

Presentation to ANP Workshop Reserve Based Lending no Brasil: oportunidades e desafios regulatórios

Corporate Finance and Restructuring

December 5th, 2017



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Distressed Market in Brazil

Highlights

Set out below are some of the themes under discussion:

- Reorganization under Brazilian Insolvency Law does not work well. Historically, recoveries for creditors are materially lower than in other jurisdictions.
- The vast majority of companies under Judicial Reorganization ("RJ") never actually emerge.
- The basic problem is not the Judicial Reorganization Rules but the actual liquidation rules (Chapter 7 equivalent). In other words, the ability to effectively bankrupt a company in Brazil can take several years.
- Some of the proposed changes to the insolvency law could help improve recoveries:
 - DIP Facilities; and
- Ability for creditors to submit alternative plans.
- Banks have been amending and pretending for a few years now. As such, while the trend in RJs is beginning to revert there is a large number of incremental filings waiting to take place.
- Current market favours distressed private equity.



Occurences - RJs (LTM)

Selected Items

Set out below are some of the themes under discussion:

- Activity expected to grow significantly in Brazil as a result of the relaxing of participation rules for Petrobras.
- Super majors expected to assist in the growth.
- Independents to require financing.
- RBLs represent an excellent strategy for a growing oil company to monetize reserves that may be reinvested in opportunities to accelerate growth. Main advantage is that the company retains the upside.
- Alternative funding structures will be needed.
- Lenders will be looking to the consistent application of rules and regulations affecting their exposure. So far, insolvency law is not providing such framework (until it evolves further), it will then be up to the regulator to establish criteria to foster an environment to attract capital.





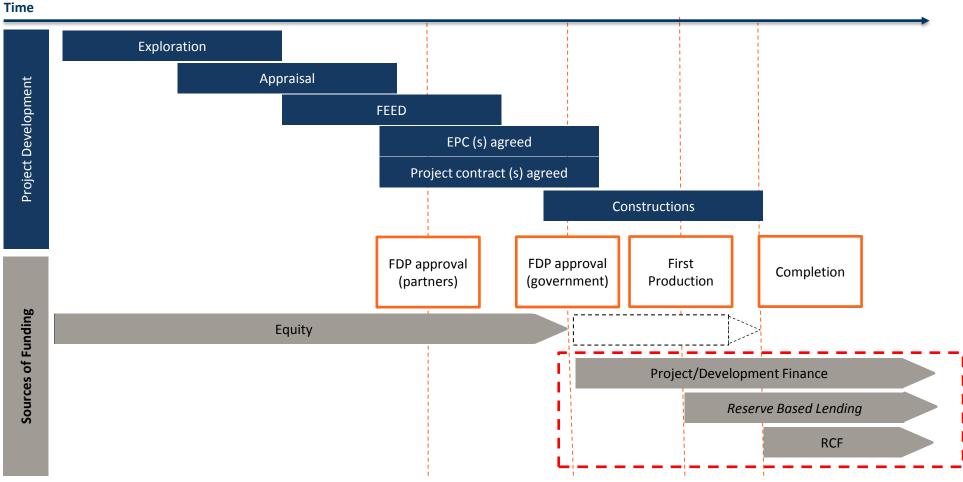
Possible Sources of Funding

Main Examples

SOURCE OF FUNDING	DESCRIPTION
Reserve Based Lending	Fluctuating line of credit generally extended by a syndicate of banks and backed by a company's lower risk oil and gas reserves.
Most prevalent among Midcap independents	Borrowing base determined by the NPV of cash flows generated by a portfolio of assets (itself dependent from the valuation of reserves).
Highly structured	Purpose is primarily to fund acquisition and development for new reserves.
transaction	Financial covenants include cash flow leverage, interest coverage and current ratio covenants.
	Comprehensive security package highlighting that the main collateral is the revenue stream from oil exploration contracts ("anything you can get mentality").
	Generally volatile to commodity prices. Long cash conversion cycles.
Pre Export Finance	Specific to commodity payment flow/Typically backed by corporate credit.
Second Lien	Generally pari passu in right of payment to RBL.
Corporate Line of Credit	Facility based on reserves but determined by backward looking financial metrics.
Mezzanine	Normally subordinated to RBL – usually paired with an equity kicker.
Bonds	Normally subordinated to RBL.
Equity	Traditional
VPP (Volumetric Production Payments)	Non operating investment backed by a limited overriding interest in the producer lease of specifically identified reserves (transfers reserve risk).

Possible Sources of Funding

Cash flow based Structures Available at Different Stages of Asset Life

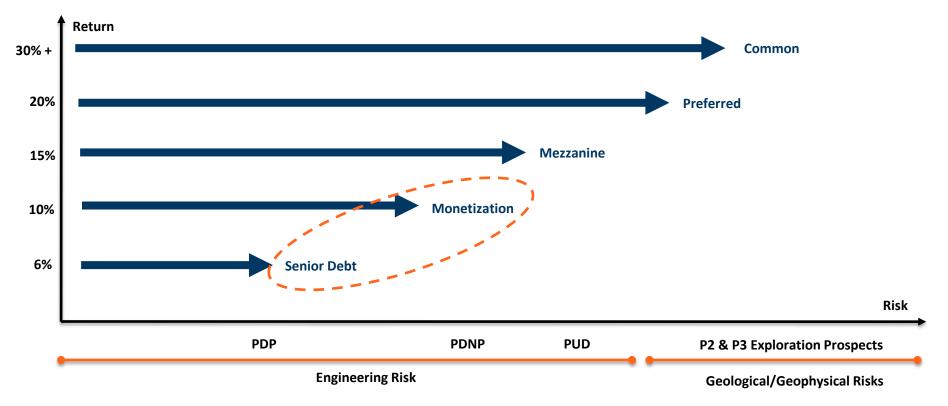


Source: SPE London/SPEE Europe – CE June 2016



Possible Sources of Funding

Where does an RBL loan fit into the capital structure?



- The upstream oil and gas business is capital intensive and companies rely on all forms of debt and equity capital to finance their exploration, development and acquisitions activities.
- Banks are key capital providers to the upstream sector: Banks generally focus on the lower end of the reserve risk spectrum (Senior Debt).

Source: Energy Lending Presentation Texas RMA Spring Conference April 2015





Selected Items

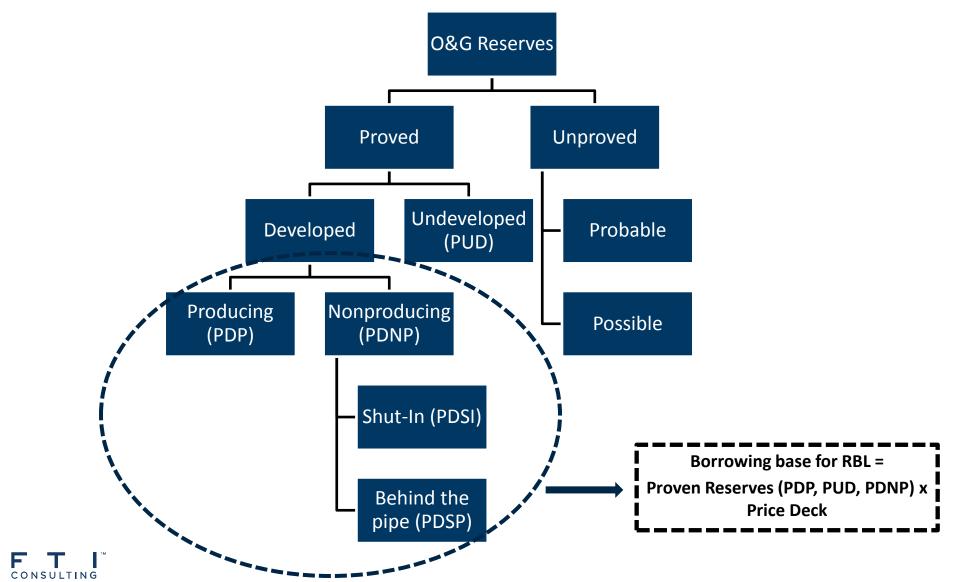
RBL performance in the US in bankruptcy:

Study	Date	Number of	Median	Mean
Study	Date	Companies	recovery	recovery
Standard & Poor's	1/18/2013	19	100.0%	100.0%
Moody's	1/16/2013	26	100.0%	98.5%
Wells Fargo unrated study	4/18/2014	11	96.0%	89.0%

Source: Reserve based lending and borrowing base methodology – March 2017



Classification of Reserves



Borrowing Base

Set out below is an example of the borrowing base by Reserve Type:

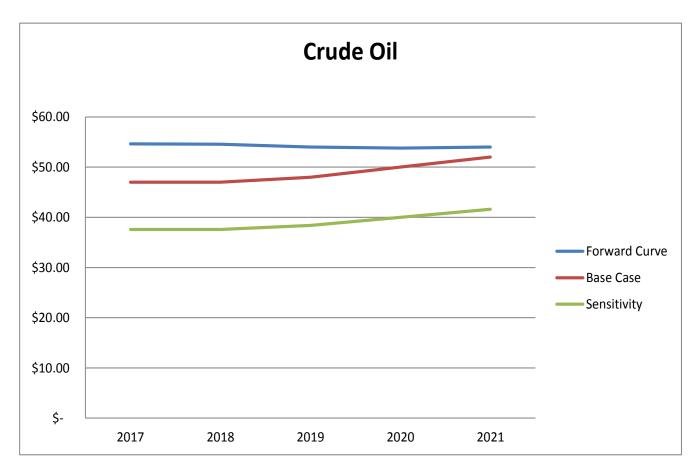
Reserve Type	Advance Rate ("AR")	Borrowing Base
Proved		
PDP	AR1: 95% - 99%	PDB (BB) = AR1 x PDP
PDNP	AR2: 95% - 99%	PDNB (BB) = AR2 x PDNP
PUD	AR3: 95% - 99%	PUD (BB) = AR3 x PUD
Total Proved		PDB (BB) + PDNB (BB) + PUD (BB)
Probable	N/A	No borrowing base credit extended
Possible	N/A	No borrowing base credit extended

Source: CENTER ON GLOBAL ENERGY POLICY | COLUMBIA SIPA (May 2017)



Borrowing Base

Set out below is an example of a bank price deck:



Source: WFB Price Deck March 2017



Cash Flows

Cash Flows Consist of:

(+) Bank Price Deck times Quantity Produced

- (+/-) Basis Differential
- (-) Gathering, Processing & Transportation
- (-) Royalties
- (-) Opex
- (-) Taxes
- (-) Capital Costs (Capex usually associated with PUD)
- (=) Cash Flow
- Cash flows are subject to periodic redetermination of the borrowing base
- Cash Flows are projected and NPV at 9%



Highlights

Set out below are some of the items that can lead to a reduction in the borrowing base:

Reduction in the Borrowing Base

Decline in commodity prices

Sudden rise in the Company's costs associated with drilling and production

Reserve write-down or other decline in reserves

Tightened underwriting standards by lenders

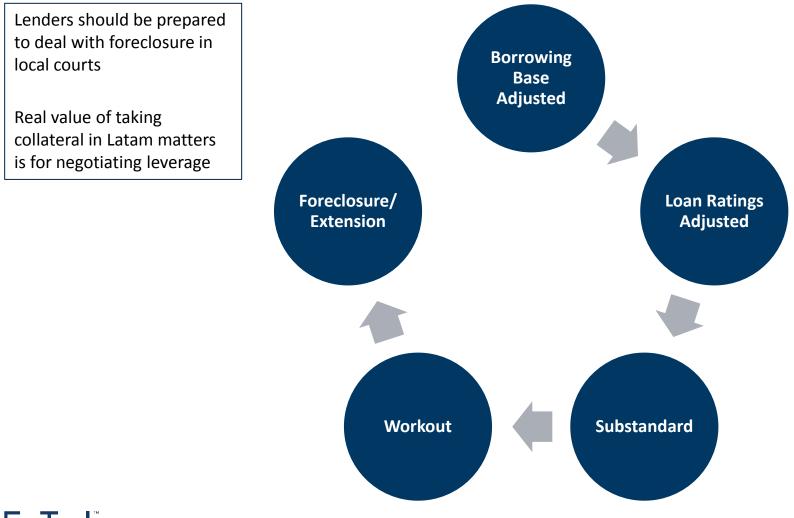
No liquidity to complete Capex

Total Funded Debt/EBITDAX is generally greater than 3.5x



Workout Cycle

Set out below is the general cycle of the workout process:







Alternatives

Alternatives

Main Examples

	North Sea	US Off Shore	US On Shore	Mexico	Peru	Brazil
Reserves	Not pledged	Pledge of the lease Perfection is the issue	Pledge of the lease (real estate interest)	Not pledged	Not pledged	Not pledged
Refinancing Risk	Low	Bullet	High	na	Low	Evolving
Borrowing Base	Transparent	Black Box	Black Box	na	na	na
Selected comments	Pledge of stock that owns the concession as well as a pledge on proceeds	Bonding requirements	RBL Lenders concerned about foreclosing due to environment liabilities	Local solutions evolving Discomfort with legal solution Foreign lenders tend to avoid for now	Long dated bond in the context of a non-operating (non recourse to the Parent) Step in rights	Developing legislation



Alternatives

Highlights

Set out below are some thoughts to circumvent the short-fall of the pledge of the mineral rights:

STRENGHTENING THE COLLATERAL PACKAGE

Assignment subject to prior approval by regulator (Key item to discuss)

- More structure closer to an international RBL;
- Step in Rights;
- Pledge over all contractual rights;
- Pledge over the sale of receivables;
- Cash lock box arrangements/Trust structures;
- Debt Service Reserve Account waterfall structures;
- Limit restriction on use of cash;
- Excess cash flow sweeps;
- Hedging obligation;
- Monthly updates;
- Third party financial monitoring;
- Independent reserve reports;
- Avoid assets coming close to the end of the economic life; and
- Personal and parent company corporate guarantees.





FTI at a Glance

FTI Consulting at a glance

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CONSULTING



FTI Energy, Power & Products Practice – Overview

FTI Energy, Power & Products Practice Overview

- The FTI Consulting Energy, Power & Products Practice is comprised of a dedicated team of professionals focused on the unique challenges impacting the complex energy sector. The group includes many of the energy industry's most respected names in consulting, energy economics and corporate finance.
- In today's increasingly challenging energy industry, companies must contend with significant oil and gas market volatility with prices falling from historic highs to recent market lows, escalating development costs, declining traditional growth prospects, global climate change and national security concerns.
- At the same time, the industry continues to cope with conflicting regulatory frameworks, power industry restructuring, pervasive contractual disputes and costly litigation. To assist our clients in these demanding times, FTI Consulting professionals provide a wide array of economic and business consulting services that address the strategic, financial, regulatory and legal needs of the industry.
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Chevron Corporation	Frontier Oil Corporation	Pacific Energy Partners
ConocoPhillips Company	Hunt Oil Company	PacifiCorp
Dow Chemical Company	Idaho Power Company	Pacific Gas & Electric Company
Duke Energy Corporation	Kerr McGee Corporation	Petróleos de Venezuela SA (PDVSA)
El Paso Corporation	Kinder Morgan Energy Partners LP	Plains All American Pipeline LP
Entergy Corporation	Koch Industries Inc.	Statoil ASA
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FTI Consulting is the clear market leader	Track Record	 FTI Consulting has numerous recent, relevant successes in high profile, complex restructuring situations in the energy industry.
in fast-paced restructuring assignments.	Right Team	 Local, national and global resources, without egos but with knowledge of Company and energy industry, will hit the ground running.
For many of the reasons noted at	Highly Developed Analytics	 FTI Consulting's tools to evaluate integrated financial and operational restructuring scenarios result in "getting to the solution" faster.
right, FTI Consulting is often referred to as the "gold	Unmatched Credibility	 Constituent groups know and respect FTI Consulting's brand and team.
standard" by management and boards of directors	Human Capital	 Expertise in assisting companies and lending groups in managing the human resource challenges associated with restructuring efforts.
in the restructuring of large and complex	Collaborative Approach	FTI Consulting's teams are comfortable in both "behind the scenes" and leadership roles.
companies.	Experienced Professionals	 FTI Consulting will provide industry-leading and benchmark process expertise to assist the client formulate strategies and implement critical decisions.
	'Road Tested' Analytical Tools	 FTI Consulting quickly assesses situations and provides deliverables significantly faster than other restructuring firms.
	Consensus Builders	 Management, board of directors and other professionals typically see FTI Consulting as the driver that brings all parties together.
	Engaged with Critical Constituents	 FTI Consulting's industry-leading relationships encourage meaningful discussions and foster a partnership atmosphere.



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companies, technical service providers and government regulatory agencies. Our industry experience includes on- shore and off-shore, as well as domestic and foreign operations. On average, our	Litigation - Expert Witness - Court's Expert	 Litigation experience before state courts, federal courts, arbitration panels, state regulatory commissions and federal agencies. We also have the unique experience of serving as a court's expert, advising the court on the significance and meaning of technical evidence presented in oil and gas litigation. Coordinate/interface with other litigation team experts to construct a seamless presentation linking geology/geophysics, petroleum engineering, field operations, oil and gas lease requirements, regulatory issues, joint-venture contract issues, economics, finance and petroleum law issues. Analyze opposing parties' expert reports and advise on strengths/weaknesses of the analyses and opinions presented.
professionals have more than 25 years of petroleum industry experience. All of our engineers are licensed. Our professionals are members and officers in professional organizations such as the	Regulatory Experts	 Advise our clients on compliance with state and federal oil and gas regulations. Analyze data from field operations and make routine regulatory filings required for our clients' oil and gas operations. Perform studies and develop reports and non-routine regulatory filings on behalf on our clients who wish to propose/oppose changes to existing authorizations or create new authorizations. Prepare supporting exhibits and testify at regulatory hearings relating to the proposed authorizations. Permitting oil and gas waste disposal, underground hydrocarbon storage and brine mining.
SPE, SPEE, SPWLA, AAPG and SEG. FTI Platt Sparks has practiced around the globe, analyzing oil and	Oil and Gas Industry Generalists	 Analyze and report on various oil and gas industry topics. Explain to courts, juries, arbitration panels, regulatory agencies, investors, etc. the real-world aspects of oil and gas exploration, development, production, processing and transportation. These general topics include oil and gas leasing, royalty obligations, well drilling and completion, waterflood, CO₂ flood and other enhanced oil recovery operations, field unitization and field rules, gathering, transportation and processing.
gas properties onshore and offshore in North America, South America, Europe, Asia, Africa and Australia.	Reservoir Studies	 Analyze geologic, geophysical, well log, well test, PVT (pressure-volume-temperature) analyses, production data, etc. to develop a reservoir model including volumes, pressures, hydrocarbon contacts and drive mechanisms. Use standard reservoir engineering methods, including reservoir simulation to analyze various reservoir development and production scenarios. Estimate capital and operating costs to apply to the various production scenarios to optimize field development.
F T I [™] consulting	Geologic / Geophysical Studies	 Analyze seismic data and integrate with well log data and regional published data to develop a geologic model. Prospect evaluation, project development and drill-site selection using seismic data and subsurface well log data. Design and supervise 3-D seismic projects from acquisition and processing to final interpretation. Utilize AVO and advanced seismic attribute analysis to define and map the extent of productive reservoirs. Develop 3-D volumetric models of the reservoir for recervos in place and drainage analysis

Develop 3-D volumetric models of the reservoir for reserves in-place and drainage analysis.



Corporate Finance/Restructuring – Qualifications & Representative Engagements

Qualifications and Relevant Experience Upstream Experience

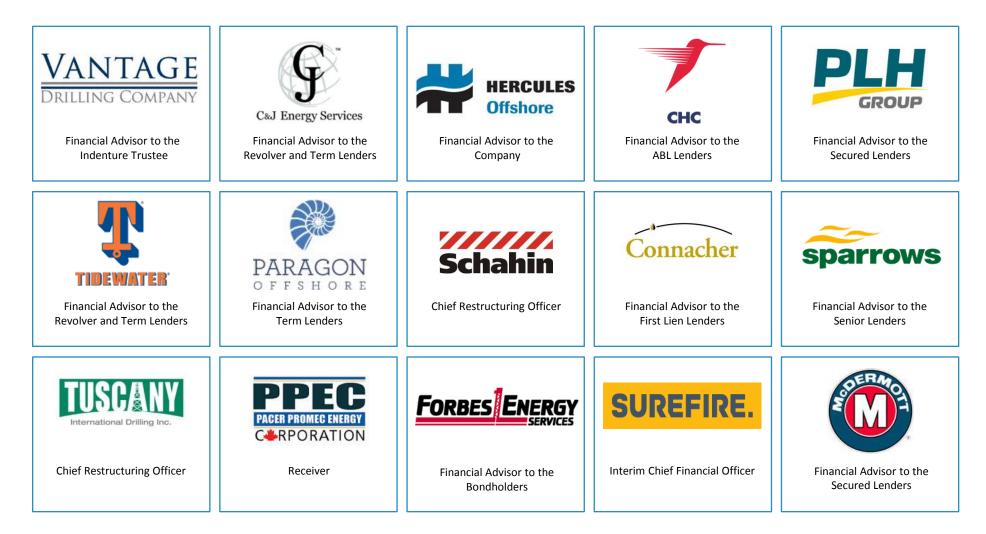
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Qualifications and Relevant Experience Oilfield & Energy Services/Midstream Experience

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Qualifications and Relevant Experience Other Relevant Industry Experience

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