



Online KPIs Enable Operators to Assess Service Company Performance

ICoTA-Canada Roundtable

October 2016

Key Performance Indicators

- KPIs are metrics used to evaluate the success of an operation.
- Choosing the right KPIs requires a good understanding of what is important to the organization.
- 'What is important' often depends on who is doing the measuring.
- Used by service companies to evaluate their own performance.
- Increasingly used by operators to compare service companies.
- Service companies may be asked to submit KPI data after every job, plus summaries every month or quarter.
- The requested data varies from company to company.

Key Performance Indicators (KPI)

- KPIs are metrics used to evaluate the success of an operation.
- Used by service companies to evaluate their own performance.
- Increasingly used by operators to evaluate their service providers.
- Service companies may be asked to submit KPI data after every job, and/or summaries every month or quarter.
- The requested data varies from company to company.

Some KPIs are Generic

- Time utilization (mobilization, rig up, rig down, downhole etc)
- Non-productive time (NPT)
- Safety incidents
- Job data
- Well parameters

Some KPIs are specific to Coiled Tubing

- Non-productive time (unit, reel, injector, BOP, stripper)
- Pipe usage (added fatigue, running meters)
- Modelling (pre- vs post-job friction matching)
- Task-specific metrics (e.g. plug drilling statistics)

How to gather, edit and present KPI data?

- Spreadsheet

The screenshot shows a Microsoft Excel spreadsheet with the following data:

Well Name	NPT Other	NPT 3rd Party	NPT COA	Depth Modeled (ft)	Est. CoF to Reach Target	Post Job CoF Match	KOP (ft)	Lateral Length (ft)	Target MD (ft)	Run Depth (ft)	Run Feet 1'er Well (ft)	Initial WIP (psi)	Final WIP (psi)	CI Outer Diameter (in)	Manufac String Nbr
Well Example 1	0	2.13	0	14,918	0.27	0.24	14,918	5,100	14,918	14,811	23,601	700	245	2.375	
Well Example 2	0	0	0	14,342	0.25	0.23	14,342	5,000	14,342	14,357	26,251	759	2,210	2.375	
Well Example 3	0	0.25	0	15,464	0.25	0.25	15,464	6,500	15,464	15,438	21,472	1,700	670	2.375	
Averages	0.00	0.79	0.00	14,908	0.28	0.24	14,908			14,889	23,775	1,053	1,042		


























The taskbar at the bottom shows the following open files: KPIs, KPIs - KPIs, Time Data, Time per Well Graph, NPT Data, NPT Pie Chart, and Utilization.

How to gather, edit and present KPI data?

- Online (web-based) software
 - Repository of string and job data
 - A lot of the required KPI data is available on the platform
 - the job as it was planned
 - the job as it was actually performed
 - Used by significant number of CT service companies
 - Accessible by operator companies (subject to permission)

Key Productivity Indicator (KPI) Summary

Jobs	Safety	Hours	NPT	Well	CT	BHA	Data	Plugs	Cost
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		Job Name	Date	Client	Location	Operation
1	 	Gibson 1H	09/29/2016	ARC Resources	Red Deer	Fishing
2	 	University 23H	09/29/2016	Delphi	Grande Pairie	Plug Drill Out
3	 	Willoughby Mosely 1H	09/29/2016	Encana Oil & Gas	Fort St John	TCP
4	 	Willoughby Mosely 1H	09/28/2016	Encana Oil & Gas	Fort St John	Sand CO W/motor Mill
5	 	Brent Miller A 1	09/26/2016	Altura Energy	Grande Pairie	Cleanout
6	 	Harrison 29-20-2H	09/25/2016	BHP	Grande Pairie	Plug Drill Out
7	 	Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Cleanout
8	 	Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Fishing
9	 	R.L. Dodds Jr. #3	09/23/2016	ConocoPhillips	Red Deer	Cleanout
10		Dunaway 4H	09/23/2016	Encana Oil & Gas	Red Deer	Plug Drillout
11		John W. Barton SWD #3	09/23/2016	Will Drill Resources	Fort St John	Cleanout
12		Dunaway 3H	09/21/2016	Encana Oil & Gas	Red Deer	Plug Drillout
13		Dunway 4H	09/21/2016	Encana Oil & Gas	Red Deer	Plug Drillout
14		Robert Campbell 4 #1	09/21/2016	Will Drill Resources	Fort St John	Cleanout
15		Pistol 24-9-1H	09/20/2016	Silver Hill Energy Partners	Grande Pairie	Plug Drillout
16		Dunaway 3H	09/19/2016	Encana Oil & Gas	Fort St John	Plug Drill Out W/motor Mill

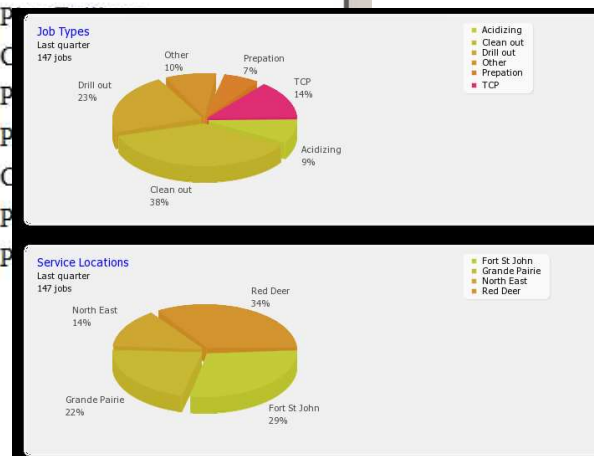
Filters : Last quarter ▾ All clients ▾ All locations ▾

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9	R.L. Dodds Jr. #3	09/23/2016	ConocoPhillips	Red Deer	Cleanout
10	Dunaway 4H	09/23/2016	Encana Oil & Gas	Red Deer	P
11	John W. Barton SWD #3	09/23/2016	Will Drill Resources	Fort St John	C
12	Dunaway 3H	09/21/2016	Encana Oil & Gas	Red Deer	P
13	Dunway 4H	09/21/2016	Encana Oil & Gas	Red Deer	P
14	Robert Campbell 4 #1	09/21/2016	Will Drill Resources	Fort St John	C
15	Pistol 24-9-1H	09/20/2016	Silver Hill Energy Partners	Grande Pairie	P
16	Dunaway 3H	09/19/2016	Encana Oil & Gas	Fort St John	P

Filters : Last quarter ▾ All clients ▾ All locations ▾ Update



KPI Report Editor

Last saved by Paul Brown on Sat 24 Sep 2016 at 11:21 CST

Data Sources

Cerberus String : 50302-WT-2.625-QT900-28-02/15/16
Cerberus Job : Persephone 42/31 B 4222H
CoilData Job : CVX Persephone 42/31 4224H

Header Information

Job name : Persephone 42/31 B 4222H
Job date : 12 ▾ Aug ▾ 2016 ▾
Client : Encana Oil & Gas ▾
Contact : Dave Smith Phone : 832-264-6193
Job type : Plug Drill Out ▾
Service location : Midland ▾
Supervisors : Killisimasi Fuka ▾
Service order : C1047
Remarks : 32 composite plugs
[Save](#)

Safety

Total incidents : 0 ▾ [\[details \]](#)
[Save](#)

Time Utilization

Planned job duration : 72 ▾ hours
Actual job duration : 62 ▾ hours
Mobilize : 1.75 ▾ hours [\[details \]](#)
Rig up : 2 ▾ hours
Rig down : 3 ▾ hours [\[details \]](#)

Planned job start : ▾ ▾ ▾ 12 ▾ Aug ▾ 2016 ▾
Begin job : 7 ▾ 43 ▾ pm ▾ 12 ▾ Aug ▾ 2016 ▾
End job : 8 ▾ 46 ▾ am ▾ 15 ▾ Aug ▾ 2016 ▾
Begin rig up : 10 ▾ 05 ▾ am ▾ 12 ▾ Aug ▾ 2016 ▾
End rig up : 12 ▾ 18 ▾ pm ▾ 12 ▾ Aug ▾ 2016 ▾

Well Parameters

Well name : Persephone 42/31 4224H
Field : Spring County : Montgomery State/Province : TX
Completion : 5.5" - 23.0#
Total depth : 19,355
Kickoff depth (KOP) : 2,210
Lateral length : 9,200
[Save](#)

CT Parameters

String name : 54321-WT-2.625-QT900-28
Diameter : 2.625 ▾ in
Wall profile : 0.250-0.175 in

SO : C1056
Job :
Client : Valence Operating Well : Littlejohn 7H Date : 10/12/2016
Contact : James Phelps Field : Chapel Hill Smith Task : Plug Drill Out
Phone : 903-316-0202 Location : Marshall Supervisors : Christopher Scott
Joshua Bryan Hoffmann

KEY PERFORMANCE INDICATORS



Remarks

Real time monitoring through CoilData

Safety Incidents

Total	Injury	Containment	Dropped	Other
0	0	0	0	0

Time Utilization (hours)

Total	Mobilize	Rig Up	Rig Down	Demobilize	Job start:	Job finish:
24	2	3	2	2	11:30 10/12/2016	06:00 10/13/2016

Non-Productive Time (hours)

Total	Inj	ROF	WHL	Real	Elec	N2	Other	Int Party	Client
1.75								1.75	

Remarks: Wait on Flowback 100 minutes for 3" valve gasket. Would not pressure test. No gasket on location.

Well and TFA Littlejohn 7H

Completion	Depth	KOP	Lateral	CF pre-job	CF post-job
5.5" - 23.0#	17,100 ft	10,990 ft	4830 ft	0.27	0.27

CT and Fatigue 5942-ETX-2.38-GT100-CT40-9-18-16

Diameter	Wall	Material	Fat Before	Fat After	Fat Increase	Fat Added
2.375 in	0.204-0.175 in	90-Kpsi	7.5%	8.2%	0.7%	2.7%

BHA Connector, DFCV, Disconnect, 2.88" Motor - 5 Blade Mill

Provider	Agitator
TTS	Yes

Job Data

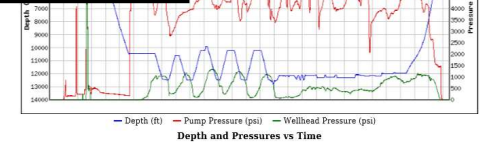
Trips	Max Depth	Running Feet	Max Weight	Nitrogen
	16835 ft	19,283 ft	55,000 lb	No
Avg Circ Pressure	Avg Circ Rate	Avg Flowback	Initial WHP	Final WHP
4800 psi	3.0 BPM	3.5 BPM	3031 psi	2563 psi

Job Cost

Bid	Actual	Market
\$32,000	\$32,000	n/a

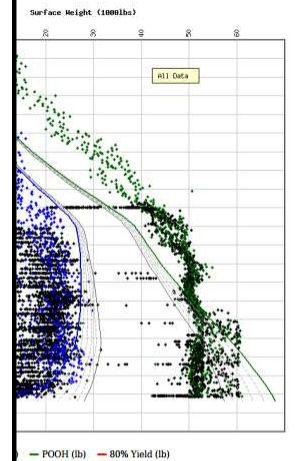
1/5

Tue 18th Oct, 2016




3/4

Tue 18th Oct, 2016












Key Productivity Indicator (KPI) Summary

Jobs	Safety	Hours	NPT	Well	CT	BHA	Data	Plugs	Cost
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Time Utilization (hrs)														
Job Name		Date	Client	Location	Operation	Job Start	Job End	Total	Plan	Mob	R/U	R/D	Demob	
1		Gibson 1H	09/29/2016	ARC Resources	Red Deer	Fishing	16:38 09/29/2016	04:25 09/30/2016	12.00	10.00	1.25	2.50	2.00	1.25
2		University 23H	09/29/2016	Delphi	Grande Pairie	Plug Drill Out	01:45 09/30/2016	06:14 10/01/2016	29.00	24.00	2.25	3.50	3.25	2.25
3		Willoughby Mosely 1H	09/29/2016	Encana Oil & Gas	Fort St John	TCP	23:21 09/29/2016	04:46 09/30/2016	5.50	8.00	1.00	2.25	1.75	1.00
4		Willoughby Mosely 1H	09/28/2016	Encana Oil & Gas	Fort St John	Sand CO W/motor Mill	01:35 09/29/2016	08:06 09/29/2016	6.75	6.00	0.50	2.75	1.00	1.00
5		Brent Miller A 1	09/26/2016	Altura Energy	Grande Pairie	Cleanout	00:37 09/27/2016	09:48 09/27/2016	9.25	12.00	1.50	2.25	2.00	1.50
6		Harrison 29-20-2H	09/25/2016	BHP	Grande Pairie	Plug Drill Out	17:55 09/25/2016	15:39 09/26/2016	21.75	30.00	3.50	5.25	4.75	4.00
7		Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Cleanout	22:30 09/25/2016	10:52 09/26/2016	12.50	15.00	1.50	3.75	3.50	2.00
8		Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Fishing	10:58 09/26/2016	16:26 09/26/2016	5.50	10.00	1.00	2.00	4.25	3.50
9		R.L. Dodds Jr. #3	09/23/2016	ConocoPhillips	Red Deer	Cleanout	23:15 09/23/2016	16:50 09/24/2016	17.75	12.00	1.50	2.50	3.00	1.50

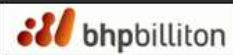
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Jobs	Safety	Hours	NPT	Well	CT	BHA	Data	Plugs	Cost
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Job Name	Date	Client	Location	Operation	String	CT			Fatigue (%)			
						Dia	Wall	Yield	Before	After	Increase	Added
1  Gibson 1H	09/29/2016	ARC Resources	Red Deer	Fishing	F-43708-CT-718-2in1000-5-23-15	2.00	0.203-0.175	100-Kpsi	54.6	55.3	1.0	1.0
2  University 23H	09/29/2016	Delphi	Grande Pairie	Plug Drill Out	M-44112-CT716-2in 900-10-17-15	2.00	0.203-0.156	90-Kpsi	4.1	14.4	10.0	13.2
3  Willoughby Mosely 1H	09/29/2016	Encana Oil & Gas	Fort St John	TCP	H-44675-ct701-2in1000-10-17-15	2.00	0.203-0.156	100-Kpsi	1.8	2.3	1.0	1.1
4  Willoughby Mosely 1H	09/28/2016	Encana Oil & Gas	Fort St John	Sand CO W/motor Mill	H-44675-ct701-2in1000-10-17-15	2.00	0.203-0.156	100-Kpsi	0.0	1.8	1.0	1.0
5  Brent Miller A 1	09/26/2016	Altura Energy	Grande Pairie	Cleanout	H-41749-CT711-1.25_QT900_4.20.14	1.25	0.175-0.125	90-Kpsi	46.6	47.6	1.0	2.0
6  Harrison 29-20-2H	09/25/2016	BHP	Grande Pairie	Plug Drill Out	M-44112-CT716-2in 900-10-17-15	2.00	0.203-0.156	90-Kpsi	0.0	4.1	4.0	3.0
7  Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Cleanout	F-44644-ct705-900-9-3-15	1.25	0.175-0.134	90-Kpsi	7.0	10.3	3.0	3.0
8  Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Fishing	F-44644-ct705-900-9-3-15	1.25	0.175-0.134	90-Kpsi	10.3	11.3	1.0	1.0
9  R.L. Dodds Jr. #3	09/23/2016	ConocoPhillips	Red Deer	Cleanout	F-44644-ct705-900-9-3-15	1.25	0.175-0.134	90-Kpsi	4.8	7.0	3.0	2.0

Key Productivity Indicator (KPI) Summary

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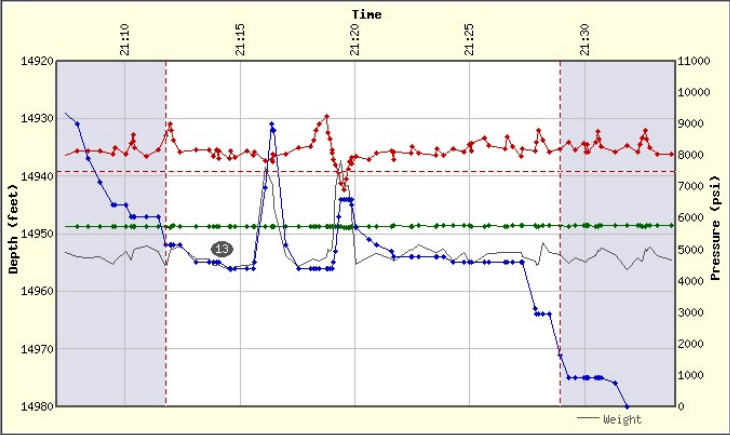


						Plugs				
Job Name	Date	Client	Location	Operation	Quantity	Short Trips	Mill Time (min)	Plugs per Trip	Stalls	Trip Length (ft)

1 Harrison 29-20-2H 09/25/2016 BHP Grande Pairie Plug Drill Out

18 4 8 4 1 2,500

Plug 12
Depth 14,956 ft



Plug	Program (ft)	Depth (ft)	Mill Time (min)	Cycles	Stalls	Circ Press (psi)	Sweep Vol (bbls)
1		12,317	5	0		6,435	8
2		12,516	14	0		6,563	13
3		12,710	6	0		6,636	8
4		12,912	9	0		7,139	7
5		13,115	7	0		6,756	8
6		13,316	9	1	1	6,620	10
7		13,512	5	0		7,335	7
8		13,715	9	0		7,217	12
9		14,121	3	0		7,204	5
10		14,314	7	0		7,016	7
11		14,513	9	1		6,986	7
12		14,715	103	1		6,941	35
13		14,907	4	0		7,121	5
14		15,110	6	0		7,123	6
15		15,310	4	0		7,263	8
16		15,540	4	0		7,016	7
17		15,717	8	0		6,591	8
18		15,860	4	0		7,298	7

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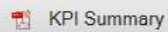
Job Log Data														
Job Name	Date	Client	Location	Operation	Trips	Max Depth (ft)	Run Feet (ft)	Max Weight (lb)	Circ Press (psi)	Circ Rate (BPM)	Flowback (BPM)	Init WHP (psi)	Final WHP (psi)	N2
1 Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Cleanout	1	16,034	16,603	25,205	5,000	1.5	1.5	0	0	Yes
2 Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Fishing	1	16,044	16,253	29,627	1,000			0	0	No
3 R.L. Dodds Jr. #3	09/23/2016	ConocoPhillips	Red Deer	Cleanout	1	16,009	22,160	32,114						
4 Ingram C2	09/16/2016	ConocoPhillips	Red Deer	Cleanout										

Filters : Last quarter ▾ ConocoPhillips ▾ All locations ▾ Update

Create Web Link

Select recipient : ConocoPhillips ▾

Expire link : After 7 days ▾



KPI Summary

Opens in separate browser window
You see the page as it will be seen by designated recipient

External link : <http://www.coildata.com/postjob.php?vid=jd83230j>

Copy and paste the above URL into an e-mail to provide others with direct access to the KPI Report.
Access is view-only. They will not need to login. They will not be able to access other areas of the website.
This is a client link. All ConocoPhillips details will be displayed.

Customer Login

This is a fee-based service, and you must be an authorized user to access this website. All data contained herein is strictly confidential. By logging in you indicate that you accept the [Terms of Service](#).

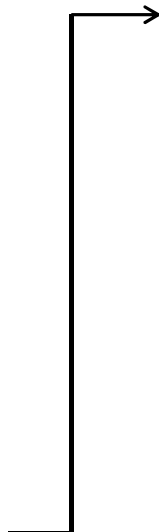
Username :

Password :

☐ remember my username



	Canyon 0 recent jobs	no access
	Conquest 0 recent jobs	no access
	Cretic Energy Services 0 recent jobs	no access
	Key Energy Services 0 recent jobs	no access
	Forbes Energy Services 3 recent jobs	Access granted
	IHES 0 recent jobs	no access
	IPS 1 recent job	Access granted
	Keane 9 recent jobs	Access granted



Welcome to Forbes String Management

This is the client company interface for the CoilData job scheduling and pipe management system. This unique service allows you to view the fatigue status and maintenance history of the CT strings that perform work on your wells, and review data from jobs that have recently been completed. You can watch a live job unfold using the Job Monitor feature, and you can enter well information for upcoming jobs, and track progress online as the job is dispatched.

Access to data is strictly controlled. You can only see strings that have performed jobs for ConocoPhillips, and likewise other operator companies cannot see your job data.

Review jobs performed by Forbes for your company :

Review KPI metrics for jobs performed for your company : NEW

Review strings used recently for your company :

Enter a new job request or enquiry :

Review or edit scheduled jobs already in the system :

Return to the main Operator home screen :

Real-Time TFA Modelling
Compare your predictions against actual data online, and adjust your friction coefficients in real-time.

CoilData LLC 2040 North Loop 336 West #107, Conroe TX 77304 +1 (936) 788 2937 [e-mail](#) [skype](#) [twitter](#)



CoilData String Management
KPI status as of Oct 18, 2016
Authorized for Covey Park Energy use only

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2 Senator Ranch A-2	09/25/2016	ConocoPhillips	Red Deer	Fishing	12:13 09/26/2016	17:42 09/26/2016	5.50	10
3 R.L. Dodds Jr. #3	09/23/2016	ConocoPhillips	Red Deer	Cleanout	00:31 09/24/2016	18:05 09/24/2016	17.75	12
4 Ingram C2	09/16/2016	ConocoPhillips	Red Deer	Cleanout				
5 Senator Ranch B 3	08/31/2016	ConocoPhillips	Fort St John	Cleanout				

Some Challenges

- Currently addresses only coiled tubing, not associated operations.
- Complete data is required for every job. Partial data makes it difficult to draw broad conclusions.

www.CoilData.com

CoilDataTM
Coiled Tubing Online