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a simple way to solve a problem

## SCADA Business Tools

### Quote

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SCADA Functionality

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## 1 Cost estimate for implementation

Item	Description	Units	Value
	System Related		
1	System Configuration	0	\$0.00
	Create Points and device configuration		
2	System Screens	0	\$0.00
3	Reports	0	\$0.00
	Turbine & Corrected, Daily Corrected, Communication, Leak Detection, Production Target, 3rd Party		
	Screens		
1	Well Overview	0	\$0.00
	Well current and yesterday values	0	
2	Well History	0	\$0.00
	Review the historical values for one selected well. Manually poll missing values. Email the list to an email address	0	
3	Well Hourly Values	0	\$0.00
	Review the hourly historical values for one selected well. Email the list to an email address	0	
4	Summary Historical Values	0	\$0.00
	Quick view on all the well and their daily values for one selected day	0	
5	Well Details / tab	0	\$0.00
	Review notes, reminders, load created reports, map and other details	0	
6	Well Plunger / tab	0	\$0.00
	Review plunger setpoint (read/write) * one for each plunger type	0	
7	Well Timer / tab	0	\$0.00
	Review plunger setpoint (read/write) * one for each timer type:	0	
8	Well PID / tab	0	\$0.00
	Review PID setpoint (read/write) * one for each PID type:	0	
9	Well Shutdowns / tab	0	\$0.00

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	Review the site shutdown setpoint (read/write) and logs	0	
10	<b>Well Point List / popup</b>	0	\$0.00
	Current Value List of all the points for selected RTU/Meter(s)	0	
11	<b>Well AGA / popup</b>	0	\$0.00
	Review AGA definition (read/write), Creates a report before and after the AGA write. <i>* one for each PID type:</i>	0	
12	<b>Well Wizard</b>	0	\$0.00
	Help the SCADA users create Points and Device configuration	0	
13	<b>Reports</b>	0	\$0.00
	Load reports (PDF, CSV) for a quick view. Email the selected one to an email address	0	
14	<b>Meter Summary &amp; Details</b>	0	\$0.00
	Quick view on all the well and a selected number of points and custom details, such as: location, codes, etc.	0	
15	<b>Communication Summary</b>	0	\$0.00
	Quick view on all devices and their stats	0	
16	<b>Pipeline Summary</b>	0	\$0.00
	Overview values for each pipeline (volume , pressure, rate)	0	
17	<b>ABB Totalflow Plunger Control</b>	0	\$0.00
	Advanced Plunger Control for ABB Devices. Plunger settings wizard to help operators	0	
18	<b>Trends</b>	0	\$0.00
	Well trends: 3 Hr, 48 Hr, 14 Days, 30 Days, 1 Year	0	
19	<b>Production Tools - Run Overview</b>	0	\$0.00
	Pipeline Overview screen	0	
20	<b>Production Tools - Custom List/Trend/Report</b>	0	\$0.00
	Tool to create a list of any desired points in the system to monitor, trend or create a report (CSV) for the selected values	0	
21	<b>Smart Navigation</b>	0	\$0.00
	The systems records the screens where the user has navigate to and can allow him/her to go back and forth (same as a webpage navigation)	0	
22	<b>System Summary</b>	0	\$0.00
	System details such as : Communication usage, Service running and usage, Alarm summary, Schedulers, Callouts, Users	0	

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23	System Summary - Add On : User Login	0	\$0.00
	User Login list for the System Summary screen	0	
24	System Summary - Add On : Device Address	0	\$0.00
	Device address list for the System Summary screen with export to csv capabilities	0	
25	System Summary - Add On : RTU Commands	0	\$0.00
	Device address list for the System Summary screen with export to csv capabilities	0	
	SCADA Added Functionality		
1	Frac911(TM) - Fracking management system	0	\$0.00
	Frac scheduler, website, monitoring and alarming	0	
2	ABB Totalflow Plunger Control - Add On	0	\$0.00
	Communication SCADA and ABB PAS to automatically adjust the plunger settings at predefined times (i.e. every 4 hr). Includes Totalflow Recommendations Management and Monthly report	0	
3	Dynamic Map - Well Map	0	\$0.00
	Using Google like maps and web: overview map for all the well	0	
4	Dynamic Map - Area Map	0	\$0.00
	Using Google like maps and web: each area will get a map * need to get the Well Map	0.00	
5	Dynamic Map - Pipeline Map	0	\$0.00
	Using Google like maps and web: overview map for line pressure for each segment	0	
6	Dynamic Map - RTU and Communication Map	0	\$0.00
	Using Google like maps and web: overview map for all devices and towers	0	
7	Dynamic Map - Well Map	0	\$0.00
	Using a generic township grid: overview map for all the well	0	
8	Pipeline Segment – Leak Monitoring	0	\$0.00
	Leak monitoring based on balancing hr/daily volumes		
9	SCADAbyEmail(TM) - Read Only	0	\$0.00
	Communicate with SCADA by email (read only)	0	
10	SCADAbyEmail(TM) - Read / Write	0	\$0.00

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## SCADA Functionality

	Communicate with SCADA by email (read/write)	0	
11	<b>AGA Management</b>	0	\$0.00
	Import / Export AGA composition from all sites	0	
12	<b>History Gap Detection</b>	0	\$0.00
	Missing history detection (including gaps) and auto-backfill	0	

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## SCADA Functionality

13	<b>Reports - EFM</b>	0	\$0.00
	Create following reports: - Daily Production (Fieldview & PDF) - Meter Report before and after AGA update (PDF) - Monthly RTU: Alarm, Event (PDF) - Monthly Production: By Well (Fieldview & PDF), Totals (PDF)	0	
14	<b>Reports - Operation</b>	0	\$0.00
	Create following reports: - Daily System Alarms (PDF) - Daily (AVG) Values (CSV) - Monthly & Yearly New Meter addition (PDF) <i>* need to get the EFM Reports</i>	0.00	
15	<b>Automatic Report Emailer</b>	0	\$0.00
	Automatic daily emailer of reports to a list of email address. FTP uploads.	0.00	
16	<b>Condensate Gas Ratio</b>	0	\$0.00
	Calculate daily well CGR. Includes reports: Daily per area and Monthly (PDF)	0	
17	<b>Notes - Well Notes Management</b>	0	\$0.00
	RSS Feeds, Monthly report, Note on Trend view	0.00	
18	<b>Well Adaptive Alarming (for Gas meters)</b>	0	\$0.00
	System to daily monitor production values and adjust the alarming on low flow based on predetermined limits	0.00	
19	<b>Well State Progress (for Plunger)</b>	0	\$0.00
	Monitors the plunger state and give a approximate level of completion based on open / closed state	0.00	
20	<b>Well Scheduler</b>	0	\$0.00
	Scheduler for well Start-up / Shut Down	0	
21	<b>Well Reminder</b>	0	\$0.00
	Automatic Well reminder (by email) on new wells to Remove downhole recorder, Gas sampling (2), Calibrate liquids totalizer (2), etc.	0.00	
22	<b>Well Performance Index</b>	0	\$0.00
	Performance Index for Line Pressure, Volume, Condly and Water (includes Trending)	0.00	
23	<b>Well Plunger Mileage, Lubricator and Bumper Spring</b>	0	\$0.00

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	Calculates Plunger Mileage, Lubricator and Bumper Spring and alarms on preset limit. Saves the operator notes and monthly report to PDF.	0.00	
24	<b>Quick Meter Pick</b>	0	\$0.00
	Allows to navigate to wells by using LSD, UWI	0.00	
25	<b>Historian automatic backup</b>	0	\$0.00
	Automatically creates a historian backup as Cygnet (version 8 and above) does not support this functionality. Set the historian for a quick disaster recovery	0.00	
26	<b>User Navigation Defaults</b>	0	\$0.00
	Setup logic to provide users with a default navigation facility based on their operation area/run	0.00	
27	<b>Tree Navigation</b>	0	\$0.00
	The screen(s) can have a Tree based navigation that will be easier for the user to work with then the regular drop down	0.00	
28	<b>Field Calendar</b>	0	\$0.00
	If Notes, Reminders, Fracking etc are available, the screen will load the information in a calendar format for easier historical viewing	0.00	
29	<b>Work Order</b> for SCADA or Field	0	
	Manage field or SCADA Work Orders that come in from Operators and need to be distributed to service companies.	0.00	\$0.00
	<b>Total</b>		<b>\$0.00</b>

## 2 Commercial Contact

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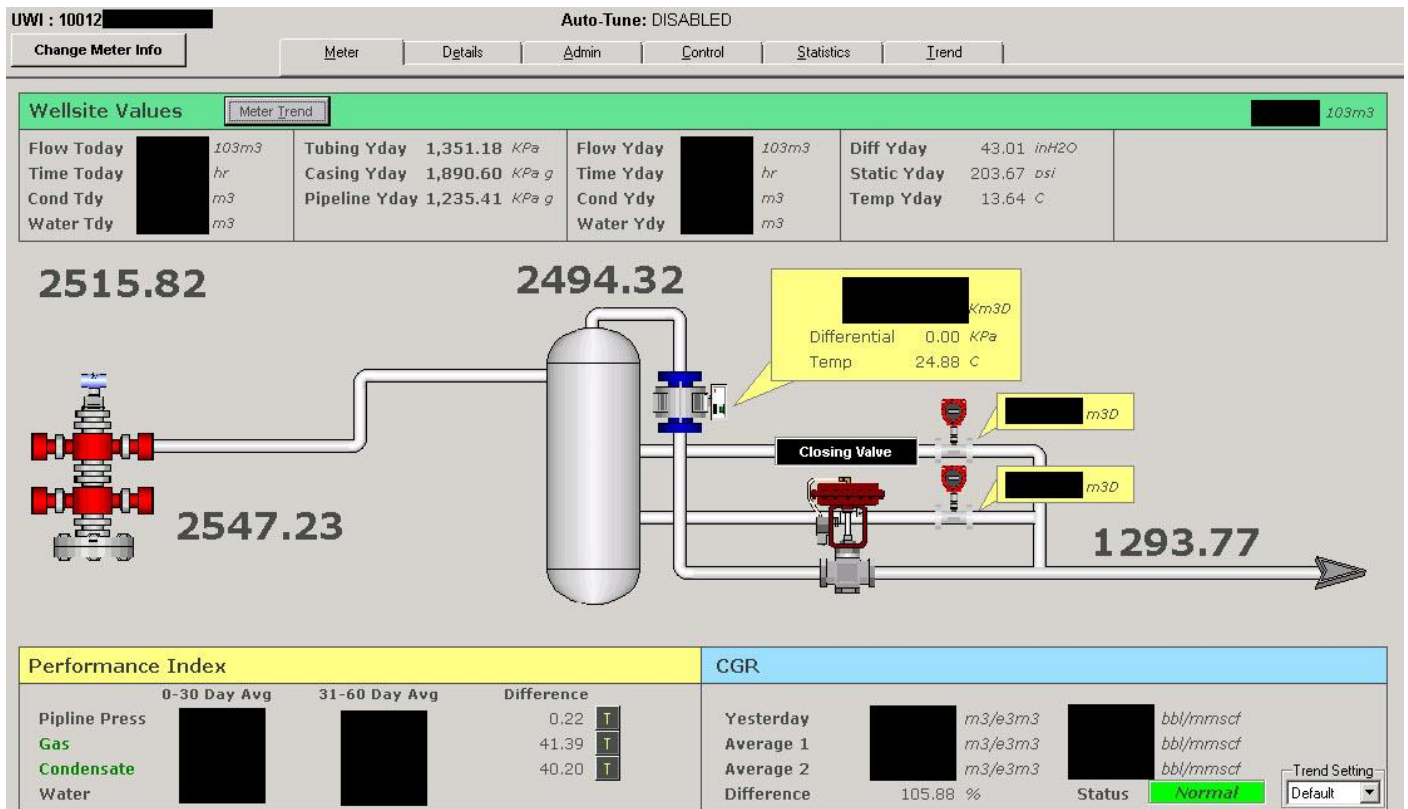


### 3 Appendix

Optional features are illustrated below to allow a better understanding of what they are.

#### 1. Screens

##### a. Well Overview



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## SCADA Functionality

### b. Well History

Summary		Device Type		Facilities			
Device Type		(All...)		00/01 Wilrich HZ			
00/01- Wilrich HZ : Gas Meter - 10001						Meter Details	
TF62255B_M01	Time	Volume	Diff	Static	Temp	Condy	Water
5/15/2014							
5/14/2014			10.80	1,479.95	20.93		
5/13/2014			10.76	1,606.85	21.61		
5/12/2014			11.61	1,684.73	21.23		
5/11/2014			12.96	1,857.87	21.21		
5/10/2014			16.37	2,480.75	20.31		
5/9/2014			23.01	4,179.03	11.13		
5/8/2014			0.00	3,424.46	28.35		
5/7/2014			0.00	4,204.20	20.23		
5/6/2014			0.00	3,105.33	22.65		
5/5/2014			0.00	3,323.84	22.32		
5/4/2014			2.67	2,427.83	14.87		
5/3/2014			9.74	1,198.09	16.96		
5/2/2014			9.29	1,235.13	18.24		
5/1/2014			7.64	1,460.08	19.79		
4/30/2014			9.65	1,218.15	21.63		
4/29/2014			9.38	1,219.56	20.69		
4/28/2014			9.33	1,226.79	19.34		
4/27/2014			9.28	1,235.35	19.74		
4/26/2014			9.29	1,234.43	17.85		
4/25/2014			9.42	1,228.02	18.58		
4/24/2014			9.40	1,232.27	19.40		
4/23/2014			9.46	1,226.97	18.29		
4/22/2014			9.38	1,240.57	19.26		
4/21/2014			9.46	1,237.52	20.04		
4/20/2014			9.20	1,286.28	19.50		
4/19/2014			9.09	1,280.32	19.67		
4/18/2014			9.47	1,241.87	19.04		
4/17/2014			9.41	1,244.30	17.27		
4/16/2014			9.42	1,247.50	18.20		
4/15/2014			9.28	1,256.24	17.87		
4/14/2014			9.44	1,241.74	19.85		
4/13/2014			10.32	1,284.56	19.01		
4/12/2014			9.55	1,250.86	17.87		
4/11/2014			9.62	1,238.71	16.90		
4/10/2014			9.59	1,241.55	19.27		

Legend  
 RED - Missing data  
 WHITE - OK Data  
 YELLOW - Edited Value  
 MAGENTA - More than 1 record for day  
 CYAN - No Data in VHS  
 BLUE - Not Numeric  
 Grid Time Stamp -  
 Production Day

#### Export data

Address:  
 rockland  
 Save to DropBox  
 Email Report

Edit Record

Delete History

Configure History

Poll Missing History

Load History

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## SCADA Functionality

### c. Well Hourly Values

00/08- Cardium : Plunger - 10008							Meter Details	
TF20356A_M01	Time (min)	Volume (m3)	Diff (kPa)	Static (kPa)	Temp (C)		Export data	
5/15/2014 - 04 PM			0.00	2,413.29	32.82		Address:	
5/15/2014 - 03 PM			0.00	2,400.83	31.83		rockland	
5/15/2014 - 02 PM			0.00	2,383.05	29.83		Save to DropBox	
5/15/2014 - 01 PM			34.37	1,885.63	26.14		Email Report	
5/15/2014 - 12 PM			0.00	2,423.07	34.15			
5/15/2014 - 11 AM			0.00	2,410.66	33.49			
5/15/2014 - 10 AM			0.00	2,391.25	31.86			
5/15/2014 - 09 AM			34.68	1,894.35	27.50			
5/15/2014 - 08 AM			0.00	2,430.62	35.32			
5/15/2014 - 07 AM			0.00	2,417.91	34.54			
5/15/2014 - 06 AM			0.00	2,400.57	32.77			
5/15/2014 - 05 AM			33.60	1,900.73	28.66			
5/15/2014 - 04 AM			0.00	2,420.48	37.22			
5/15/2014 - 03 AM			0.00	2,409.44	36.91			
5/15/2014 - 02 AM			0.00	2,393.28	35.39			
5/15/2014 - 01 AM			35.51	1,877.47	30.31			
5/15/2014 - 12 AM			0.00	2,437.36	39.21			
5/14/2014 - 11 PM			0.00	2,425.14	38.51			
5/14/2014 - 10 PM			0.00	2,410.57	37.13			
5/14/2014 - 09 PM			20.04	1,840.62	29.42			
5/14/2014 - 08 PM			33.28	1,919.97	34.52			
5/14/2014 - 07 PM			0.00	2,320.39	42.19			
5/14/2014 - 06 PM			0.00	2,319.43	41.46			
5/14/2014 - 05 PM			0.00	2,317.08	37.83			
5/14/2014 - 04 PM			33.17	1,867.99	33.97			
5/14/2014 - 03 PM			0.00	2,445.59	44.70			
5/14/2014 - 02 PM			0.00	2,429.15	42.22			
5/14/2014 - 01 PM			0.00	2,404.21	37.87			
5/14/2014 - 12 PM			29.84	2,022.26	32.50			
5/14/2014 - 11 AM			0.00	2,467.92	44.26			
5/14/2014 - 10 AM			0.00	2,454.25	41.67			
5/14/2014 - 09 AM			0.00	2,437.43	37.48			
5/14/2014 - 08 AM			21.91	2,086.03	30.40			
5/14/2014 - 07 AM			0.00	2,459.07	40.24			
5/14/2014 - 06 AM			0.00	2,451.75	38.88			
5/14/2014 - 05 AM			0.00	2,441.03	37.36			
							Configure History	
							Load History	

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## SCADA Functionality

### d. Summary Historical Values

Summary

Company Name

Facilities

3rd Party

(All...)

00/01- Wilrich HZ

Production Values Summary

Date selected : 15 May 2014

Meter Summary

Prod. Date: 14 May 2014	Time	Volume	Diff	Static	Temp	Condy	Water
00/01- Wilrich HZ				10.80	1,479.95	20.93	
00/07- Cadomin				11.74	1,558.80	13.25	
00/10- Conoco				10.82	2,600.08	11.65	
00/12-0 Wilrich NAL							
00/15- Notikewin				7.68	1,470.73	12.30	

Legend

RED - Missing data  
WHITE - OK Data  
YELLOW - Edited Value  
MAGENTA - More than 1 record for day  
CYAN - No Data in VHS  
BLUE - Not Numeric

Site Name Color:  
GREEN - COMM Normal  
RED - COMM Exception  
BLACK - COMM not working

Grid Time Stamp -  
Production Day

Print Setup

Print Preview

Edit Record

Configure History

Missing : 1 / 5

Poll Missing History

Load History

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## SCADA Functionality

### e. Well Details / Tab

UWI: 100 [REDACTED] Auto-Tune: DISABLED Flows To: Oldman

Change Meter Info Meter Details Admin Control Statistics Trend Hr Logs

#### Notes Service

Record Time	Operator Name
2014-03-27 17:14:12.959	Craig [REDACTED]
2013-06-14 14:40:45.223	Kyle [REDACTED]

New Note

#### Well Information

Device Type: ABB TotalFlow G3 6200  
Meter Type: Plunger 1616 778 km  
Retrofitted: 16 Jul 2010 Fracking: No  
Flows To: [REDACTED]  
Field Run: [REDACTED]  
Zone: Cardium  
LSD: 12 [REDACTED]  
UWI: 100 [REDACTED]  
Wellbore: Vertical  
Cost Centre: W00467  
Work Interest: 100 %

#### Map / Reports

Map Satellite

12: [REDACTED] Dev: ABB TotalFlow G3 6200

UWI: 100 [REDACTED]  
Zone: Cardium - S: 20 JUL 2012  
Type: Plunger  
CDay Vol: [REDACTED] CDay Time: [REDACTED]  
PDay Vol: [REDACTED] PDay Time: [REDACTED]

Map data ©2014 Google Terms of Use Report a map error

#### Reminders

- Remove Downhole Recorders
- Gas Sample I
- Gas Sample II
- Calibrate Liquid Totalizers I
- Calibrate Liquid Totalizers II

#### Meter Reports / Files

201363-1110909  
201363-111016 Load Report

Downhole Load Files

### f. Well Plunger / Tab

Change Meter Info Meter Details Control Arrival Time Statistics

#### Floboss Plunger Control

State: Wait for Diff Valve: Closed

Mode: P Critical Flow Plunger Cycle with CF/Press Apply


On Time SP min	15	15	min =	0.25	hr
Delay Time SP min	0.00	0	min =	0.00	hr
Off Time SP min	60	60	min =	1.00	hr
Mandatory Delay Time SP min	120	120	min =	2.00	hr
On Time SP sec	900	900	sec		
Delay Time SP sec	0	0	sec		
Off Time SP sec	3600	3600	sec		
Mandatory Delay Time SP sec	7200	7200	sec		

Refresh CF Set Points

#### Plunger Control Info / Setup

Plunger Arrivals Today	0 counts
Cycles Today	2 counts
Plunger Arrivals Yesterday	1 counts
Cycles Yesterday	3 counts
Time On Today	0.60 hr
Current Cycle Time Remaining	0.0 min
Plunger Remainder Time	7.3 min
Tubing/Pipeline Diff	870 KPa
Tubing Length	[REDACTED] m
Bumper Spring Depth	[REDACTED] m
Plunger Dist. Traveled	0 km / [REDACTED]

Reset Apply





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## SCADA Functionality

### g. Well Shutdown / Tab

Shutdown Setpoints					Shutdown Logs		
Safety System Status	<b>Shutdown</b>	Pipeline SD SOV	High / Low Static SOV	High / Low Tube SOV	Flow Rate SD SOV	ID	Log Date/Time
Safety Last Event	<b>Water Tank Hi Le</b>	<b>Open</b>	<b>Close</b>	<b>Close</b>	<b>Close</b>	31,459	1/14/2014 11:41:31 AM
Safety Last Date/Time	<b>5/21/2013 12:00:01 AM</b>	<b>Enabled</b>	<b>Enabled</b>	<b>Enabled</b>	<b>Enabled</b>	31,458	1/14/2014 11:40:16 AM
Startup Timer Remaining	<b>0.00</b>					31,457	1/14/2014 11:37:55 AM
						31,456	1/14/2014 11:36:16 AM
						31,455	1/14/2014 11:09:38 AM
						31,451	2/13/2014 12:17:11 PM
						31,450	1/14/2014 11:41:31 AM
						31,449	1/14/2014 11:40:16 AM
						31,448	1/14/2014 11:37:55 AM
						31,447	1/14/2014 11:36:16 AM
						31,446	1/14/2014 11:09:38 AM
						31,441	5/21/2013 12:00:01 AM
						31,440	5/21/2013 12:00:01 AM
						31,439	5/21/2013 12:00:01 AM
						31,438	2/13/2014 12:17:11 PM
						31,437	5/21/2013 12:00:01 AM
						31,436	1/14/2014 11:41:31 AM
						31,435	1/14/2014 11:40:16 AM
						31,434	1/14/2014 11:37:55 AM
						31,433	1/14/2014 11:36:16 AM
						31,432	1/14/2014 11:09:38 AM

User Setpoints		Admin Setpoints	
High Pipeline Pressure Setpoint	<b>5500</b> 5500 KPa	Pipeline SD Hold Off	<b>1</b> 1.00 sec
High Static Pressure Setpoint	<b>8150</b> 8150 KPa	Sep SD Hold Off	<b>0</b> 0.00 sec
Low Static Pressure Setpoint	<b>1050</b> 1050 KPa	Tubing SD Hold Off	<b>0</b> 0.00 sec
High Tubing Pressure Setpoint	<b>8937</b> 8937 KPa	Low Flow SD Hold Off	<b>0</b> 0.00 sec
Low Tubing Pressure Setpoint	<b>1050</b> 1050 KPa	Pipeline Start up Timer	<b>5</b> 5.00 sec
High Flow Rate Setpoint	<b>9999</b> 9999 Km3D	Operational Start up Timer	<b>1</b> 1.00 sec
Low Flow Rate Setpoint	<b>0</b> 0 Km3D	Separator Hi/Lo Shutdown	<input checked="" type="checkbox"/>
<b>Apply</b>		Low Flow Shutdown	<input checked="" type="checkbox"/>
		Tube Hi/Lo Shutdown	<input checked="" type="checkbox"/>
		<b>Apply</b>	

### h. Well Point List / Popup

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## SCADA Functionality

Name 00/01-		Cardium : - meter UWI 100		00		Units Setting Metric
UDC	UDC	Point Type	Long Description	Value	Units	
G002A118_M01	ACC_CD_IDX	Analog Input	Weekly Cond Index	34.444446666667	%	
G002A118_M01	ACC_CD_PX	Analog Input	Accumulated Cond Daily Performance Index	100	%	
G002A118_M01	ACC_COND	Analog Input	Accumulated Cond		m3	
G002A118_M01	ACC_CONDD	Analog Input	Daily Prod Cond		m3	
G002A118_M01	ACC_CONDD1	Analog Input	Daily Accumulated Cond Average Current Month		m3	
G002A118_M01	ACC_CONDD2	Analog Input	Daily Accumulated Cond Average Previous Month		m3	
G002A118_M01	ACC_CONDM	Analog Input	Monthly Production Cond		m3	
G002A118_M01	ACC_CONDW1	Analog Input	Weekly Prod Cond Sum - Week 1		m3	
G002A118_M01	ACC_CONDW2	Analog Input	Weekly Prod Cond Sum - Week 2		m3	
G002A118_M01	ACC_FD_IDX	Analog Input	Weekly Flow Index	8.2947378840907	%	
G002A118_M01	ACC_FD_PX	Analog Input	Accumulated Flow Daily Performance Index	21.806848806682	%	
G002A118_M01	ACC_FLOW	Analog Input	Accumulated Flow		103m3	
G002A118_M01	ACC_FLOWD	Analog Input	Daily Accumulated Flow		103m3	
G002A118_M01	ACC_FLOWD1	Analog Input	Daily Accumulated Flow Average Current Month		103m3	
G002A118_M01	ACC_FLOWD2	Analog Input	Daily Accumulated Flow Average Previous Month		103m3	
G002A118_M01	ACC_FLOWDF	Analog Input	Daily Accumulated Flow Difference (1 day ago - 2 day ago)	0.2082395	103m3	
G002A118_M01	ACC_FLOWM	Analog Input	Monthly Accumulated Flow		103m3	
G002A118_M01	ACC_FLOWW1	Analog Input	Weekly Acc Flow Sum - Week 1		103m3	
G002A118_M01	ACC_FLOWW2	Analog Input	Weekly Acc Flow Sum - Week 2		103m3	
G002A118_M01	ACC_WTR	Analog Input	Accumulated Water		m3	
G002A118_M01	ACC_WTRD	Analog Input	Daily Prod Water		m3	
G002A118_M01	ACC_WTRD1	Analog Input	Daily Accumulated Water Average Current Month		m3	
G002A118_M01	ACC_WTRD2	Analog Input	Daily Accumulated Water Average Previous Month		m3	
G002A118_M01	ACC_WTRM	Analog Input	Monthly Production Water		m3	
G002A118_M01	ACC_WTRW1	Analog Input	Weekly Prod Water Sum - Week 1		m3	
G002A118_M01	ACC_WTRW2	Analog Input	Weekly Prod Water Sum - Week 2		m3	
G002A118_M01	ACC_WT_IDX	Analog Input	Weekly Water Index	2730.62828294615	%	
G002A118_M01	AGA_CT	Analog Input	AGA Calc Type	1.00		
G002A118_M01	AGA_CV	Analog Input	AGA Calc Version	0		
G002A118_M01	ATMPRS	Analog Input	Atmospheric Pressure	99.467	KPa	
G002A118_M01	AVG_DPD	Analog Input	Average Differential Pressure Daily	12.35059	KPa	
G002A118_M01	AVG_FPD	Analog Input	Average Static Pressure Daily	2313.287	KPa	
G002A118_M01	AVG_TMPD	Analog Input	Average Temperature Daily	21.70526	C	

07:48 16 May 2014 Fast Scan Run Demand Poll Facility : G002A118\_M01  
G002A118\_D - All  
G002A118\_D  
G002A118\_M01

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## SCADA Functionality

### i. Well AGA / Popup

South	00/01	Cardium	01	LSD	
Cardium					
Current Meter Type		Plunger			
		ROC FlowBOS 103			
Hydrogen	0.0200	0.02	I-Pentane	0.1700	0.17
Helium	0.0100	0.01	N-Pentane	0.1700	0.17
Nitrogen	0.3800	0.38	N-Hexane	0.1800	0.18
Carbon Dioxide	0.9600	0.96	N-Heptane	0.1200	0.12
Hydrogen Sulfide	0.0000	0	Carbon Monoxide	0.0000	0
Methane	84.3800	84.38	N-Octane	0.0000	0
Ethane	8.3900	8.39	N-Nonane	0.0000	0
Propane	3.9600	3.96	N-Decane	0.0000	0
I-Butane	0.4400	0.44	Oxygen	0.0000	0
N-Butane	0.8200	0.82	Water	0.0000	0
AGA Total :				100	%
Orifice Diameter	25.4000	25.4	mm		
DP low Flow Cut off	0.2500	0.25			
Edit			Close		

### j. Well Wizard



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## SCADA Functionality

**New Well Wizard**

Location Name

TF00000A

Device LSD:

00/00-00-000-00W5/0

Device Name

TF00000A\_D

Meter Name (s)

TF00000A\_M0\*

RTU Type


ABB TF-G4-6200

Channel

COM 01

Device Address

0000



Step 1 - Create Facilities

Step 2 - Modify Facilities

Step 3 - Create Points

Step 4 - Create Device

Step 5 - Poll Device

Step 2b - Update Coord

C

0

**Attention:**

Make sure that ALL the facilities (\_D, \_M) have a lat and long

run this after all RTUs have been created

Step 7 - Device Comm Filler

Step 8 - Update Nav

Notes:

-When adding a new LSD for a Facility, make sure that you also set the formatted description (FAC attrib table 1)

-Facility attributes to set for D: FacilityId, Type, Poll FQ, Lat, Long, LSD, Field, Run, Device Type

-Facility attributes to set for M: All

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## SCADA Functionality

### k. Reports

**View PDF/CSV Report****Notes - MAY 2014**

7 APR 2014 - 20:23:06	Adam	added 2 mins delay and removed 2 mins off
12 APR 2014 - 18:28:48	Ryan	+ 3 min delay - 3 min off time delay now 5 min, off time now 55min
13 APR 2014 - 15:39:21	Ryan	+5min delay - 5min off time delay now 10 min, off time now 50min
14 APR 2014 - 20:53:21	ryan	lowered tubing line diff from 800 to 750kpa
00/01	rdium	LSD:
19 APR 2014 - 18:40:54	Darc	raised tbq/pi diff to 1600 kpa from 1550
00/10	ikewin	LSD:
26 APR 2014 - 19:42:39	Ryan	raised critical flow from 25 to 99
27 APR 2014 - 17:58:36	Ryan	raised off time from 100 to 110min
00/02	ler/Not.	LSD:
25 APR 2014 - 22:13:23	ryan	+ 15min on time -15 min off time on time was 30 now 45min off time was 690 now 675min.
00/14	rdium	LSD:
10 APR 2014 - 20:41:56	Ryan	+ 5 min to delay -5min off time. delay now 10min, off time now 150min.
11 APR 2014 - 21:28:21	ryan	+ 2 min delay - 2 min off time delay now 12min off time now 148min
12 APR 2014 - 18:21:36	Ryan	+ 2 min delay -2min off time delay now 12min, off time now 146min
13 APR 2014 - 15:08:12	Ryan	+1min delay -1min off time delay now 15min, off time now 145
15 APR 2014 - 21:02:22	ryan	+ 1min delay - 1min off time delay now 17min from 16min
24 APR 2014 - 21:02:36	ryan	off time now 143 from 144min + 1min delay -1min off time delay was 17 now 18min off time was 143 now 142min
00/13	rdium HZ	LSD:
7 APR 2014 - 16:16:23	Adam	Plunger Lift maintenance work has been done at 8409 / 8409 km / The Plunger has NOT been replaced. Plunger Measurement Bottom 1.87 Plunger Measurement Middle 1.87 Plunger Measurement Top 1.89
00/02	rdium	LSD:
11 APR 2014 - 21:21:03	Ryan	lowered tubing to line diff from 800 to 790kpa
24 APR 2014 - 21:00:11	ryan	lowered tubing to line diff from 790 to 770kpa
25 APR 2014 - 22:18:41	ryan	lowered tubing to line diff from 770 to 750kpa
26 APR 2014 - 20:04:29	mark	Plunger Lift maintenance work has been done at 7631 / 33205 km / The Plunger has NOT been replaced

Report: Notes  
Date: Daily  
30 Day AVG  
Meter  
New Meter  
Notes  
CGR  
PAS  
Monthly  
Plunger Records

Load Report

Email Report  
Address: rockland  
Email Report

Rockland

### l. Meter Summary & Details

Summary

3rd Party

Company Name

(All...)

Facilities

00/07

Meter Details Summary

C 1

C

Plunger Recon

Meter Summary

Facility Location	UWI	COMM	CC	WI	C Date	R Date	Index	FlowRate	FlowRate Alarm	Low Alarm	Low Warn	Index	Condy	1W AVG	2W AVG	Water	1W AVG	2W AVG	Disable CGR	CGR	1W AVG	2W AVG	CGR Diff	CGR Stat	YDY Vol	YDY Vol Adj
00/01	W/lich HZ	1000	Normal	W01397	20121109		TP		None			TP								No				111.41	Normal	
00/07	Cadomin	1000	Normal	W00297	0				None											No				97.65	Normal	
00/10	Conoco	1001	Normal	W00998	0				None											No				0.00	Normal	
00/12	W/lich NAL	1001	Unknown	W01339	0	20111017			None											No				0.00	Normal	
00/15	Notikewin	1001	Normal	W01399	100	20130127	UP		None			TP								No				100.40	Normal	
Total																										

Summary

3rd Party

Company Name

(All...)

Facilities

00/07

Meter Summary

C 1

C

Group SD / SU

Plunger Recon

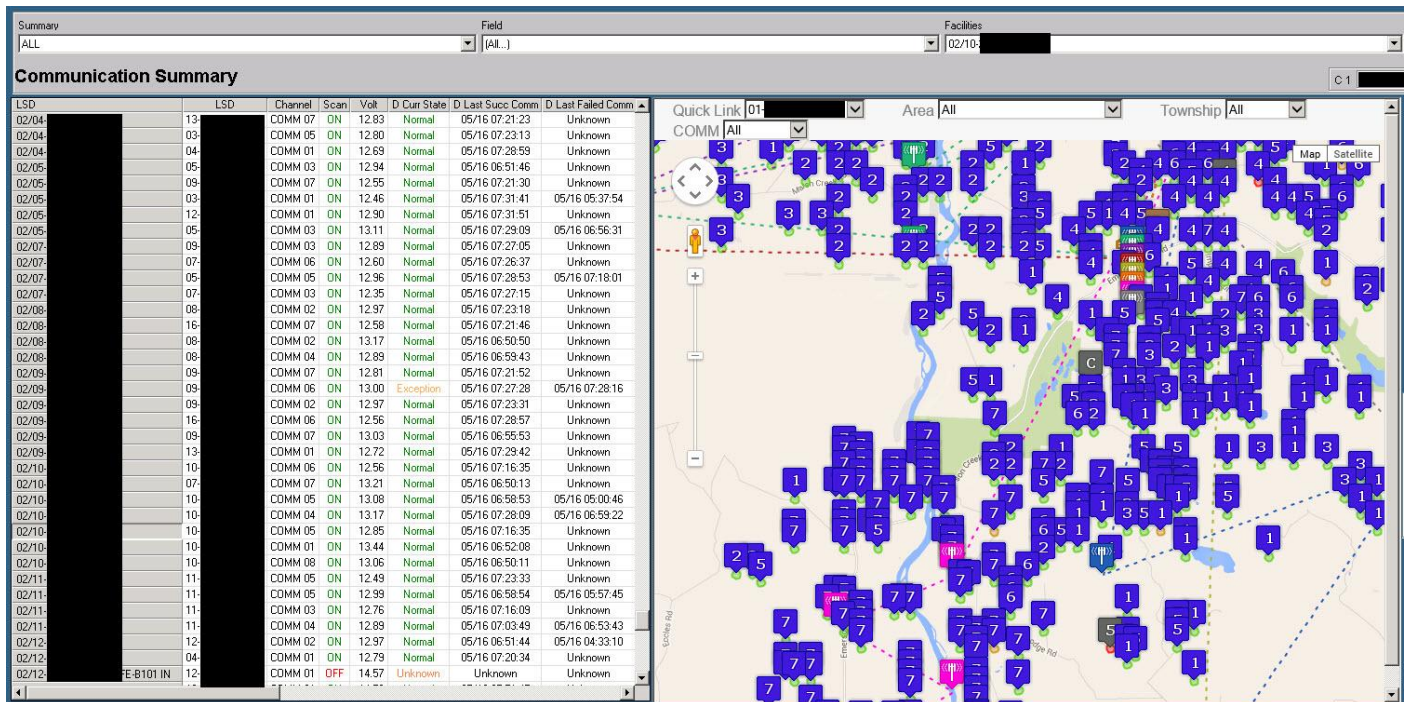
Summary Details

Meter Description	UWI	COMM	Tubing	Casing	Pipeline	Temp	FlowRate	IDY Time	IDY Vol	YDY Time	YDY Vol	Vol Diff	CondyRate	Condy	WaterRate	Water	Prev CS	Prev H2O	Cycles	Arrivals	Prev Arr	Prev Cycles	Type	Mode	State	Plate	Plate
00/01	W/lich HZ	100011	Normal	1323.10	2233.14	1053.92	17.60	24.38	22.00	23.6	24.00	26.0	-1.1				0.59	0.84	0	0	0	0	ID	Shutdown	Closing Valve	1.25 in	31.75 mm
00/07	Cadomin	100070	Normal	1598.80		14.32	0.00	8.00	6.3	8.00	6.5	0.1				0.01	0.23	0	0	0	0	0	Intermittent	Timer Off	25.4 mm	1 in	
00/10	Conoco	100101	Normal	2600.08		2605.37	24.21	0.00	0.43	0.4	1.44	1.4	0.1				0.00	0.00	1	1	3	3	P Critical Flow	Wait for Diff	25.4 mm	1 in	
00/12	W/lich NAL	100120	Unknown	6249.80	6402.30	1682.50	14.37	0.00	0.00	0.0	0.00	0.0	0.0				0.00	0.00	0	0	0	0	ID	Shutdown	Closing Valve	2 in	50.8 mm
00/15	Notikewin	100152	Normal	4228.25	4106.56	562.44	16.26	0.00	4.51	6.2	4.50	6.2	0.0				0.79	0.01	3	4			Intermittent	ALL Features	Valve Closed	1.5 in	38.1 mm
Total								24.38	34.95	36.4	37.94	40.0															

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## SCADA Functionality

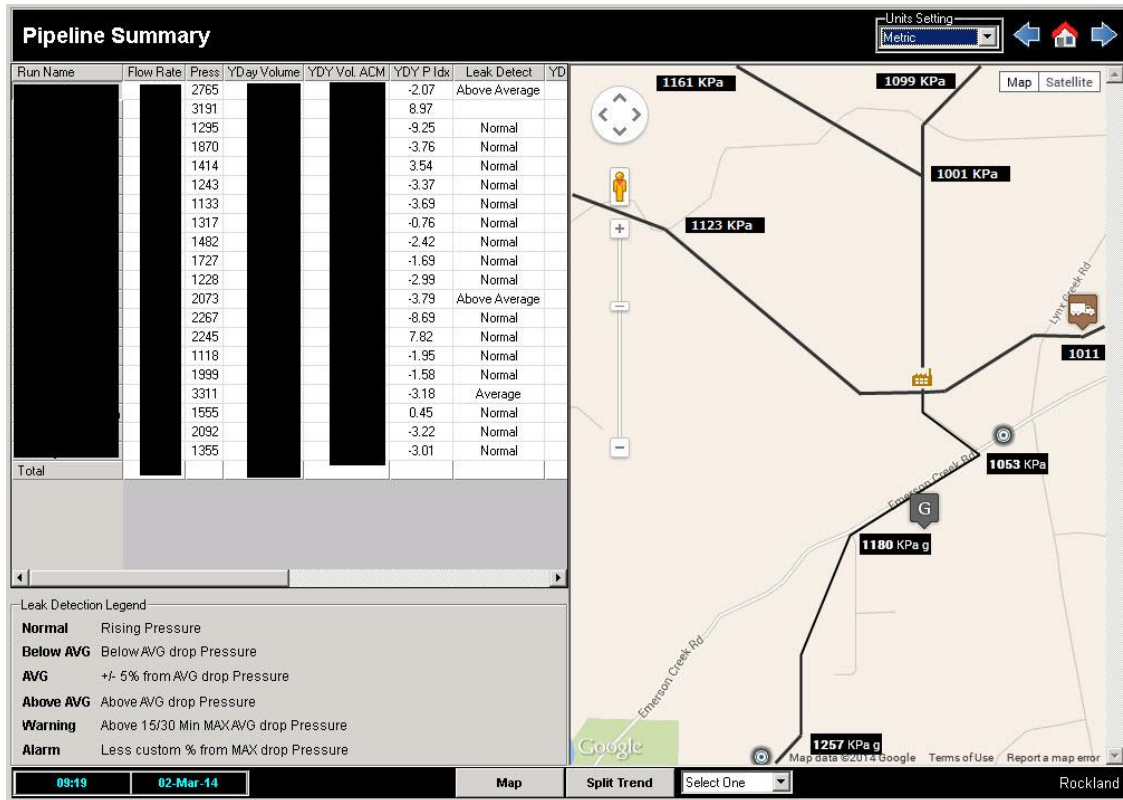
### m. Communication Summary



### n. Pipeline Summary

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## SCADA Functionality






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## SCADA Functionality

### o. ABB TotalFlow Plunger Control

Overview	Setup / Control	Open Options (OFF Cycle)	Plunger Arriving	Close Options (ON Cycle)	Optimization	Wizard
<b>Plunger Cycle - State Information</b>						Apply Refresh
<b>Plunger Control</b> Plunger Control: Enabled Manual Main Valve Close: Logic Controlled Manual Main Valve Open: Logic Controlled Shut-In / Reset Controller: Shut-In Reset		<b>Closing Valve</b> Fall Delay: 0.00 30.00 min Mandatory Close Time: 0.00 0.38 hr  <b>Valve Closed</b> Closed Time: 0.00 0.50 min Tube-Line Delta: 185.75 1600.00 KPa g Case-Line Open Limit: 1000.45 0.00 KPa g Case-Tube Open Limit: 814.70 0.00 KPa g Tube Open Limit: 1588.79 0.00 KPa g Casing Open Limit: 2397.38 0.00 KPa g Static Open Limit: 1588.79 0.00 KPa g Hold Limit: 0.00 0.00 KPa g		<b>Afterflow</b> Flow Cycle Time: 479.85 10.00 min AfterFlow Time: 479.83 1.00 min Turner Low Time: 0.00 0.00 min Flow Rate Limit: 20.04 20.00 Km3D Tube Line Delta: 185.75 1.00 KPa g Case-Tube Limit: 814.70 0.00 KPa g Tubing Close Limit: 1588.79 0.00 KPa g Case Close Limit: 2397.38 0.00 KPa g Static Close Limit: 1588.79 0.00 KPa g Differential Close Limit: 7.95 9.00 KPa g Case Rise Limit: 20.00 KPa g		<b>Resets</b> Op Reset Reset Shutdown Shutdown 
<b>Machine State</b> Machine State: After Flow State Time: 479.83 min Max. State Time: 0 min Plunger Status: Normal Cycle Status: Running Valve State: Open Hold Reason: None Current Open Reason: Tube-Line Last Open Reason: Tube-Line Closed Time: 0.00 Current Close Reason: Non-Arrival Last Close Reason: Non-Arrival Flow Cycle Time: 8.00 hr Arrivals Today: 1 Arrivals Yesterday: 1		<b>Plunger Arriving</b> Max Arrival Time (Min): 0.00 Intermittent Slow Arrival Time (Min): 0.00 Arrival Time: 0.00 Fast Arrival Time (Min): 0.00 Min Arrival Time (Min): 0.00				

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SCADA Functionality

**Plunger Setup Wizard - Off Cycle and Open Valve Options** **P 1/3**

Step 1: Would you like to configure the well as a Plunger or Intermittent well?

Step 2: What is the Minimum Off Time/Plunger Fall Time Required?

Minutes  **\*required**

Step 3: Would you like to use the Mandatory Timer option in the event of non arrival?

Hours

Step 4: Would you like to use Pressure or Time to open the well?

Step 5: Which Pressure Variable would you like to use to open the well?

Step 6: Please Enter Setpoints and Click Apply to Continue.

Tubing Pressure	Tubing Pressure IN	-5070.307	KPa
	Tubing Press Action	High Open	
	Tubing Open Limit	3005	3005 KPa
	Tubing Open Time	0.00	0.00 min
	Tubing Open Timer	0.00	min
Tube Line	Tube Line Open Limit	-2802	-2802 KPa
	Tube Line Delta	-5070.307	

Apply

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## SCADA Functionality

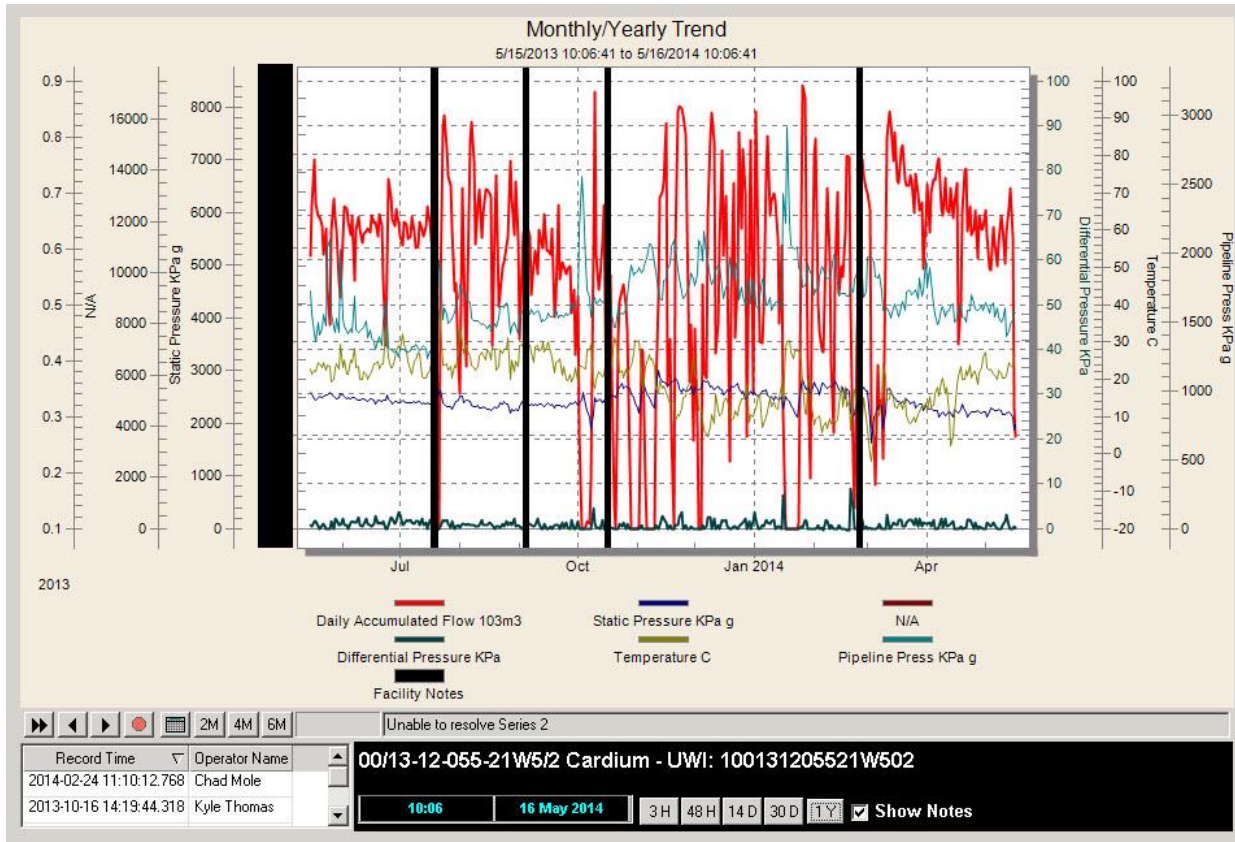
Reset Plunger Counters														
<input type="button" value="Reset"/>														
Status	Arrival Time	Velocity	Run Volume	Off Time	On Time	Plunger Open	Tube Open	Case Open	Line Open	Plunger Arrival	Tube Arrv	Case Arrv	Line Arrv	
Fast	14.38	505.90	0.24	0.83	14.90	16-May-14 01:32:44	2148.92	2456.69	1485.45	16-May-14 01:47:08	1713.12	2451.97	1486.23	16-
Fast	15.20	478.72	0.25	0.83	15.72	16-May-14 01:16:10	2117.12	2462.99	1518.49	16-May-14 01:31:23	1741.51	2453.54	1511.41	16-
Fast	14.70	495.01	0.23	0.83	15.22	16-May-14 01:00:06	2076.91	2462.99	1490.95	16-May-14 01:14:49	1681.93	2461.42	1493.31	16-
Fast	14.65	496.69	0.24	0.83	15.17	16-May-14 00:44:05	2133.21	2458.27	1479.15	16-May-14 00:58:45	1691.45	2461.42	1477.58	16-
Fast	15.10	481.89	0.24	0.83	15.62	16-May-14 00:27:36	2076.44	2462.99	1493.31	16-May-14 00:42:44	1689.59	2458.27	1489.38	16-
Fast	14.78	492.21	0.24	0.83	15.30	16-May-14 00:11:27	2131.60	2456.69	1520.06	16-May-14 00:26:15	1687.81	2459.84	1512.98	16-
Fast	14.75	493.33	0.24	0.83	15.27	15-May-14 23:55:20	2123.14	2462.99	1477.58	16-May-14 00:10:06	1709.01	2453.54	1473.64	16-
Fast	14.90	488.36	0.24	0.83	15.42	15-May-14 23:39:04	2112.58	2466.14	1506.69	15-May-14 23:53:59	1692.97	2461.42	1482.30	15-
Fast	14.82	491.11	0.23	0.83	15.33	15-May-14 23:22:53	2090.52	2462.99	1521.64	15-May-14 23:37:43	1694.14	2464.57	1516.13	15-
Fast	13.97	521.00	0.22	0.83	14.48	15-May-14 23:07:33	2104.89	2462.99	1505.90	15-May-14 23:21:32	1699.17	2458.27	1504.33	15-
Average	14.57		0.23	0.83	15.08		2111.53	2461.57	1499.92		1700.07	2458.42	1494.72	

Plunger / Cycle Information														
Flow Time Today			Normal Count			When Open				When Close				
Flow Time Yesterday			Consec. Normal Arrivals			Average Tube Line				Tube Low				
Closed Time Today			Fast Count			Average Case Line				Casing Low				
Closed Time Yesterday			Late Count			Average Case Tube				Coleman Flow Rate				
Closed Today Total			Slow Count			Foss Gaul				Turner Flow Rate				
Plunger Arrival Today			Cycle Status			Load Ratio				Average Load Ratio				
Plunger Arrival Yesterday			Total Cycles			Tube Press				Average Tube				
Plunger Dist. Traveled						Case Press				Average Case				
						Static Press				Static Low				

p. Trends

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## SCADA Functionality

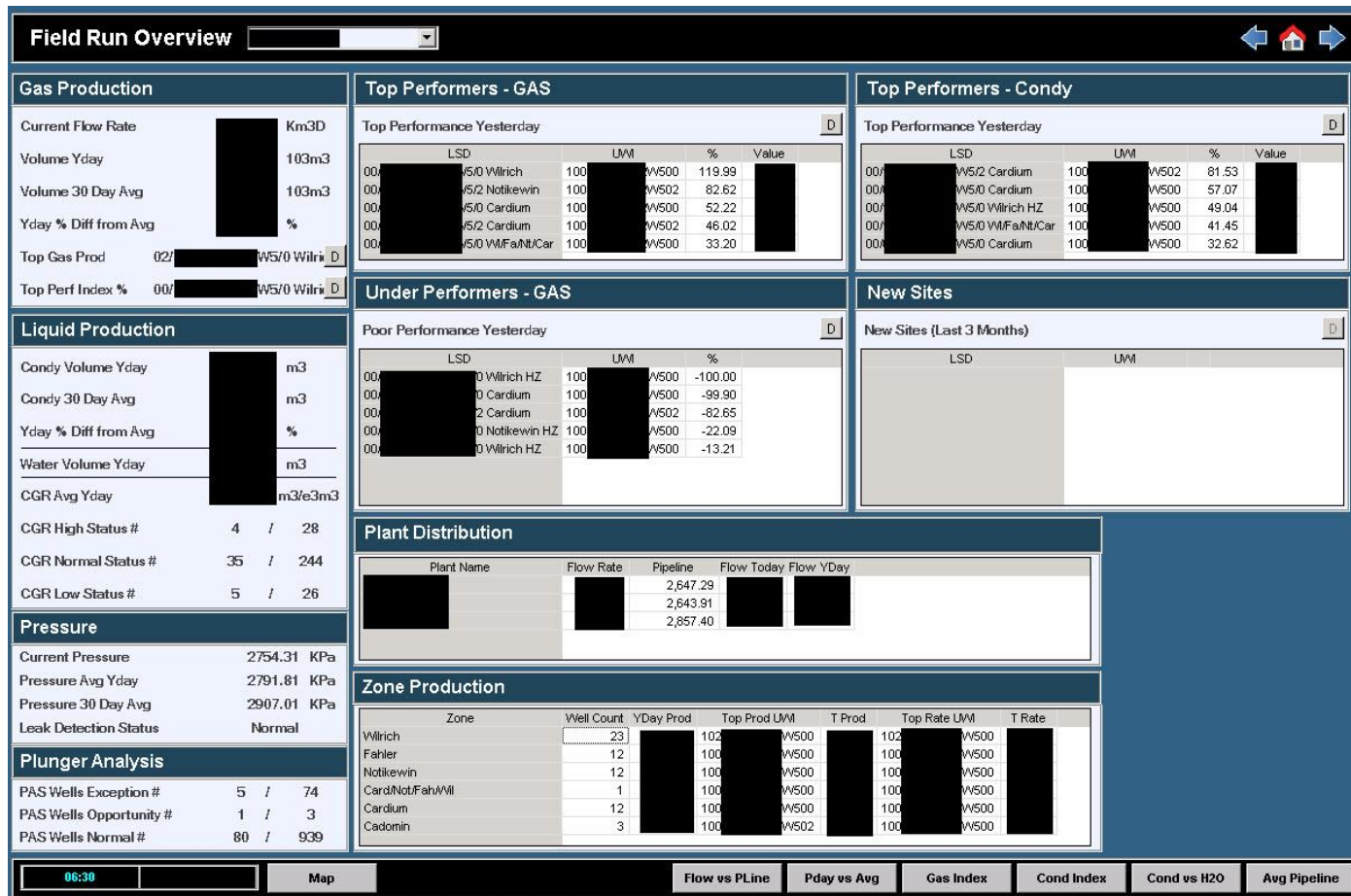




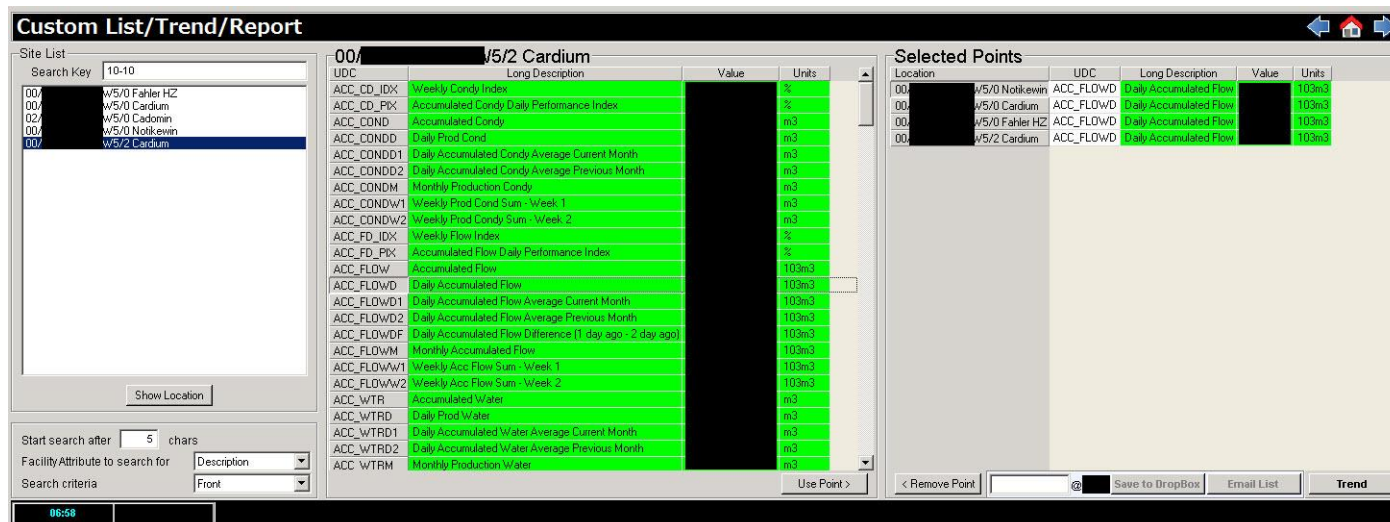
# retraft solutions

## SCADA Functionality

### q. Production Tools – Run Overview



### r. Production Tools – Custom List / Trend / Report



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SCADA Functionality

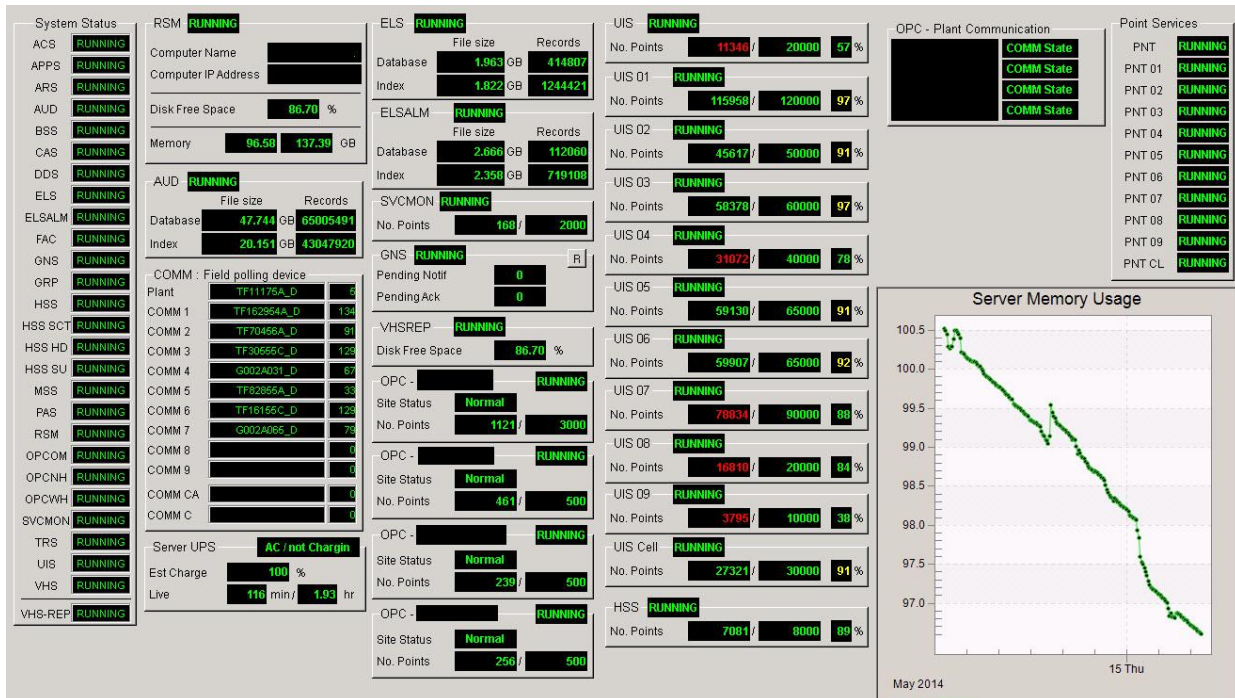
# retraft solutions

## SCADA Functionality

### s. Smart Navigation



### t. System Summary



# retrajt solutions

## SCADA Functionality

System Summary													
System	Alarm	COMM	Scheduler	Callout	User	User Whereabouts	Equip Tracking	Notes	Leak Detection	Support	Tools		
Timestamp	Alarm Priority	UIM	LSD	Field	Run	Description	P Value	P Units	A Value	A Units	Tag Name		
5/15/2014 05:24:0	00					Stop Sequence	Shutdown		Shutdown		EPSEQ		
5/15/2014 00:13:1	00					Curr Com State Test	Critical		Critical		SVCSSTAT		
5/15/2014 22:10:4	0	10000	15			Flow Rate	0	km3D	0	MMCFD	RFLOW		
5/15/2014 18:53:0	25	10209	03			Plunger Controller State	Fail		Fail		LC_STATE		
5/15/2014 18:07:5	0	10000	05			Flow Rate	0	km3D	0	MMCFD	RFLOW		
5/15/2014 15:53:4	10		10			Voltage	11.7	volt	11.7	volt	VOLT		
5/15/2014 12:57:1	10		06			Voltage	11.58797	volt	11.60297	volt	VOLT		
5/15/2014 09:41:1	25	10016	16			Plunger Controller State	Fail		Fail		LC_STATE		
5/14/2014 16:29:4	25	10303	13			Plunger Controller State	Fail		Fail		LC_STATE		
5/14/2014 13:46:3	25	10004	04			Plunger Controller State	Fail		Fail		LC_STATE		
5/14/2014 13:46:3	0	10004	04			Flow Rate	0	km3D	0	MMCFD	RFLOW		
5/14/2014 09:56:0	0	10009	04			Pig Dist Traveled	8136	km	5055.475	mile	POSTTRVD		
5/14/2014 09:45:11	0	10009	16			Flow Rate	0	km3D	0	MMCFD	RFLOW		
5/13/2014 10:55:5	0	10009	04			Pig Dist Traveled	8023.0165	km	4985.768	mile	POSTTRVD		
5/11/2014 14:27:57	00		02			Curr Com State Test	Critical		Critical		SVCSSTAT		
5/11/2014 11:56:35...	0		13			Voltage	11.90813	volt	11.98813	volt	VOLT		
5/9/2014 09:56:42...	0	10004	12			Casing Press	18782.25	KPa g	2738.831...	psi	PCASING		
5/8/2014 14:03:10	0	10016	16			Flow Rate	0	km3D	0	MMCFD	RFLOW		
5/8/2014 14:03:05	0	10016	16			Flow Rate	0	km3D	0	MMCFD	RFLOW		
5/8/2014 09:56:22	0	10009	04			Pig Dist Traveled	8483.696	km	5271.462	mile	POSTTRVD		
5/5/2014 02:01:02	0	10016	02			Pig Dist Traveled	8131.1544	km	5052.465	mile	POSTTRVD		
5/1/2014 10:00:11	0	10003	16			Pig Dist Traveled	8119.41	km	5045.167	mile	POSTTRVD		
5/1/2014 00:02:26	0	10009	12			Methane Level Percent	-25.47695	%	-25.47695	%	LCLEVEL		
4/26/2014 09:57:2	0	10313	01			Pig Dist Traveled	8045.352	km	4999.149	mile	POSTTRVD		
4/15/2014 12:22:1	0	10201	01			Pig Dist Traveled	8019.288	km	4982.955	mile	POSTTRVD		
4/13/2014 11:38:08	0	10002	02			Methane Level Percent	-24.58665	%	-24.58665	%	LCLEVEL		
4/1/2014 19:07:56	25	10007	04			Plunger Controller State	Fail		Fail		LC_STATE		
2/3/2014 18:56:02	0	10016	16			Methane Level Percent	-24.62512	%	-24.62512	%	LCLEVEL		
1/30/2014 09:57:3	0	10013	15			Pig Dist Traveled	8028.122	km	4987.200	mile	POSTTRVD		
12/30/2013 13:50	0	10201	02			Methane Level Percent	-25.38156	%	-25.38156	%	LCLEVEL		
12/6/2013 12:11:40	0	10216	13			Methane Level Percent	-25.33386	%	-25.33386	%	LCLEVEL		
12/6/2013 12:11:40	0	10304	13			Methane Level Percent	-25.01768	%	-25.01768	%	LCLEVEL		
12/6/2013 12:11:40	0	10316	13			Methane Level Percent	-24.89126	%	-24.89126	%	LCLEVEL		
12/6/2013 12:11:40	0	10019	04			Methane Level Percent	-25.08744	%	-25.08744	%	LCLEVEL		

System Summary

System

Alarm

COMM

Scheduler

Callout

User

User Whereabouts

Equip Tracking

Notes

Leak Detection

Support

Tools

Current Resend Callouts

Event ID	GNS ID	Status	Address	Type	Ack ID	Notif ID	Site/Service	Facility ID	UDC	Long ID	Alarm
The notification queue is empty.											

Current Notifications

Event ID	GNS ID	Status	Address	Type	Ack ID	Resend ID	Site/Service	Facility ID	UDC	Long ID	Alarm
The resend queue is empty.											



## SCADA Functionality

System Summary											
System	Alarm	COMM	Scheduler	Callout	User	User Whereabouts	Equip Tracking	Notes	Leak Detection	Support	Tools

Current Tasks										
Tasks	Blackouts									
Name	Category	Type	User	Destination	GNS ID	Active	Next Run	Last Run	Last Status	
AGAGet 00	RTU	Cmd	CYGN	OLDMAN.UIS		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:05 AM	OK	
AGAGet 01	RTU	Cmd	CYGN	OLDMAN.UIS01		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:05 AM	OK	
AGAGet 02	RTU	Cmd	CYGN	OLDMAN.UIS02		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:03 AM	OK	
AGAGet 03	RTU	Cmd	CYGN	OLDMAN.UIS03		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:03 AM	OK	
AGAGet 04	RTU	Cmd	CYGN	OLDMAN.UIS04		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:03 AM	OK	
AGAGet 05	RTU	Cmd	CYGN	OLDMAN.UIS05		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:03 AM	OK	
AGAGet 06	RTU	Cmd	CYGN	OLDMAN.UIS06		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:02 AM	OK	
AGAGet 07	RTU	Cmd	CYGN	OLDMAN.UIS07		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:01 AM	OK	
AGAGet 08	RTU	Cmd	CYGN	OLDMAN.UIS08		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:01 AM	OK	
AGAGet 09	RTU	Cmd	CYGN	OLDMAN.UIS09		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:01 AM	OK	
AGAGet CL	RTU	Cmd	CYGN	OLDMAN.UISCL		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:01 AM	OK	
AGAGet CNG	RTU	Cmd	CYGN	OLDMAN.UISHNH		Y	5/17/2014 6:00:00 AM	5/16/2014 6:00:01 AM	OK	
AlarmFlag	HOST	SetPoint	CYGN	OLDMAN.HSS6		Y	5/16/2014 10:00:00 PM	5/15/2014 10:00:01 PM	OK	
AnsellValues	DailyVal	SetPoint		OLDMAN.HSS2		Y	5/16/2014 8:30:00 AM	5/15/2014 8:30:00 AM	OK	
ConfigGet	RTU	Cmd	SCAD	OLDMAN.UIS01		N	n/a	n/a	n/a	
ConfractHR		SetPoint		OLDMAN.HSS2		Y	5/16/2014 8:00:00 AM	5/15/2014 8:00:00 AM	OK	
EmailGNS	Bugs	SetPoint	CYGN	OLDMAN.HSS2		Y	5/16/2014 7:45:00 AM	5/16/2014 7:35:00 AM	OK	
EmailHSSBiscout	Email	SetPoint	CYGN	OLDMAN.HSS2		Y	6/15/2014 8:30:00 AM	5/15/2014 8:30:00 AM	OK	

Current Blackouts										
Tasks	Blackouts									
Name	Type	Days	Start Date	End Date	Start Time	End Time	Active			
Alarm Callout Delay	Day	Su Mo Tu We Th Fr Sa			09:00:00 PM	05:00:00 AM	Y			
Blaire M Callout	List						Y			
Daily History	Day	Su Mo Tu We Th Fr Sa			07:45:00 AM	10:00:00 AM	Y			
Dennis M Callout	List						Y			
Frac Night	Day	Su Mo Tu We Th Fr Sa			12:00:00 AM	06:00:00 AM	Y			
Night Time Sync #1	Day	Su Mo Tu We Th Fr Sa			12:05:00 AM	12:45:00 AM	Y			
Night Time Sync #2	Day	Su Mo Tu We Th Fr Sa			02:05:00 AM	02:45:00 AM	Y			
Solar Panel Day	Day	Su Mo Tu We Th Fr Sa			03:00:00 PM	09:00:00 AM	Y			
Solar Panel Night	Day	Su Mo Tu We Th Fr Sa			08:00:00 AM	03:00:00 PM	Y			
Time Day - 6A-6P	Day	Su Mo Tu We Th Fr Sa			06:00:00 AM	06:00:00 PM	Y			
Time Night - 6P-6A	Day	Su Mo Tu We Th Fr Sa			06:00:00 PM	06:00:00 AM	Y			
Well Test Day	Day	Su Mo Tu We Th Fr Sa			04:10:00 PM	06:00:00 AM	Y			

## SCADA Functionality

Revision 0  
Page 30 of 47

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## SCADA Functionality

### a. Add On: RTU Commands

Site List

Search Key 55-21

007 W/5/0 M. Fahler HZ

027 W/5/0 Cardium HZ

007 W/5/0 Notikewin

037 W/5/2 Cardium

007 W/5/0 M. Fahler HZ

007 W/5/0 Notikewin HZ

007 W/5/0 Fahler HZ

027 W/5/0 W/5/0 HZ

007 W/5/0 Fahler HZ

027 W/5/0 Fahler HZ

007 W/5/0 Cardium

007 W/5/0 Cadomin

007 W/5/0 Cardium

007 W/5/3 Cardium

007 W/5/0 U. Fahler HZ

007 W/5/0 Cardium

027 W/5/0 Cardium HZ

007 W/5/0 Cardium HZ

007 W/5/0 Well 3

007 W/5/0 Well 4

027 W/5/2 W/5/0 HZ

007 W/5/0 Cardium

007 W/5/0 Cardium

007 W/5/2 Belly River

037 W/5/0 Bluesky HZ

007 W/5/0 Cardium

007 W/5/0 Cad./Not.

007 W/5/0 Cardium

007 W/5/0 Notikewin HZ

007 W/5/2 Cardium

007 W/5/2 Cardium

007 W/5/2 Cardium

007 W/5/0 Cardium

007 W/5/0 Cardium HZ

007 W/5/2 Notikewin HZ

007 W/5/0 Cardium

007 W/5/0 Cardium HZ

007 W/5/0 Fahler HZ

007 W/5/0 Fahler HZ

164 MeterRun 3

164 MeterRun 4

007 W/5/0 Cardium

037 W/5/0 U. Fahler HZ

027 W/5/0 M. Fahler HZ

Select Location >

Start search after 5 chars

Facility Attribute to search for Description

Search criteria Front

Selected Site

Description	UWI	Scan
027 Cadomin	102	00 ON
007 Cardium	100	00 ON
007 FG BB	100	00 ON
007 Cad/Gith/BS/N	100	00 ON
007 LPG Truck	100	00 ON
007 Cardium	100	00 ON
007 C/B/N	100	00 ON
007 Cardium	100	02 ON
007 Cardium HZ	100	00 ON
037 Bluesky HZ	103	00 ON

< Remove Site

Selected Command

Get AGA

Get AGA

Get RTU Config

History Custom

History Yesterday

Flow Yesterday

Plunger Control Mode

Plunger Trend 3hr

Plunger Trend 8hr

Write RTU Date/Time

Write to EEPROM

Execute

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## SCADA Functionality

### 2. Scada Added Functionality

#### a. Frac911 – Fracking Management System

**Frac Overview**

Current Fracs

Location	Well Count
00/	3
00/	0
00/	3
02/	1
00/	0
00/	0
00/	0

Wells for

Well Name	Time	Enabled
02A	2	Yes
02A	2	Yes
02A	2	Yes

Export Data for

From: 19/08/13 To: 19/08/13

Address: @

Save to DropBox Email Report

Fra

Map

Quick Link 00/ Township All

Flows To All Wellbore All

Callout Type All

Hide Employees Show Employees

Map Satellite



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## SCADA Functionality

### Frac Overview

Request a Frac

Current Fracs

Location	Well Count	3rd Party	Monitored
0001- (2014/05/14)	1	No	
0008- (2014/05/15)	5	No	
0007- (2014/05/18)	5	No	

Wells for 00/08-04-055-21W5/0 - 15 MAY 2014

Well Name	Time	Enabled	Company Name
00/04- U. Fahler HZ	1	Yes	
00/16- U. Fahler HZ	1	Yes	
00/01- U. Fahler HZ	1	Yes	
03/04- U. Fahler HZ	1	Yes	
00/10- U. (M)	1	Yes	

Export Data for 00/04-04-055-21W5/0 U. Fahler HZ

From: 05/05/14 To: 07/05/14 Address: rockland

Save to DropBox Email Report

### Edit Frac Location 00/08- - 15 MAY 2014

Frac Location: 00/08- 3rd Party Frac: None Monitored By: None

Start Date/Time: 15/05/14 01:00:00

Change Rate: 375 kPa/10 min = 37.5 kPa/min

Latitude: Longitude:

Well to monitor

Well Name	Time	Enabled
00/04- W5/0 U. Fahler HZ	1	Yes
00/16- W5/0 Fahler HZ	1	Yes
00/01- W5/0 Fahler HZ	1	Yes
03/04- W5/0 Fahler HZ	1	Yes
00/10- W5/0 (M)	1	Yes

00/16- Fahler HZ

Trend Time: 1 days

Enable: ☒

Apply Cancel

Start search after: 5 chars Search Key: Select Facility

Facility Attribute to search for: Description Search criteria: Within

Search Examples:

To search for "00/07- W5/0" type "07-11-" in Search Key cell

To search for "02/05- W5/0" type "02/05-" in Search Key cell

From results box select the desired site and click: Select Facility to add it to the list

Frac Overview

Request a Frac

Current Fracs

R

T

A

M

D

Location

Well Count

3rd Party

Monitored R

0001- (2014/05/14)

1

No

0008- (2014/05/15)

5

No

0007- (2014/05/18)

5

No

Wells for 00/08-04-055-21W5/0 - 15 MAY 2014

T

Well Name

Time

Enabled

Company Name

00/04- U. Fahler HZ

1

Yes

00/16- U. Fahler HZ

1

Yes

00/01- U. Fahler HZ

1

Yes

03/04- U. Fahler HZ

1

Yes

00/10- U. (M)

1

Yes

Export Data for 00/04-04-055-21W5/0 U. Fahler HZ

From

05/05/14

Address

rockland

To

07/05/14

Address

rockland

Save to DropBox

Email Report

Frac Values

Frac Location

Well Description

UWI

COMM

Tubing

Casing

AVG

DIT

Pipeline

Plate

Plate

Flows To

Fracking

Scan

RTU Type

00/01- (2014/05/14)

00/16- Fahler HZ

10

00 Normal

1266.62

2126.09

2125.30

-13.19

1199.02

1.125 in

28.575 mm

No

DN

ABB TotalFlow G4 6200

00/08- (2014/05/15)

00/04- U. Fahler HZ

10

00 Normal

-71.91

12167.70

12175.59

-5.11

1629.09

1.875 in

47.625 mm

Yes

DN

ABB TotalFlow G4 6200

00/08- (2014/05/15)

00/01- Fahler HZ

10

00 Normal

-80.60

7510.88

7512.66

0.20

2962.18

1.25 in

31.75 mm

Yes

DN

ABB TotalFlow G4 6200

00/08- (2014/05/15)

03/04- Fahler HZ

10

00 Normal

6209.88

6210.37

6209.22

0.43

3094.12

1.125 in

28.575 mm

Yes

DN

ABB TotalFlow G4 6200

00/07- (2014/05/18)

00/04- Fahler HZ

10

00 Normal

1495.70

3428.85

3449.78

-6.20

1481.60

1 in

25.4 mm

Yes

DN

ABB TotalFlow G4 6200

00/07- (2014/05/18)

02/01- Wilch HZ

10

00 Normal

2813.83

5262.54

5330.19

253.34

2961.51

1 in

25.4 mm

No

DN

ABB TotalFlow G4 6200

00/07- (2014/05/18)

00/13- Wilch HZ

10

00 Normal

2993.64

4125.69

4132.49

-10.31

3062.26

1.125 in

28.575 mm

No

DN

ABB TotalFlow G4 6200

00/07- (2014/05/18)

03/01- Wilch HZ

10

00 Normal

3088.20

4459.32

4459.16

-0.56

3059.09

1.25 in

31.75 mm

No

DN

ABB TotalFlow G4 6200

00/07- (2014/05/18)

00/04- Wilch HZ

10

00 Normal

2971.99

3595.43

4211.26

0.00

2991.83

1 in

25.4 mm

No

DN

ABB TotalFlow G4 6200

00/07- (2014/05/18)

00/01- Wilch HZ

10

00 Normal

2847.12

3984.88

3975.05

-1425.86

2967.31

0.875 in

22.225 mm

No

DN

ABB TotalFlow G4 6200

Total

Mobile Units

Frac Location

Well Description

COMM

Tubing

Casing

AVG

DIT

Fracking

00/08- (2014/05/15)

00/10- U. (M)

00 Normal

-101.78

4101.98

4100.81

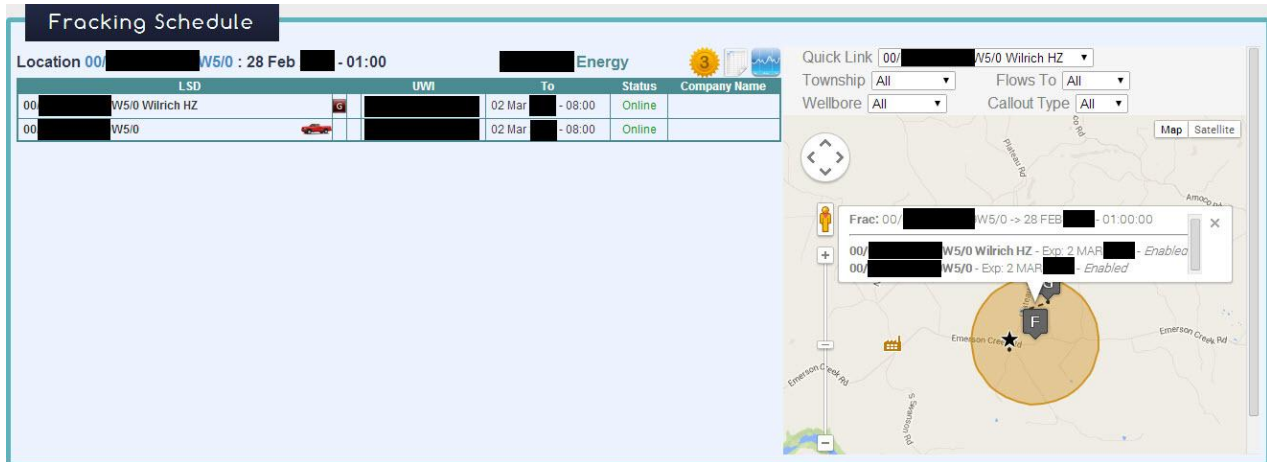
0.23

DN

Total

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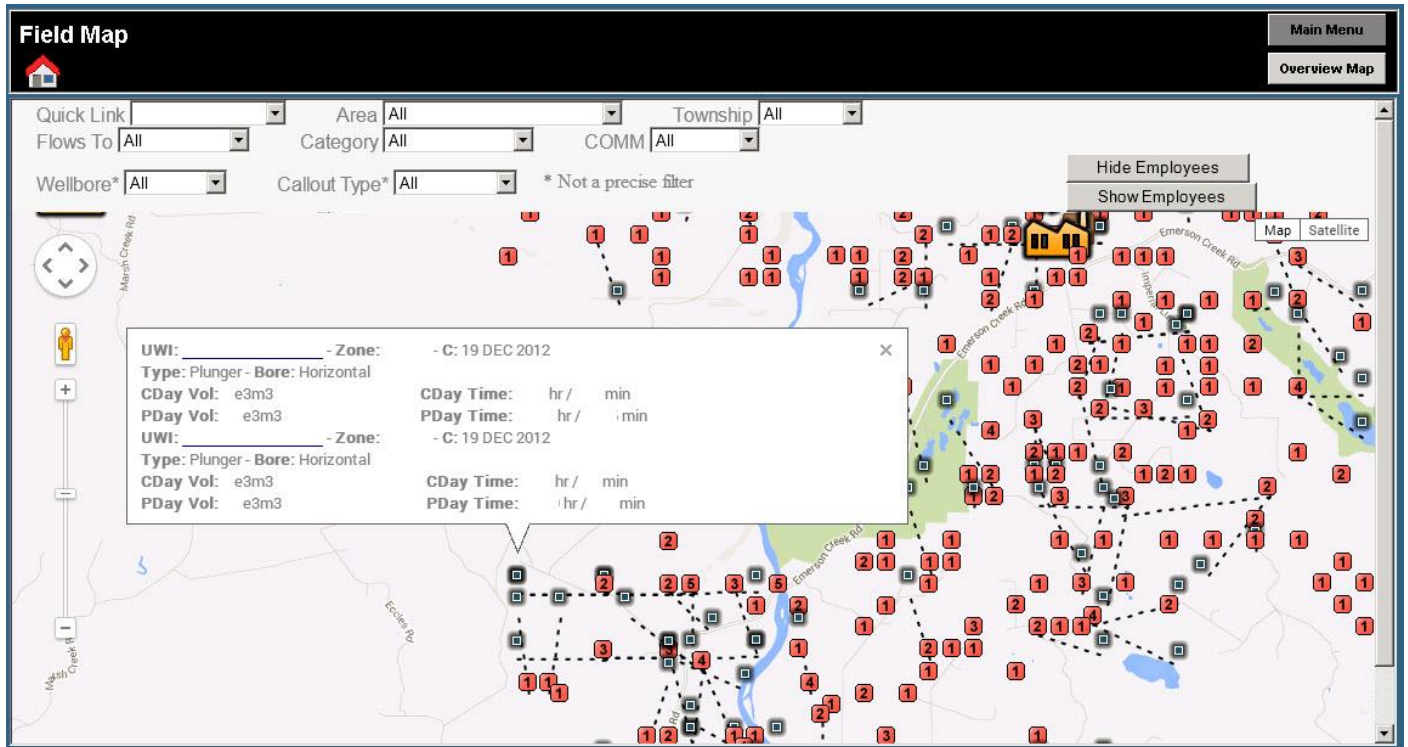
## SCADA Functionality



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## SCADA Functionality

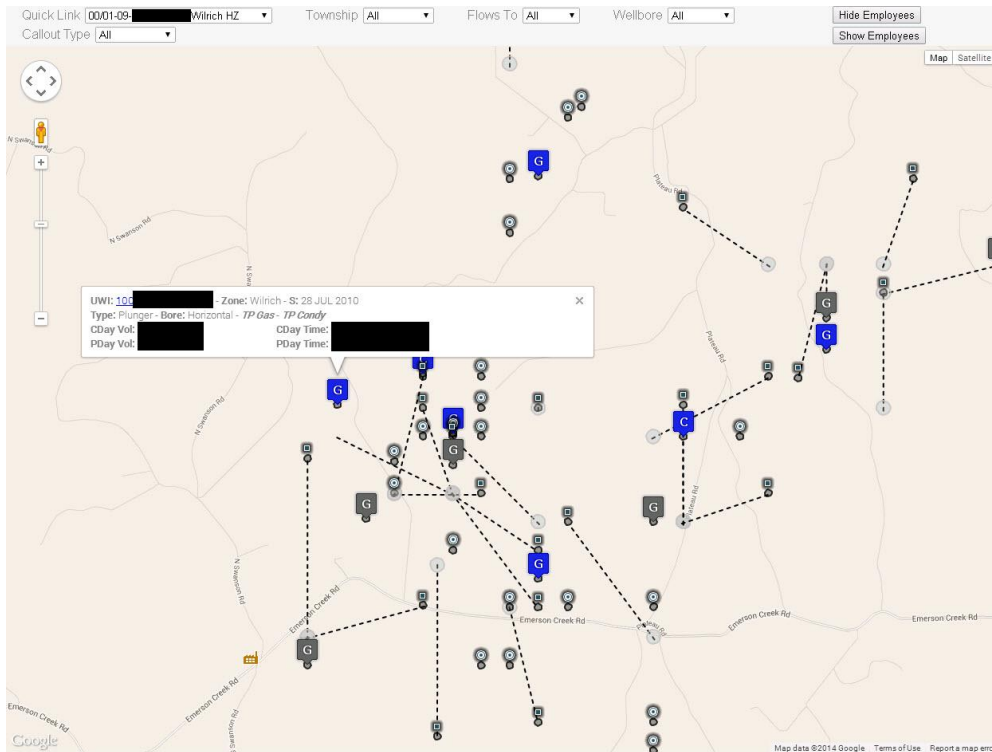
### b. Dynamic Map – Well Map



### c. Dynamic Map – Area Map

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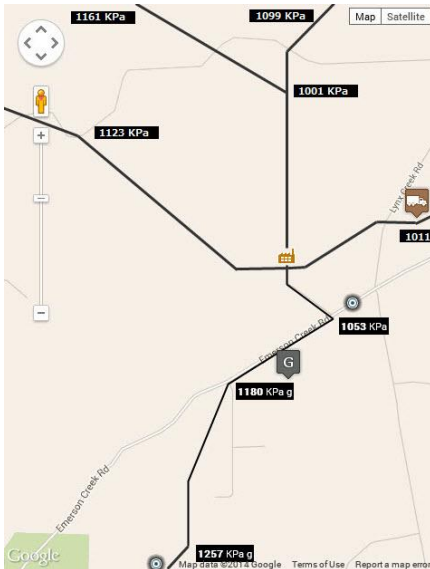
## SCADA Functionality



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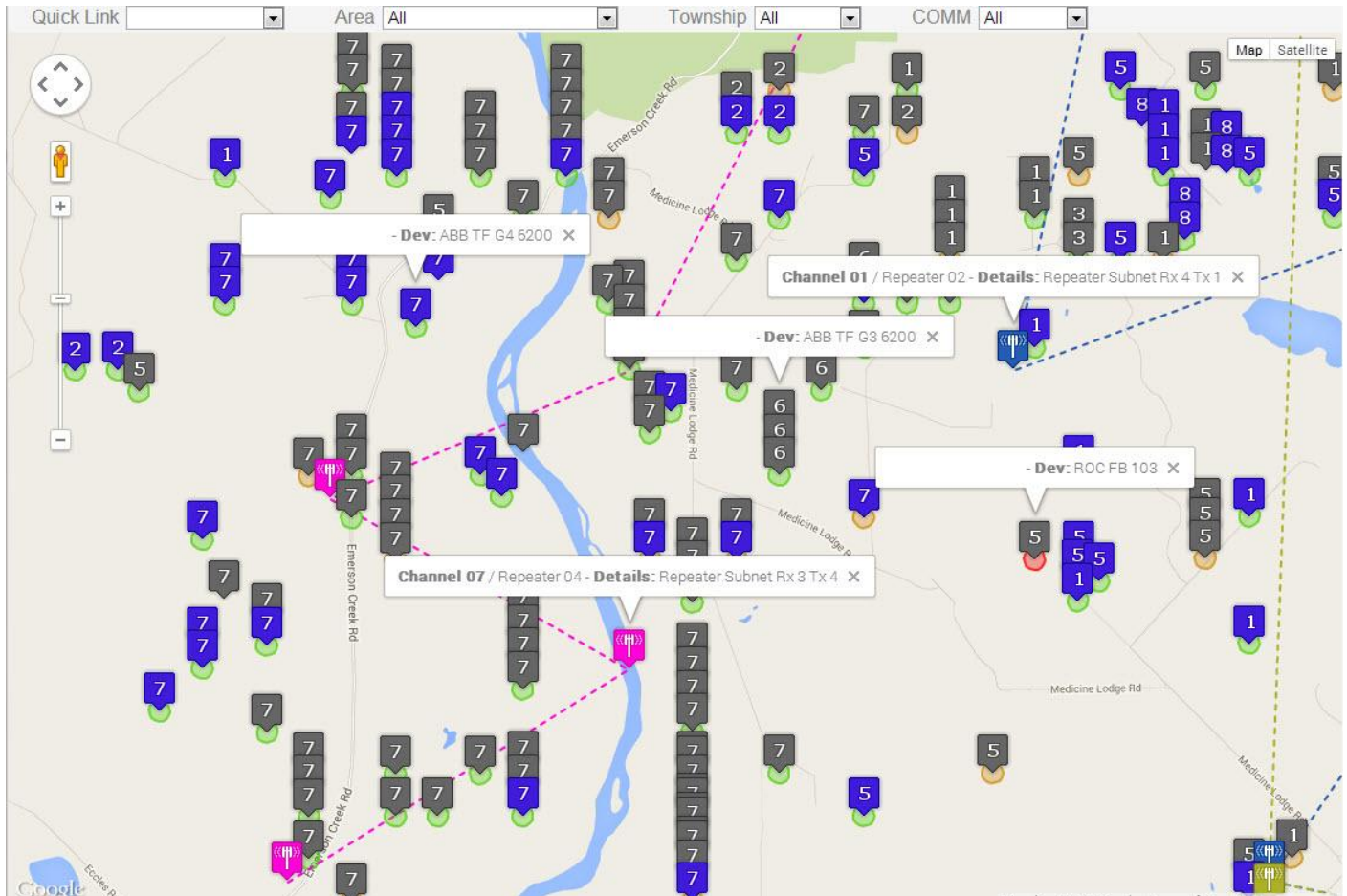
## SCADA Functionality

### d. Dynamic Map – Pipeline Map



### e. Dynamic Map – RTU and Communication Map

## SCADA Functionality

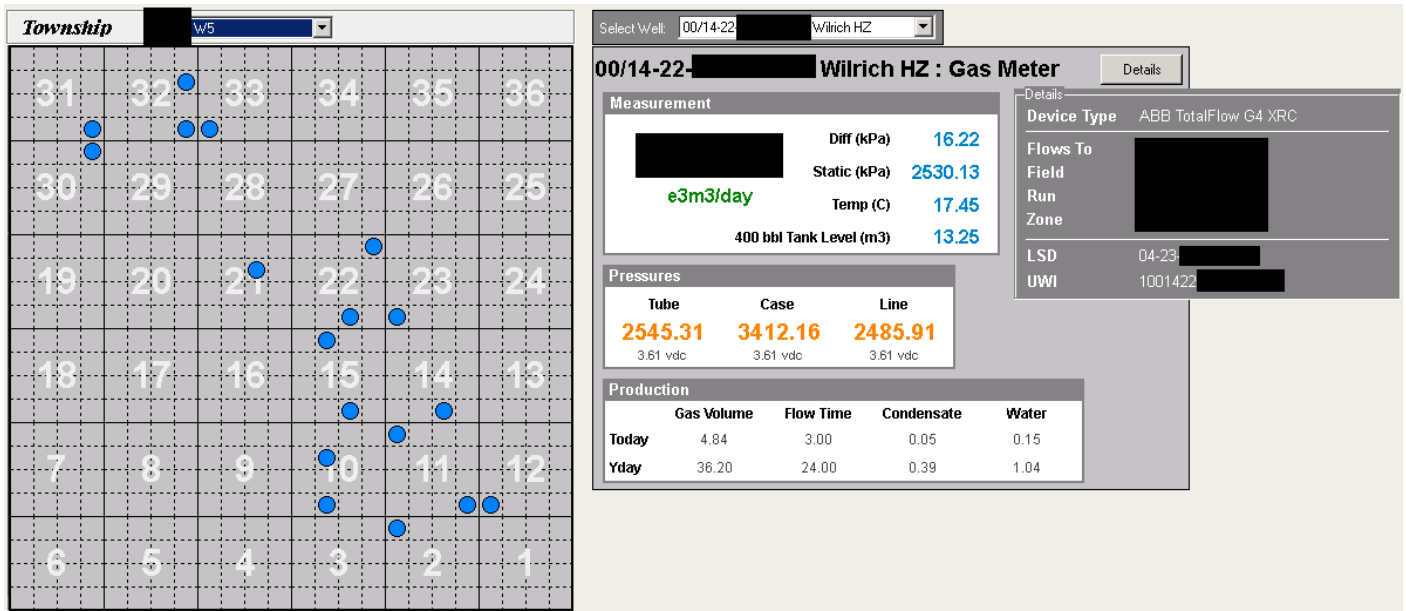




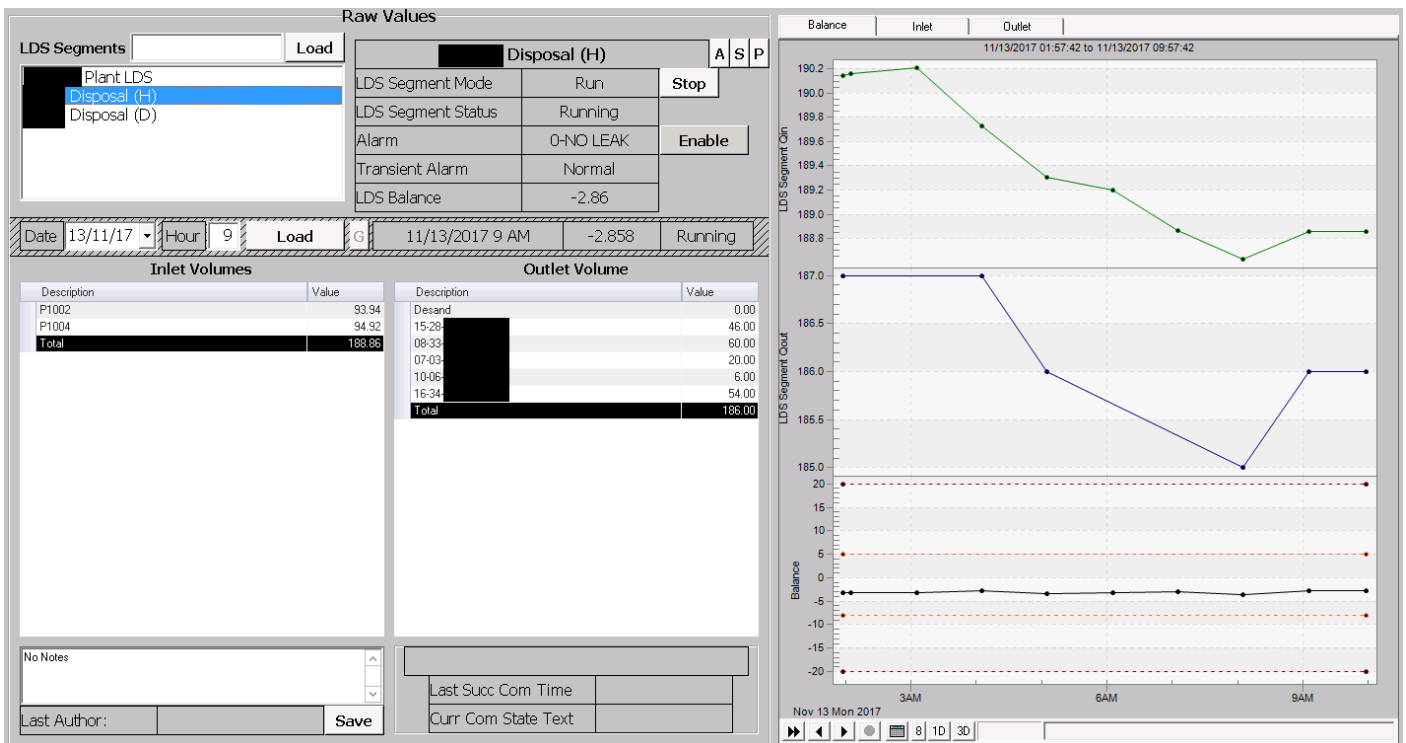
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## SCADA Functionality

### f. Dynamic Map – based on Township grid



### g. Pipeline Segment – Leak Monitoring



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## SCADA Functionality

### h. SCADAbyEmail

SCADAbyEmail	
Status	11
Run	182
Plant	18
<hr/>	
Help	10
Access Failed	9
<hr/>	
Total	230

### i. Condensate Gas Ratio

CGR				
Yesterday	0.0000	m3/e3m3	0.0000	bbl/mmmscf
Average 1	0.0000	m3/e3m3	0.0000	bbl/mmmscf
Average 2	0.0232	m3/e3m3	4.1110	bbl/mmmscf
Difference	0.00	%	Status	Normal
				Trend Setting Default



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## SCADA Functionality

### Condensate Gas Ratio Report

Location: [REDACTED]

Date Printed: 13 JAN 2013 - 09:05

Production Date: 12 JAN 2013

Facility Location	CGR	AVG 1	AVG 2	Difference	Status
[REDACTED] Area					
00/10- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	0.0000	Normal
00/01- [REDACTED] Wilrich HZ	[REDACTED]	[REDACTED]	[REDACTED]	114.1538	Normal
00/12- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	0.0000	Low
02/12- [REDACTED] Notikewin HZ	[REDACTED]	[REDACTED]	[REDACTED]	97.7441	Normal
00/13- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	74.3272	Low
00/12- [REDACTED] Wilrich HZ	Missing values ...				
02/01- [REDACTED] Wilrich HZ	Missing values ...				
02/13- [REDACTED] Wilrich HZ	Missing values ...				
02/13- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	107.5546	Normal
00/13- [REDACTED] Wilrich HZ	[REDACTED]	[REDACTED]	[REDACTED]	108.1680	Normal
02/13- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	182.4393	High
00/16- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	116.3336	Normal
00/04- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	108.7747	Normal
00/02- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	0.0000	Normal
02/04- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	0.0000	Low
00/04- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	119.1908	Normal
02/09- [REDACTED] Bluesky HZ	[REDACTED]	[REDACTED]	[REDACTED]	102.2197	Normal
02/01- [REDACTED] Fahler HZ	Missing values ...				
00/01- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	110.0980	Normal
00/13- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	109.5444	Normal
00/13- [REDACTED] Cardium HZ	[REDACTED]	[REDACTED]	[REDACTED]	380.7045	High
00/13- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	103.8854	Normal
00/16- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	97.5393	Normal
00/04- [REDACTED] Fahler HZ	[REDACTED]	[REDACTED]	[REDACTED]	100.6319	Normal

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## SCADA Functionality

### j. Notes – Well Notes Management

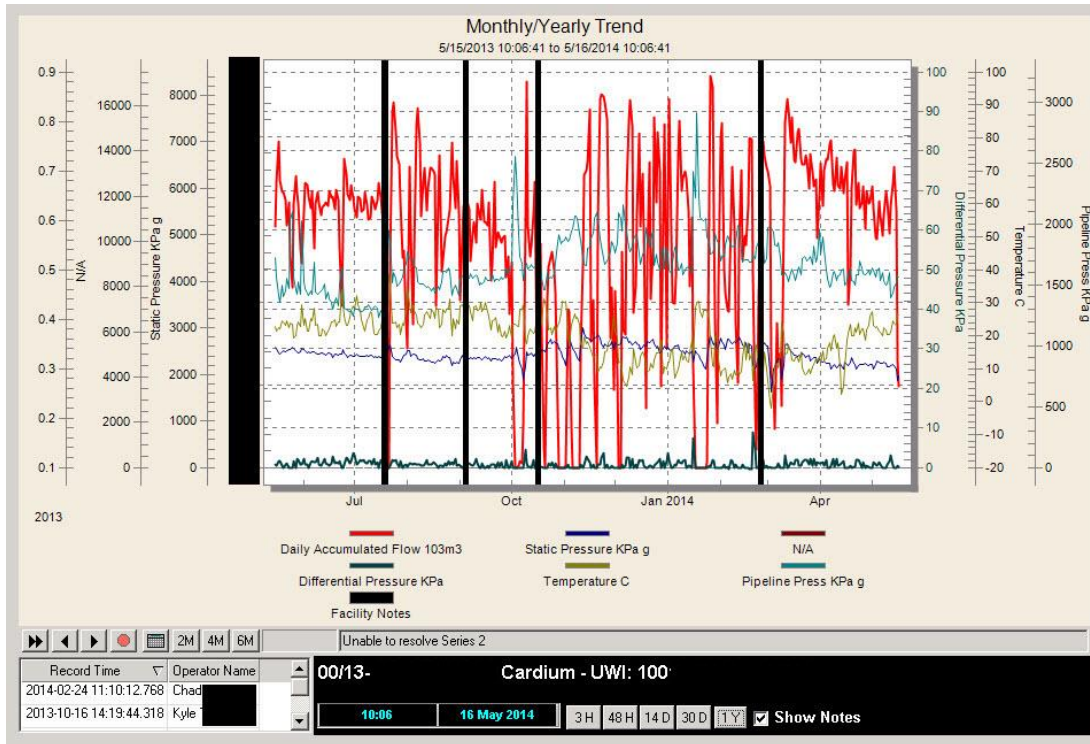
#### Monthly Meter Notes Report

Production Month: JAN 2014

		The sample has been taken..	LSD: [REDACTED]
00/04-	Notikewin HZ		
3 JAN 2014 - 16:16:10	Jeff	sampled well, gas and condy	
7 JAN 2014 - 00:54:07	Jeff	si and depressure pline for pig sender amd receiver tie in am	
10 JAN 2014 - 00:57:10	Jeff	pigged	
16 JAN 2014 - 22:28:38	Jeff	pigged	
00/13-	Cardium HZ		LSD: [REDACTED]
5 JAN 2014 - 21:05:44	Darcy	Set tbq/pl diff from 2600 down to 2400 kpa.	
00/15-	Cardium HZ		LSD: [REDACTED]
5 JAN 2014 - 21:03:20	Darcy	Set delay to .5 minutes from 2.	
03/10-	Walrich HZ		LSD: [REDACTED]
6 JAN 2014 - 22:17:21	Darcy	Downhole Recorder maintenance work has been done. The recorder has been removed. Notes: Completions removed choke and recorders to do a clean out on December 14th, 2013 Well esdd due to low flow setpoint, need ops to adj	
15 JAN 2014 - 07:00:24	Jeff		LSD: [REDACTED]
00/01-	Cardium HZ		LSD: [REDACTED]
30 JAN 2014 - 22:54:23	ryan	changed critical fow from 40dec to 99. changed critical flow time from 1 to 2min. raised off time from 60 to 90min. maditory time from 90 to 180min	
00/14-	Cardium HZ		LSD: [REDACTED]
6 JAN 2014 - 02:37:15	Darcy	Switched to sync off instead of sync on. Well was staying shut in for way too long. Set off time to 60 minutes and mand. to :120 minutes.	
00/04-	Cardium		LSD: [REDACTED]
9 JAN 2014 - 20:17:10	Jeff	RIH with brush, brushed nipples and tagged fill @ 2187mcf, 2m below perfs. 2150mcf bottom of tbq, RIH with gauge ring to profile @ 2139mcf, no hang ups. Landed new fergy bs @ 2139mcf no notched.	
00/02-	Cardium		LSD: [REDACTED]
7 JAN 2014 - 18:29:10	Jeff	plgr install, installed fergy (no notched) bs @ 2152mcf, tagged fill @2183mcf. gauge ring ran no issues	
29 JAN 2014 - 21:58:41	Jeff	plungered well, dropped freecycle	
00/10-	Cardium		LSD: [REDACTED]
5 JAN 2014 - 19:58:46	Darcy	Took two minutes off the delay and added it to the off time.	
00/14-	Cardium		LSD: [REDACTED]
6 JAN 2014 - 02:52:57	Darcy	Minus 6 minutes off delay and added to the off time. Missing a lot of cycles.	
00/13-	Cardium		LSD: [REDACTED]
20 JAN 2014 - 22:04:41	Jeff	dropped freecycle plgr, used 1.890	
20 JAN 2014 - 22:05:37	Jeff	Plunger Lift maintenance work has been done at 3051 km / The Plunger has been replaced. Plunger Measurement Bottom 1.890 Plunger Measurement Middle 1.890 Plunger Measurement Top 1.890	
00/09-	Notikewin		LSD: [REDACTED]
6 JAN 2014 - 02:23:46	Darcy	Set up plunger times to :20 on, :40 off and :120 mand. Also set CF to 15 decs from 13.	
8 JAN 2014 - 21:19:04	Ryan	miced plunger on jan 6 2014 plunger miced at 1884	
23 JAN 2014 - 22:00:18	Brad	Plunger Lift maintenance work has been done at 0 / 0 km / The Plunger has NOT been replaced. Plunger Measurement Bottom 1.884 Plunger Measurement Middle 1.884 Plunger Measurement Top 1.884	
00/12-	Cardium		LSD: [REDACTED]
5 JAN 2014 - 19:44:39	Darcy	Set tbq/pl diff from 1100 to 1150 kpa to help strengthen.	
00/04-	Cardium		LSD: [REDACTED]
5 JAN 2014 - 19:41:13	Darcy	Set tbq/pl diff from 950 kpa to 975 to strengthen.	

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## SCADA Functionality



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## SCADA Functionality

### k. Well State Progress



### l. Well Scheduler

#### Schedule Group Startup

Facilities Selection

Scheduled	Temporary Selected	Available
14- -0 - W -> 102 00 : Now + 20 min 10- -0 - W -> 100 00 : Now + 3 hr 02- -0 - W -> 100 00 : 201 /0 /24 @ 10:0 AM	07-0 -0 - W -> 100 w/ 02	02- -0 - W -> 100 w/ 30 05- -0 - W -> 102 w/ 30 14- -0 - W -> 102 w/ 30 07- -0 - W -> 100 w/ 30 13- -0 - W -> 100 w/ 30

Settings:  
☐ Now + 3 hr  
☒ Date 2013/08/24 10 0 AM

Apply Clear Cancel Close

### m. Well Performance Index

Performance Index			
	0-30 Day Avg	31-60 Day Avg	Difference
Pipeline Press	1232.00	1123.96	3.11 T
Gas	1.49	3.00	-100.00 T
Condensate	0.11	0.26	-100.00 T
Water	0.04	0.11	

### n. Quick Meter Pick

Search Key: 10-10

Start settings: 4 chars

Description: LSD

Within: Within

00/10-10- /0 Fahler HZ  
00/10-10- /0 Cardium  
02/10-10- /0 Cadomin

Show Meter Nav

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## SCADA Functionality

### o. Plunger mileage, Lubricator and Bumper Spring

Plunger Inspection			
Last Inspection	11 Mar 2015		by: James
Current	Total	vWell Total	
37	779	5390 km	
<input type="button" value="A"/>			
Your Full Name : <input type="text" value="Rockland"/>			
Did you replace the plunger?	<input type="button" value="Please Select"/>		
Reset Inspection Interval?	<input type="button" value="Please Select"/>		
Plunger Type?	<input type="button" value="Please Select"/>		
Plunger Measurement Top	<input type="text"/>		
Plunger Measurement Middle	<input type="text"/>		
Plunger Measurement Bottom	<input type="text"/>		
Notes: <input type="text"/>			
<input type="button" value="Apply"/>			

Lubricator Inspection			
Last Inspection	11 Mar 2015		by: James
Current	Total	vWell Total	
37	99	99 km	
7	19	19 arrivals	
<input type="button" value="A"/>			
Your Full Name : <input type="text" value="Rockland"/>			
Did you replace the Lubricator?	<input type="button" value="Please Select"/>		
Reset Inspection Interval?	<input type="button" value="Please Select"/>		
Lubricator Type?	<input type="button" value="Ferguson"/>		
Spring OK?	<input type="button" value="Please Select"/>		
Threads OK?	<input type="button" value="Please Select"/>		
Catch OK?	<input type="button" value="Please Select"/>		
Notes: <input type="text"/>			
<input type="button" value="Apply"/>			

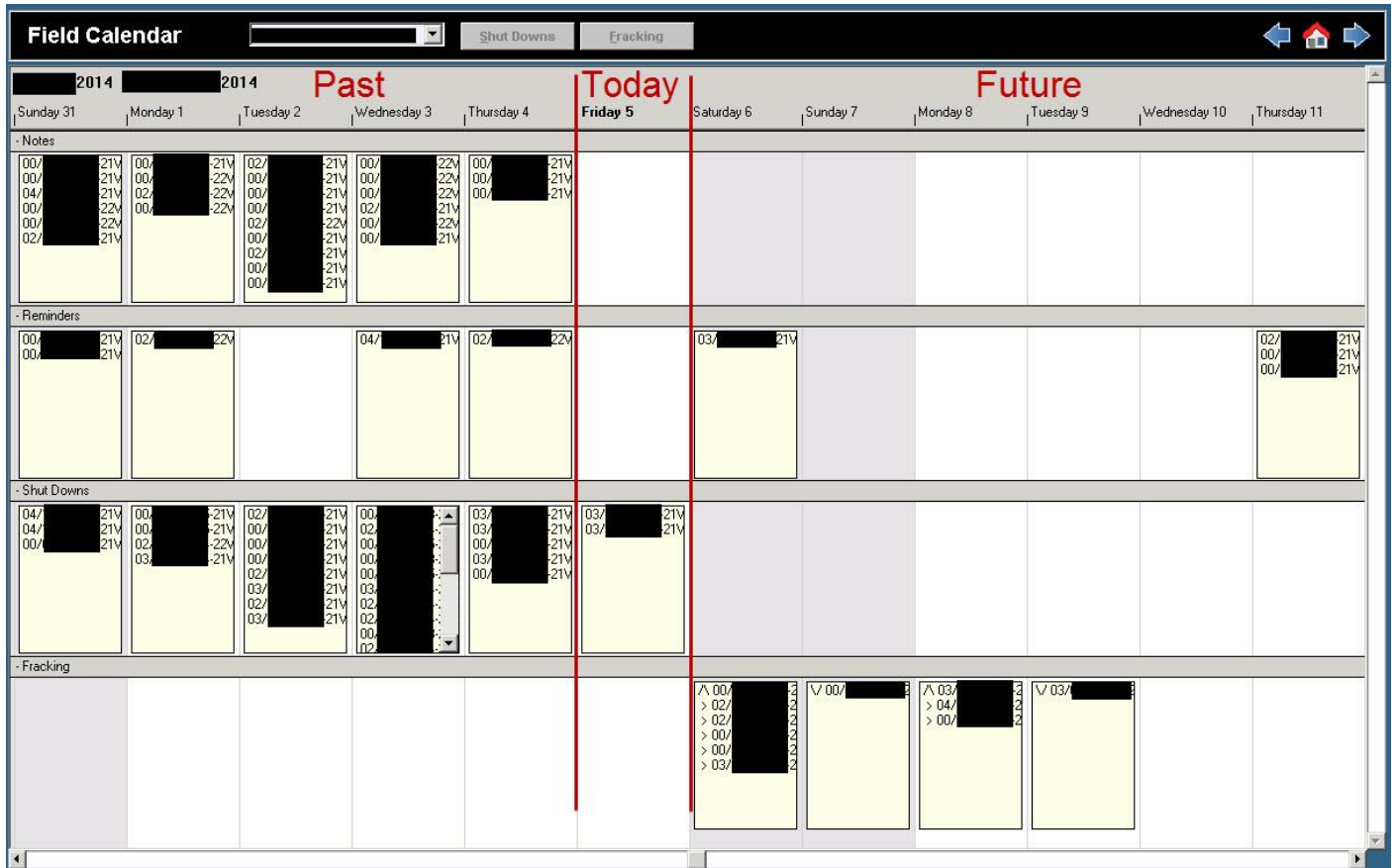
Bumper Spring Inspection			
Last Inspection	25 Feb 2015		
Current	Total	vWell Total	
99	99	99 km	
19	19	19 arrivals	
<input type="button" value="A"/>			
Your Full Name : <input type="text" value="Rockland"/>			
Did you replace the BS?	<input type="button" value="Please Select"/>		
Reset Inspection Interval?	<input type="button" value="Please Select"/>		
Bumper Spring Type?	<input type="button" value="Ferguson"/>		
Cage OK?	<input type="button" value="Please Select"/>		
Ball OK?	<input type="button" value="Please Select"/>		
Overall Condition OK?	<input type="button" value="Please Select"/>		
Notes: <input type="text"/>			
<input type="button" value="Apply"/>			

### p. Field Calendar

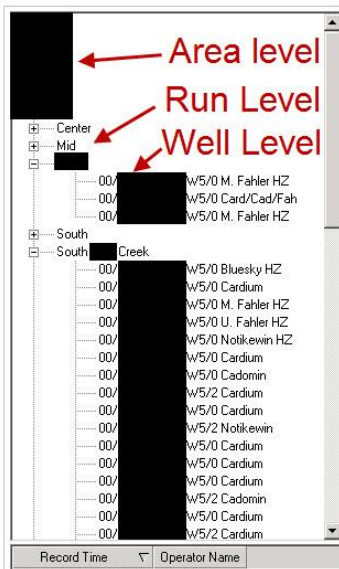


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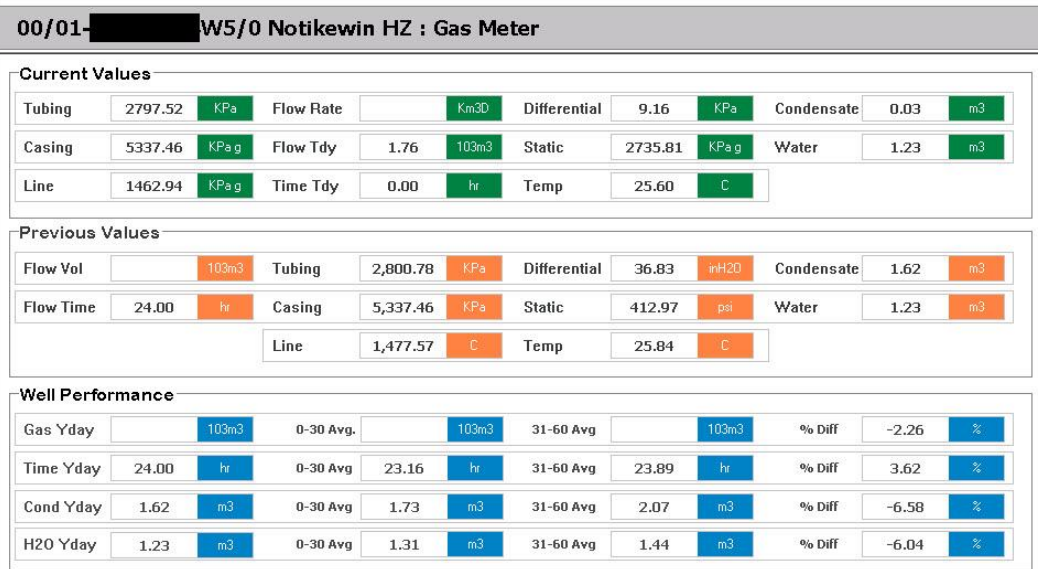
## SCADA Functionality



q. Tree Navigation



r. Work Order



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## SCADA Functionality

Work Orders - SCADA

List

Filter: Submitted A E D

Date	User	Status	Priority	Due By	Area	Type	Work	Location	
12 MAY 20	Chad	Submitted	Low	19 MAY 20	NH	Well	Repair	00/16-33	M. Fahk
12 MAY 20	Chad	Submitted	Low	19 MAY 20	NH	Well	Cygnat	00/04-34	M. Fahk
12 MAY 20	Chad	Submitted	Low	19 MAY 20	NH	Well	Cygnat	03/16-04	U. Fahk
12 MAY 20	Chad	Submitted	Low	19 MAY 20	NH	Well	Cygnat	00/12-07	Wlrich I
12 MAY 20	Adrian	Submitted	Low	19 MAY 20	VH	Well	Calibr	03/14-09	Notikew
12 MAY 20	Adrian	Submitted	Low	19 MAY 20	VH	Well	Calibr	02/08-28	Wlrich I
11 MAY 20	Dan M	Submitted	High	11 MAY 20	OM	Well	Comm	00/03-31	Wlrich I
26 APR 20	Derrick	Submitted	Low	03 MAY 20	GL	Well	Cygnat	00/14-27	Wlrich I
21 APR 20	James	Submitted	Low	28 APR 20	GL	Well	Avocet	00/08-27	Cad/Blu
21 APR 20	James	Submitted	Low	28 APR 20	GL	Well	Avocet	00/05-26	Cd/BS
10 APR 20	James	Submitted	Low	17 APR 20	GL	Misc	Avocet	00/13-09	Notikew
10 APR 20	James	Submitted	Low	17 APR 20	GL	Misc	Avocet	00/08-27	Cad/Blu
10 APR 20	James	Submitted	Low	17 APR 20	GL	Misc	Avocet	00/09-26	C/G/BA/
10 APR 20	James	Submitted	Low	17 APR 20	GL	Misc	Comm	00/13-27	C/BA/VF
10 APR 20	James	Submitted	Low	17 APR 20	GL	Misc	Avocet	00/05-26	Cd/BS
16 MAR 20	Mark	Submitted	Low	23 MAR 20	VH	Well	Misc	02/01-09	Wlrich I
16 MAR 20	Mark	Submitted	Low	23 MAR 20	VH	Well	Misc	00/03-04	Notikew
15 MAR 20	Clint	Submitted	Low	22 MAR 20	BZ	Well	Avocet	00/09-11	Wlrich I
15 MAR 20	Clint	Submitted	Low	22 MAR 20	BZ	Well	Avocet	00/02-14	Wlrich I
15 MAR 20	Dave S	Submitted	Med	18 MAR 20	NH	Well	Comm	00/12-07	Cadomii

Work Order

Dan 780

Priority: High Fix ASAP - Does Not Apply to Wellsite Issues.

Area: Type: Wellsite

Work Required: Communication Location: 00/03-31- Wlrich HZ

Description:  
I shut in well earlier today, disabled plunger. Seen it was loading up, went to enable plunger and it won't let me. it says Exception failed

Please give as many details as you can about the issue(s) you're reporting such as: screen location, TAG name, etc

Save Cancel