



Vedanta – Oil & Gas Segment Analysis

cairn (noun) — a heap of stones raised as a memorial or marker, often placed to signify a grave.

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September 2, 2025 – Vedanta's Oil & Gas division is in terminal decline not just because its fields are exhausted, but because the business has been systematically starved of investment. Despite growing license commitments and rising decline rates, VEDL has diverted available cash to fund unsustainable dividends upstream to its parent, Vedanta Resources Limited.

- **Mature, late-life assets dominate:** Rajasthan (first oil 2009), Ravva (1994), and Cambay (2002) account for the majority of VEDL's O&G production and reserves. All are >20 years onstream and in terminal decline.
- **Production concentrated in Rajasthan:** Despite holding OALP and DSF acreage since 2018, >90% of 2P and 2C reserves and nearly all commercial output still comes from Rajasthan, Ravva, and Cambay. OALP contributed just **3.7% of FY25 gross production**.
- **Exploration underinvestment:** VEDL has spent **₹4,230 crore (~\$495m) on exploration since FY21**, averaging \$100-125m per year. This is far below the \$200-300m/yr needed to replace Rajasthan's decline alone.
- **Failed drilling program:** In its FY22 annual report, Vedanta announced plans to drill 30 PSC and OALP exploration wells¹. Only one of 8 wells drilled since FY23 delivered a minor contingent discovery (Rudra, 6 mmboe 2C).
- **Uneconomic exploration costs:** Rudra's discovery implies a contingent discovery cost of ~\$50/boe, depending on allocation assumptions.
- **Capex misdirection:** "Capex in progress" disclosures are presented only at segment level, preventing investors from distinguishing between mature asset infill and new exploration. Actual spend has been far below the multi-billion guidance routinely announced.
- **Reserves deterioration:** 2P reserves fell from 569 mmboe in FY22 to 399 mmboe in FY25 (-30%). 2C swelled from 582 mmboe to 1,031 mmboe, but these remain unappraised and undeveloped.
- **Disclosure obfuscation:** VEDL combines 2P and 2C in investor communications, presenting "1.4 bnboe reserves" in its FY25 annual report. This is more than 3x the commercial 2P base of 399 mmboe.

This extraction has left the O&G portfolio underfunded and unable to arrest its own decline. Shareholders may view this segment as a slow-fading cash generator but without immediate, large-scale investment, the collapse will be faster and more severe than anticipated.

The silver lining is that Vedanta's O&G business appears to be accelerating its ESG timeline on account of the fact it is underperforming.

¹ PSC – Production Sharing Contract, OALP – Open Acreage Licensing Policy.



1. Reserves Analysis

VEDL's reserve disclosures lay bare chronic underinvestment in new blocks, but the presentation is structured to obscure rather than clarify the true state of the portfolio.

Definitions:

- **2P Reserves:** Hydrocarbons that are commercially recoverable with at least 50% probability under current economic and operating conditions. The industry's standard method of measuring credible reserves.
- **2C Resources:** Hydrocarbons that are discovered but not yet commercially viable. They may require additional appraisal or changes in economics to be developed.

Disclosures:

- VEDL's annual report combines **proved and probable reserves (2P)** with **contingent resources (2C)** in its disclosures.

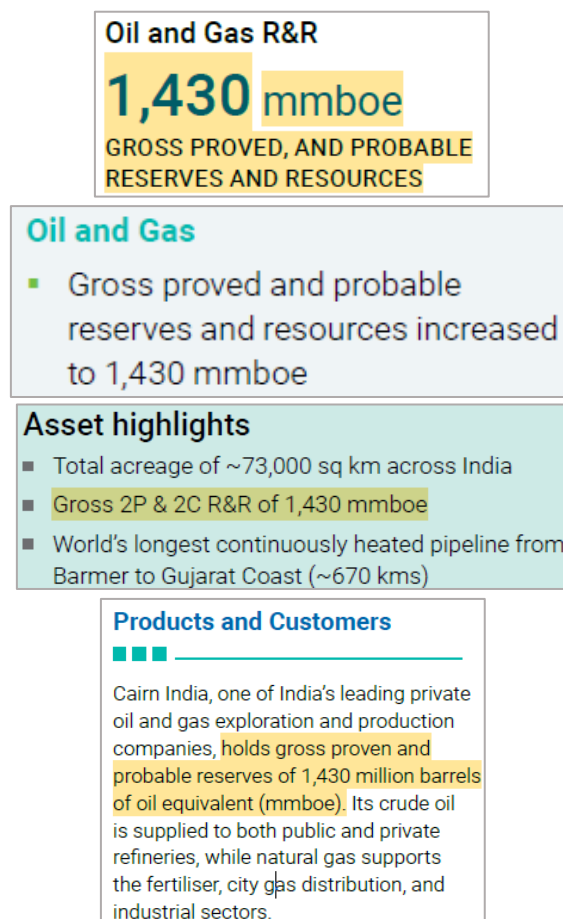


Figure 1, 2, 3 & 4 – Vedanta Limited FY25 Annual Report

- One passage in VEDL's FY25 annual report (Figure 4) drops the distinction entirely, overstating VEDL's commercial reserve base by a factor of 3.58x. Investors reading only this report might conclude that VEDL has 1.4 billion barrels of commercial reserves.



- The Company's FY25 capex presentation makes clear that only 399 mmboe are actually 2P, a share that has been on a historic decline.

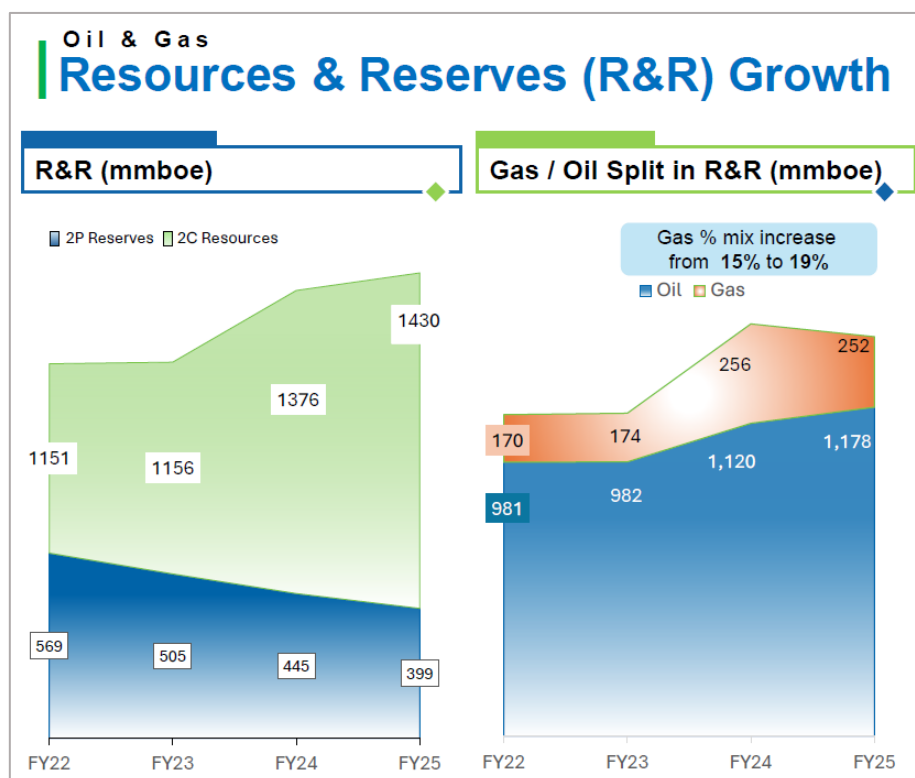


Figure 5 – Vedanta Limited FY25 Capex Presentation

The divergence between 2P reserves and 2C resources reflects both the maturity of Vedanta's O&G asset base and its chronic underinvestment in new developments.

- 2P reserves are declining because VEDL's producing fields are aging and production is steadily depleting the base.
- This depletion is sped up by infill drilling which only drains those 2P reserves at a greater rate.
- 2C resources are rising because VEDL books volumes from OALP and DSF acreage on the back of minimal seismic and desk work. These contingent barrels remain stranded until appraisal drilling and development spending are committed.

VEDL's current exploration budget is too small to arrest or reverse its declining reserves. The result is a widening gap: shrinking commercial reserves (2P) alongside swelling paper resources (2C). **Drilling efforts so far have been underinvested and largely unsuccessful.**

2. Production Analysis

Vedanta's oil and gas portfolio is defined by the age of its producing assets. Rajasthan (RJ-ON-90/1), Ravva, and Cambay were all discovered decades ago and are now deep into their decline phases. Gross production trends must therefore be read through the lens of field maturity: recovery factors are approaching limits, water cut is rising, and incremental drilling increasingly targets thinner, higher-cost zones.

Gross Production by Origin (BOEPD)						
	FY21	FY22	FY23	FY24	FY25	5 year change
Rajasthan	132,599	137,723	119,888	106,469	84,276	-36%
Ravva	19,177	14,166	11,802	10,807	10,104	-47%
Cambay	10,329	8,923	10,777	8,899	5,052	-51%
OALP		39	147	1,374	3,805	9756%
Total	162,105	160,851	142,614	127,549	103,237	-36%

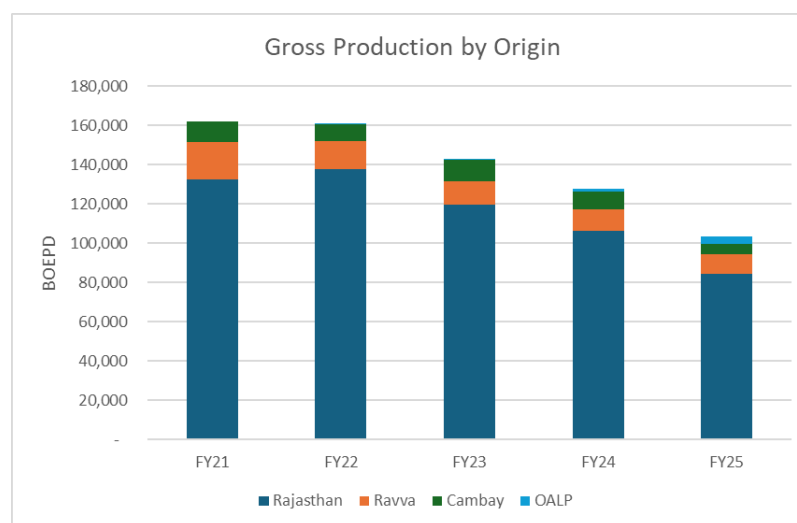


Figure 6 – Vedanta Limited Gross Production by Origin

Capex vs Announcements

This withdrawal from exploration spending has been hidden by VEDL in their investor communications. The Company's "Capex in Progress" table has always disclosed the approved and spent capex of the O&G segment collectively.

Oil and Gas	Mangala, Bhagyam & Aishwariya Infill, ASP Facility, ABH Infill, RDG Infill, Exploration (OALP & PSC).	15,709*	6,245	9,464
Iron, Steel & Ferro	ESL Steel: 1.7 to 3.5 MTPA Hot Metal	2,516	1,585	931
Chrome	IOB: DIP Project	722	174	548
	FACOR: 150 to 450 KTPA Ferro Chrome	2,650	439	2,211
Power	Athena: Power Project (1200 MW)	4,435	2,456	1,979
	Meenakshi: Power Plant Project (1000 MW)	900	372	528

Figure 7 – Vedanta Limited FY25 Capex Presentation

We analyze funds spent on expansion capex by comparing "capex spent this year" figure to gross additions to the Oil and Gas Producing Facility asset class for both CEHL and VEDL².

Capex reported in investor presentations does not reconcile directly to gross producing asset additions, which are IFRS accounting entries.

Capex additions lag spend as projects move from CWIP or exploration into production, and unsuccessful exploration are expensed. This means gross asset additions are a better measure of how much spend actually results in producing reserves.

² CEHL does not book a CWIP asset class in its annual report.



A few observations are clear across the FY22-FY25 period when comparing asset value movements between producing assets and exploration assets:

CEHL (\$m)	FY25	FY24	FY23	FY22	FY21
Gross Oil and Gas Properties					
Opening Balance	3,154	3,064	3,035	2,952	2,908
Additions	111	103	109	84	45
Disposals/Adjustments	- 3 -	16 -	79 -	1 -	0
Transfers	-	2	- -	0 -	1
Unsuccessful Exploration Cost	-	-	-	-	-
Closing Balance	3,261	3,154	3,064	3,035	2,952
Exploration Assets					
Opening Balance	221	218	183	170	164
Additions	4	4	36	13	6
Disposals/Adjustments	-	-	-	-	-
Transfers	-	-	-	-	1
Unsuccessful Exploration Cost	- 0 -	0 -	2	0 -	0
Closing Balance	224	221	218	183	170

VEDL Standalone (\$m)	FY25	FY24	FY23	FY22	FY21
Gross Oil and Gas Properties					
Opening Balance	1,537	1,319	632	401	49
Additions	-	-	-	15	114
Disposals/Adjustments	(3)	(17)	(18)	-	(24)
Transfers	39	139	165	39	279
Unsuccessful Exploration Cost	-	-	-	-	-
Exchange Differences	174	96	539	177	(17)
Closing Balance	1,747	1,537	1,319	632	401
Exploration Assets					
Opening Balance	454	430	311	368	308
Additions	81	121	128	97	67
Disposals/Adjustments	- -	3	-	-	-
Transfers	- -	8	-	-	0
Unsuccessful Exploration Cost	(53)	(92)	(37)	(165)	(1)
Exchange Differences	11	6	29	10	(7)
Closing Balance	493	454	430	311	368



Combined O&G segment (\$m)	FY25	FY24	FY23	FY22	FY21
Gross Oil and Gas Properties					
Opening Balance	4,691	4,383	3,667	3,353	2,957
Additions	111	103	109	99	159
Disposals/Adjustments	(7)	(33)	(98)	(1)	(24)
Transfers	39	141	165	39	279
Unsuccessful Exploration Cost	-	-	-	-	-
Exchange Differences	174	96	539	177	(17)
Closing Balance	5,008	4,691	4,383	3,667	3,353
Exploration Assets					
Opening Balance	675	648	494	538	471
Additions	85	125	163	111	73
Disposals/Adjustments	-	(3)	-	-	-
Transfers	-	(8)	-	-	1
Unsuccessful Exploration Cost	(54)	(92)	(38)	(165)	(1)
Exchange Differences	11	6	29	10	(7)
Closing Balance	717	675	648	494	538

- Most approved capex is not spent on exploration: it is going directly to mature, producing assets. This is capex spent on diminishing returns.
- Rajasthan is still receiving modest capital, but only enough to slow its decline, not to expand. The standalone portfolio appears stranded with only \$39m in additions.
- Investor presentation numbers are inconsistent with reported asset additions. Sometimes it is understated, sometimes it is inflated. Either way, the data is opaque and prevents investors from understanding where capital is being deployed.



3. Cairn Energy Hydrocarbons (Rajasthan RJ-ON-90/1)

Cairn Energy Hydrocarbons operates the Rajasthan RJ-ON-90/1 block in which it has a 70% working interest with the state-owned Oil and Natural Gas Corporation (ONGC). As a separate subsidiary, we have a far greater understanding of VEDL's operations in the Rajasthan block compared to the rest of the portfolio.

Financials

Phantom debt

CEHL carries no debt on its balance sheet. Instead, all borrowings are booked at its immediate parent, CIHL.

CIHL's debt is secured against CEHL's revenues and assets. Specifically, lenders hold a floating charge over CIHL's collection account (the sweep account for production revenues), as well as a corporate guarantee and floating charges over CEHL's cash, receivables, and current assets.

Secured by;	1,986	1,835
(i) floating charge on the CIHL collection account and associated permitted investments; and		
(ii) corporate guarantee from CEHL and floating charge on collection account and current assets of CEHL		
11 Borrowings		
Particulars	31 March 2025	31 March 2024
	\$	\$
Non-current borrowings	214,582,439	211,190,390
Current borrowings	38,472,524	8,973,676
Total Borrowings	253,054,963	220,164,066
a) During the year, Company has repaid US\$ 39 Mn loan (including prepayment of US\$ 28 Mn) and had taken additional loan of US\$50 Mn (increasing existing facility to US\$395 Mn) for the purpose of capital expenditure incurred through its subsidiary Cairn Energy Hydrocarbons Limited ("CEHC") in Rajasthan oil and gas block.		
b) In July 2024, the Company entered into a loan agreement with Bloom Fountain Limited, a related party, for US\$43.5 Mn. Subsequently, US\$ 22.79 Mn of this loan was repaid during the year.		
c) The said loan is charge on CEHC's all banks accounts, cash, investments, receivables and current assets (excluding any shares issued to CEHC by its subsidiaries, all of its right, title and interest in and to Production Sharing Contract of RJ-ON-90/1 block and all of its fixed assets of any nature).		

Figures 8 & 9 – Vedanta Limited FY25 Annual Report & Cairn India Holdings FY25 Annual Report

In short, CIHL raises debt, transfers the proceeds to CEHL through share issuances, and CEHL then services this debt by upstreaming dividends back to CIHL. While CEHL appears debt-free and profitable, its revenues are already encumbered to meet HoldCo obligations.

Cash flows from investing activities		
Purchase of short term investments	(79,520,838)	6,592,661
Loan (given to)/ repaid by related party	17 (18,168,821)	4,376,671
Payments for investment in subsidiary	(50,000,000)	(16,000,000)
Net cash (used in) investing activities (B)	(147,689,659)	(5,030,668)
Cash flows from financing activities		
Proceeds from the issue of ordinary shares	50,000	16,000
Dividend paid to parent on equity shares	(187,881)	(265,884)
Interest Paid/(Received)	510	(4,331)
Net cash (used) in financing activities	(137,371)	(254,215)

Figures 10 & 11 – Cairn India Holdings FY25 Annual Report & Cairn Energy Hydrocarbons FY25 Annual Report

This structure creates what can be called "phantom debt." CEHL's reported net margins look healthy, but profitability collapses once CIHL's finance costs are factored in.



Profit and Margin Analysis

A profit and margin analysis of CEHL that considers debt at CIHL shows the effect of aging-field economics. Outside of FY24 and FY21 when events moved oil markets sharply higher, CEHL has generated unimpressive low-single digit adjusted net margins.

CEHL Profit and Margin Analysis					
Metric	FY25	FY24	FY23	FY22	FY21
Revenue	569,476	1,001,860	872,037	780,745	466,281
Gross Profit	144,228	492,123	290,803	279,331	97,797
Gross Margin	25.3%	49.1%	33.4%	35.8%	21.0%
Operating Profit	123,394	461,491	232,490	170,436	79,355
Operating Margin	21.7%	46.1%	26.7%	21.8%	17.0%
Net Profit	86,091	259,329	126,742	96,167	85,353
Net Margin	15.1%	25.9%	14.5%	12.3%	18.3%
less: CIHL Finance Costs	(55,745)	(105,977)	(95,913)	(67,943)	(22,157)
Adjusted Net Profit	30,346	153,352	30,829	28,224	63,196
Adjusted Net Margin	5.3%	15.3%	3.5%	3.6%	13.6%

Figure 12 – CEHL Profit and Margin Analysis

These persistently thin margins have to be viewed in the context of the \$660m of capex that CEHL has conducted over the same period, its declining output, and lack of compensating flows from the rest of VEDL's O&G portfolio.

Free Cash Flow Analysis

CEHL's free cash flows look decent on the surface, but are flattered by lack of investment and working capital effects. FCF is being flattered by a significant drop in capex, with CEHL spending \$98m in FY25 vs \$235m in FY23, most likely to pay further dividends to VEDL and VRL. This reduction cannot be attributed by the cost of phantom debt at CIHL, which has fallen by \$40m annually over the same period.

CEHL Free Cash Flow Analysis (\$m)					
	FY25	FY24	FY23	FY22	FY21
Profit before taxation	129,364	459,936	225,154	179,915	85,353
Non-cash adjustments	103,545	108,860	166,738	207,695	115,091
Interest adjustment	811	(692)	(937)	1,921	1,242
WC adjustment	135,594	(172,752)	(143,141)	42,899	201,661
Site restoration	(11,371)	(11,173)	(8,057)	(16,931)	(9,996)
Taxes paid	(43,387)	(31,687)	12,987	(34,216)	(18,282)
Cash flows from operating activities	314,556	352,492	252,744	381,283	375,069
Capex	(98,208)	(145,765)	(235,124)	(59,274)	(123,089)
FCF	216,348	206,727	17,620	322,009	251,980

Figure 13 – CEHL Free Cash Flow Analysis



4. Vedanta Limited (Ravva, Cambay, OALP)

Vedanta Limited directly holds the rest of the Vedanta Group's O&G assets apart from the Rajasthan RJ-ON-90/1 block. This is comprised of the older Ravva and Cambay fields as well as the newer DSF and OALP licenses.

Financial and operational performance is mixed with that of other Vedanta Limited assets, which means we have far worse visibility. The DSF and OALP licenses are arguably the most important O&G assets in the Group, as their production will be necessary to compensate for the decline in the Rajasthan, Ravva and Cambay blocks.

We can gauge the performance of these assets by subtracting the Rajasthan block from VEDL's disclosures about the consolidated O&G segment.

Financials

VEDL's O&G operations paint a clear picture of decline and inefficiency. These assets (Ravva, Cambay, DSF and OALP) are in late-life production or exploration phases with little to no commercial success.

VEDL Standalone Oil & Gas Financials (₹ crore)					
	FY25	FY24	FY23	FY22	FY21
External revenue	6,254	9,554	8,137	6,622	4,086
Other operating income	175	143			
Segment EBITDA	2,710	5,161	4,221	3,137	1,743
Less: D&A	(1,542)	(1,317)	(1,491)	(936)	708
Less: Exploration wells written off	(456)	(786)	315	0	0
EBIT	712	3,058	3,045	2,201	2,451

Figure 14 – VEDL Standalone Oil & Gas Financials

- **Revenue collapse:** External revenue fell 35% from ₹9,554 crore (\$1,118m) in FY24 to ₹6,254 crore (\$731m) in FY25. The FY24 revenue spike likely reflected transitory pricing tailwinds, not sustained production. Ravva and Cambay have both been producing for over two decades; absent new flows, the decline is inevitable.
- **EBITDA Deterioration:** Segment EBITDA halved from ₹5,161 crore (\$603m) in FY24 to ₹2,710 crore (\$317m) in FY25. Despite material exploration spending, operating leverage is collapsing, exposing inefficiencies as production volumes shrink.
- **Exploration Failures and Write-offs:** VEDL wrote off ₹1,557 crore (~\$190m) in exploration wells between FY23 and FY25. In FY25 alone, ₹456 crore (\$53m) was written off; FY24 was worse at ₹786 crore (\$92m). Despite this, only a single minor 2C discovery (Rudra) was made in FY25. Discovery cost exceeds \$50/boe contingent, and none of this has translated into commercial 2P reserves.
- **Capital Misallocation:** Ironically, VEDL's ₹2,451 crore (\$286m) EBIT in FY21 was generated on half the revenue of FY25. The division was more profitable when it was leaner and not burdened by futile exploration.



Exploration Analysis

VEDL's standalone reserve profile reflects a failed exploration strategy: despite years of spending, the company has added no meaningful commercial volumes, relying instead on inflating contingent resources from unappraised leads.

Gross Proved and Probable Reserves and Resources (2P & 2C)					
	FY25	FY24	FY23	FY22	FY21
Rajasthan Block	1,139	1,107	933	1,006	1124
Ravva PKGM-1	13	14	18	23	27
CB-OS/2 Fields	31	31	22	25	34
KG-ONN-2003/1	49	31	32	32	
DSF	112	112	86	4	40
OALP	86	81	60	60	
Total	1,430	1,376	1,151	1,150	1,225

Figure 15 – VEDL Total 2P & 2C (VEDL Standalone highlighted)

Reserves Analysis (mmboe)			
	FY24	FY23	FY22
Vedanta Limited total			
2P	445	505	569
2C	931	651	582
Total	1,376	1,156	1,151
Of which CEHL (Rajasthan)			
2P	217	267	444
2C	890	666	680
Total	1,107	933	1,124
Of which Vedanta Limited standalone			
2P	228	238	125
2C	41	(15)	(98)
Total	269	223	27

Figure 16 – VEDL Total 2P & 2C breakdown (VEDL Standalone highlighted)

Despite holding key OALP blocks since 2018, they contributed just 3.7% of gross production in FY25. It's not hard to see why: the Company's exploration efforts are underfunded and unsuccessful.

Under IFRS, all exploration and appraisal expenditure must be capitalized as "Exploration Intangible Assets under Development" until its success or failure is determined. A failure results in a write-off of the associated assets. There is no scope for material exploration costs to be hidden elsewhere.

While EIA includes non-O&G exploration, 100% of Vedanta's write-offs in this asset class are attributable to Oil and Gas exploration wells written off since FY21. On that basis, we treat 100% of gross asset additions to this asset class as attributable to O&G spending.

VEDL Standalone Exploration Expenditure (₹ crore)						
	FY25	FY24	FY23	FY22	FY21	Total
Gross EIA additions	693	1,038	1,090	833	576	4,230
Gross EIA additions (\$m)	81	121	128	97	67	495
Exploration costs written off	(455)	(786)	(315)	(1,412)	(6)	(2,974)
Transfers	0	(69)	0	0	9	(60)
Wells drilled that year	4	4	2	2	1	13

Figure 17 – VEDL Standalone Exploration Expenditure

- VEDL has spent ₹4,230 crore (\$495m) on new exploration since FY21, drilling 13 exploration wells over five years (excluding Rajasthan).
- Only one oil discovery (Rudra, 2C) has been made since FY23, with no meaningful additions to 2P reserves.
- ₹2,974 crore (70%) of total exploration spend has been written off, reflecting high failure rates.
- Transfers to development properties totaled just ₹60 crore (\$7m, confirming that nearly all capital deployed has failed to result in commercial finds.



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