

1st Thermal Oilsands Operations Benchmarking Study

- Key Tool for Operations
- Where does your Project Stand?
- Increase Uptime & Reliability
- Reduce Cost
- Identify Opportunities through Driver Analysis



To help you manage your future!

**Operation Analysis:
by Engineers, for Engineers**

What Clients Say:

"We find the Ziff Energy reports to be comprehensive, well written, and most importantly, consistently objective ... The resulting analysis is of high quality and integrity ... Without the Ziff tools, we would find it very difficult to objectively measure."

Senior VP, Canadian Major

"The scope and format of the study assisted us in focusing on specific areas of improvement. The presentation of the results of the study was concise and informative and reflected considerable knowledge of operations ... As a result, we have been able to dramatically improve our operational efficiencies and lower our costs."

Vice President, Super-Major

"We got more than what we paid for, which is a pleasure to say. I would recommend this process to any company wanting to move from the 'also ran class' to 'best of class.'"

Operations Manager,
Independent Producer

"We are pleased with your work ... Ziff delivers the full package, a statistically rigorous analysis coupled with real suggestions that can be used to improve operating performance. It is refreshing to work with Ziff's staff, which consists of industry professionals who are knowledgeable and experienced."

Development Manager,
Large Independent Producer

1ST THERMAL OILSANDS OPERATIONS BENCHMARKING STUDY

Production from in-situ projects will **double in the next 10 years.**

To remain competitive one needs to understand the drivers of operating performance and ways to enhance steam and production operations.

It is not easy to identify which operating areas offer the greatest potential for meaningful savings, and whether field operations are at maximum uptime.

This analysis:

1. **COST** - compares the total **unit operating costs** to peers and provides in-depth analysis of your field and plant operations by cost category.
2. **UPTIME** - assesses the **production efficiency** of your fields' deferred revenue, and identifies production improvement targets.

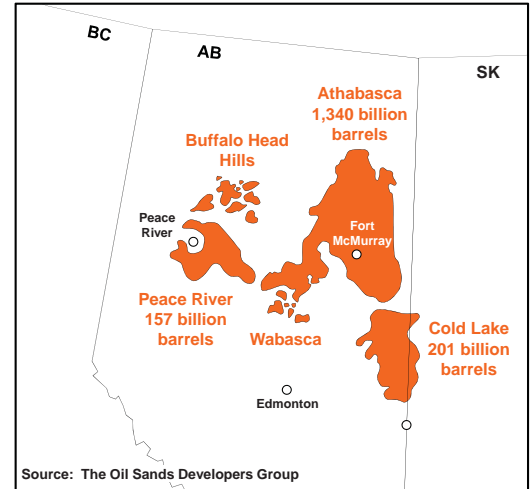
Many companies capture large operating cost savings through our field benchmarking. Our approach is accepted in 36 countries, and has become the Upstream Standard.

SOLUTIONS: WHAT DO YOU NEED?

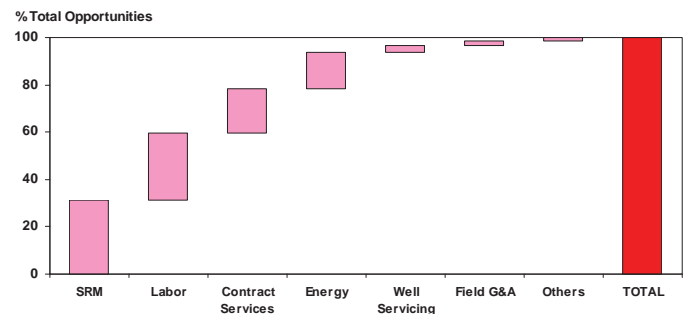
This study provides **solutions**:

- a detailed analysis
- uncovers key areas of under-performance, enabling Root Cause Analysis to identify appropriate solutions to reduce costs and maximize production
- our new & unique Uptime Analysis identifies Reliability issues to increase Production.

Alberta Oil Sands Projects



Cost Reduction Opportunity Ranking Your Project Comparing to Peer Group Average



4	4	4	2	4	3		# Fields Above Avg
31	28	19	15	3	2	2	% Total Opportunities

Are your Thermal Oilsands assets performing well?
Would a review of your operated assets be timely?
This study highlights quick and direct cost reduction opportunities.

KEY FEATURES

A. COST - Key Components Analyzed

Our Categories of key controllable costs reconcile difficult problems in 3 Main Categories: Steam Plant, Energy Use, and Field Operations. We probe deeper: Sub-Classifications focus on specific cost problems. We pinpoint excessive expenses and identify the **savings potential for each important cost category for each property.**

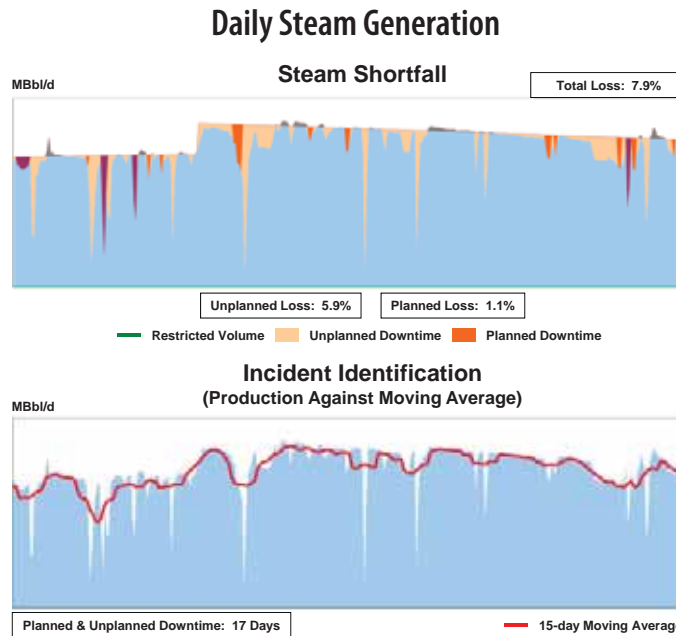
B. Uptime/Reliability Analysis - What is "Best in Class" for your Assets?

Our review of daily production identifies valuable **lost production** opportunities at 2 levels:

- Steam Plant reliability
- production operations.

Our operating efficiency assesses your key properties for:

- the frequency & impact of 'incidents'
- the Reliability Index (RI), ratio of the duration to the time to recover from production incidents
- production and \$\$\$\$ lost
- turnaround metrics.



SUBMIT DATA ELECTRONICALLY - MUCH EASIER!

Our electronic data cost gathering approach is based on your own data structure --- data retrieval is far easier, fast and accurate. **Electronic Data Gathering** from your SAP or Q-Byte system reduces your work load.

Strong Data Quality: Our **ISO-registered Center for Benchmarking Excellence** builds in a **strong Data Quality confirmation process**, with your involvement at several key stages. Our Engineers validate all cost & technical data.

STUDY DELIVERABLES

You receive:

- Customized Diagnostic Analysis - targets for each field & cost
- Customized Executive Summary
- Private Debriefings with Staff / Field Personnel
- Data Collection Support
- New! Electronic Transfer of Cost & Production Data.

BEST PRACTICES WORKSHOP

Following delivery of your custom report, we will convene a 1 day "Best Practices Workshop" (for clients only), focussing on 2-3 key themes.

"We encourage other operators to participate in Ziff Energy's multi-client benchmarking projects.

Some of the benefits are:

- *standardized cost data & peer field comparison*
- *points to areas where we may have gaps in performance*
- *the results encourage us to take a look at our operating metrics and understand the drivers and where to focus our time and efforts*
- *(uptime) reliability metrics*
- *automated data gathering takes effort away from staff, who are stretched these days."*

VP, Large Independent Producer

"Immensely impressive ... much more detailed than other benchmarking studies."

President, Major

"We have been benchmarking with Ziff Energy for almost a decade now, so we are believers in the data. Our costs were still climbing... We thought we had good disciplines. We thought we were doing well, but the data told us otherwise... We asked them [Ziff Energy], to help out... to share some of the best practices they had seen in the industry..."

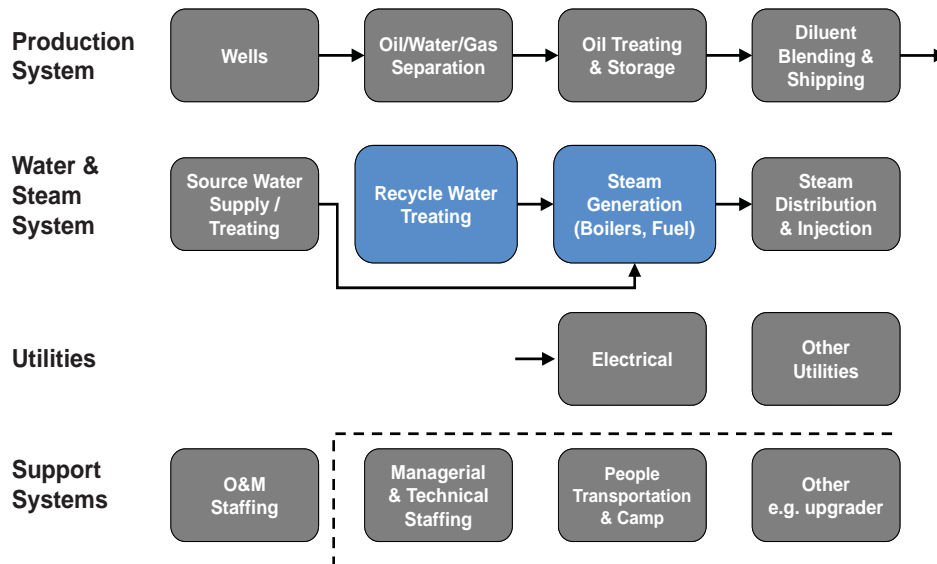
- *in 2009 & 2010, we managed to flatten our operating costs – the overall operating expenditure was a little bit lower than our growth*
- *in 2009, we saved \$23 million*
- *in 2010, we saved \$40 million."*

Technical Director,
International Independent

"The value for changes we implemented was estimated at \$5 million, a very good return."

Senior Engineer,
International Major

Thermal Project Components



ZIFF ENERGY'S CENTER FOR BENCHMARKING EXCELLENCE

In 2007, Ziff Energy established a unique World Upstream "Center for Benchmarking Excellence", to ensure that Ziff Energy studies for upstream operations are the best conceived and executed.

The core group, mainly based in Calgary, comprises a full time cadre of Analysts, currently professional engineers and economists who each have 5-15 years of experience and a Masters or B.Sc. in Engineering or Economics. The group works with Project Managers, Directors, VP's, and Ziff Energy's team of International Associates, based in various countries, who each have 15-30+ years of E&P operations experience. They are supported by two full time IT team members and a leading desktop publishing team.

You are invited to participate in this effective analysis and gain the benefits

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Why Ziff Energy?

Since 1996, Ziff Energy has completed over 180 multi-client studies, assisting 100+ E&P companies in 40+ countries to improve Operations Efficiency and Reliability by comparing performance against similar gas or oil fields (to date, over 4,000 oil and gas fields have been analyzed in our field operations studies). We are Upstream Professionals with 20+ years experience and have the knowledge and background to provide specific and actionable solutions. Our 'Center for Benchmarking Excellence' was established in 2007 to ensure that Ziff Energy studies for upstream operations are the best executed through Automated Data Gathering and centralized control of data integrity, review & analysis.

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