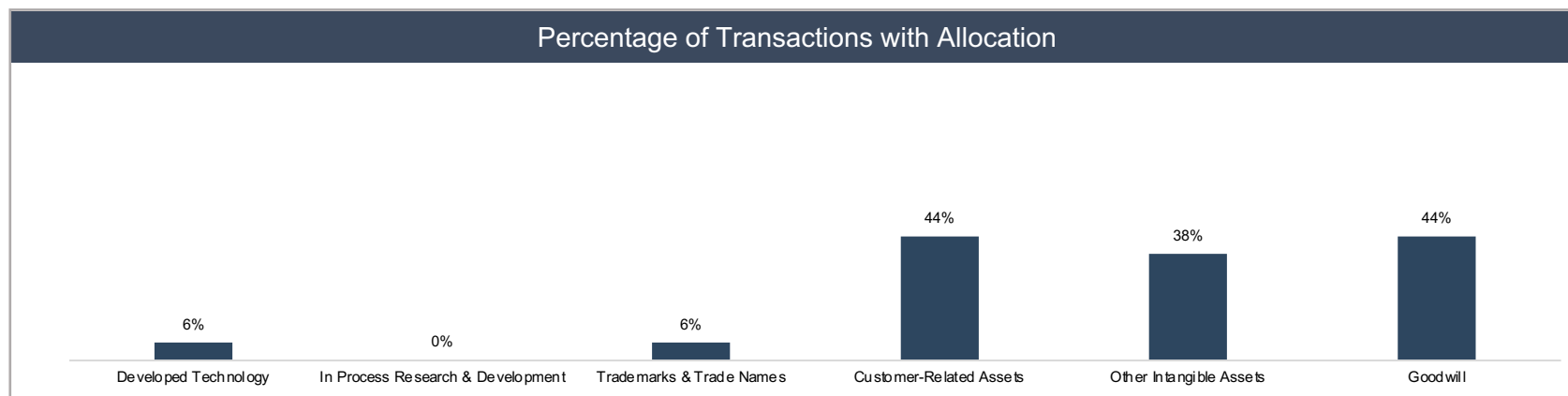
Oilfield Services

Oilfield Services

					Identifiable Intangibles					
Target	Acquirer	Announce Date	Target Subsector	Purchase Consideration	Developed Technology	In Process Research & Development	Trademarks & Trade Names	Customer-Related Assets	Other Intangible Assets	Goodwill
Dollar Allocation (\$000s)										
FTS International, Inc.	ProFrac Holding Corp.	10/21/2021	Pressure Pumping	\$502,000	-	-	-	-	\$1,200	-
Maersk Drilling	Noble Corporation plc	11/10/2021	Drilling Services	3,358,943	-	-	-	-	22,991	26,016
Nuverra Environmental Solutions, Inc.	Select Water Solutions, Inc.	12/13/2021	Saltwater Disposal	75,704	-	-	-	-	-	-
Sonangol Holdings, LDA	Tidewater Inc.	1/3/2022	Offshore Support Services	15,801	-	-	-	-	-	-
Flotek Industries, Inc.	ProFrac Holding Corp.	2/2/2022	Fleet and Chemistry Solutions	165,500	-	-	-	-	300	81,700
Swire Pacific Offshore Holdings Ltd.	Tidewater Inc.	3/9/2022	Vessel Support Services	314,008	-	-	-	-	32,279	-
British International Helicopter Services Ltd.	Bristow Group Inc.	4/29/2022	Helicopter Support Services	16,310	-	-	-	7,037	-	-
Alliance Companies	Helix Energy Solutions Group, Inc.	5/16/2022	Offshore Abandonment Services	177,950	-	-	-	-	1,500	-
SP Silica of Monahans, LLC	ProFrac Holding Corp.	6/21/2022	Frac Sand Facility and Mining Operations	149,100	-	-	-	6,200	-	3,300
US Well Services, Inc.	ProFrac Holding Corp.	6/21/2022	Pressure Pumping	665,300	136,300	-	-	-	-	127,400
New Silvertip Holdco, LLC	ProPetro Holding Corp.	11/1/2022	Wireline services	164,689	-	-	10,800	46,500	-	23,624
Breakwater Energy Services, LLC	Select Water Solutions, Inc.	11/1/2022	Water Recycling and Disposal	137,403	-	-	-	35,558	-	-
Cypress Environmental Solutions, LLC	Select Water Solutions, Inc.	11/1/2022	Saltwater Disposal	12,086	-	-	-	3,894	-	-
Certain Assets in the Midland Basin	Select Water Solutions, Inc.	12/2/2022	Fixed Assets and Contracts	6,100	-	-	-	2,200	-	-
Monarch Silica, LLC	ProFrac Holding Corp.	12/5/2022	Sand Mining Operations	167,100	-	-	-	6,100	-	2,200
REV Energy Holdings, LLC	ProFrac Holdings Corp.	12/23/2022	Pressure Pumping	167,200	-	-	-	-	53,000	26,000
Count				16	1	-	1	7	6	7
Percentage				na	6%	-	6%	44%	38%	44%
Average				\$380,950	\$8,519	-	\$675	\$6,718	\$6,954	\$18,140
Median				\$165,095	-	-	-	-	-	-
Percentage Allocation										
FTS International, Inc.	ProFrac Holding Corp.	10/21/2021	Pressure Pumping	\$502,000	-	-	-	-	0%	-
Maersk Drilling	Noble Corporation plc	11/10/2021	Drilling Services	3,358,943	-	-	-	-	1%	1%
Nuverra Environmental Solutions, Inc.	Select Water Solutions, Inc.	12/13/2021	Saltwater Disposal	75,704	-	-	-	-	-	-
Sonangol Holdings, LDA	Tidewater Inc.	1/3/2022	Offshore Support Services	15,801	-	-	-	-	-	-
Flotek Industries, Inc.	ProFrac Holding Corp.	2/2/2022	Fleet and Chemistry Solutions	165,500	-	-	-	-	0%	49%
Swire Pacific Offshore Holdings Ltd.	Tidewater Inc.	3/9/2022	Vessel Support Services	314,008	-	-	-	-	10%	-
British International Helicopter Services Ltd.	Bristow Group Inc.	4/29/2022	Helicopter Support Services	16,310	-	-	-	43%	-	-
Alliance Companies	Helix Energy Solutions Group, Inc.	5/16/2022	Offshore Abandonment Services	177,950	-	-	-	-	1%	-
SP Silica of Monahans, LLC	ProFrac Holding Corp.	6/21/2022	Frac Sand Facility and Mining Operations	149,100	-	-	-	4%	-	2%
US Well Services, Inc.	ProFrac Holding Corp.	6/21/2022	Pressure Pumping	665,300	20%	-	-	-	-	19%
New Silvertip Holdco, LLC	ProPetro Holding Corp.	11/1/2022	Wireline services	164,689	-	-	7%	28%	-	14%
Breakwater Energy Services, LLC	Select Water Solutions, Inc.	11/1/2022	Water Recycling and Disposal	137,403	-	-	-	26%	-	-
Cypress Environmental Solutions, LLC	Select Water Solutions, Inc.	11/1/2022	Saltwater Disposal	12,086	-	-	-	32%	-	-
Certain Assets in the Midland Basin	Select Water Solutions, Inc.	12/2/2022	Fixed Assets and Contracts	6,100	-	-	-	36%	-	-
Monarch Silica, LLC	ProFrac Holding Corp.	12/5/2022	Sand Mining Operations	167,100	-	-	-	4%	-	1%
REV Energy Holdings, LLC	ProFrac Holdings Corp.	12/23/2022	Pressure Pumping	167,200	-	-	-	-	32%	16%
Average					1%	-	0%	11%	3%	6%
Median					-	-	-	-	-	-

Intangible Allocations

Oilfield Services



Midstream

Key Themes

Midstream

- The sixteen midstream transactions occurred throughout the value chain – generally, to strengthen and support existing assets
 - Eleven transactions occurred in the gathering and/or processing space
 - Two transactions were related to pipelines, one of which (Sinclair/Holly) also included assets related to storage
 - One transaction consisted of pipelines
 - Two transactions (both by Kinder Morgan) were for landfill-related assets
 - One transaction occurred in the renewal project development space: The acquisition of Tri Global Energy by Enbridge Inc., which primarily included a development portfolio of wind and solar projects
- Thirteen of the sixteen midstream transactions included intangible assets
- Of the thirteen transactions that reported intangible assets, two did not report any identifiable intangible assets
- Nine transactions reported Goodwill
- Nine transactions specified values for Customer-Related Assets
- Three transactions included the catch-all “Other Intangible Assets”

Transactions

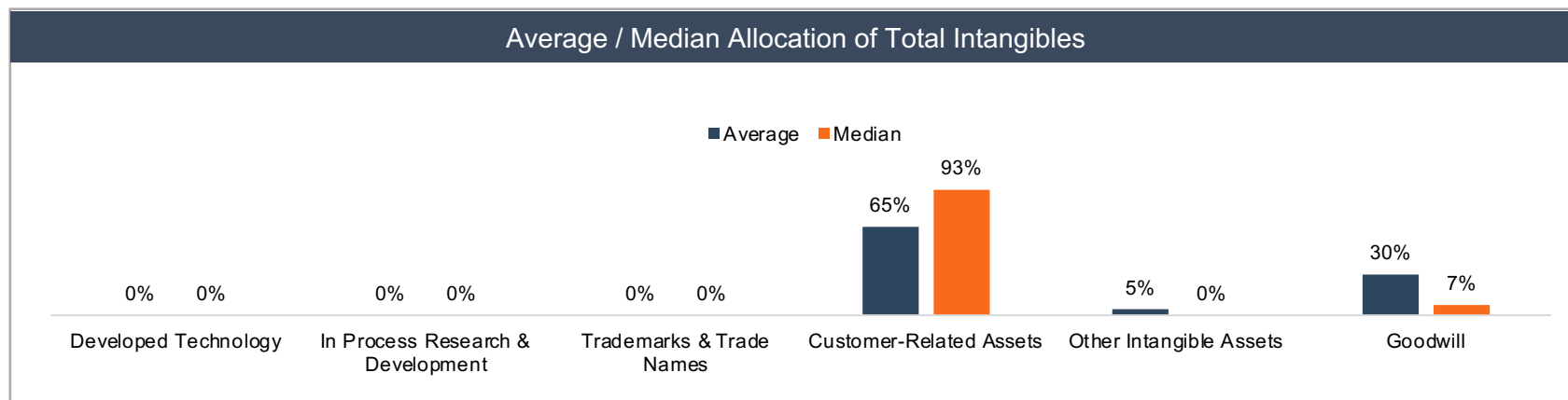
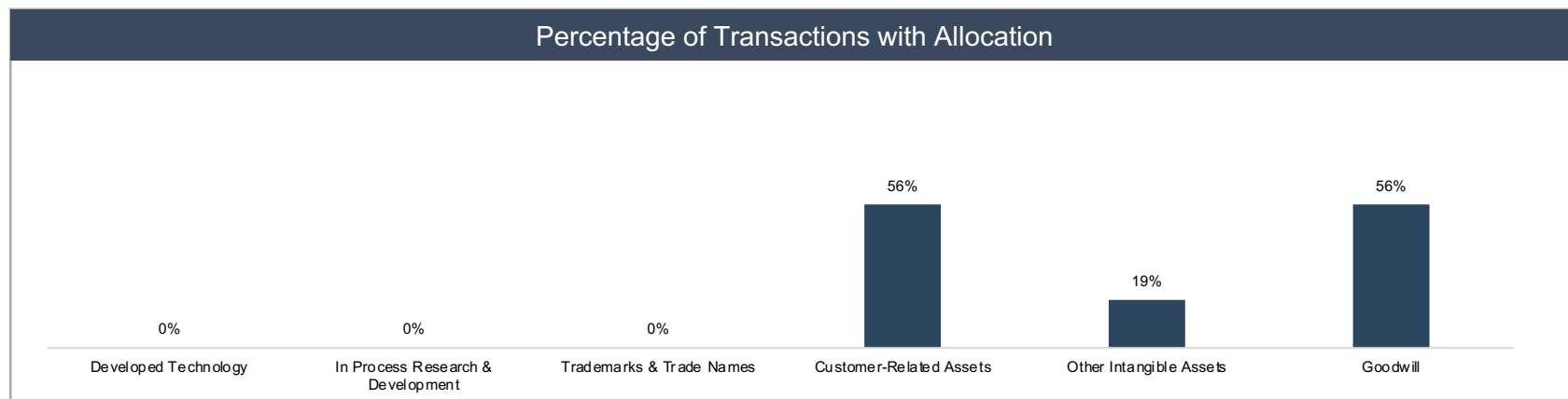
Midstream

Midstream

					Identifiable Intangibles					
Target	Acquirer	Announce Date	Target Subsector	Purchase Consideration	Developed Technology	In Process Research & Development	Trademarks & Trade Names	Customer-Related Assets	Other Intangible Assets	Goodwill
Dollar Allocation (\$000s)										
Sinclair Transportation	Holly Energy Partners LP	8/2/2021	Pipeline and Storage	696,354	-	-	-	-	-	119,112
BCP Raptor Holdco, LP	Kinetic Holdings, Inc.	10/21/2021	Gathering and Processing	2,444,450	-	-	-	-	13,200	5,077
Oasis Midstream Partners, LP	Crestwood Equity Partners, LP	10/25/2021	Gathering and Processing	\$1,862,700	-	-	-	\$464,000	-	\$56,200
Navitas Midstream Partners, LLC	Enterprise Products Partners, LP	1/10/2022	Gathering and Processing	3,255,000	-	-	-	989,000	-	159,000
Pembina Gas Infrastructure, Inc.	Pembina Pipeline Corp.	3/1/2022	Natural Gas Processing	8,181,000	-	-	-	-	-	899,000
Gemini Arklatex, LLC	The Williams Companies, Inc.	3/14/2022	Gathering	997,000	-	-	-	472,000	-	-
3 Bear Delaware Holding, LLC	Delek Logistics Partners, LP	4/11/2022	Gathering and Processing	663,423	-	-	-	210,000	13,490	14,848
Sendero Midstream Partners, LP	Crestwood Equity Partners, LP	5/25/2022	Gathering and Processing	713,100	-	-	-	41,500	-	28,200
Crestwood Permian Basin Holdings, LLC	Crestwood Equity Partners, LP	5/25/2022	Gathering and Processing	777,700	-	-	-	-	-	-
James Lake System from Woodland Midstream II	DCP Midstream, LP	6/14/2022	Gathering and Processing	179,000	-	-	-	-	-	-
Lucid Energy Delaware, LLC	Targa Resources Corp.	6/16/2022	Gathering and Processing	3,832,700	-	-	-	1,882,000	-	-
Gas gathering pipeline and three processing plants in	Enlink Midstream, LLC	7/1/2022	Gathering and Processing	292,300	-	-	-	-	-	-
Mas Ranger, LLC	Kinder Morgan, Inc.	7/19/2022	Landfill Assets	360,000	-	-	-	320,000	-	-
North American Natural Resources, Inc. and affiliates	Kinder Morgan, Inc.	8/11/2022	Landfill Assets	132,000	-	-	-	64,000	-	61,000
Tri Global Energy, LLC	Enbridge, Inc.	9/27/2022	Renewable Project Development	400,805	-	-	-	-	88,815	297,567
Cactus II Pipeline, LLC	Plains All-American Pipeline LP	11/3/2022	Pipeline	1,602,000	-	-	-	428,000	-	-
Count				16	-	-	-	9	3	9
Percentage				na	-	-	-	56%	19%	56%
Average				\$1,649,346	-	-	-	\$304,406	\$7,219	\$102,500
Median				\$745,400	-	-	-	\$52,750	-	\$9,963
Percentage Allocation										
Sinclair Transportation	Holly Energy Partners LP	8/2/2021	Pipeline and Storage	\$696,354	-	-	-	-	-	17%
BCP Raptor Holdco, LP	Kinetic Holdings, Inc.	10/21/2021	Gathering and Processing	2,444,450	-	-	-	-	1%	0%
Oasis Midstream Partners, LP	Crestwood Equity Partners, LP	10/25/2021	Gathering and Processing	1,862,700	-	-	-	25%	-	3%
Navitas Midstream Partners, LLC	Enterprise Products Partners, LP	1/10/2022	Gathering and Processing	3,255,000	-	-	-	30%	-	5%
Pembina Gas Infrastructure, Inc.	Pembina Pipeline Corp.	3/1/2022	Natural Gas Processing	8,181,000	-	-	-	-	-	11%
Gemini Arklatex, LLC	The Williams Companies, Inc.	3/14/2022	Gathering	997,000	-	-	-	47%	-	-
3 Bear Delaware Holding, LLC	Delek Logistics Partners, LP	4/11/2022	Gathering and Processing	663,423	-	-	-	32%	2%	2%
Sendero Midstream Partners, LP	Crestwood Equity Partners, LP	5/25/2022	Gathering and Processing	713,100	-	-	-	6%	-	4%
Crestwood Permian Basin Holdings, LLC	Crestwood Equity Partners, LP	5/25/2022	Gathering and Processing	777,700	-	-	-	-	-	-
James Lake System from Woodland Midstream II	DCP Midstream, LP	6/14/2022	Gathering and Processing	179,000	-	-	-	-	-	-
Lucid Energy Delaware, LLC	Targa Resources Corp.	6/16/2022	Gathering and Processing	3,832,700	-	-	-	49%	-	-
Gas gathering pipeline and three processing plants in	Enlink Midstream, LLC	7/1/2022	Gathering and Processing	292,300	-	-	-	-	-	-
Mas Ranger, LLC	Kinder Morgan, Inc.	7/19/2022	Landfill Assets	360,000	-	-	-	89%	-	-
North American Natural Resources, Inc. and affiliates	Kinder Morgan, Inc.	8/11/2022	Landfill Assets	132,000	-	-	-	48%	-	46%
Tri Global Energy, LLC	Enbridge, Inc.	9/27/2022	Renewable Project Development	400,805	-	-	-	-	22%	74%
Cactus II Pipeline, LLC	Plains All-American Pipeline LP	11/3/2022	Pipeline	1,602,000	-	-	-	27%	-	-
Average					-	-	-	22%	2%	10%
Median					-	-	-	15%	-	1%

Intangible Allocations

Midstream



Refining & Marketing

Key Themes

Refining & Marketing

- The transactions in the Refining & Marketing industry segment were dispersed across asset targets
- Two of the seven transactions in the Refining & Marketing industry segment centered on exploration and production assets, both with Southwestern Energy Corp. as the acquirer
 - These two acquisitions involved acquisitions for wholly-owned subsidiaries (Indigo Natural Resources LLC and GEP Hayneville LLC)
- One transaction included assets related to refining, transportation, and storage (HF Sinclair Corp. acquisition from The Sinclair Companies)
- One transaction was within the traditional refining space (Vertex Energy's acquisition of a refinery in Mobile, Alabama)
- One transaction was centered on transportation and distribution assets including transportation operations, commercial fleet fueling, lubricants distribution, and wholesale fuel supplies (World Fuel Services Corp. acquisition of Flyers Energy Group LLC)
- One transaction was for pipelines (Phillips 66 acquisition of DCP Midstream)
- One transaction was for three retail stores in Washington (Par Pacific acquisition from an undisclosed seller)
- Three of the seven transactions included identifiable intangible assets
 - One transaction included a specified value of Customer-Related Assets and Trademarks & Trade Names, as well as a larger amount of Goodwill
 - Two transactions included identifiable intangible assets categorized under the catch-all "Other Identifiable Assets"
- One transaction recorded Goodwill without recording any identifiable intangible assets

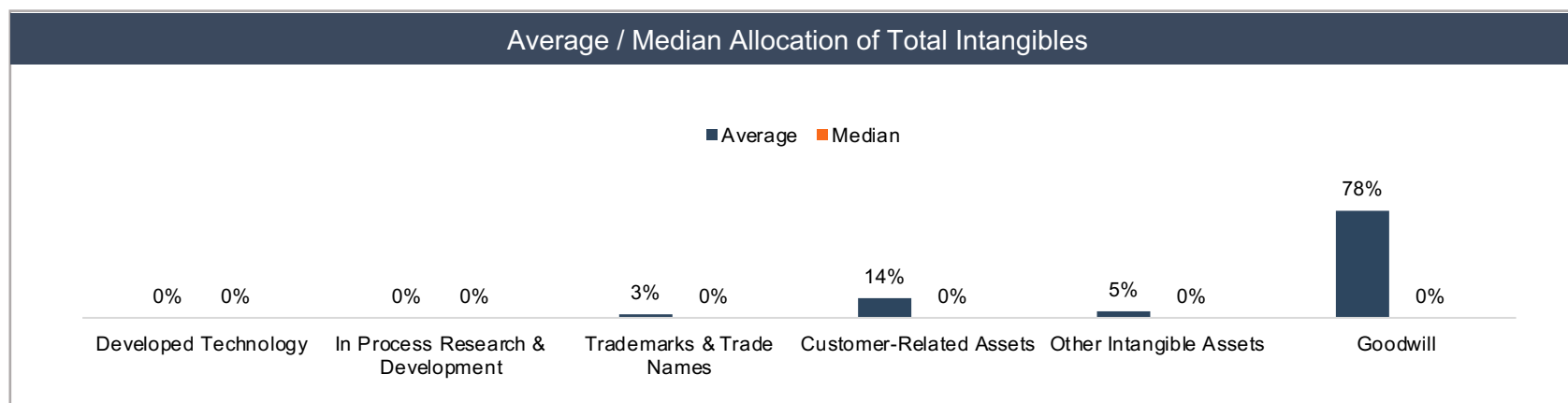
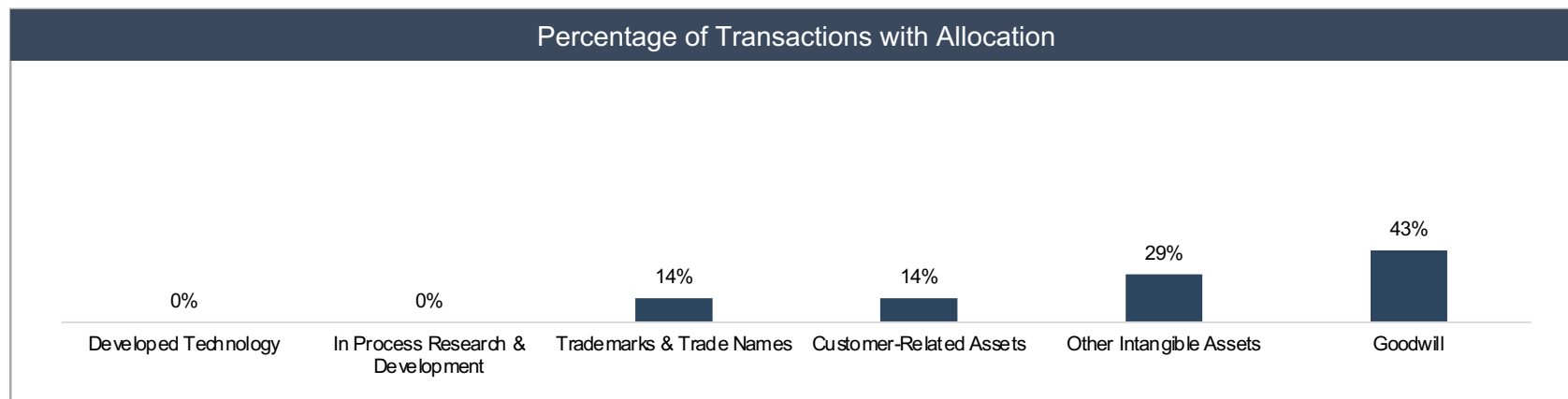
Transactions

Refining & Marketing

					Identifiable Intangibles					
Target	Acquirer	Announce Date	Target Subsector	Purchase Consideration	Developed Technology	In Process Research & Development	Trademarks & Trade Names	Customer-Related Assets	Other Intangible Assets	Goodwill
Dollar Allocation (\$000s)										
Refinery in Mobile, AL	Vertex Energy, Inc.	5/26/2021	Refining	\$227,525	-	-	-	-	-	-
Indigo Natural Resources LLC	Southwestern Energy Corp.	6/1/2021	Exploration and Production	3,697,000	-	-	-	-	-	-
The Sinclair Companies	HF Sinclair Corp.	8/3/2021	Refining, Transportation and Storage	3,842,030	-	-	-	-	221,400	685,934
Flyers Energy Group, LLC	World Fuel Services Corp.	10/28/2021	Transportation and Distribution	870,400	-	-	29,300	162,500	-	388,000
GEP Haynesville, LLC	Southwestern Energy Co.	11/3/2021	Exploration and Production	2,095,000	-	-	-	-	-	-
DCP Midstream	Phillips 66	8/17/2022	Pipelines	17,029,000	-	-	-	-	36,000	-
Three retail stores in Washington	Par Pacific Holdings, Inc.	12/2/2022	Retail	5,400	-	-	-	-	-	2,100
Count				7	-	-	1	1	2	3
Percentage				na	-	-	14%	14%	29%	43%
Average				\$3,966,622	-	-	\$4,186	\$23,214	\$36,771	\$153,719
Median				\$2,095,000	-	-	-	-	-	-
Percentage Allocation										
Refinery in Mobile, AL	Vertex Energy, Inc.	5/26/2021	Refining	\$227,525	-	-	-	-	-	-
Indigo Natural Resources LLC	Southwestern Energy Corp.	6/1/2021	Exploration and Production	3,697,000	-	-	-	-	-	-
The Sinclair Companies	HF Sinclair Corp.	8/3/2021	Refining, Transportation and Storage	3,842,030	-	-	-	-	6%	18%
Flyers Energy Group, LLC	World Fuel Services Corp.	10/28/2021	Transportation and Distribution	870,400	-	-	3%	19%	-	45%
GEP Haynesville, LLC	Southwestern Energy Co.	11/3/2021	Exploration and Production	2,095,000	-	-	-	-	-	-
DCP Midstream	Phillips 66	8/17/2022	Pipelines	17,029,000	-	-	-	-	0%	-
Three retail stores in Washington	Par Pacific Holdings, Inc.	12/2/2022	Retail	5,400	-	-	-	-	-	39%
Average					-	-	0%	3%	1%	14%
Median					-	-	-	-	-	-

Intangible Allocations

Refining & Marketing



Appendix

Screening Criteria & Methodology

- Acquirer company universe based on companies listed on major U.S. exchanges categorized in the following S&P Capital IQ industry classifications:
 - Oil and Gas Exploration and Production
 - Oil and Gas Drilling
 - Oil and Gas Equipment and Services
 - Oil and Gas Storage and Transportation
 - Oil and Gas Refining and Marketing
- Reviewed 2022 10-K filings of acquirer companies for disclosures regarding purchase price allocations
- Purchase consideration defined as total assets acquired (i.e., not net of liabilities assumed)

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A black and white photograph of an oil pumpjack in a field, with a blue geometric overlay at the bottom.

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