Zedi Smart-Alek Secure Internet Portal

User Guide

MNL-SA-W-1 10Dec07



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Your company has chosen the Zedi Smart-Alek Secure Internet Portal as a business tool to help you manage and improve the performance of your well sites. The standard Smart-Alek consists of both a Field Instrument and a software application that is available over the Internet.

This publication discusses the Smart-Alek Secure Internet Portal website and its functionality.

If you would like to book training sessions or speak directly to a Customer Service and Support Representative, please call (403) 444.1100 or 1.866.732.6967.

Contents

About this guide 9 Navigating in this guide 10	
Navigating in this guide 10	
Documentation conventions 11	
Online help 11	
Accessing the web portal interface 13	
Understanding the Well Tree	
Understanding the Standard Function bar	
Using the User Manager	
Adding a liser account, 27	
Additing a User account 22	
Deleting a User account 34	
Inderstanding and creating Groups 35	
Understanding Groups 35	
Adding a Group 39	
Renaming a Group 40	
Deleting a Group 41	
Understanding and assigning Web permissions 42	
Adding permissions 48	
Understanding and assigning Well Permissions 50	
Assigning well permissions 52	
Understanding and implementing Multi Company Access 53	
Step 1—Client initiates Multi Company Access request 53	
Step 1—Client initiates Multi Company Access request 53 Step 2—OWNER sets maximum permission levels for Multi Company A 54	ICCESS W

103

Copying permissions 58 Copying user permissions 58 Copying well permissions 59	
Well Site Summary Parts of the Summary 61 Access to QTRs 63	61
Understanding Alarm Manager The alarm process 65 Standard alarms 66 Cryout alarms 66 Contact closure alarms 67 Recognizing when an Alarm occurs 68 Accessing Alarm Manager 70 Current Alarm 71 Alarm History 72 Configure Alarms (set up, edit and redefine server alarm parameters) Sensor Settings 74 Understanding the Contact Schedule 77 Adding a Schedule 77	65 73
Understanding the Fields link Well tree administration window 82 Creating the Well Tree 84 Adding a Level 84 Deleting a Level 86 Renaming a Level 88 Well tree source search 89 Field contact information 90 Moving a well into a field 92	81
Using the Company link	95

Entering or modifying basic company information 96 Entering or modifying company units of measurement and sensor types 97 Viewing user logins 99 Defining company security settings 100

Data Export

Using Data Export 105

Data Push Setting-up a Data Push 107	10
Accessing Data Push functionality 108	
Adding a well to a Data Push 108	
Re-running a failed Data Push 109	
Data Import	11
Import gas composition from a file 113	
Well Site Display	11
Parts of the Login Well Site Display 115	
Using the Site link	11
Site Settings tab 120 Understanding Hours On Production Threshold 121	
Sensors tab 122 Remote integration settings 122	
MCAF tab 124	
Enumerations tab 124	
RTU Tabs for Zeal SCADA 125	
RTU OTR Corrections tab 125	
Using the QTRs link	12
Hourly OTRs 130	
Modifying a OTR 131	
Automated QTR corrections 132	
Flow dependant, time weighted linear averaging 133	
Using the Event Log link	13
Viewing an event 136	
Viewing event details 137	
Adding a User Event 138	
Using the Meter Reports link	13
Viewing a meter report 140	
viewing event details 141	
Smart-Alek Secure Internet Portal User Guide	
MNL-SA-W-1 10Dec07	

Using the Flow Parameters link	143
Flow parameter timing issue 144	
Setting Meter parameters 146	
Setting Gas Composition values 150	
Using Reports and Report Manager	155
Understanding simple trend reporting 155	
Understanding graphing tools 156	
Understanding sensors in reporting 159	
Default reports 161	
Running a default report 162	
Using Report Manager 163	
Understanding text vs. graphical reports 163	
Understanding manual and auto ranging 165	
Understanding data sources for reports 165	
Opening Report Manager 166	
Creating a new report 167	
Modifying a report 176	
Managing reports 178	
Sample reports 182	
Report #1 – Line pressure optimization 182	
Report #2 – Methanol pump efficiency 183	
Report #3 – Plunger lift well performance 184	
Using the Instrument Log link	187
Welltest Satellite	191
Adding a well to the test site 193	
Reviewing an existing well 193	
Setting the gas composition for each well 194	
Checking parameter history 194	
Running and recording tests 195	
Calendar 196	
Setting a text based report 197	
Updating Fieldview 197	

Zedi SCADA

Limitations 200 Screens 200 Defining or editing a screen 200 Screen overview 203

Overview

With Zedi Smart-Alek, you access your well information using an simple to use, web-based interface: the Smart-Alek secure internet portal (sometimes also referred to as the Smart-Alek web site). This interface allows you to make informed and accurate decisions concerning your wells' operation with greater certainty. The standard system consists of the website used in concert with the Smart-Alek instrument. The Smart-Alek web site can also access the information from other hardware vendors through Zedi SCADA.

This manual guides you through the basic use of the portal. It takes you through logging into the web site, retrieving information, tracking events and running basic reports. If you would like to book further training or speak directly to a Customer Service and Support representative, please call (403) 444-1100 or 1-866-732-6967.



Note: In previous releases of Smart-Alek, the web interface (the internet tool used to manage your Smart-Alek equipped wells) was usually referred to as "Smart Alek.com" (or some variant of that). The official, full name of the web interface is now "Zedi Smart-Alek Secure Web Portal." In this guide we'll call it the "web portal" or something akin to that.

About this guide

This user manual contains the procedures you need to use the Smart-Alek internet portal, and is composed of the following chapters:

Chapters included in this guide are:

- Understanding the Well Tree on page 19
- Understanding the Standard Function bar on page 21
- Using the User Manager on page 25
- Understanding Alarm Manager on page 65

- Well Site Summary on page 61
- Understanding the Fields link on page 81
- Using the Company link on page 95
- Data Export on page 103
- Data Push on page 107
- Data Import on page 111
- Well Site Display on page 115
- Using the Site link on page 119
- Using the QTRs link on page 127
- Using the Event Log link on page 135
- Using the Meter Reports link on page 139
- Using the Flow Parameters link on page 143
- Using Reports and Report Manager on page 155
- Using the Instrument Log link on page 187
- Welltest Satellite on page 191
- Zedi SCADA on page 199

Navigating in this guide

If you are reading this guide on your computer's screen using Adobe[®] Acrobat, or Adobe Reader, note that blue text you see represents hyperlinks to another part of the guide. Use them to go quickly to other areas of the document. To return to the page which brought you to the linked information, click on the "Previous View" button on the Acrobat toolbar.

Note: If this button isn't visible on the toolbar, right-click on either the "Next Page" or "Previous Page" arrow in Acrobat's (or Reader's) toolbar,



and select "Previous View" from the list of options that



Documentation conventions

Within this document:

- "internet portal" or "web site" refers to the software, database and web site you use to access your wells' data.
- "Smart-Alek" or "instrument" generally refers to the field instrument that captures the well data and communicates the information to the web site.
- "Zedi SCADA" refers to the Zedi HMI measurement and surveillance and control interface. It allows other hardware to connect with the internet portal. See *Zedi SCADA* on page 199 for more information.

Screen captures in this guide often use numbered or lettered callouts to label elements (that is, various areas, features, buttons, links and so on) in the screen. These numbers are used in subsequent tables to refer to the elements. Numbers will sometimes refer to step numbers in a procedure depending on the purpose of the screen capture.

Online help



The Smart-Alek web portal uses a familiar online help format. It is designed to be compatible with javascript-enabled Microsoft Internet Explorer 6 or higher. It is context sensitive which means when you click on [Help], the appropriate "Help" section opens. For example, clicking on Help, in the top left-hand corner of the main web portal page, will display the information about the Well Site Data Display. Clicking Contents opens the window shown in Figure 1 on page 12.:

Figure 1 The main help screen



The help files also contain a Table of Contents and an Index to help you locate the information you need. These features appear in a separate, tabbed window. Clicking on the **Contents** tab will open the Table of Contents, and you can select a specific topic. The headings are marked with icons that look like small books, while the topics have icons that look like pages. Double-click on a topic to open that topic. Click on the **Index** tab to open the index, which has a typing field and an alphabetical list of keywords.

Accessing the web portal interface

Use this procedure to log into the Zedi Smart Alek secure web portal, and to learn about the basic interface components.

Permissions required to access the web site are: User Administration - Account Management Console

General-MAP Display

General-Web Login

Procedure steps

Step Action

1 To access the website, enter www.Zedi.ca in the address bar of your browser. Then click on "Smart-Alek[®] Login" on the left hand side of the screen.

The user login screen opens.



Enter your user name and password. Then click the Login button.If this is not the first time you have logged in, skip to step 5.

3

The first time you log in, you will be asked to fill in an information form. All fields with a red * must be completed. This information is used by the Smart-Alek database.

Ir	n order to continue to provide quality suppo use	rt, please take a mome rs. Please call custome
1.	Surname [*]	
	*	
	Ψ.	
2.	Given Name [*]	
	A	
	*	
3.	Company [^]	
4.	Address	
	Ŷ.	
	•	
5.	Area of Responsibility	
	Please Select One	
6.	Role*	
	Please Select One 👻	
7.	Phone*	
	A	
8	Cell	
υ.		
9	Pager	
υ.	A	
10	Email Address	
10.	Linui Address	
- Re	quired Field	
nank	you from zed.i solutions!	
		Check and Submit

Click the Check and Submit button.

5 The text version interface opens. **4** ' Hide Well Your Company Name 2 Search 1)0 Smart-Alek Unselect All Wells 0 Alor(5)age (6) Notifications Last chance to register! Sign up for the next virtual workshop, Operator Best Practices, Thursday, July 12 at 11 a.m. - <u>click.here</u> to register or visit <u>www.zed.ca</u> for more information. Elphinstone 🗆 😑 Farguhar Required Flow Parameter Configuration Grafton Ignace Jackson 02-16-134-23 W52 Edit No 03-15-232-65 W53 Gas Com Edit No. Kidd 03-15-232-68 W53 Gas Composition Edit Lewis Ninto 0 0 sl Quinton Real SouthWi Tangent Urquhar Urguhart

The parts of the window are described in Table 1

6 Select a well from the well tree list. (you can select more than one well).



The well tree component parts are described in Table 2 on page 18.

Note: You must have been granted permissions to the wells that you wish to view.

The well site display screen opens for the well you selected.

÷,	Hide	7733	Your Compar	ny Name		/		
	1198		Smart-Alek Reporting		· • 🛈		Smart-Ale	k"
	ŝ	[help]					interagent / ios	w monitoring system
Ŧ		User Manager	Alarm Manager	Well Site Summary	Fields Compar	iy Data Export Data	<u>a Push Data Impor</u>	t Support Legast
		Notification:	9					
		Default Well Head	d Temperature 2	Default Orifice	Static Pressure	Default Differential Pr	ressure Defa	ult Orifice Gas Flow
		(Flowing Te	mperature)	(Static I	Pressure)	(Differential Press	une)	(Flow Rate)
	G BADE 2000 FMI							
		192470 (Onlin	e) Smart-Alek				Last Transmission: 200	17-07-11 11:27:17 (MDT)
		Today 2007-07-10	0:22 Ho 0:23 Ho	un Flowing us Flowing				Volume .03 E3M3 Volume .03 E3M3
		 Flowing Tempera Differential Pressu Internal Temperal Condenaste Volur 	ture ture me	21.17 °C 06 in H2 24 °C 541.49 M	0	Static Pressure Voltage Gas Flow Rate Condensate Rate	601.9 9.96 \ 0 E3M 0 M3/	kPa(g) / /S/Dey Day
		Site Alarm Manag	er 🕞 girs	EventLog	Instrument Log	Meter Reports	Flow Par	rameters

The areas of the well site display screen are described in 8 Well Site Display Area on page 17.

Table 1Parts of the Smart-Alek web portal interface

Screen part name	Description
1 Well Tree List	The Well Tree List is divided into fields using your company's field structure. The Well Tree List is described in the Well Tree Func- tions section.
2 Search	To search for a specific well, enter part or all of the Well ID into the Search field, then click Search. The Well Tree will highlight the wells (to which your account has access) that match your search criteria.
3 Map Interface	The Map interface is a geographical interface that provides access to proprietary and public data from the Alberta Energy Utilities Board (AEUB) and other government sources, as well as real time production data. Other features include full reporting capabilities, lease and sale activity information and facility information (with appropriate user permissions).
4 Help	Opens the Help interface

Sheet 1 of 2

		···· • • • • • • • • • • • • • • • • •
S	creen part name	Description
5	Standard Function Bar	The Standard Function Bar is at the top of the Well Site Display Window. The functions you can access on this toolbar depend upon your security permissions.
6	Notifications - from Zedi	The notifications area lists any messages from Zedi for the users of the Smart-Alek web portal. Most often, this area shows the upcoming Virtual Workshop.
7	Urgent Messages	Wells requiring parameters to be entered or wells in an alarm state are listed here.
8	Well Site Display Area	Once you select Fields/Wells to view from the Well Tree:
		a) The Well Site Display appears. It provides dashboard information for each selected well. You can customize the view, and well information, provided your account has the appropriate permissions.
		b) The Default Report bar appears. Your company can customize these four reports. Clicking on an underlined report name will run the report on all selected wells.
		c) You can click on a sensor to quickly see a trend report. Each well is shown in its own 'box.' Scroll down the page in your web browser to see more wells.
		 d) The Smart-Alek Reporting drop down list, at the top of the display page, provides one-click access to view-only reports for the selected well sites.

Table 1Parts of the Smart-Alek web portal interface (continued)

Sheet 2 of 2

Table	2			
Parts	of	the	Well	Tree

Nam	е	Description		
1	Show/Hide	To hide the Well Tree click the well list tab.		
	Well Tree	To "autohide" the Well Tree (so it reappears when you move your		
		mouse over it), click the push pin button at the top of the Well Tree.		
		To turn off autohide, click the push pin again.		
		To redisplay the Well Tree, click the Show Well List tab on the left of the display.		
2	Search for a Location	To search for a specific well, enter part or all of the Well ID into the Search field, then click Search. The Well Tree will highlight the wells (to which your account has access) that match your search criteria.		
3	Expand/	To select every well in a field, click the check box next to the field		
	Button	To select individual wells, expand the field lists and click the appropri- ate well check boxes.		
4	Alarm Flags	If a well has an alarm set up and its data falls within the parameters for an alarm, either a red (cryout) or a yellow (standard) dot will dis- play beside both the field name and the well location that is in an alarm state.		
5	Type of Smart- Alek	The icon beside the well indicates the type of interface this well has with the web portal.		
		Cellular Smart-Alek—hover over this icon, and a pop-up appears indicating whether the unit is GSM or 1xRTT		
		Control & I/O enabled		
		Joint Venture—if you hover over this icon, a pop-up will indicate who owns the Smart-Alek		
		Satellite Smart-Alek		
		🛃 Virtual Smart-Alek		
		? Smart-Alek of other type		

Understanding the Well Tree

When you login to the Smart-Alek secure web portal, the Well Tree appears on the left side of the window. Any wells that you have selected from your previous session will be selected and their well site information will be displayed.

Permissions required to access this function are:

User Administration - Account Management Console

General - MAP Display

General - Web Login

You must also have been granted permissions to the wells that you wish to view.

By default, the Well Tree is open. Figure 2 is an example of the well tree. The alphabetic labels are explained in Table 3 on page 20.



Figure 2 Well Tree display

> Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Table 3	
Key to Figure	2

-						
Figure label	Description					
a	Hide the Well Tree by clicking the Hide Well List tab. You can tog- gle autohide by clicking the push pin button at the top of the Well Tree.					
	To re-display the Well Tree, click the Show Well List tab on the left of the display.					
b	To turn autohide on or off, click the push pin button.					
С	Wells are grouped into Fields on the left side of the window. To display every well in a field, click the plus sign next to the field name. (This plus sign then changes to a minus sign; click it to colapse the list again.)					
d	To select individual wells, expand the field lists and check the appropriate wells.					
e	To search for a specific well, enter part or all of the Well ID into the Search field, then click Search. The Well Tree will highlight the wells (that your account has access to) that match your search crite- ria.					
f	 The icons next to the well sites provide more information about the Smart-Alek device: indicates the modem type; hover over this icon, and a pop-up appears indicating whether the unit is GSM or 1xRTT indicates Control & I/O enabled (Zedi SCADA) indicates a joint venture; hover over the icon to see who owns the Smart-Alek indicates a Satellite Smart-Alek indicates a Smart-Alek of an unkcnown type 					

Understanding the Standard Function bar

User Manager Alarm Manager Well Site Summary Fields Company Data Export Data Push Data Import Support Logout

The Standard Function bar includes menu items specific to the administrative functions of the Smart-Alek system, for both users and administrators. Only the functions to which you have been granted access will be displayed.

Here you can set, change and view options available to manage how the Smart-Alek works for your organization. The options available are defined by the access permissions for the User Account.

All of the available functions from the Standard Function bar are described in Table 4. The menu structure is described in Figure 3 on page 23.

Selection	Description
User Manager See <i>Using the User Man- ager</i> on page 25	User Manager gives Administrators the functions for adding, delet- ing, or modifying User Accounts and controlling permissions given to each account. You require administrative access permissions to use this feature.
	User Manager allows Users to view their personal settings and set account preferences. If you need to change your personal information, at any time, use My Account.

Table 4 Standard Function Bar

Sheet 1 of 3

Selection	Description
Alarm Manager See Understanding Alarm Manager on page 65	With Alarm Manager, you can configure alarms for your wells. By quickly being informed of abnormal sensor conditions from the alarm system, you will know what to expect at the well site and orga- nize the proper response. Alarm Manager also reports all alarm con- ditions that have taken place on your well. You can determine who will receive the alarms and set up contact schedules for the receipt of the alarms.
Well Site Summary See <i>Well Site Summary</i> on page 61	The well site summary provides an overview of well performance. In the Well Site Summary, the production is totaled by field.
Fields See Understanding the Fields link on page 81	The Fields function is used for managing field-level groupings of wells. Using Fields, you can set up the well and field structure to match the one you use internally. Defining Fields also determines the structure of the Well Tree.
Company See <i>Using the Company</i> <i>link</i> on page 95	 The company window is used to: Modify the company name View all the logins for a company Set the company preferences for: Units of measure Security settings
Data Export See <i>Data Export</i> on page 103	Export the Smart-Alek data in a number of formats.
Data Push See <i>Data Push</i> on page 107	With the Smart-Alek secure web portal, you can use a data push to have your Smart-Alek sensor data delivered to your computer sys- tem in the format readable by your data management packages. With the Data Push function, you can now manage your data pushes. To have a data push defined for your company, you will need to contact Customer Service. Once the push, or pushes have been defined, you can manage them yourself.
Data Import See <i>Data Import</i> on page 111	Using the Data Import function, you can import gas composition into the web portal.

Table 4Standard Function Bar (continued)

Sheet 2 of 3

Standard Function	i Bar (continued)
Selection	Description
Support	Links and documents to help you do your job better.
Logout	Exits the Smart-Alek web portal.

Table 4 Standard Function Bar (continued)



Figure 3 Standard Function bar menu structure



Understanding the Standard Function bar

Using the User Manager

Part of the administrator's job is to make sure the users of a web site have the appropriate rights to use it. To have access to a site, users must be added to the site (and, if appropriate, assigned to a group). With **User Manager**, administrators define the functions available to a user. The user can then manage their own account activities such as changing passwords, entering SMS numbers, etc. The **User Manager** window provides functions for adding, deleting, or modifying User Accounts and Groups and controlling permissions given to each account. To access this function, you need administrative web permissions. Company-level settings (e.g., Units of Measure) are changed in the Company window by the company administrator.

In this function you can multi-check. That is, you can select more than one item and change all of those selected at the same time.

Permissions required to access this function are: User Administration - Account Management Console User Administration - Advanced Administrator User Administration - Manage Groups User Administration - Manage Other Users User Administration - Web Permission Admin User Administrations - Well Permission Admin User Administration - Copy Permissions

This chapter contains the following information and procedures:

- Understanding security and user rights on page 26
- Adding a User account on page 27
- Modifying a User account on page 33
- Deleting a User account on page 34
- Understanding and creating Groups on page 35
- Understanding and assigning Web permissions on page 42

[help]

- Understanding and assigning Well Permissions on page 50
- Understanding and implementing Multi Company Access on page 53
- Copying permissions on page 58

Understanding security and user rights

User rights grant users the ability to perform certain actions on a web site, and restrict other users from performing those actions. Some rights do not completely restrict certain actions. When you assign rights to groups, be sure that you assign the appropriate rights, and do not unintentionally allow members of the group to perform more actions than are necessary on the Smart-Alek web portal. Conversely, be sure that members of the group are not restricted from fulfilling their responsibilities. Permissions are described in the section *Understanding and assigning Web permissions* on page 42 and *Understanding and assigning Web* ports.

To access User Manager, select **User Manager** from the Standard Function bar. The window shown in Figure 4 opens.

Users	;	Groups	Web Permissions	Well Permissions	Permission Reports	
Jsers						
		Login Name		Full Name		
Select	2	allen@yourco	mpany.com	Allen Armstro	ng	
Select	8	bill@yourcom	pany.com	Bill Baily		1
Select	8	carole@yourc	ompany.com	Carol Camer	on	
Select	8	dave@yourco	mpany.com	Dave Dickso	n	
Select	8	ernie@yourco	impany.com	Ernie Eng		
Select	8	fran@yourcor	npany.com	Fran Filbert		
Select	8	gill@yourcom	pany.com	Gill Gilford		
Select	8	hank@yourco	mpany.com	Hank Hamilto	n	
Select	8	ingrid@yourco	ompany.com	Ingrid Inglis		
Select	8	jim@yourcom	pany.com	Jim Jetson		
Select	8	karen@yourco	impany.com	Karen Killan		

Figure 4 The User Manager window

Adding a User account

Use this procedure to add a new user account. This is done in four basic steps (as defined by the four tabs in the Add Account window): entering basic account information, setting up email notifications, setting up daily production email, and defining basic settings.

Procedure steps

Step Action

1 Account Info—in the User Manager window (see Figure 4 on page 26) click Add User. The Add Account window opens. (The letter labels in the figure below correspond to substeps in step 2.)

Acct Info	Email	Daily Prod Email		Settings		
User Details						
The name for th	iis account, used to log	Login Name into the webpage.			a	
The full first an	id last name of the own	Full Name ter of this account.			6	
The email add	Forgotten ress will be used for re	Password Email covering forgotten passwords.				C
This question v	S vill be asked if you forg	ecurity Question et your password.	What is y	your favorite cold	n? d	~
т	his is your answer to th	Security Answer he question above.				
	Enter ne	New Password w password here.	New Confirm			
			Next >>	B		
					Save	Cance

- 2 Enter the User Details for the account you are creating.
 - a) **Login Name**—enter the name you want the user to use when logging into the web portal.
 - b) **Full name**—enter the new user's name.
 - c) **Forgotten Password Email**—enter the email address to which the forgotten password will be sent.
 - d) Security Question—select a question from the drop down list.
 - e) Security Answer—enter an answer to the security question.
 - f) **New Password**—enter a password, and confirm by reentering it.
 - g) **Next**—takes you to the Email tab to continue entering information.

Note: Login names and passwords are case sensitive. Passwords must not contain any spaces or an apostrophe. The password must be from 6 to 30 characters long. It must contain at least one alphabetical, and at least one numerical character.

Email—alarm and production features allow the user to receive messages outside of the web portal. This information is entered in the Email tab.

Click on the Email tab; this screen appears.

Acct Info	Email	Daily Prod Email		Settings	
User Details					
If contact method is e	Contac mail, this email address o	ct Email Address will be used for all utgoing messages.		a	
If contact method is	SMS, this SMS number o	SMS Number will be used for all utgoing messages.		C	
	The type of SMS devi	SMS Device ce selected above.	TELUS	C	
Select how the auton	nated messages will co	Contact Method ntact the owner of this account.	C Email C SMS	0	
		<< Back N	lext >>		
		e			Save Cance

- 4 Enter the Email information for the account you are creating.
 - a) **Contact Email Address**—enter the email address and select the Contact Method email radio button.
 - b) **SMS Number**—To configure the account to use SMS, (to deliver small text messages to a cell phone) enter the 10-digit telephone number into the SMS text box. If you know the email address of your SMS device, you can enter that in as a normal email as described above. e.g.:
 - number@msg.telus.net where number is 10 digits (e.g., 4035555555)
 - c) **SMS Device**—select the service provider for your cell phone or pager from the drop-down list.
 - d) **Contact Method**—select the appropriate radio button for the delivery method chosen for this user.
 - e) **<<Back Next>>**-Click Next to continue to the Daily Production Email tab, Back to return to Acct Info tab.

5 **Daily Production Email**—when a user is set up to receive Daily Production Email reports, it will include the wells to which the user has access. (See Figure 5 on page 32 for an example of a Daily Production Email.)

Click on the Daily Prod Email tab; this screen appears:



Step	Ac	tion
6	Er	nter the Production Email information for the account you are creating.
	a)	Enter the date and time for the next email to be sent. Every time a production report is sent, this date will be increased by one day. The format is YYYY/MM/DD HH24:MI.
	b)	Production Email Format —there are five default formats in which the production information can be sent. Choose the format you like from the drop-down list. Options are:
		- HTML Email Report Format #1 - Temperature, static & differential pressure, volume, flow rate, and hours on flow for each well. One line per well, with well name and readings in columns.
		- HTML Email Report Format #2 - A report listing Hours on Flow and Volume for each well with one line per well and all data in columns.
		- HTML Email Report Format #3 - The same readings as in format #1, but formatted with the well name as the header and readings below it.
		- Text Email Reports - Use this if you do not have access to a HTML enabled email. Formatted similar to HTML style #3.
		- Excel E-Mail Report - E-mail with attached Excel spreadsheet.
	c)	< <back next="">>-Click Next to continue to the Settings tab, Back to return to Email tab.</back>
	So	me things to be aware of when configuring Daily Production Emails:
	•	If you have wells in the UNKNOWN field, they will not appear in any daily production emails.
	•	If you receive information from another company's Smart-Alek, it may be displayed with a different unit of measurement if that company uses units of measurement which differ from those used by your company.

7

Step	Action								
7	Click on the	Settings tab.							
	This screen a	This screen appears:							
	Acct Info	Acct Info Email Daily Prod Email Settings							
	User Details								
	The type of cha trends. Leave	rt that should be create this set to auto unless	Chart Type of for graphical you are having problems.	Activ	veX Control (Internet E	xplorer)			
	Enable this to see a	Show Empty Wel Il levels in your well tre	I Tree Levels e, including the empty ones.			b			
		These are the groups	Groups this user is in.		~	C			
				R	emember locations	d			
				Пта	ake Ownership	e			
				D	elete this user				
			<< Back						
						Save Cancel			

8 Change the User Details, as required:

- Chart Type—you can choose a specific type of chart to display for a) graphical trends. Leave this set to auto unless you are having problems. Types are:
 - ActiveX Control Uses the ChartFX functions and gives you the most functionality. It is the default type.
 - Browser Plug-in the chart to use if you use the Netscape browser.
 - Image requires no plug-in. Show Empty Well Tree Levels-Enable the check box to see all the levels in the well tree, including the empty ones.
- Show Empty Well Tree Levels—click this check box if you want the b) user to see all the levels in the well tree, including the empty ones.

Step	Act	ion
	c)	Groups —when a user has been added to a group, the Groups to which they belong will be displayed.
	d)	Remember Locations —click the check box to have the system display the wells this user had checked at the time of log-off.
	e)	Take Ownership —this is an administrative function. It allows administrators to take over reports that have been created by the user. These reports are not deleted when the selected user is deleted.
	f)	Delete this User —check this box to delete the selected user and their reports, if ownership of those reports has been taken over by another user.
	g)	Save / Cancel—click Save to create the user.

Figure 5 Daily Production Email example

		Daily Prod	luction	Email		S	mart-Alek®	itoring Syster
Created On 20 Your Name (yo Reporting on 8 Contract Day:	07-01-23 1 ourname@ well(s). 2007-01-2	0:20:08. yourcomapny.com) 2						
Company	Field	Location	Temp	SP	DP	Volume	Flow Rate	Hours O
Your Company	Queen Lake	01-02-033-04 W5M	6.1 °C	415.44 kPa(g)	5.58 in H2O	6.2 E3M3	6.2 E3M3/Day	24 Hou
Your Company Your Company	Queen Lake Queen Lake	01-02-033-04 W5M 02-03-044-05 W5M	6.1 °C 7.45 °C	415.44 kPa(g) 484.4 kPa(g)	5.58 in H2O 11.97 in H2O	6.2 E3M3 9.89 E3M3	6.2 E3M3/Day 9.89 E3M3/Day	24 Hour 24 Hour
Your Company Your Company Your Company	Queen Lake Queen Lake Queen Lake	01-02-033-04 W5M 02-03-044-05 W5M 03-04-055-06 W5M	6.1 °C 7.45 °C 2.74 °C	415.44 kPa(g) 484.4 kPa(g) 367.24 kPa(g)	5.58 in H2O 11.97 in H2O 114.98 in H2O	6.2 E3M3 9.89 E3M3 15.7 E3M3	6.2 E3M3/Day 9.89 E3M3/Day 15.7 E3M3/Day	24 Hou 24 Hou 24 Hou
Your Company Your Company Your Company Your Company	Queen Lake Queen Lake Queen Lake Queen Lake	01-02-033-04 W5M 02-03-044-05 W5M 03-04-055-06 W5M 04-05-066-07 W5M	6.1 °C 7.45 °C 2.74 °C .96 °C	415.44 kPa(g) 484.4 kPa(g) 367.24 kPa(g) 326.62 kPa(g)	5.58 in H2O 11.97 in H2O 114.98 in H2O 12 in H2O	6.2 E3M3 9.89 E3M3 15.7 E3M3 0 E3M3	6.2 E3M3/Day 9.89 E3M3/Day 15.7 E3M3/Day 0 E3M3/Day	24 Hou 24 Hou 24 Hou 24 Hou 0 Hou
Your Company Your Company Your Company Your Company Your Company	Queen Lake Queen Lake Queen Lake Queen Lake	01-02-033-04 W5M 02-03-044-05 W5M 03-04-055-06 W5M 04-05-066-07 W5M 05-06-077-08 W5M	6.1 °C 7.45 °C 2.74 °C .96 °C 19.78 °C	415.44 kPa(g) 484.4 kPa(g) 367.24 kPa(g) 326.62 kPa(g) 263 kPa(g)	5.58 in H2O 11.97 in H2O 114.98 in H2O 12 in H2O 4.94 in H2O	6.2 E3M3 9.89 E3M3 15.7 E3M3 0 E3M3 0 E3M3	6.2 E3M3/Day 9.89 E3M3/Day 15.7 E3M3/Day 0 E3M3/Day 3.03 E3M3/Day	24 Hou 24 Hou 24 Hou 0 Hou 0 Hou

Modifying a User account

Use this procedure to modify an existing user account.

Procedure steps

Step Action

1 From the Users window (see Figure 4 on page 26) select the account you want to modify.

The information for that account opens in the pop up window.



- 2 Enter the new settings for the account. The settings are as described in *Adding a User account* on page 27.
- **3** Click **Save** to save the changes.

Deleting a User account

Use this procedure to permanently remove a user from the user account database.

Procedure steps

Step Action

1 From the Users window (see Figure 4 on page 26) select the user you want to remove. The information for that account opens in the pop up window.

			Acct Info	Email	Daily Prod En	nail	Settings 2	_		
Users			User Details							[help]
		Login	X		Chart Type					
Select	8	allen	The type of cha	art that should be crea	ated for graphical	Image - P	ortable Network Graphic (A	ny) 🔻	<u>^</u>	
Select	1	oill@	trends. Leave	this set to auto unles	problems.				E	
Select	1	carol								
Select	8	dave	Enable this to see a	Show Empty W all levels in your well t	ree, including the	E				
Select	8	ernie			empty ones.					
Select	8	frane			Groups	Eveninge	-			
Select	8	gill@		These are the grou	ps this user is in.	Literyone	•			
Select	8	hank				Remen	mber locations			
Select	8	ingric								
Select	8	jim@				Take (Ownership 3			
Select	8	karen							*	
< [I Delete	this user		•	
					<< Back				[Add User]	

- 2 Select the **Settings** tab.
- 3 Select **Take Ownership**. This allows administrators to take over reports that have been created by the user. These reports won't be deleted when the selected user is deleted.
- 4 Select **Delete this user**.
- 5 Click **Save** to remove the user from the system.



WARNING

A deleted user account cannot be recovered.

Understanding and creating Groups

Information and procedures found in this section include:

- Understanding Groups on page 35
- Adding a Group on page 39
- Renaming a Group on page 40
- Deleting a Group on page 41
- Deleting a Group on page 41

Understanding Groups

Administering users' access to resources is often accomplished by directly associating Users with permissions.

Figure 6 One user and his permissions



With a small number of users, this is not difficult. However, this approach can be particularly difficult, error prone and take a great deal of time if you have a large number of users, as each person's information will have to be revised when users enter and leave an organization or when their responsibilities change.



Figure 7 Many people, many different permissions

Large groups of people benefit from using Groups to define permissions.

If you create groups that mirror company divisions, you can apply permissions to the group rather than the individual. This way you can rely on rights from group assignments rather than the less efficient direct User and account management method. You "collect" the Users who have the same kinds of access into groups without having to define permissions for the individual Users in the group.

For example: you create a web access group called Operators and define the web permissions that an operator would need to do his job (see Figure 8 on page 37).
Figure 8 Example Group and web permissions—"Operators"



You then create field access groups, and define the permissions for the wells in the fields (see Figure 9).

Figure 9





You can now add your Operators to the Operator group and also to the group that represents their wells (see Figure 10 on page 38).



In this example, Bill and Joe are in the Field One and Operators Groups,

Fred and Jim are in the Field Two and Operators Groups. They have access to the same Smart-Alek web portal functions, but to different wells.

Individuals can belong to more than one group. Permissions applied in each of the groups are available to that user. For example, let's say you have two Groups, A - Accountants, and B - Operators. You add a new user, and then add that user to both Groups, the user will receive the permissions from both of the Groups.



Note: Any user added to the system belongs to the universal Group "Everyone". This Group can not be changed nor deleted.

Adding a Group

Use this procedure to create a new Group.

Procedure steps

Step Action

1 From the User Manager (Figure 4 on page 26) select the Groups tab. The following window opens:

Users	Groups	Web Permissions	Well Permissions	Permission Reports		
Groups					[ht	elp1
			*	_		*
				Please select group(:	s)	
		2	-			-
[Delete Group] [F	Rename Group] [Add G	roup]			[Sa	ve]

A list of the existing groups is displayed in the left hand panel.

2 Select Add Group.

You are prompted to enter a name for the new group



- 3 Enter the Name for the new group in the Add Group dialog box.
- 4 Click OK to add the group to the group list.

Renaming a Group

Use this procedure to change the name of an existing Group.

Procedure steps

Step Action

1 Select the Group you want to rename.

The user selection list opens on the right side of the window. Any users associated with the group will be highlighted.

Users	Groups	Web Permissions	Well Permissions	Multi Company Access	Copy
Groups			_		
	xplorer User Prompt	:			<u> </u>
01-20	Script Prompt:			ок 🛛	
09-22	Enter a new name for	the group		Cancel	1
EAS1 Ferrie					-
SOUT WEST					
				blaughlin	
				allen@yourcompany.company.company.com	om n
				carole@yourcompany.	.com
				ellen@yourcompany.c	om
				frank@yourcompany.c	.com .com
			-		
[Delete Group] [F	Rename Group] [Add Gi	roup]			

- 2 Click Rename Group.
- 3 Enter the new **name** in the dialog box.
- 4 Click **OK** to rename the group.

Deleting a Group

Use this procedure to delete a Group.

Procedure steps

Step Action

1 Highlight the Group to be removed.

Users	Groups	Web Permissions	١
Groups			
			_
Accountin	g ation		
Central Al Operators	berta		1
Delete Group! IPer	ame Group] [Ad	d Group]	_
Delete Group [Ref	name Group (Ad	a oroup	

2 Click [Delete Group].

The group is removed. Any users attached to the group still remain in the list.

Understanding and assigning Web permissions

Web permissions can be granted to both Groups and Users. You may find it preferable to create Groups and add users to the groups rather than defining permissions for each of your users individually. Permissions assigned to groups automatically apply to the users in the group. If different groups have different permissions, users assigned to multiple groups will have all of the permissions from the assigned groups. Table 5 describes these permissions (which are required by certain users), and where the corresponding well permissions are found in the web interface.

Table 5 Permissions

Permission name What it does	Required by:	Where found in the portal Corresponding Well Permission
Alarms - Acknowledge and Clear Alarms User can acknowledge an alarm from the current alarm screen	Operator	Standard Function Bar>Config Alarms Well Site>Config Alarms
Alarms - Alarm Management Con- sole User can open the alarm manager console, see current alarms and alarm history	Operator	Standard Function Bar>Config Alarms Well Site>Config Alarms
Alarms - Configure Alarm Settings User can change the specific alarm settings for wells. The user will also need the applicable well permis- sion	Operator	Standard Function Bar>Config Alarms Well Site>Config Alarms
Alarms - Configure Contact Schedules User can edit and maintain Contact Schedules	Operator	Standard Function Bar>Config Alarms Well Site>Config Alarms
Company - Company Default UOM User can change default UOMs from the company management console	Admin	Standard Function Bar>Company Com- pany>Units of Measure

Sheet 1 of 7

Permission name What it does	Required by:	Where found in the portal Corresponding Well Permission
Company - Company Management Console	Admin	Standard Function Bar>Company
User can bring up the company management console and edit basic company information		
Company - Company Security User can change company security from the company management console	Admin	Standard Function Bar>Company Com- pany>Security
Flow Parameters - Flow Parameter Console	Operator	Well Site Options
User can bring up the flow param- eter console and view historical flow parameters (Meter Parameters and Gas Comp)		
Flow Parameters - Gas Composi-	Admin	Standard Function Bar>Data Import
User can import gas compositions		Requires 8, Used with 20
Flow Parameters - Manage Gas	Admin	Standard Function Bar> Company
Composition User can manage gas compositions		Requires 8, Used with 9
from the flow parameter console		
Flow Parameters - Manage Meter	Operator	Well Site Options>Meter Reports
Parameters		Used with 35
from the flow parameter console		
General - Field Contacts	Admin	Required to update field contact informa- tion in the Well Tree Administration win- dow. Refer to <i>Field contact information</i> on page 90 for further information.
General - MAP Display	All	Map interface
User can bring up the map display		

Sheet 2 of 7

Permission name What it does	Required by:	Where found in the portal Corresponding Well Permission
General - Web Login	All	Required to Login to SA.com
User can log into the web site		Basic Access to a well allows user to view the Well Site Display box (only
QTRs - Correct QTRs	Operator	Well Site Options>QTRs
User can correct QTRs and create Corrected QTRs. The user will also require Correct QTR access to each well as well.		In conjunction with 19
QTRs - Use QTR Console	Operator	Well Site Options>QTR
User can access the QTR console and view historical QTR informa- tion		In conjunction with 18
Reports and Data - Configure Automated Exports	Operator	Standard Function Bar>Data Push
User can edit automated data pushes for the company		
Reports and Data - Manual Data Export	Operator	Standard Function Bar>Data Export
User can export data to a variety of export formats from the manual export tool for any well they have Basic Access to		
Reports and Data - Report Man- ager Console	All	Reports
Required to access smart-alek Reporting		
Reports and Data - Well Site Sum- mary Access the well configuration con- sole (site link) for a well	All	Standard Function Bar>Well Site Sum- mary

Sheet 3 of 7

Permission name What it does	Required by:	Where found in the portal Corresponding Well Permission
User Administration - Account Management Console Open the account management console. With no other permis- sions, the user will only be able to edit their personal account from the console	All	Standard Function Bar>User Manager
User Administration - Advanced Administrator Will support a variety of advanced administration commands. Cur- rently, this setting allows a user to take ownership of another user's alarms and reports	Admin	Standard Function Bar>User Manager
User Administration - Manage Groups User can add, remove, and change membership of groups in User Manager	Admin	Standard Function Bar>User Manager >Groups Tab
User Administration - Manage Other Users Allows a user to manage, add and delete users in addition to manag- ing their own account	Admin	Standard Function Bar>User Manager
User Administration - View User Logins The user can view the user login history	Admin	Standard Function Bar>Company >View User Logins Requires Company>Company Manage- ment Console

Sheet 4 of 7

Permission name What it does	Required by:	Where found in the portal Corresponding Well Permission
User Administration - Web Per- mission Admin	Admin	User Manager > Web Permissions
The User can manage all company user's and group's access to any web permission that they currently have access to. A user can never remove their personal web permis- sions		
User Administrations - Well Per- mission Admin	Admin	Standard Function Bar>User Man- ager>Well Permissions
Users can manage all company user's and group's access to wells. They can give and remove permis- sion for any user or group to any well either owned by the company, or Multi Company Access by the company		
User Administration- Copy Per- missions	Admin	Standard Function Bar>User Man- ager>Copy Permissions
Copying permissions will replace all of the following items on the target user or group, making it an exact copy of the source user or group: Well Permissions Web Permissions Group Membership		To copy permissions, you must have the following permissions: Copy Permissions Manage Well Permissions Manage Web Permissions Manage Groups
Wells - Event Log Console	Operator	Well Site Options>Event Log
Allows viewing events and creating manual events for wells		
Wells - Field Management Console 'Data Push' link will show up on the web menu	Admin	Standard Function Bar>Fields

Sheet 5 of 7

Permission name What it does	Required by:	Where found in the portal Corresponding Well PermissionStandard Function Bar>FieldsWell Management (Fields, Need also 32)Well Site Options>Instrument Log			
Wells - Hierarchy Console	Admin	Standard Function Bar>Fields			
Allows creation and removal of hierarchies (fields) as well as assigning wells to fields		Well Management (Fields, Need also 32)			
Wells - Instrument Log Console	Operator	Well Site Options>Instrument Log			
User can access the instrument log for wells					
Wells - Meter Report Console	All	Well Site Options>Meter Reports			
User can access the meter reports for wells		Used with 11			
Wells - Modify Remote Integra- tion Tags	Controls	Well Site Options>Control & IO			
User can modify remote integra- tion tags on the "site" console					
Wells - Set Multi Company Access Permission Limits	Admin	Standard Function Bar>UserManager >Multi Company Access Tab			
Required to have access to the Multi Company Access tab to Add, Modify and remove Multi Com- pany Access affiliations in User Manager					
Zedi SCADA - Admin Access	Controls	Well Site Options>Control & IO			
User can configure settings on spe- cific RTU's from the HMI inter- face (Control&IO)					
Zedi SCADA - Control Access	Controls	Well Site Options>Control & IO			
User can use HMI interface marked as Control screens (Con- trol&IO)					

Sheet 6 of 7

Permission name What it does	Required by:	Where found in the portal Corresponding Well Permission
Zedi SCADA - Edit Access	Controls	Well Site Options>Control & IO
User can edit HMI screens from the HMI console (Control&IO)		
Zedi SCADA - Use Zedi SCADA Sub-System	Controls	Well Site Options>Control and IO
User can access Zedi SCADA con- sole for Zedi SCADA devices (Control I&O)		

Sheet 7 of 7

Adding permissions

Use this procedure to add permissions to users or groups.

Note: Use Table 5 on page 42 as a guideline for assigning the appropriate permissions.

Procedure steps

Step Action

1 Choose the Web Permissions tab.

The following window opens

I	Users	Groups	Web Permissions	Well Permissions	Permission Reports	
Us	er / Gr	oup Permi	ssions			[help]
				*		×
0	Adminis	trators			Please select us	ser(s)
0	Field On	e		=		
0	Field Tw	0		-		
0	Field Th	ree				
0	Operato	ors				
0	Product	tion				
0	allen@\	ourcompany.co	m			
0	ov@iiia	urcompany.com				
0	dor to @	your company.co	JIII			
0	uaveag	your company.co	411			
0	frank@	your company.cu	un om			
10	nanka	gour company.c				
č	belon/8	wyour company.	om			
6	ingride	mourcompany.c	om			
õ	iamosá	Mourcompany	rom			
0	karen/a	ovourcompany.c	om			
õ				.		· ·
						[Save]

2 Select the Group or User for which you want to add or change permissions.

The list of permissions is displayed.

Alarms - Adknowledge and Clear Alarms	
Alarms - Alarm Management Console	
Alarms - Configure Alarm Settings	
Alarms - Configure Contact Schedules	
Company - Company Default UOM	
Company - Company Management Console	
Company - Company Security	=
Flow Parameters - Flow Parameter Console	
Flow Parameters - Gas Composition Import	
Flow Parameters - Manage Gas Composition	
Flow Parameters - Manage Meter Parameters	
General - MAP Display	
General - Web Login	
QTRs - Correct QTRs	
QTRs - Use QTR Console	
Reports and Data - Configure Automated Exports	
Reports and Data - Manual Data Export	
Reports and Data - Report Manager Console	
Reports and Data - Well Site Summary	
User Administration - Account Management Console	

3 Choose the appropriate permissions for the person or group and click [Save].

Understanding and assigning Well Permissions

In Well Permissions, you can select which wells and which of the following permissions a user or a group can have on the selected wells. Table 6 describes how well permissions and web permissions interact.

Table 6 Well Permissions

Permission	Related Web Permission
Basic Access	In combination with the Web Permissions:
Allows the user to have general access to this well. This permission allows the well to show up in trees, lists, reports and exports as long as the user	• Reports and Data - Manual Data Export The user/group can select from a number of different formats which can be imported into various Excel, production accounting or Field Data Capture (FDC) programs.
for each function	• Reports and Data - Report Manager Console Required to access to the Report Manager Console.
	Reports and Data - Well Site Summary
Manage Alarm Settings	In combination with the Web Permissions:
The user can configure alarm levels for this well if they also have the	• Alarms - Alarm Management Console Required to access to the Alarm Management Console.
appropriate web permissions	• Alarms - Alarm Settings The user/group can manage the alarm settings.
Acknowledge and Clear Alarms	In combination with the Web Permissions:
Allows the user to acknowledge and clear alarms for this well if the user	• Alarms - Alarm Management Console Required to access to the Alarm Management Console.
also has the appropriate web permissions	• Alarms - Acknowledge and Clear Alarms The user/group can clear alarms.
Manage Meter Parameters	In combination with the Web Permissions:
Allows users to modify the meter parameters on this well as long as they	• Flow Parameters - Manage Meter Parameters The user/group can add meter reports.
also have the appropriate web permis- sion	• Wells - Meter Report Console Required to access Well Site Options>Meter Reports

Sheet 1 of 2

Table 6 Well Permissions (continued)

Permission	Related Web Permission
Manage Gas Composition Allows users to modify the gas com- position on this well as long as they also have the appropriate web permis- sion. This permission also allows upload of gas composition if the user also has the appropriate web permis- sion	 In combination with the Web Permissions: Flow Parameters - Manage Gas Composition Required to add or modify the gas compositions for the selected well and can be used in conjunction with Flow Parameters - Gas Composition Import To import gas compositions. Company - Company Management Console To be able to access Standard Functions>
Correct OTBs	In combination with the Web Permissions:
Allows users to modify and correct QTRs on this well as long as they also have the appropriate web permission	 QTRs - Correct QTRs required to correct the QTRs QTRs - Use QTR Console required to access Well Site Options>QTRs

Sheet 2 of 2

Assigning well permissions

Use this procedure to set the well permissions for a user or a group.



Note: The procedure steps below refer to numbered areas in the figure.

Procedure steps

Step	Action
------	--------

1 Click on the Well Permissions tab.

The following page appears

		5 P**8* **PP									
Users	Groups	Web Permissions	Well Permissions	Multi Company Access	Copy	y Pern	nission	s			
Well Permi	ssions										
											[hel
			Eight True	2							
			Tied Two								
		<u>^</u>					₹ ¥	ers	5	^	
Everyone						ß	Cles	met	ositi		
Operators		<u> </u>				iete:	ě	ara	de		
U Sucervisors					22	Ē	ei B	er P	8		
l allisona					Sec	å.lar	edg	Met	Gas	É	
- aliyo					Ac	ge ,	Iwo	gel	ge	C	
coinc					asio	ana	톬	ana	ana		
eddye					ő	×	A L	×	×.	2	
i frankf	0		11-111-11-11	M5M	P	M		M			
gread	9		22-222-22-22	W5M	-	V	V	\checkmark	-		
harryh			32-332-32-33	W5M	V		~	$\mathbf{\nabla}$			
ingridi			44 444 44 44	AEAA							
jamesj			44-444-44-44	NION	y M	V	V	V			
kevink			55-555-55-55	W5M	~	V	V		~		
□ larryl			66-666-66-66	M5M	~	~	~	~	~		
melvinm				vada a frest			V	V			
ncahn			aa-aaa-aa-aa	VVHIVI "See"	,.	,	,.			<u>`</u>	
		<u>×</u>	5	Ш							
/iew Default Well P	ermissions]						[Save	e] [Vi	ew W	ell Perr	nission
							5				

- 2 Select a group or user.
- **3** Choose a field from the Fields drop down list.
- 4 Select the permissions to be applied on the wells for the selected users/groups.
- 5 Click [Save] to save the permissions.

Understanding and implementing Multi Company Access

Some wells may be joint ventures involving ownership or operational reponsibility by more than one company. Using the Multi Company Access function, the company that owns the wells can allow others to view and modify data from the Smart-Alek instrument transmitting from the joint venture well.

Joint Ventures are initially set up by our Customer Service staff. Setting up a Multi Company Access well is a three step process:

- Step 1—Client initiates Multi Company Access request on page 53.
- Step 2—OWNER sets maximum permission levels for Multi Company Access wells on page 54.
- Step 3—VIEWER sets permission levels for Multi Company Access wells on page 55

Step 1—Client initiates Multi Company Access request



Either the OWNER or the VIEWER calls Zedi for Multi Company Access for the VIEWER company to see one or more of the OWNER'S wells. When everything is set up and ready to be implemented, a Zedi CSS person completes the set up process.

From there, they choose the OWNER and VIEWER companies and the wells that should be allowed to be accessed from the OWNER by the VIEWER.

The Smart-Alek web portal now acknowledges that the VIEWER company has Multi Company Access access to the specified OWNER'S wells. However, without being set up in the OWNER company's Multi Company access function, the Viewer will not see the well.

Step 2—OWNER sets maximum permission levels for Multi Company Access wells



The OWNER must now log into the Smart-Alek web portal, and go to the user management console (they will require USER MANAGEMENT CONSOLE and MULTI COMPANY ACCESS permissions). From there, they click the Multi Company Access tag. They can then select the VIEWER company from the left side of the page (by adding the VIEWER in step 1, the VIEWER now shows up in this list).

Users	Groups	Web Permissions	Well Permissions	Multi Company Access	Cop	y Pern	nissior	ns			
Multi Compa Configuratio	any Access I on	Permission									[help]
			Field Seven							1	~
C Viewer Company Viewer Company Viewer Company Viewer Company C Viewer Company	yA yB yC yC yD yE				Basic Access	Manage Alarm Settings	Acknowledge and Clear Al	Manage Meter Parameters	Manage Gas Composition	Mndifv QTRs	
			FF-FFF-FF-FF	WF5	\checkmark	~	\checkmark	\checkmark	☑	F	
			66-666-66-	∋GW5M			Γ			T.	
			HH-HHH-HH-	HH W4M				Γ	Γ	Ľ.	
			ՠՠՠՠՠ	4M	\checkmark		$\overline{\mathbf{v}}$	Г	Γ	r	
			KKKKKKKK	KW5M	۷		V			[~	
		~	<							>	
											[Save]

Once they select the VIEWER company from the left side, the right side will populate with the wells owned by OWNER and set as Multi Company Access (in step 1) to VIEWER. The OWNER can now set the MAXIMUM permissions that VIEWER can have to each well. These settings are the maximum permissions that a user in the VIEWER company can have to a well, but until action is taken by a VIEWER company administrator, no user in the VIEWER company will actually see this well.

Step 3—VIEWER sets permission levels for Multi Company Access wells



A VIEWER administrator must now log into the Smart-Alek web portal, and enter the user manager console (they will require USER MANAGEMENT CONSOLE and MANAGE WELL PERMISSIONS permissions).

The user will now see the Multi Company Access wells in the list of wells available to them. They can grant permissions as normal to their users, but if they attempt to grant more permissions than where set as maximum available permissions in step 2, an error will occur and the well permissions will be denied until the permissions are set below step 2's maximum threshold.

Example



There are two companies, A and B. Company A owns wells 1 and 2. Company B owns well three, but would like to see company A's wells 1.

Company A is the OWNER

Company B is the VIEWER

Step 1

The companies call CSS and ask for the Multi Company Access relationship to be built. After all the paper work is done, CSS would use the 8080 Multi Company Access page, enter Company A as the owner and company B as the viewer.

The CSS user would now see a list of Company A's wells, and the CSS user would place a check mark beside Well 1.

CSS would call the companies to let them know they have the Multi Company Access relationship setup.



The OWNER, Company A, would then log into the Smart-Alek web portal and enter the Multi Company Access section of the User Manager. They would select Company B from the list of companies that Company A has Multi Company Access partnerships with. When A selects B from the list, all the wells that are Multi Company Access from A to B (currently only well 1) would appear.

Company A can select well 1 from this list, and set the maximum permissions for Company B on Well 1 to be permissions 1, 3 and 5.

Step 3



The next time that Company B is in Well Permissions tab of User Manager, they would see Company A's well 1 in their well list. Company B could select a user, and assign permissions for that user to well 1. If the Company B administrator tried to give permissions 1, 2 and 3 to the user, they would receive an error stating they have exceeded maximum permissions. (Permission 2 was not granted by Company A... only 1, 3 and 5 were). If the company B administrator tried instead to assign permissions 1 and 3, there would be no error.

Copying permissions

With this function, you can copy permissions from one user or group to another user or group. To copy permissions, you must have the following permissions:

- Copy Permissions
- Manage Well Permissions
- Manage Web Permissions

It is important to note that a user may not grant a permission that he or she does not have. For example, if you do not have well permissions, you cannot use the account of someone who does to grant those permissions to someone else.

Procedures included in this section are:

- Copying user permissions on page 58
- Copying well permissions on page 59

Copying user permissions

Use this procedure to copy permissions defined for a user or Group to another user or Group.

Procedure steps

Step Action

1 In the User Manager window (see Figure 4 on page 26), click the Copy Permissions tab.

The Copy Permissions window appears (we'll focus on the upper portion of it):

Conv User Perm	issions					
urce User:	13310113	D	estination User:			
		~				1
) 1barb 🔼		I	1ba			Ū
2barb		1	2barb			
			2 harb			
3barb			Soaro			
3barb 4barb		≥	4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy Gr	> roups
3barb 4barb	balona	•	4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy Gr	roups
3barb 4barb	lasiona	.	4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy G	roups
3barb 4barb	lasions	<u> </u>	4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy Gi	roups
Sbarb 4barb	issions	<u>ب</u>	4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy Gi	roups
Sbarb 4barb	issions	(4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy Gi	roups
Sbarb 4barb	balana	4	4barb	ons 🔽 Copy Well Per	rmissions 🔽 Copy Gr	roups

Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Step	Action
2	In the 'Source User' portion of the screen, use the radio button to select the individual user or Group whose well, web or group permissions you want to copy FROM .
3	In the 'Destination User' portion of the screen, use the check boxes to select the Users or Groups whose well, web or group permissions you want to copy TO .
4	Beneath the 'Destination User' portion of the screen, use the check boxes to select the kind(s) of permission(s) to copy.
5	Click Go!

Copying well permissions

Use this procedure to copy permissions defined for a well to another well.

Copying well permissions replaces ALL well permissions on the target well for ALL users and groups in the entire company to be identical to the permissions of the source well.

It is important to note that you may not copy permissions to a Multi Company Access well that would exceed the owner company's restrictions. (Any additional permission will simply be ignored during the copy).

Procedure steps

Step Action

1 In the User Manager window (see Figure 4 on page 26), click the Copy Permissions tab.

The Copy Permissions window appears (we'll focus on the lower portion of it):

opy Pe	rmissions	Web Permissions	Well Permissions	Multi Company Access	Copy Permissions	Prentilission Region to	the
Copy U	iser Permi	ssions					
				Conditional States			
1.00	pli-			C 144			_
100	pite.			chatt			
	pie -						
			-	a and a second			
				Fires that because	n Franklin	manana 🖗 ingelie	1
Сору V	Vell Permi	ssions		Figs for former	n Financia	nanana 🖗 tana ta	-
Copy V	Vell Permi	ssions		E Cogo fini formano	na 🖗 ing metho	inners IF ingelie	1
Copy V	Vell Permi	ssions		Program for the second	na 🖗 ingenetie	manana 🖗 (nga te	
Copy V Surce Well	Vell Permi	ssions	2	Destination Well	na 🖗 inga tenteta	maaana 14 may in	
Copy V ource Well	Vell Permi	ssions	d	Destination Well	an 17 ang tating	managen IV register	
Copy V ource Well	Vell Permi	ssions	2	Destination Well 10 10 15 27 We 10 10 15 35 We 10 6 Naevo	er ¥ er een	nasara 19 ing in	
Copy V ource Well	Vell Permi 10 15 27 W4 10 51 5 W4 10 Nuevo 14 51 21 W4	ssions	3	Destination Well 0 10 15 27 Well 0 10 10 15 27 Well 0 0 Nazeo		raaana 19 ingo in	

- 2 In the 'Source Well' portion of the screen, use the radio button to select the individual well whose well whose users or Groups you want to copy **FROM**.
- 3 In the 'Destination Well' portion of the screen, use the check boxes to select the well(s) whose permissions you want to copy **TO**.
- 4 Beneath the 'Destination Well' portion of the screen, use the check boxes to select the kind(s) of permission(s) to copy (user and/or Group).
- 5 Click Go!

Well Site Summary

User Manager Alarm Manager (Well Site Summary) Fie	Fields Company	Data Export	Data Push	Data Import	Support	Logout
--	----------------	-------------	-----------	-------------	---------	--------

The **Well Site Summary** provides an overview of well performance. In the Well Site Summary, the production is totaled by field.

Permissions required to access this function are: Reports and Data - Well Site Summary To view QTR information: QTRS - Use QTR Console

To access the Summary, choose **Well Site Summary** from the Standard Function bar. The report will begin to run.

Parts of the Summary

The summary report, grouped and totaled by field, provides an overview of the performance of wells. Figure 11 on page 62, and the list below it describe the various parts of the summary report.

Figure 11 Parts of the summary report

0	(Expa	anc			•	6	6	0	8
Group or Item Name			SP kPa	Qv E3M3/Day	Hours YDay	Q YDay	Q Today	Q Last Month	Q This Month
Field A		٢				65541.70	8124.88	250997.36	519673.94
AA-AAA-AA V/5M		Π	5383.90	64.61	24.00	65541.70	8124.88	246158.90	516191.60
AA-BBB-AA W5M		0	-2.46	.00	.00	.00	.00	4838.46	3482.34
Group or Item Name			SP kPa	Qv E3M3/Day	Hours YDay hrs	Q YDay m3	Q Today m3	Q Last Month m3	Q This Month m3
⊒ O Field B						6946.53	583.57	210194.58	179604.83
9 BB-BBB-BB W4M		Π	1230.17	.55	12.56	352.28	29.05	.19	5877.48
BB-CCC-BV W5M		Π	321.49	.72	22.43	735.48	59.59	22081.70	19138.52
BB-DDD-BB W5M		Π	516.25	.00	21.07	477.80	46.86	13574.97	13307.07
BB-EEE-BB W5M			548.39	5.39	24.00	5380.96	448.07	174537.71	141281.76
Group or Item Name	Group or Item Name		SP kPa	Qv E3M3/Day	Hours YDay hrs	Q YDay m3	Q Today m3	Q Last Month m3	Q This Month m3
Field C						.00	.00	10179.25	.01
CC-CCC-CC WIM			753.83	.00	.00	.00	.00	.00	.01
CC-DDD-CC W5M			4500.99	.00	.00	.00	.00	10179.25	.00

Use the following list in conjunction with the numbered labels in Figure 11.

- 1 Location—Your well identifier (Clicking on the underlined name of a well opens the QTR's for that well. See Figure 2.)
- 2 SP—Current static pressure of the well
- 3 Qv—Current gas flow rate
- 4 Hours YDay—The number of hours the well reported flowing yesterday
- 5 Q YDay—Cumulative gas flow for yesterday
- 6 Q Today—Cumulative flow between the start of the contract day and the current time
- 7 Q Last Month—Cumulative Gas Flow for the previous calendar month
- 8 Q This Month—Cumulative Gas Flow for this calendar month
- 9 [+] Expansion button, click to expand to view the detail for the columns of the wells in a field
 - [-] Click to return to the field level of the Well Site Summary
- 10 Status lights:
 - Yellow-active high or low standard alarm state
 - Red-active high or low cryout state
- 11 **Totals** at the Field level.

62

Access to QTRs

Clicking on a well opens the QTRs for that well.

Figure 12 QTR

[Expand All Collapse All [Print]										
Group or Ite	SP kPa	Qv E3M3/Day	Hours YDay hrs	Q YDay m3	Q Today m3	Q Last Month m3	Q This Month m3			
🗆 🗇 Field A					65541.70	8124.88	1250997.36	1519673.94		
<u>AA-AAA-AA W5M</u>			Hourty OTRs	Daily OTRs				191.60		
AA-BBB-AA W5M	- QTR Span Start -	2006-12-	22 08:00:00 (N	IGT)				482.34		
Group	- QTR Span End -	2006-12-	23 07:59:59 (N	IST)				[his		
	QTR Type	Daily QTF	1					13		
⊐ ♦ Field B	- QTR Flags -	A						504.83		
BB-BBB-BB W4M	- Flowing Temperature -	5.92		*C				377.48		
BB-CCC-BV WSM	- Static Pressure -	782.53		kPa(g)				138.52		
BB-DDD-BB W6M	- Differential Pressure -	63.55		in H2O				307.07		
BB-EEE-BB W6M	Volume	2084.42		MP				281.76		
Group or Ite	- Gas Flow Rate -	2.03		E3M3/Day				[his onth		
	- Hours on Flow -	24		Hours				13		
= Field C	- Explanation For Update -					~		.01		
CC-CCC-CC WAIM								.01		
CC-DDD-CC W5M								.00		
						×				
			Submit Corre	cled QTR)					

For more information, see Using the QTRs link on page 127.

Understanding Alarm Manager

User Manager

Alarm Manager

Well Site Summary Fields Company Data Export Data Push Data Import

Support Logout

The Smart-Alek web interface alarm system is a powerful tool to help you monitor gas production and reduce downtime. By quickly being informed of abnormal sensor conditions from the alarm system, you will know what to expect at the well site and organize the proper response.

Alarms - Acknowledge and Clear Alarms	
Alarms - Alarm Management Console	
Alarms - Configure Alarm Settings	
Alarms - Configure Contact Schedules	

You will also need to be granted well permissions to the wells to be viewed.

Information in this chapter includes:

- The alarm process on page 65
- Recognizing when an Alarm occurs on page 68
- Accessing Alarm Manager on page 70
- Understanding the Contact Schedule on page 77
- Adding a Schedule on page 77

The alarm process

Understanding the alarm process is essential to using it properly. Three types of alarms are possible and differ only in the timing of the alarm message to the outside world. The Standard, or server-based, Alarm method is the default and is managed completely from the website. Cryout, or instrument-based, Alarms require setup on the Smart-Alek field instrument by a technician in the field. Contact closure alarms must also be set up by a field technician. All three types of alarms are described below.

Standard alarms

In a typical Smart-Alek cellular installation, the field instrument is configured to process and store averaged data from all of its internal sensors. On a regular basis, it sends the data to the web site. To conserve power, it stores one-second data samples from the sensor inputs. Once an hour, the instrument "wakes up" and does the following:

- 1 Computes the averages from the stored samples (e.g., 3,600 in an hour).
- 2 Turns on the modem.
- 3 Connects to the Smart-Alek server.
- 4 Uploads the data to the server; it is now available to be displayed on the website.
- 5 The server looks at the sensor readings and compares them to any alarm parameters that have been set.
- 6 If the data is outside the allowed range, an alarm is triggered, and an alarm notification message is sent.
 - The server cannot pinpoint the exact time the readings went outside of defined parameters.
- 7 If the instrument was not able to connect to the server, the data is sent the next time a successful connection is made.

In a satellite Smart-Alek installation, the difference is the frequency of the call to the Smart-Alek server from the field instrument. If the call frequency has been set at eight-hour intervals (three calls per day), then the earliest the server can respond to a standard alarm event is between one and eight hours.

The standard alarm is triggered once data has been transmitted although the actual alarm event may have begun at any time during the eight-hour period.

Cryout alarms

Cryout alarms are used to send notification of alarm states closer to the time they occur. They are programmed into the Smart-Alek by a trained technician. The alarm is configured on a particular sensor (i.e. differential pressure, gas flow rate). The technician programs the instrument to "wake up", every 15 to 30 minutes, and compare the readings of the sensor to the alarm parameters. If the

readings are outside of the allowed range, the instrument will immediately transmit to the server. If the readings are normal, the Smart-Alek will not transmit until its next scheduled connect time.

Satellite Smart-Aleks, as a rule, transmit fewer times per day due to the added cost. For this reason, cryout alarms are a suitable option since the customer is notified much closer to the time an alarm event occurs than with a standard alarm.

Contact closure alarms

The V2X Smart-Alek also supports contact closure alarms. This is a special kind of cryout alarm that can be configured to react to a remotely located switch wired to one of the Smart-Alek's alarm inputs (Site Alarm 1 or 2). This switch can be either normally open or closed (with the alarm condition represented by the opposite condition), and connected to a device such as a float sensor in a water tank.

Alarm text (both the label and the text that's displayed on an active alarm condition), can be customized so make it easier to understand the alarm, and the nature of the device connected to it. (For example "Site Alarm 1" could be made to read "Water Tank" and the active text could be made to read "Tank full!".)



Note: If you want to set up a V2X contact closure alarm, or arrange to customize alarm text for one already set up, please contact Zedi Support.

67

Recognizing when an Alarm occurs

There are several indicators on the Smart-Alek web interface of wells that are in an alarm state.

 Fields in the well tree list which have a location that is in an alarm state will be indicated by yellow or red status dots. Yellow indicates a **Standard, or server-based, Alarm** has occurred on one or more wells within the field. Red indicates a **Cryout, or instrument-based, Alarm** has occurred on one or more wells within the field.

4	Your C	ompany Name		
Search	Smart-A	Alek Reporting	- Q	Smart-Alek® Intelligent Flow Monitoring System
Unselect All Wells	[help]			
□ • 12-12-234-12 W9M □ • 12-32-123-54 W5M □ • 12-63-342-43 W5M	User Manager Alarm Man Standard -	nager Well Site Summan	<u>y Fields Company Data Export Data</u>	<u>Push Data Import Support Loqout</u>
□ 13-33-343-45 W5M	Server Based VSA Report - 7 days	Gas Flow - Hourly	(7 day) Diff - Hourly (7 day)	Gas Flow - Hourly (7 day)
L 🌒 13-52-345-61 W5M	(Flowing Temperature)	(Static Pressur	e) (Differential Pressure)	(Flow Rate)
	13-52-345-61 W5M			[Model 2000 EM]
	190399 (Online)	Smart-Alek	Las	st Transmission: 2007-07-09 12:21:58 (MDT)
Creatt-	Today 2007-07-08	0:00 Hours Flowing 0:00 Hours Flowing		Volume 0 E3M3 Volume 0 E3M3
Instrument Based	Flowing Temperature Differential Pressure Internal Temperature Orifice Plate	14.09 °C -9.95 in H 16 °C 0.625 in	Static Pressure Voltage Gas Flow Rate	1199.95 kPa(g) 7.03 V 0 E3M3/Day
	<u>Site</u> <u>Alarm Manager</u>	QTRs Event Log	Instrument Log Meter Reports	s Flow Parameters
	12-12-234-12 W5M			[Model 2000 EM]
	191420 (Online)	Smart-Alek	Las	at Transmission: 2007-07-09 12:53:38 (MDT)
	Today 2007-07-08	3:59 Hours Flowing 19:12 Hours Flowing		Volume 1.41 E3M3 Volume 8.31 E3M3
	Flowing Temperature Differential Pressure Internal Temperature Flow Integral Tubling Pressure Casing Pressure Condensate Volume No Flow Sample Count	12.07 *C 2.96 in H2(15.1 *C 41.06 kPa 2185.06 kP 4510.48 kP 775.79 M3 0 #	Static Pressure Voltage Gas Flow Rate Sample Count Tubing Temperature Casing Temperature Condensate Rate Water Volume	2198.82 kPa(g) 9.96 V 9.23 E3M3/Day 152 # 15.33 *C 14.88 *C 18 M3/Day No Reading
	Site Alarm Manager	No Reading QTRs Event Log	Orifice Plate Instrument Log Meter Report:	1.25 in s Flow Parameters

• When you log in, a **Cryout Alarm** appears as an Urgent Well Site Notification until you have cleared it



Once a well is checked in the well tree, the well site display opens and the **Urgent Well Site Notification** box is removed. The **Urgent Well Site Notification** box reappears whenever wells are not displayed. The links in the urgent box are active. You can view the alarm details directly by clicking on the links.

	I			
E Leduc	Default Flowing Temperature	Default Static Pressure	Default Differential Pressure	Flow Raw Readings
🗈 🗌 🗘 Leedale	(Flowing Temperature)	(Static Pressure)	(Differential Pressure)	(Flow Rate)
🗉 🗖 🔶 Lone Pine Creek				
🖃 🔽 🔶 Momingside	01-02-333-01V/BM			[Model 2000 EM SAT]
- 🔽 🌢 01-02-333-01W3M 🛛 🦢 📥 👘	195019 (Online) SmartAle	ek	Last Transmission: 2	2007-02-07 08:43:52 (MST)
	Today 0:00 Hours 2007-02-08 22:20 Hour	Flowing s Flowing		Volume not yet available. Volume 2.06 E3M3
🗄 🗌 Ogden	Flowing Temperature	8.68 °C	 Static Pressure 275. 	09 psig
	 Differential Pressure 	8.98 in H2O	Voltage 8.56	v
∎ Peco	Internal Temperature Water Volume	24.6 °C	Gas Flow Rate 2.13	E3M3/Day 1.01 M3
⊕ □ Ouce Coupe	🔶 Water Rate	0 M3/Day	Oil Rate 13.1	6 M3/Day
Royston	Orifice Plate	0.5 in		
∎ □ Sundre	Site Alarm Manager QTRs	Event Log Instrument	Log <u>Meter Reports</u> <u>We</u>	ell Test Satellite

You must manually clear a cryout alarm.

Clearing the alarm removes it from the urgent well site notification list and the red status dot is no longer displayed. If the alarm condition still exists at the instrument, another cryout notice will **NOT** be sent. The well and sensor measurements will remain in alarm condition until transmitted data within the normal range are received.

• The well site display also gives alarm information. Any sensor that is in an alarm state will be indicated by either a yellow dot, for a standard alarm, or by a red dot, for a cryout alarm.

Accessing Alarm Manager

Unselect All Wells	Your Company Smart-Alek(TM) Reporting Inelpa User Manager Alarm Manager Well Site Summary Fields (Smart-Alek* Intelligent Flow Monitoring System Company Data Export Data Push Data Import Support Logout
H → Diamond H → Diamond H → 06-030-25 W4M	Default Flowing Temperature Default Static Pressure (Flowing Temperature) (Static Pressure)	t Default Differential Pressure Flow Raw Readings (Differential Pressure) (Flow Rate)
14-34-029-27 W4.	14-32-028-28 W4M	[Model 2000 EM]
 	195404 (Online) SmartAlek Today 0:00 Hours Flowing 2007-02-17 24:00 Hours Flowing	Last Transmission: 2007-02-19 07:53:28 (MST) Volume not yet available. Volume 23.74 E3M3
Grafton Herringbone Cong Jonguil	Flowing Temperature Flowing Temperature Differential Pressure S.29 in H2O Internal Temperature T5.8 *C Orifice Plate T.75 in Site Alarm Manager QTRs Event Log Instrume	Static Pressure 209.11 psig Voltage 8.49 V Gas Flow Rate 24.2 E3M3/Day mt Log Meter Reports Flow Parameters

You can access the **Alarm Manager** from two locations in the Smart-Alek web interface:

- 1 **Standard Function Bar** accesses the Alarm Manager functions for all of the wells available to the user.
- 2 **Well Site Function Bar** filters the list to the well shown in the well site display, however, all of the other wells to which the user has access are also available within the Alarm Manager.

To access this function, choose **Alarm Manager** from the Standard Function Bar (no wells will be selected) or the Well Site Function Bar (the details of the selected well will be displayed).

Current Alarm

When you select Alarm Manager, the Current Alarm window opens. This displays the current alarms, including those that need to be cleared.



The parts of the window are described in Table 1.

Table 1 Current Alarm Tab

1	Alarm Manager Tabs	Current Alarms -shows the current alarms, including those that need to be cleared		
		Alarm History-Displays all of the alarms that have happened, selecting a specific alarm allows you to view the details of that alarm		
		Configure Alarms -Allows you to define the alarms for any of the wells to which you have access, set the schedule for who will receive the alarm notifications, set the number of retries and escalate the calls to other contacts.		
		Contact Schedule -The contact schedule allows you to define when specific individuals, groups or schedule groups will be contacted in a 7 day, 24 hour format.		
2 Well Selection drop down list		This list contains all of the wells that can be accessed by the user.		
		If you have selected Configure Alarms from the Standard Function Bar, the default is All. The list will show all of the alarms including the ones that need to be cleared.		
		If you select Configure Alarms from the Well Site options, the screen defaults to the well in the well site display. The drop down list still contains all of the other wells and they are selectable.		
3	Alarms Display	The alarms are listed in chronological order, by date and time. Other information displayed is:		
		Location Name		
		Sensor Name		
		• Error Type		
		Reading Time		
		• Value		
		• Clear		

Alarm History

Alarm History displays the log of the alarms that have occurred and is accessed by clicking the Alarm History tab in the Alarm Manager.

Current Alarm Ala	arm History Configure Alarm	Contact Schedule		•	
Alarm History	•		•	U →	[help]
05-12-221-43 W4M	U	From:	2007-06-17	н то: 2007-06-24	Get Alarms
Location	Sense	orName Alarm Type	Value Alarm	Time	
05-12-221-43 W4M	Voltag	ge Low	7.75 V 2007-0	6-21 20:01:44 (MDT)	details 3

The parts of the window are described in Table 2.

Table	2	
Alarm	History	Tab

1	Well Selection drop down list	This list contains all of the wells that can be accessed by the user. If you have selected Alarm Manager from the Standard Function Bar, the default is All. The list will show all of the alarms including the ones that need to be cleared			
		If you select Alarm Manager from the Well Site Function Bar, the screen defaults to the well in the well site display. However, you will still be able to choose any well in the drop down list.			
2	Date Range	Select a start date and an end date to view the alarms in that time period.			
3	Details	Clicking Det	ails opens the following infor 05-12-221-43 VV4M Voltage Low 2007-06-21 20:11:41 (MDT) 7.75 V 2007-06-21 20:12:01 (MDT) 2007-06-21 20:12:01 (MDT) davea@yourcompany.com Cleared as well is to be shut in and serviced Problem with Voltage will be resolved then	mation screen:	
Configure Alarms (set up, edit and redefine server alarm parameters)

On this page you can define the alarms for any of the wells to which you have access, set the contact schedule for who will receive the alarms, set the number of retries and escalate the calls to other contacts.

Current Alarm	Alarm History	Configure Alarm	Contact Schedule		
Configure Alarn	n				[help
Wells				Sensors	
Press C Field One ->08-21-1 C Field One ->09-21-1 C Field One ->09-21-2 Field One ->01-54-2 Field One ->11-44-23 C Field One ->24-24-13 C Field One ->24-42-13 C Field Two->10-54-24 C Field Two->10-54-24 C Field Two->11-54-24 C Field Two->11-54-24 C Field Two->11-64-456 C Field Two->12-63-22 C Field Two->12-63-22 C Field Two->22-40-13 C Field Two->22-40-13 C Field Two->22-40-13 C Field Two->22-21-31 C Field Two->22-21-31 C	15-78 WAM 15-78 WAM 15-78 WAM 12-76 WAM 13-64 WAM 13-64 WAM 13-65 WAM 13-12 WAM 13-12 WAM 13-12 WAM 13-12 WAM 13-12 WAM 5-78 WAM 5-78 WAM 5-78 WAM 5-78 WAM 5-78 WAM 5-78 WAM 5-84 WAM 5-84 WAM 5-85 WAM 3-85 WAM 3-85 WAM 3-32 WAM 3-32 WAM 3-32 WAM	•)	Casing Pressure Casing Temperature Condensate Rate Differential Pressure Flowing Temperature Gas Flow Rate Internal Temperature Liquid Rate 2 Methanol Alarm 1 Methanol Alarm 1 Static Pressure Tubing Pressure Voltage	3
C Homburg 502 20 00	R 10 WRM			[L	<u></u>

To set up, or change alarm parameters, perform the following steps:

Step	Action
1	Click the Configure Alarm tab in the Alarm Manager .
2	In the wells listing, choose a well for which you want to configure an alarm.
3	The sensors list is populated with the sensors available for the well. If you selected a number of wells, only the sensors that all of the selected wells have in common will be displayed. Select the sensor for which you want to define alarm parameters. The sensor setting window opens.

Sensor Settings

Sensor settings are shown in Figure 1. The numbers in this figure denote specific areas of the screen which are described in Table 3.

Figure 1 Sensor settings

12-32-123-54 WS	5M -> Gas Flow	Rate	x
sensor settings			
High Level	2831685	E3M3/Day	
High Level Reset	2831685	E3M3/Day 2	
Low Level Reset	0	E3M3/Day 3	
Low Level	-28.32	E3M3/Day 4	
User C Group User Alarm Message #ERR #HIERARC #MAX #MIN # #TIM #VALUE	C Contact Schedu	#FLD, #LOC THE #SEN SENSOR ON SMARTALEK #SDS RECORDED AN ALARM OF #AMT AT #TIM	*
Maximum Retry		0 - 3	
Retry Interval		1 Hour	10
Save Cancel			lest

Table 3 Sensor settings

Setting		Description				
1	High Level	The level at which the High Alarm event will be triggered.				
2	High Level Reset	The level at which the High Alarm event will be cleared.				

Sheet 1 of 3

Table 3 Sensor settings (continued)

		1			
Settin	Ig	Description			
3	Low Level	The level at which the Low Alarm event will be cleared.			
	Reset	Depending on the particular sensor, it may not be important to change the defaults for all settings.			
		High and low reset values can be used just inside their respective high and low limits so the server will automatically reset the alarm and allow it to occur again without manual input.			
4	Low Level	The level at which the Low Alarm event will be triggered.			
5	Contact	Choose a radio button:			
		User-Individual User			
		• Group -Group of Users (see <i>Adding a Group</i> on page 39)			
		Contact Schedule-Groups (as defined in Understanding the Contact Schedule on page 77)			
		No Contact			
		• Unchanged			
6	User	Depending on your selection in the radio buttons, you select a User, Group or Contact Schedule from the drop down list.			
7	Alarm Message	Various pieces of information can be sent in the alarm message as well as plain text. The well site location, Smart-Alek ID, sensor type, alarm value, and the date and time of the alarm event as registered by the server can be sent in a text message to convey the relevant data. These are:			
		#FLD-Field Name #MAX-Alarm Maximum			
		#SDS-Smart Alek Name #AMT-Reading Amount			
		#SEN-Sensor Name #TIM-Time and Date			
		#MIN-Alarm Minimum #LOC-Well Location			
8	Maximum Retry	Choose the number of times you want the alarm to be resent to the contact from the drop down list. Options are 0-5.			

Sheet 2 of 3

Table 3	
Sensor settings	(continued)

Setti	ng	Description
9	Retry Interval	Choose a time interval for the retry. Options available are: Unchanged, 5 Min, 30 Min, 1 Hour, 2 Hours, 4 Hours, 8 Hours and 1 Day (24 Hours).
		Note: For standard alarms, retry intervals should be used as notifica- tion of extended alarm states. For cryout alarms, subsequent notifica- tions are beneficial if the first contact person has not cleared the alarm from the website (This would go hand in hand with escalations).
10	Test	Tests the alarm for the contact(s) selected

Sheet 3 of 3

Understanding the Contact Schedule

Using the schedule allows you to have the alarms sent to different people or groups at different times of the day and week. This supports your team by providing flexible options allowing you to optimize the system to your labor management policies and procedures.

To set up, add or change a schedule, choose **Alarm Manager** and the **Contact Schedule** tab. The following window opens:

Current Alarm	Alarm History	Configure Alarm	Contact Schedule	
[No Schedule : Select Add	Selected]			[help]

Adding a Schedule

Use this procedure to add a schedule. The number labels in figures pertain to procedure steps.



Procedure steps

Step Action

- 1 Click Add.
- 2 In the Contact Schedule dialog, enter a **name** for your new schedule. Click **Okay**.

Current Alarm	View Alarm Config Alarm		Cont	act So	hedu	le		
Operators One Select Add Edit Dele Contact Group	te							
	Contact Group Contact Group Name Enter a name for this Co Group Color Select a color for this gr Calencar Configure Contact Gr Select the users and or	ntact Group. oup on the oups	Days red	6	tion l e] vel		×
			•	Faceletion 2 Esceletion 2	Estelation 3	Escelation 4		
	222Group							
	🕵 333Group		Ē				Γ	
	Se 444Group		Г				Γ	
	SSSGroup 555Group		Г			Γ	Г	

- **3** The Name of the Group is displayed.
- 4 To add contacts to the Group, click Add.
- 5 The Contact Group window opens. Enter a name for the Contact Group.
- 6 Select a color from the drop down list.

Step Action

7 Select Groups and individuals for the contact group by selecting an escalation level.

Current Alarm	View Alarm	Config Alarm	Contact Schedule							
Operators One Select Add Edit Dele	ete	Schedule Cal	endar							
		Ç.	-	sun	mon	tue	wed	thu	fri	sat
Contact Group			00:00 - 00:59							
Add Edit Delete			01:00 - 01:5	\						
			02:00 - 02:)						
	A		03:00 - 03:59							
C Days			04:00 - 04:59							
C Nights			05:00 - 05:59							
🕑 Weekends 😜	/		05:00 - 05:59							
		— —	08:00 - 08:59							
			09:00 - 09:59							
			10:00 - 10:59							
			11:00 - 11:59							
			12:00 - 12:59							
			13:00 - 13:59							
			14:00 - 14:59							
			15:00 - 15:59							
			16:00 - 16:59							
			17:00 - 17:59							
			18:00 - 18:59							
			20:00 - 20:59							
			21:00 - 21:59							
			22:00 - 22:59							
			23:00 - 23:59							
			-							

- 8 Continue to add contact groups until you have all of the contact groups to add to the schedule
- **9** Select the group to add to the schedule
- **10** Click on the calendar and the time blocks will be highlighted with the color you have selected for the group.
- 11 Continue until you have completed your schedule. Click Save Calendar. These contact schedules are now available in the Sensor Settings page.

79

Understanding the Fields link

As an organization generates and stores more and more data about their assets, it becomes increasingly difficult to find a particular piece. As the complexity grows, a hierarchy forms. Hierarchal views are a way of making a readable presentation of the information. Data is organized in a tree-like structure in such a way that it cannot have too many relationships. The structure allows information using parent/child relationships.



You can use Smart-Alek to manage your wells and their data using the format that matches how your fields and wells are managed in other areas of your organization. For example, you could divide your fields into areas and assign your wells to those areas within the field.

The Well Tree Administration function allows you to do this. Changes made in the Well Tree Administration window are company-wide. The Well Tree in all company accounts will display the changes.

<u>qer Alarm Manaqer Well Site Summary Fields Company Data Export Data Push Data Import Supp</u>

Permissions required to access this function are: Wells - Hierarchy Console

Information found in this chapter includes:

- Well tree administration window on page 82
- Creating the Well Tree on page 84

Well tree administration window

To open the well tree administration window, click Fields on the Standard Function bar. The window shown in Figure 2 will open. The window's composite parts are described in Table 4 on page 83.

Figure 2 Well Tree Administration window

Well Tree Destination				
Commands Add Level Delete Level(s) Rename Level			Filter Search:	
Gilby Murphy				
Gilby North				
Keyera Gilby				
Madison Energy Corp				=
Medicine River				
J Paramount				*
			•	
Well Lovel Contents		Well Tree Source		
wen Lever Contents		Weil Hee Source		
Levels	<	Filter		
Wells		🗹 Everything 🔽 Unassigned Wells 🔽 Assigned Wells 🔽 Top Levels	Search:	
		Child Levels		
		Unassigned Wells		
		00/08-14-047-04W5/0		(Ħ)
		C		
		E 02 12 028 02 WEM		
		02/08-28-047-07W5/0 (CSG)		
		02/08-28-047-07W5/2 (TBG)		
		103/08-15-040-02 W5		
		Assigned Wells		
		00/09-36-038-02 W5/0		*
Field Contact Information				
Field Contract Information				
Field Contact Information				
Name:				
Phone:				
Billing Contact Information				
Name:				
Dhone				

Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Figure label	Description
a	Well Tree Destination pane shows the current Well Tree settings. For convenience, the levels in the Well Tree Destination pane are "flattened," so you can select across levels quickly (without having to "drill-down")
b	Well Level Contents pane displays the Wells currently assigned to the selected Field.
с	Well Tree Source pane displays the wells to which you have access. Unassigned wells (wells not assigned to a Field) are displayed first, followed by all other wells to which you have access, listed numeri- cally, then alphabetically. Next, the top-level hierarchies are dis- played, followed by all of the sub-levels.
d	Field Contact Information pane is where customer field and bill- ing contacts are entered. As customer staffing changes, field and billing contacts will often change as well. Zedi support personnel monitor Smart-Aleks for outages/hardware issues. In order to min- imize downtime, it is important to enter the contact information, and keep it up to date. This enables Zedi's Customer Service per- sonnel to obtain timely authorization to have contractors dis- patched to the well site to troubleshoot.

Table 4Well Tree Administration window parts (see Figure 2)

The well tree destination pane shows the different fields within the company's hierarchy. The well tree sub-levels are indicated by "bread crumbs" (->). In the following example, the company has divided their wells into numbered fields. These numbered fields would be known as the top level. They have subdivided their top level into North and South. Each North and South field will be further divided into East and West. Field 3 has already been divided, as described.

In the example shown in Figure 3 on page 84, 3NWest and 3NEast are the children of 3North which is the child of Field 3.

Figure 3 Well Tree Destination pane

Well Tree Destination Commands Add Level Delete Level(s) Rename Level	
Field 3	
Field 3->3North	
Field 3->3North->3NEast	
Field 3->3North->3NWest	
Field 3->3South	
Field 3->3South->3SEast	
Field 3->3South->3SWest	
Field 4	

Creating the Well Tree

This section contains the following procedures:

- Adding a Level on page 84
- Deleting a Level on page 86
- Renaming a Level on page 88

Adding a Level

Use this procedure to add a level to the well tree:

Add Level Delete Le	vel(s) Rename Level	Se
Dan's Test	Explorer User Prompt	
Field 1 Field 2 Field 3 Field 3->3North Field 3->3North-> Field 3->3North->	Script Prompt: Enter name for level 2North 3	OK Cancel

Procedure steps

Step	Action		
1	Select the field to which you want to add a lower level.		
2	Click Add Level.		
3	The Add Level window is displayed. Enter the name of the level in the box and click Ok .		
4	The new level is added to the field.		
5	In the Well Destination, the new field has now been added and can be selected.		
	Well Tree Destination Commands Add Level Delete Level(s) Rename Level Field 1 Field 2 Field 2 Field 3 Field 3 Field 3->3North		

Field 3->3North->3NEast Field 3->3North->3NWest

Field 3->3South



Note: Each field must have a unique name. In Figure 5 on page 85, each sub-level is prefaced by the number of the field, making it unique.

Deleting a Level

Use this procedure to delete a level from the well tree:

Figure 5 Deleting a level



Procedure steps

Step	Action
1	Select the field that you want deleted.
2	Click Delete Level(s).

If you delete a child level, the well(s) are moved to the top level.

For example:

In Figure 5 on page 86, Field 3->3North ->3NWest was deleted, but there were two wells in that field. After the field was deleted, the two wells moved up one level to Field 3->3North, as shown in Figure 6 on page 87.

Figure 6 Example

Add Level Delete Level(s) Rename Level Field 3 Field 3 Field 3 Field 3 Field 3 South Field 3 Field 3 Field 3 South Field 3 Field 3 South Field 3 Field 3 South Field 3 South Field 3 South South	Well Tree Destination
Field 3->3North Field 3->3North->3NEast Field 3->3South->3SEast Field 3->3South->3SWest Field 4 Field 5->3South->3SWest Field 5->3South->3SWest Field 5->3South->3SWest Field 5->3South->3SWest Field 5->3South->3SWest Bield 5->3South->3SWest South->3SWest Field 5->3NEast Wells 05-05-055-05 WSM 06-06-066-06 W6M	Add Level Delete Level(s) Rename Level
Field 3->3North Field 3->3South->3NEsst Field 3->3South->3SEsst Field 3->3South->3SWest Field 4 Field 5 SNEsst Well Level Contents Levels 3NEsst Wells 05-05-055-05 W5M 06-06-06 W6M	Field 3
Field 3->3North->3NEast Field 3->3South Field 3->3South>3SEast Field 3->3South->3SWest Field 4 Field 5 SNEast Wells D5-05-055-05 W5M D6-06-066-06 W6M	Field 3->3North
Field 3->3South Field 3->3South->3SEst Field 3->3South->3SWest Field 4 Field 5 Well Level Contents Levels 3NEsst Wells 05-05-055 WSM 05-06-066-06 W6M	Field 3->3North->3NEast
Field 3->3South->3SEast Field 3->3South->3SWest Field 4 Field 5 Well SNEast Wells 05-05-055-05 W5M 06-06-066-06 W6M	Field 3->3South
Field 3->3South->3SWest Field 4 Field 5 Well Level Contents Levels 3NEast Wells 05-05-055-05 W5M 06-06-066-06 W6M	Field 3->3South->3SEast
Field 4 Field 5 Well Level Contents Levels 3NEast Wells 05-05-055-05 W5M 06-06-066-06 W6M Record cannot be deleted, child record found. details	Field 3->3South->3SWest
Field 5 Well Level Contents Levels 3NEast Wells 05-05-055-05 WSM 06-06-066-06 W6M	Field 4
Well Level Contents Levels 3NEast Wells 05-05-055-05 W5M 06-06-066-06 W6M	Field 5
Well Level Contents Levels 3NEast Wells 05-05-055-05 WSM 06-06-066-06 W6M 06-06-06 W6M Record cannot be deleted, child record found. Close	<
Levels 3NEsst Wells 05-05-055-05 W5M 06-06-066-06 W6M Record cannot be deleted, child record found. details	Well Level Contents
Record cannot be deleted, child record found.	Levels 3NEast
Record cannot be deleted, child record found. Close	Wells 05-05-055-05 W5M
Record cannot be deleted, child record found. Close	06-06-066-06 W6M
	Record cannot be deleted, child record found. Close

You can not delete a top level that has wells attached to it, the Smart-Alek system will not let you.

Renaming a Level

Use this procedure to rename a level in the tree.

Figure 7 Renaming a level



Procedure steps

_

Step	Action
1	Select the level that you want to rename.
2	Click Rename Level.
3	Enter the new name and click OK .
4	The level now appears in the Well Tree Destination list with its new name.

Well tree source search

A search implies sequential scanning of content or indexes in order to find the results rather than a direct lookup. The letters in the list below refer to labelled areas in Figure 8 on page 90.

- a To search for a specific well, enter part or all of the Well ID into the Search field, then click Search. The Well Tree highlights the wells (to which your account has access) that match your search criteria.
 - Everything displays all wells
 - Unassigned Wells displays and searches only the unassigned wells
 - Assigned Wells displays and searches only the assigned wells
 - Top Levels -displays and searches only the top level
 - Child Levels displays and searches only the child levels

All wells to which you have access are listed in the Well Tree Source portion of the screen:

- b **Unassigned Wells** Any wells that have been entered into the system but not currently assigned to a field appear in the Unassigned Wells section. (for example, a new joint venture).
- c **Assigned Wells** Next, all wells that have been assigned to a field are listed, sorted numerically then alphabetically. It does not matter where they are currently assigned. Any well can be reassigned to a different field.
- d **Top Levels** These are the fields at the top level in a field hierarchy.
- e Child Levels Next you see the fields or wells that are at the child level.

Figure 8 Well Tree Source pane

Vell Tree Source	
- Filter	
Everything Search:	
Unassigned Wells	
Assigned Wells Top Levels Child Levels	
Unassigned Wells	^
Assigned Wells	
Top Levels 🚺	
Child Levels e	

Field contact information

Selecting a level in the Well Tree Destination pane will display its contents in the Well Level Contents pane. It is also a good idea to enter the field and billing contact information for the selected level. The procedure steps below refer to Figure 9 on page 91.

Procedure steps

Step	Action
1	Select the level to which you want to assign field and/or billing contacts.(After doing so, its contents will be displayed in the Well Level Contents pane.)
2	Enter the field and/or billing contact names and telephone numbers.
3	Click "Update".

Figure 9 Enter Field Contacts			
	◄	Z Castle	
		Devon	
		Leduc 🚺	
		Pine Creek	
		Rigley	

Well Level Contents			
Levels			
Wells			
01-10-011-10 W4M			
02-10-011-10 W4M			
03-10-011-10 W4M			
04-10-011-10 W4M			
05-10-011-10 W4M			

Field C	ontact Informatio	n
Field Co	ntact Information	
Name:	John Smith	•
Phone:	403-555-1212	U
Billing Contact Information		
Name:	Sally Sullivan	
Phone:	403-555-3434	
Notes: Updat	Please do not enter comma te	(',')

After entering field contact information, use the procedure steps below to view contact information in the well tree. Note that you may not see the telephone icon, or view contact information by hovering over it if you have not been granted permissions. See *Understanding and assigning Web permissions* on page 42 for more information.

Procedure steps

Step	Action
1	Close the Well Tree Administration window.
2	Log out and log back in again.
3	Hover your cursor over the telephone icon of the level for which you updated the contact information, and if you have appropriate web permissions, a pop-up with that information appears (see an example in Figure 10).

Figure 10 Contact information displayed



Moving a well into a field

Checking a level in the Well Tree Destination pane will display its contents in the Well Level Contents pane, listing the sub-levels first then wells. Use the following procedure to move another well into the field. The procedure steps below refer to Figure 11 on page 93.

Procedure steps			
Step	Action		
1	Select the level to which you want to add a well.		
2	Search for the well that you want to reassign to a different field.		
3	Select the well to be moved into the chosen field/level.		
4	Click the arrow between the Well Level Contents and Well Tree Source panes. The well will move into the wells list in the Well Level Contents pane.		

Figure 11 Moving a well into a field



Well Level Contents		Well Tree Source	
Levels 3North 3South Wells 01-01-111-01 W1M 02-02-222-02 W2M 03-03-333-03 W3M	< ∢	Filter ✓ Everything Search: ✓ Unassigned Wells ✓ Assigned Wells ✓ Top Levels ✓ Child Levels 10-10-111-10 W1M 12-12-111-10 W2M 13-13-111-10 W3M 14-14-104-10 W4M 15-15-105-15 W5M 5400000 m 2 durt eV	

Using the Company link



Use the Company link to:

- modify the company name, address, and primary contact person
- view all the logins for a company
- set the company preferences for:
 - units of measure
 - company security settings

To access Company, choose Company from the Standard Function bar.



Note: some of these options may not be available depending on your specific permissions.

Permissions required to access this function are:

- Company Company Management Console
- Company Company Security
- Company Company Default UOM
- User Administration View User Logins

Information found in this chapter includes:

- Entering or modifying basic company information on page 96
- Entering or modifying company units of measurement and sensor types on page 97
- Viewing user logins on page 99

• Defining company security settings on page 100

Entering or modifying basic company information

Use this procedure to enter new information for a company such as company name, address, and primary contact.

Procedure steps

Step	Action
1	Choose "Company" from the Standard Function bar.
	The Company Maintenance screen opens with information it contains so far displayed.
	Note that this screen also contains links to up to three other areas (depending on your permissions) where various functionality is

configured ("Units of Measurement", "Company Security Settings", and "View User Logins").

Company Mainte	enance	
		Smart-Alek [®] Intelligent Flow Monitoring System
		Units of Measuremen Company Security Setting View User Logins [close
Company Information Short Name A short version of this company's name that the company is offen to referred by.	Nessie Oil & Gas	
Legal Name The legal operating name of this company.	Loch Ness Oil and Gass	
Address The Company's complete billing address.	550 Auld Lang Syne Way Lochdubh	< >
Contact: The central point of contact for this company.	(None)	
Notes: Any extra notes about this company.		< >
		Save

2 Make changes and updates as needed on this screen, and click the "Save" link at the bottom right corner of the screen.

Entering or modifying company units of measurement and sensor types

Many different modes of measurement are used today, and the Smart-Alek interface allows you to choose the units your company uses for day-to-day business.



Note: Any changes in the Company function will affect the ENTIRE company and NOT the individual user.

Procedure steps

Step Action

1 Click on the "Company" in the standard function bar, and choose the "Units of Measurement" link from the Company window.



A window opens listing units of measurement (and defaults) for various aspects of Smart-Alek data as defined for your company.

Measurement	SensorType		
Measurement Ty	rpe	Company Override	Effective Company Default
Concentration		[System Default] 💟	ppm
Count		[System Default] 💙	#
Data Size		[System Default] 💙	В
Density		[System Default] 💙	kg/m3
Distance		in 💌	in 🖣
Electric Potential		[System Default] 💙	V
Electrical Current		[System Default] 💙	А
Energy	and the a	[System Default] 💌	GJ

2 To make changes, use the drop-down lists. New values become active as soon as you select them.

Sheet 1 of 2

Step Action

3 Click on the "Sensors" tab to display the various sensor classes and types, and their current override and default settings.

ensor Class	Sensor Type	Company Override	Effective Company Default
FM	Differential Pressure	in H2O 🗸	in H2O
EFM	Flow Integral	kPa 💌	kPa
EFM	Flowing Temperature	*C 🗸	°C
EFM	Fuel Gas Y-day Vol	[Measurement Default]	M3
EFM	Gas Flow Rate	E3M3/Day	E3M3/Day
EFM	Hourly Gas Volume	[Measurement Default]	M3
EFM	Hourly TOP	[Measurement Default]	hrs
EFM	Hourly Volume	[Measurement Default]	hrs
EFM.	Hours on	and a manufacture of the second state of the second state of the second state of the second state of the second	and Anther his

- 4 To make changes, use the drop-down lists. New values become active as soon as you select them.
- 5 Click the close box when finished.

A https://www.smart-ali	k.com/secure/external/siteadmin/def	aultuom/MeasurementTyneDefaultI IOM.asn:	· · · · · · · · · · · · · · · · · · ·
Default U	nits of Measure		
Donuali	into or mousure		
		C Cmor	F Alok [®]

Sheet 2 of 2

Viewing user logins

Use this procedure to view either summary or detailed information about who has been accessing your company's secure web portal, and when.

Procedure steps

Step Action

1 Click on "Company" in the standard function bar, and choose the "View User Logins" link from the Company Maintenance window.



A window opens showing summary login activity.

View User	Logins	Smart-Alek* Intelligent Flow Monitoring System			
© Summary © Details					
ser Name	Last Login Date	# of Logins			
macjorgalshmorgen	2007-12-04 13:34:16 (MST)	68			
macbeth	2007-12-04 12:43:25 (MST)	44			
duncan	2007-12-04 07:37:16 (MST)	31			
banquo	2007-12-03 14:54:50 (MST)	5			
and the second data and th	and a submania and a submania and	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			

Information provided here includes the number of times a specific user has logged in, and the date and time of the last login.

2 To view more or fewer days' information, change the number in the "Showing Last *xxx* Days" box, and click the "Apply" link.

Showing Last	10	Days.	Apply

3 To view detailed information, click the "Details" radio button. This lists the date and time of each and every login for all users.

Sheet 1 of 2





Defining company security settings

Use this procedure to define various aspects of web portal security settings such as user password length and content requirements, account lock-out behavior and so on.

Procedure steps

Step Action

1 Click on "Company" in the standard function bar, and choose the "Company Security Settings" link from the Company window.

Company Maintenance	/	Company Security Settings
	Smart-Alek® Intelligent Flow Monitoring System	
	11-2	
	Company Security Settings View User Logins	
Company Information	[close]	
Short liane A short version of this company's name that the company is often to re	and the second	

Sheet 1 of 2

Action

Action		
A window opens showing	current security settings for your company.	
Company Security Settings	Smart-Alek* Intelligent Flow Monitoring System	
Password Length		
Minimum Password Length	4 character(s).	
Maximum Password Length	12 character(s).	
Password Content Requirements		
Minimum Number of Alphabetical Characters	0 letter(s).	
Minimum Number of Numeric Characters	0 number(s).	
Minimum Number of Symbol Characters	0 symbol(s).	
Passwords Must Contain Mixed Alphabetical Case.	Π.	
Password Expiry		
Password Expiry Policy	Password Can Expire	
Number of Days Until Passwords Expire.	60 days(s).	

- 2 Make the required changes, using drop-down menus and editable fields as needed.
- Click the "Update Security Settings" button at the bottom of the form 3 when finished.

for the second press of the particular second	An American
Account Lockout on Failed Login	4
Account Lockout Policy	Account Temporarly Locks Out
Number of Login Failures Until Accounts Lockout.	3 failures(s).
Number of Days Until Timed Lockouts Expire.	0.01 days(s).
	Update Security Settings

Sheet 2 of 2

Data Export

User Manager Alarm Manager Well Site Summary Fields Company Data Export Data Push Data Import Support Logout

The Smart-Alek web portal can export data in any number of pre-defined formats to import reports into Excel, production accounting or Field Data Capture (FDC) programs.

Permissions required to access this function are: Reports and Data - Manual Data Export

Export file options are shown in Table 5

Table 5 Export file options

Туре	Description
Daily QTR	Quantity Transaction Record, an Excel formatted sheet with the Hours on
Export	Production. QTR averages are based on the clock hour, not the actual
	transmission time.
Daily QTR	As above c/w flags
Export w/Flags	
DECPRO Export	Exports to DECPRO format
WellTest	Merak TEST Export
Merak	Production accounting or FDC software
PRISM	Production accounting or FDC software
Procount	Production accounting or FDC software
Qbyte	Production accounting or FDC software

Sheet 1 of 2

Export file options (continued)								
Туре	Description							
CSV	Comma Separated Values; This file is formatted for import into Excel and shows every transmission and its time stamp going from the unit to the server. This is the "Raw" data listed in the Report Manager.							
Split Date/Time CSV	Comma Separated Values; This file is formatted for import into Excel.							
PVR	PVR format							
FAS	ASCII file to import into well test software programs, such as Fekete Field Notes [®]							

Table 5 Export file options (continued)

Sheet 2 of 2

Data can be automatically exported to other programs by contacting Zedi Client Services and Support.

Exports for Merak[®], PVR[®], etc., web portal data is in a format ready for import to those applications.

Other exports, such as Daily QTR Export, provides the data in columns that can then be sorted and graphed.

Exceptions are: For FieldView[®] exports, the GASWELL record type uses the Hours On Production Threshold. The GASMET record type does not.

Using Data Export

To access this function, choose **Data Export** from the Standard Function bar. The following window opens:



Procedure steps

Step Action

1 Select the check box of each **well** to export in the Well Tree.

To select **all wells in a field**, click the check box beside the field.

To search for a specific well, enter part or all of the Well ID into the **Search** field (in the Well Tree), then click **Search**. The Well Tree will highlight the wells (that your account has access to) that match your search criteria.

2 Enter the **Start Date** in YYYY/MM/DD format.

Enter the **End Date** in YYYY/MM/DD format for the data you want to export.

3 Choose the export **Format** from the drop-down list and Click **Download**.

The **File Download** dialog opens. To view the downloaded data, click **Open**. To save the data as a file that can be used at a later date or for an import file into another application, click **Save**.

Data Push

User Manager Alarm Manager Well Site Summary Fields Company Data Export Data Push Data Import Support Logout

With the Smart-Alek secure web portal, you can use a data push to have your Smart-Alek sensor data delivered to your computer system in the format readable by your data management packages. With the Data Push function, you can now manage your data pushes.

Permissions required to access this function are: Reports and Data - Configure Automated Exports

Setting-up a Data Push

To have a data push defined for your company, you will need to contact Customer Service, but once the push (or pushes) have been defined, you can manage them yourself. With this function, you can:

- add a well to your data push
- re-run a data push
- determine why the push failed.

Procedures in this section include:

- Accessing Data Push functionality on page 108
- Adding a well to a Data Push on page 108
- Re-running a failed Data Push on page 109

Accessing Data Push functionality

Use this procedure to access this function.

Procedure steps

Ste	эр	Action							
1		Choose Data Push from the Standard Function bar.							
		The following selection window opens.							
		Data Push	mart-Alek [®] Intelligent Flow Monitoring System						
	Inelpi								
		Select Data Push: TypeOne							

Adding a well to a Data Push

Use this procedure to add a well to a data push. The drop-down list box you see in *Accessing Data Push functionality* on page 108 contains a listing of the pushes that Zedi has built for you.

Procedure steps

- 1 Choose Data Push from the Standard Function bar.
- 2 Choose the appropriate push from the drop-down list, click "Search" and the push screen opens.

										IL0	qs				
Well Na	<u>me WellID</u>	BatteryIC	<u>Mete</u>	erID Las	t Data Send	<u>d</u>	<u>Status</u>	Edit	ค						
BB-BBB	-BB N/A	3	2	200	6-07-25 09:	32:24	Enabled	Edit	Ð	,					
			-												
	A	dd													
	Location						~								
	Level		Well	l evel		•	/								
	Well ID														
	Meter ID														
	Battery I)													
		_													
	Last Date	e Sent	2006	6-12-27	14:53:10		• (ууу	y-MM-dd	24	H:mm	:ss)				
					Save										
				Well Na	me WellID	Ba	tteryID	Meterl	ID La	ast Da	ta Se	end		<u>Status</u>	Edit
				BB-BBB	-BB N/A	3		2	2	006-07	7-25	09:32	24	Enabled	Edit
				BB-CCC	-BBN/A	4		21	2	006-12	2-27	15:02:	05	Enabled	Edit

Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07
Step Action

In the top portion of the screen you will see the well information from the last data push selected from the previous screen. The columns displayed reflect the type of push that is being made.

- **3** Choose the well you wish to add from the drop-down list and enter the appropriate information for that well.
- 4 Click "Save".

Re-running a failed Data Push

Each time a data push runs, an entry is made in the Log. When a push fails, you can access this log to determine the reason.

Use this procedure to re-run a push that failed.

Procedure steps

Step	Action
1	Choose Data Push from the Standard Function bar. (See Accessing Data Push functionality on page 108.)
2	Choose the appropriate push from the drop-down list, click "Search"

2 Choose the appropriate push from the drop-down list, click "Search" and the push screen opens.

[Logs]

Well Na	<u>me WellID Batteryl</u> [<u>) MeterID Last Data Send</u>	Status Edit
BB-BBB	BB N/A 3	2 2006-07-25 09:32:24	Enabled Edit
	Add	Edit B	
	Location	BB-868-88	*
	Level	Battery Level	
	Well ID]
	Meter ID	2	
	Battery ID	3]
	Last Date Sent	2006-07-25 09:32:24	(yyyy-MM-dd 24HH:mm:ss)
	Apply to All Wells	(Check to apply date to all wells)	
	Status	Enabled	*
		Update 5	

3 Choose a well from the list and click "Edit".

The Edit information page for the selected well opens in the lower portion of the window.

> Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Step	Action
4	Select the date you wish to rerun from the calendar.
5	Click "Apply to All Wells".
6	Click "Update".
	Your data push will be re-run.

Data Import

<u>Osci manager</u> <u>Mannimanager</u> <u>Weirste Sunimary</u> <u>Fields</u> <u>Company</u> <u>Data Loport</u> <u>Data Import</u> <u>Support</u> <u>Eugon</u>	User Manager	Alarm Manager	Well Site Summary	Fields	Company	Data Export	Data Push	Data Import	Support	Logout
--	--------------	---------------	-------------------	--------	---------	-------------	-----------	-------------	---------	--------

Using the Data Import function, you can import gas composition into the Smart-Alek web portal.

Permissions required to access this function are: Flow Parameters - Gas Composition Import

The required data format for Data Import is given in Table 6 below, and Table 7 on page 112.

Table 6Data Import format specifications

Item	Description				
Unique Identifier	The Unique Identifier is called the zedi meter code and it is unique within the web portal.				
	The zedi meter code on test wells must have two parts:				
	• The first number will refer to the location_id				
	• The second number will refer to the test well_id				
	The two numbers will be separated by a hyphen (e.g., 21373-51)				
	If you are updating the "Gas Composition" on all wells in a test satellite, you specify the first part of the zedi meter code (e.g., 21373)				
	This identifier is listed in the upper right-hand corner of the Gas Composi-				
	tion window.				

Sheet 1 of 2

Table 6Data Import format specifications (continued)

Item	Description
Import File	The file format is XML.
Specifications	The Export file from ProTrend will have 1 to N wells listed with associated gas compositions.
	"Units of Measure" will define if the report contains molar fractions or per-
	centages.
	The Start Date will belong to each well in the file. This allows different dates for each well in a single upload.

Sheet 2 of 2

Table 7 Data Import preliminary data element

Element	Description	Requirement
<reportset></reportset>	author - Used to identify the creator of the file	Optional
<report></report>	start - Effective Start Date of the upload Format: YYYY-MM-DD	required Can not be older than 90 days
	name - Serial number this report is applied to	Required Use (the zedi meter code)
	type - Hard coded to 200	Required for future compati- bility
	zedi meter code - Specified by zedi, unique Identifier for a location	Required
	meterCode - For troubleshoot- ing / readability purposes	Optional
	meterName - For troubleshoot- ing / readability purposes	Optional

Sheet 1 of 2

Table 7 Data Import preliminary data element (continued)

Element	Description	Requirement
<sensor></sensor>	id - Gas Flow Sensor Tag	Optional
	assigned to the Smart-Alek well	The data processor will
		default value to first Gas
		Flow Sensor assigned to the
		well. This is only needed for a
		well with multiple Gas Flow
		Sensors
<gascomposition></gascomposition>	unit - Identifies what format the	Required
	unit is in	Not case sensitive
	Molar Fractions (f)	
	Percentage (p)	
<parameter></parameter>	id - Predefined Constant	Required
	Between 0 and 1 if molar fraction	
	Between 0 and 100 if percentage	
	value - Actual value of this gas	
	element, unit of measurement	
	defined in parent sensor tag	

Sheet 2 of 2

Import gas composition from a file

To access this function, choose **Data Import** from the Standard Function bar. the following screen will open.

Gas Composition Importer		Smart-Alek* Intelligent Flow Monitoring System
Select a file to upload		
	l	Browee

Click **Browse** to choose the file to import.

Click Upload to import the gas composition parameters.

Well Site Display

Parts of the Login Well Site Display

I Search Unselect All Wells	Your	Company Name		Sma Intell	rt-Alek [®] igent Flow Monitoring Syst	tem
	Ihelpi User Manager Alarm Manage	<u>er WellSiteSummary Fields Company</u>	<u>Data Expo</u> r	<u>t Data Push</u>	Data Import Support Lo	<u>oqout</u>
Field Four Field Five Field Six Field Seven	Notifications Administrators: sign up r July 19 at	now for the next virtual workshop! Act 11 a.m. – Click here to register or visi	lministrator	Best Practice a for more inf	s will be held Thursday	у,
Field Eight Field Nine Field Tep	Urgent Well Site Notifica	ations (HH/LL Process Alarms)	Тупе	Reading	Time (l ocal)	
Field Twelve Field T	3 12-327-23 W4M 14-23-521-09 W4M	<u>Differential Pressure</u> Gas Flow Rate	Low Low Low Low	.1 in H2O 0 E3M3/Day	2007-07-17 23:40:38 2007-07-19 09:39:54	
	Required Flow Paramet	ter Configuration.			Edit?	
Field Sixteen Field Seventeen	13-54-723-08 W4M	Gas Composition			Edit No	ow

The Smart-Alek secure web portal is composed of a number of different areas. When you first log in, the display is similar to that displayed above:

1 Well Tree—when you log into the Smart-Alek web portal, the Well Tree is open on the left side of the window.



Note: You must have been granted permissions to the wells that you wish to view.

In the main portion of the display are the Notifications.

- 2 Notices—messages from Zedi indicating when the next virtual workshop will take place, notices about outages etc.
- 3 Urgent Well Site Notifications----these indicate which Cryout alarms are in an alarm condition. See *Cryout alarms* on page 66.

4 Any well that has not yet had gas parameters entered will appear in the Required Flow Parameter Configuration section. Click on the well's name in this section to enter them.

To display information from the Smart-Alek instrument at the well, click the Well Selection Box. You can select one or many wells. The information from the selected well's last transmission is displayed. When one or more wells are chosen, the following information shown in Figure 12 appears for each well.

Figure 12 Well Site Display

Search	Your Compared Smart-Alck Reporting	ny Name -	o Smar	I-Alek" ent Fiow Monitoring System
Unselect Al Wels	[[te:lp] User Menager <u>Alarm Manager</u>	Well Site Summary Fields Co	<u>maany Data Export</u> <u>Data Push</u>	Date Import Support Logout
a) - C Field Infrée □ - C ● Field Four E b) - C Field Five □ - C Field Six	Notifications Default flowing Temperature	Default Static Pressure	Default Differental Pressure	Default Gas Flow Rate
🔬 – 💼 Field Seven III – 📄 Field Eight III – 🔁 Field Nine	(Fowing Temperature) 03-02-657-21 WSN 2 198223 (Online) Smort Alt	(Static Pressure)	(Differential Pressure) Lost Trensmiz	(Flow Rate) [Model 2000 FM] ion: 2007 07 19 13 29:37 (MDT)
	Today C:C0 Ho 2007 07 18 11.46 H Flowing Temperature	Luis Flowing 4	Static Pressure Voltage	Volume 0 E3M3 Volume 1.63 E3M3 182.19 psig 9.74 V
	Internal Temperature Ilow Integral No Flow Sample Count Site Alarm Manager OTBs	Event Lon Instanced	Gas Flow Rate Gas Flow Rate Sample Count Tube bats	0 E3M3/Day 220 # 0.60
		6		

The numbers in the list below pertain to those in Figure 12.

- 1 Well Site Name/Identifier Usually the LSD of the well, but any identifier may be used.
- 2 Well Site Name/Identifier
- 3 **Configuration**—Usually, this will be the type of device that is connected to the well site.
 - Serial Number Usually, this will be the type of device connected to the well site.
 - **Device Status** Displays whether the device is Online or Offline. An operating device will be shown Online.
 - Type of device- Displays the model name of the device monitoring the well site. Most often, this reads "[Model 2000 EM]".

There are three other common unit types that you will see, they are:

- [Virtual Smart-Alek] a very basic VSA that simply displays minimal EFM data collected from a host HMI system—not from an RTU directly. Data is transmitted over a standard internet connection.
- [Virtual Smart-Alek Advanced] the same as a 'standard' VSA but with the ability to also display wellhead pressures/temperatures and liquid volumes/rates.
- [Virtual Smart-Alek Advanced I/O Enabled] a Zedi HMI site, with the potential for demand polling, customize data displayed on the "Control & I/O" page, etc. The data in this type comes directly from an RTU in the field. The data collection and communications methods are entirely different from VSAs.

4 Reported Values:

Today, Hours Flowing, Volume

Yesterday, Hours Flowing, Volume

These numbers represent the current data reported from your Smart-Alek for each of the Key Information Fields. The words "No Reading" indicate that no recent data was found.

- 5 These elements display data specific to each well. Different devices may have different sensors, and as such, your list of sensors may not be exactly as shown here although the general layout will be the same. To the left of each data element is a status light:
 - a green light means status okay
 - a yellow light indicates an active low or high alarm state
 - a red light indicates an active low or high Cryout alarm state
 - gray light indicates no recent data was found for this element

Note: All of the data displayed in the well site display is hourly, that is the previous hour's average gas, flow rate, etc.

- Flowing Temperature. Measures the temperature at the thermowell and can be used to predict conditions where there may be freeze-ups. The flowing temperature can also be used to manage methanol injections into the well, helping you control the use of methanol which results in improved cost management.
- Voltage. Reports your current voltage at your device.
- Internal Temperature. Measures the device's internal temperature.
- **Tubing Pressure & Temperature**. Measures pressure and temperature at an external sensor. Your device can support up to two (2) external

pressure sensors. The name "Tubing Pressure" has been configured specifically for this example. The names for your sensors can be modified to reflect your preferred names. Options available are:

Well Head Pressure 1 or 2 Casing Pressure Inlet Pressure Suction Pressure Control Valve Position ESD Valve Pressure Tank 2 Level Tubing Pressure Pipeline Pressure Discharge Pressure Methanol Pump Pressure Fuel Gas Pressure Tank 1 Level

- Liquid Volume. Measures the volumes recorded at an external liquid totalizer sensor. Your device can support up to two external liquid totalizers. The name "Liquid Volume 1" has been configured specifically for this example. The names for your sensors can be modified to reflect your preferred names.
- Gas Flow Rate. Products supplied by zedi meet the API Chapter 21 standards.
- Hours On. Displays the amount of time in HOURS:MINUTES that the well was flowing

Note: The Zedi SCADA (Live Data) system can support any number of field inputs as well as the traditional EFM data points

6 General Well Site options - This line presents different options and tasks you may perform with this well site, including setting which sensors to display on the well site display. Access to these options may be limited by your user account privileges.

Detailed descriptions of the Well Site Display elements, and how to use them, are found in:

- Using the Site link on page 119
- Using the QTRs link on page 127
- Using the Event Log link on page 135
- Using the Meter Reports link on page 139
- Using the Flow Parameters link on page 143
- Using the Instrument Log link on page 187



Using the Site link

Site Alarm Manager QTRs Event Log Instrument Log Meter Reports Flow Parameters Live Data

The **Site** is the physical location a Smart-Alek instrument (or Zedi SCADA, Virtual Smart Alek, etc.) is located. The Site function allows you to enter specific information about the site required by other procedures using the Smart-Alek web portal, and third-party software to which the portal data can be exported.

Permissions required to access this function are: Wells - Modify Remote Integration Tags Wells - Hierarchy Console Wells - Fields Management Console

To access this function, click **Site** from the Well Site Options bar. If you are working with a Smart-Alek device, the Site link opens a window with four separate tabs (see Figure 13 on page 120); these tabs are described in:

- Site Settings tab on page 120
- *Sensors tab* on page 122
- MCAF tab on page 124
- Enumerations tab on page 124

If you are working with Zedi SCADA, and have appropriate permissions, two other tabs will also appear (see Figure 18 on page 125):

- RTU Meter Reports tab on page 125
- RTU QTR Corrections tab on page 125

Site Settings tab

The Site Settings tab is where you set up basic information about the well. Figure 13 on page 120 is an example of this tab.

Figure 13 Site Settings tab

Site Settings	Sensors	MCAF	Enumerations					
			The government I	UWI O for this well.	Test Smart Alek			
		V The lega	Vellsite Name / Pi al name or descripti	pe Identifier on of this site.				
т	he degrees no	orth (in decima	I form) where this :	Latitude site is located.	51			
-	The degrees e	ast (in decima	I form) where this :	Longitude site is located.	-114			
			The field this site	Fields e is located in.	Field2>North 🕑 🚯			
		The Time2	zone this site is phy	Timezone vsically within.	(GMT-07:00) Mountain Time (US & Canada)			
			The type of met	Meter Type er on this site.	S			
Enable the	quick display	of gas Hours	'Hours On' C On data for yester	luick Display day and today	a			
Enable th	ie quick displa	y of gas Volur	Volume' C me data for yesterd	uick Display ay and today.				
	Ho Set the hour	ours On Prod	uction Threshold on threshold for plu	I for Exports nger-lift wells.	24			
	Submit Changes							

See Table 8 for descriptions of the areas of the Site Settings tab. Add, edit or change settings as needed, and click the "Submit Changes" button.

Table 8 Site settings

Mer	nu item	Description					
1 Well Site Name/		The location of the selected site.					
	Pipe Identifier	• You can change the location (if required), add a qualifier (e.g., tubing) or even change the name (e.g., Bearspaw 1).					
		• These changes will be reflected in the well list on the left side of the screen, and in the indificual well site displays.					
2	Latitude/	Can be changed to have a site show up where required on the map					
	Longitude	version.					
3	Fields	Designates the field under which the site will appear in the:					
		• Well Tree					
		Well Site display					
		Data Export					
		Entered Fields are available from the Drop Down list.					

Sheet 1 of 2

Table 8 Site settings (continued)

Mer	nu item	Description				
4	Time Zone	Sets the time zone where the site is located. This is the time zone to which the contract hour is applied. Most Reports and parameter entry dates will default to this time zone.				
5	Meter Type	The type of meter on this site.				
6	Hours On Quick Display Volume Quick Display	Enable the quick display of gas Hours On data for yesterday and today. Enable the quick display of gas Volume data for yesterday and today.				
7	Hours On Production Threshold for Exports	Sets a threshold for which non-continuous flow wells (e.g., plunger lift) can report an Hours On Production value instead of the Hours On Flow (actual flowing time) value calculated by the Smart-Alek system. If the flow time is greater than or equal to the threshold set- ting, the Hour On value will be reported as 24 hours in Production Accounting exports (e.g., Merak, PVR, PRISM, Qbyte, DecPro). Note that Hours On Flow is still listed in other reports, displays, or basic Smart-Alek reports (i.e., QTR, CSV). See Understanding Hours On Production Threshold on page 121 for more information.				

Sheet 2 of 2

Understanding Hours On Production Threshold



Note: For FieldView exports, the GASWELL record type uses the Hours On Production Threshold. The GASMET record type does not.

Many customers export Smart-Alek web portal data into third-party systems. Most of these systems use the value - Hours On Production - to track scheduled and unscheduled downtime. A third-party system can interpret the web portal value of Hours on Flowing as the "Hours On" value to mean the well was actually down for a time. In this instance, you must enter a downtime code for the well, even though the well was never "down". To compensate for this, The Site function includes entry of an **Hours On Production** threshold. This threshold represents the number of Hours On Flowing expected from a well in a day. The system will assume that if the Hours On Flowing meets or exceeds this threshold in a given contract day, then the Hours On Production for that well for the given contract day is 24 Hours.

- All manual and automatic PVR, Fieldview, QByte, and Prism exports report this modified Hours On. No other Hours On Display (website or other exports) are affected.
- If the Hours On Flowing is equal to or greater than the user entered threshold, then the **Hours On** exported by the Smart-Alek web portal will be 24 Hours.
- If the Hours On Flowing is less than the user entered threshold, then the **Hours On** exported by the Smart-Alek web portal will be the same as the Hours On Flowing.
- Hours on Flowing is the measurement of the time that gas is being produced at the well head. This is the 'hours on' tracked and reported by the web portal.
- Hours on Production is the measurement of the time a well is in a normal operating state. If this operating state includes times of no flow (such as in a plunger lift well) this time of no flow is still included in hours on production.

Sensors tab

Use this tab to define Smart-Alek sensors: which to display (and which names to use for them). Click on the Sensors link to open a list of sensors defined for that well. Click on the Edit link for a specific sensor to open a dialog box to make any changes required. See Figure 14 on page 123.

Remote integration settings

When dealing with either Zedi SCADA or Virtual Smart-Aleks, the Tag fields in the Edit dialog box (see Figure 14 on page 123) become accessible (otherwise they are greyed out). The fields in question are:

- Raw Sensor Tag
- Daily Sensor Tag
- Sensor Tag Modifier.

Use these fields to map the tags of an external metering system to the Zedi SCADA or Virtual Smart-Alek sensors.

Figure 14 Sensors tab and Edit dialog for a sensor

Site Settings	Sensors	MCAF	Enur	merations							
Name			Measure	ment		Sensor Type			Display		
Flow	ing Temperati	ure		Temperature			Flowing Temperature		13	Yes	Edit
Static Pressure				Pressu	ire		Static Pressure		14	Tes	Edit
Diffe	erential Pressu	ire		Pressu	ire		Differential Pressure		18	Yes	Edit
	Voltage			Electric Po	tential		Voltage		16	Yes	Edit
Inter	mal Temperatu	ire				Edit	Sensor 🦰		17	Yes	Edit
	Volume				Sensor Nar	ne:	Flowing Temperature		18	No	Edit
G	ias Flow Rate			Disale	au la Plue P			_	19	Yes	Edit
	Flow Integral			Dispi	ay in blue b	UX.			20	Yes	Edit
Caib	v Hours on Flo				Data Ty	pe:	Decimal		21	No	Edit
	Head Pressur	e 1		Meas	urement Ty	pe:	Temperature		2.5 	Ves	→ Edi
and the second		· ··· ·· ··· ·· ·· ·· ·· ·· ·· ·· ·· ··	~	Hardware UO		DM:	Celsius		~ 10 L		(<u></u>
					Sensor Ty	pe:	Flowing Temperature	*			
				Ray	w Sensor T	ag:	13				
				Dai	ly Sensor T	ag:	13				
				Senso	r Tag Modif	ier:					
				Enable S	Server Alari	ms:	V				
				Enable S	Server Ever	nts:					
				Register	r is Read Or	nly:					
				QTR Calcu	ulation Meth	od:	Basic SA Gas Flow 🗸]			
			QTR Ag	gregate Ty	pe:	Average 💉					
			QTF	R Data Sour	ce:	Create Hourly From Raw	\sim				
						<u>Sav</u>	e Cancel				

Note that the "Edit" form lets you define whether or not a sensor is shown in the well site display. You can also do this quickly from the main Sensors tab using the toggling "Yes" or "No" link. See Figure 15.

Figure 15 Enabling/disabling displaying a sensor



MCAF tab

Use this tab to display multi-company access settings for the well. Figure 16 on page 124 shows an example of how this might look with two companies sharing responsibilities for a well.

Note: Information displayed in this tab is view-only; to change multi-company access settings, please contact Zedi Support.

Figure 16 MCAF tab						
Site Settings Sensors MCAF Enumerations						
Multi Company Access Well Viewed By	Basic Access	Manage Alarm Settings	Acknowledge and Clear Al	Manage Meter Parameters	Manage Gas Composition	Modify QTRs
Company Alpha	×	Υ.	~	~	~	~
Company Gamma	✓	•	•	•	•	~

Enumerations tab

Use this tab to set up and display enumerations settings for Smart-Alek or Zedi SCADA device sensors (see Figure 17 on page 124 for an example of the screen display).

Figure 17 Enumerations tab

Site Settings Sensors MCA	AF Enumerations	RTU Meter Reports	RTU QTR Corrections	
Sensor	Tag	Data Type	Enumerations	Edit Enumerations
Enumerated Status	48021	Number	3	Edit
charreceive	charreceive	Number	0	Edit
charsend	charsend	Number	0	Edit
demand	demand	Boolean	0	Edit

RTU tabs for Zedi SCADA

Two additional tabs appear in the Site link if the device in question is an RTU in a Zedi SCADA implementation. See *Zedi SCADA* on page 199 for more information on Zedi SCADA, and use of the Live Data feature.

RTU Meter Reports tab

Use this tab to set up and display RTU meter reporting for Zedi SCADA (see Figure 18 on page 125 for an example of the screen display).

Figure 18 RTU Meter Reports tab

City Cattings		MCAE	Enumerations	DTU Motor Don	orto	DTILOTD Com				
Site Setungs	Sensors	MCAF	Enumerations	KTO Meter Kep		RIUQIRCom	ecuons			
								Copy From:	(Select A Loca	ation to Copy) 🔽
Well Information	on									
Device Name						(N	/A)	~		
LSD						(N	/A)	~		
Meter Report Tir	me (Local)					(N	/A)	~		
Contract Hour						(N	/A)	~		
Calibrated Static	Pressure Rar	nge				(N	/A)	~		
Calibrated Differ	rential Pressur	e Range				(N	/A)	~		
Calibrated Temp	erature Range	•				(N	/A)	~		
Sample Flow C	Calculation									
Static Pressure						(N	/A)	~		
Differential Pres	sure					(N	/A)	~		
Flowing Temper	rature					(N	/A)	~		
Calculated Floy-	ment and	AN	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	A ALAN		هالمي مر ر	(A) ,	· · · · · · · · · · · · · · · · · · ·	1 marine	and the second

RTU QTR Corrections tab

Use this tab to set up and display RTU QTR Corrections for Zedi SCADA (see Figure 19 on page 125 for an example of the screen display).

Figure 19 RTU QTR Corrections tab

Si	te Settings	Sensors	MCAF	Enumerations	RTU Meter Reports	RTU Q	TR Corrections			
Target Sensor To Correct			rrect	Source Se	nsor With Corrected QT	ł	Correctio	on Offset (Minutes)		<u>Add</u>
	Hours On (48011)			Yday Hours On (48017)				0	Edit	Delete
	Liquid Volume (48013)			Yday Liquid Volume (48019)				0	Edit	Delete
	Volume (48009)			Yd	ay Volume (48015)			0	Edit	Delete

Using the QTRs link

Site Alarm Manager QTRs Event Log Instrument Log Meter Reports Flow Parameters Well Test Satellite

QTR stands for **Q**uantity **T**ransaction **R**ecord. QTRs are records of historical data and information supporting the accounted quantity of gas volume, (hourly or daily). QTRs list the flow totals and sensor reading averages for Hourly and Daily periods. Besides the basic use for operations, they are required for accounting, audit trail records, and for regulatory purposes.

QTRs are maintained in the Smart-Alek web portal database for a minimum of two years. Raw data from the instrument is stored for 90 days. You can select and view details of the QTR and modify them. The corrected line will display below the original QTR.

Permissions required to access this function are: QTRs - Correct QTRs QTRS - Use QTR Console

To access this function, choose **QTRs** from the Well Site Options bar. The QTR window opens.

Information in this chapter is organized into these sections:

- Daily QTRs on page 128
- *Hourly QTRs* on page 130
- *Modifying a QTR* on page 131

Daily QTRs

Daily QTRs are calculated from the Smart-Alek field instruments' Hourly QTR values (except for external sensors where Raw data is used) and are generated for the period of a contract day (i.e., 08:00:00 to 07:59:59).

Daily QTRS 01-23-17	'4-01 W4M Smart-Alek® Intelligent Flow Monitoring System
Ho	urly QTRs
Showing Last 35 Days.	Apply
QTR Time	QTR Type
2007-07-19 06:00:00 (MDT)	Daily
2007-07-18 06:00:00 (MDT)	Daily
2007-07-17 06:00:00 (MDT)	Daily
2007-07-16 06:00:00 (MDT)	Daily
2007-07-15 06:00:00 (MDT)	Daily
2007-07-14 06:00:00 (MDT)	Daily
2007-07-13 06:00:00 (MDT)	Daily
2007-07-12 06:00:00 (MDT)	Daily
2007-07-11 06:00:00 (MDT)	Daily
2007-07-10 06:00:00 (MDT)	Daily
2007-07-09 06:00:00 (MDT)	Daily
2007-07-08 06:00:00 (MDT)	Daily
2007-07-07 06:00:00 (MDT)	Daily
2007-07-06 06:00:00 (MDT)	Daily

A Daily QTR is the average or summation of data collected and calculated during a contract day. For example:

- A daily QTR runs from 08:00:00AM-07:59:59AM (typical contract day).
- A daily QTR will end, and a new daily record will begin, at the end of each contract day. There is one daily QTR for each contract day.
- QTRs are time-labeled for the start of a period. (i.e., the QTR for 2005-12-20 08:00:00 covers the period of 2005-12-20 08:00:00 to 2005-12-21 07:59:59).
- You can view details by clicking the **QTR Time** link.

Certain situations are flagged on Hourly and Daily QTRs. The flags are described in Table 9.

Table 9 QTR Flags

Flag	Description
e-estimated	Indicates there was no data for the period and the QTR values have been estimated.
p -partial	Indicates that some data is available, but for only part of the period. Reported values for the whole period are normalized for the period based on the partial data.
M -manual entry	Indicates that the values were adjusted by a Manual QTR entry.("M" over- rides a previous" or "p" flag).
A -alarms	Indicates that when a QTR is generated, an alarm condition has also been recognized.

The QTR readings are defaulted to Daily and can be switched to Hourly by clicking **Hourly QTRs** at the top of the list.

Hourly QTRs

Hourly QTRs are calculated from the raw data transmitted from the field. The raw data consists of flow-dependent weighted averages (for up to one hour) of the once per second sensor readings, and are time-stamped at the end of the averaging period. Cross-the-hour averages are split to synchronize a reading to the end of the hour (i.e., xx:59:59). The raw readings within the xx:00:00-xx:59:59 period are then further averaged to create the Hourly QTRs. There are 24 Hourly QTRs for each contract day. QTRs are time stamped at the beginning of the period.

Hourly QTR	S 01-23	-174-01 W4N	1
		/	Smart-Alek* Intelligent Flow Monitoring System
help]			
		Daily QTRs	
Showing Last 35	Days.		Apply
QTR Time			QTR Type
2007-07-20 15:00:00	(MDT)		Hourly
2007-07-20 14:00:00	(MDT)		Hourly
2007-07-20 13:00:00	(MDT)		Hourly
2007-07-20 12:00:00	(MDT)		Hourly
2007-07-20 11:00:00	(MDT)		Hourly
2007-07-20 10:00:00	(MDT)		Hourly
2007-07-20 09:00:00	(MDT)		Hourly
2007-07-20 08:00:00	(MDT)		Hourly
2007-07-20 07:00:00	(MDT)		Hourly
2007-07-20 06:00:00	(MDT)		Hourly
2007-07-20 05:00:00	(MDT)		Hourly
2007-07-20 04:00:00	(MDT)		Hourly
2007-07-20 03:00:00	(MDT)		Hourly
2007-07-20 02:00:00	(MDT)		Hourly

An Hourly QTR is the average or summation of data collected and calculated by the Smart-Alek web portal database during the hour. It is a flow dependant time weighted average (compliant with API 21.1).

You can view details by clicking the QTR Time link.

Certain situations are flagged on Hourly and Daily QTRs.

You can return to the Daily QTRs window by clicking the **Daily QTR** link at the top of the window.

Modifying a QTR

Changes made to the QTR do not affect data measurements recorded by the Smart-Alek instrument; only the QTR information is affected. Manually adjusting values does **not** affect related calculations. That is, a manually adjusted temperature in an Hourly QTR will not cause an update to the flow rate, nor will it be automatically rolled up into the Daily QTR.

Procedure steps

Use this procedure to modify a QTR.

Step Action

1 To modify a QTR, select the specific time and date for the daily QTR in the QTR listing the following window opens:

4
4
4
4
Ð
B
0

- 2 The date and time the QTR was created is displayed.
- **3** The QTR Type is displayed as is the Flag associated with the selected QTR.

Step	Action
4	The Editable Fields are:
	Flowing Temperature
	Static Pressure
	Differential Pressure
	Gas Flow Rate
	Hours on
	• Volume
	Explanation for Update
	Make the required changes and enter an explanation for the changes.
5	Click Submit Corrected QTR.

Automated QTR corrections

When a Meter Parameter of Gas Composition is edited and back-dated, the Smart-Alek web portal automatically updates the Hourly and Daily QTRs that are affected and when a Flow Parameter update is performed, the associated Event Log entry is included in the Corrected QTR details.

Corrected QTRs can be viewed, along with the original QTR, in the QTR windows. QTRs can be manually or automatically updated any number of times. However, only the most recently corrected QTR values are displayed and used in other displays, reports, and exports.

132

Flow dependant, time weighted linear averaging

The following graphic explains how flow dependant, time weighted linear averaging works.



133

Using the Event Log link

Site Alarm Manager QTRs Event Log Instrument Log Meter Reports Flow Parameters Well Test Satellite

The Event Log tracks changes to any registers from RTUs or Smart-Alek instruments designed for regulatory reporting. The log can also be configured to make a change on any register. For example, turning on the flag to the "Well Shut Off" binary register will cause every change of on/off to be logged in the Event Log. Changes to the Event Log can also be used for tracking for audit purposes.

```
Permissions required to access this function are:
Wells - Event Log Console
```

Information and procedures found in this chapter are:

- Viewing an event on page 136
- Viewing event details on page 137
- Adding a User Event on page 138.

Viewing an event

Use this procedure to display a list of events for a specific well which occurred over a specified length of time.

Procedure steps

Step Action

1 To open, choose **Event Log** from the Well Site Options bar. The Event Log opens.



- 2 Determine how many days back you want to view events for the selected well. Type that number into the Showing Last No. Days box and click **Apply**.
- **3** The Events are listed in reverse chronological order. Each Event shows the date and time the change was entered, the serial number of the Smart-Alek instrument on the changed site, and which event change occurred.
- 4 Click **Details** to see detailed information for each change. See *Viewing event details* on page 137.
- 5 To Add an event, click **Add User Event**. See *Adding a User Event* on page 138

Viewing event details

Use this procedure to view the details for a particular event from a list (see *Viewing an event* on page 136).

Procedure steps

Step	Action		
1	Click Details in the Event Log to see the information that has been recorded for the selected event.		
	Information about the event is displayed. 2 Event Log Listing Add User Event 3		
	- Generated On -	2006-11-23 14:39:14 (MST)	
	- 15 -	88-888-88 W5M	
	- Created By -	111user	
- Action - Meter Parameter		Meter Parameter	
	- Event -	 StartDate (UTC): 2006-10-30 18:00 EndDate (UTC): 2099-12-31 00:00 Changed Base Temperature (Tb) from : 18 C to 15 C 	
		Last Data Time (UTC): 2005-07-30 17:35:34	
	- Meter Report -	View Triggered Meter Report	
	- Meter Report -	Last Data Time (UTC): 2005-07-30 17:35:34 View Triggered Meter Report	

- 2 To return to the listing click **Event Log Listing**.
- **3** To add an event, click **Add User Event**. See *Adding a User Event* on page 138 for details.
- 4 To view the report created, click **View Triggered Meter Report**.

Adding a User Event

Use this procedure to manually add an event. This is useful for describing why a particular change was made to a device.

Step	Action		
1	In the Event Log window, click Add User Event.		
	The Event window opens.		
		Event Log Listing	
	- Well -	88-888-88 W 5M (serial # 🖌) 2	
	- Created By	- <user name=""> 🚯</user>	
	- Action -	User Event	
	- Event -	④	
		Add This Event	

2 Select the Instrument from the drop-down menu.

User Guide MNL-SA-W-1 10Dec07

- **3** The User Event is assigned to the name under which you are logged into the Smart-Alek web portal.
- 4 Describe the event as required.
- 5 Click the **Add this Event** button.

Using the Meter Reports link

Site Alarm Manager QTRs Event Log Instrument Log Meter Reports Flow Parameters Well Test Satellite

A Meter Report is a snapshot of a particular meter's settings at a particular time and is part of gas flow audit trail records. The meter report includes:

- well information
- sample flow calculation
- current flow parameters, and the most recent raw pressure and temperature values used to calculate the flow rate, along with other associated factors
- meter parameters
- gas composition

Meter Reports show the basic information about the well site and their field instruments, and includes all the flow parameters in effect at the time the snapshot is taken.



Note: Unless the well is actually flowing, the calculated values will be zero.

Meter reports for Zedi SCADA function the same as other meter reports in the Smart-Alek web portal, but they must be set up. A meter report is created automatically when someone changes a flow parameter on the web site, or when someone manually clicks on the **Create Meter Report** button.

Information contained in this chapter includes:

- Viewing a meter report on page 140
- viewing event details on page 141

When a Flow Parameter is changed, that change is logged in the **Event Log.** If you're troubleshooting, remember that the **Event Log** lists parameter changes, and the **Report Manager** allows you to create custom graphical or text reports for viewing around the time of the incident.

Permissions required to access this function are:	
Wells - Meter Report Console	

Viewing a meter report

Use this procedure to view a meter report for a particular well.

Procedure steps

ер	Action			
	To view a meter report, choose Meter Reports from the Well Sir Options bar. The Complete Meter Report Listing window opens.			
	Complete Meter Report Listin 01-23-174-01 W4M	ng	Smart-Al	<mark>ek</mark> * ow Monitoring System
	[help]		_	
		Create Meter Report	5	
	Showing Last 100 Days.			Apply B
	Date/Time	Smart Alek	Туре	
	2007-05-08 15:27:18 (MDT)	200611	Automatic	Details

- 2 To adjust the number of reports shown, enter a new value in the **Number of Days** field.
- 3 Click Apply

General information about the meter reports is displayed.

- 4 Click **Details** to view the specifics about the Event.
- 5 Click **Create Meter Report** to generate a current meter report of the last polled data.

viewing event details

From the Meter Report Listing window, click **Details** to view the meter report. The details include:

Meter Report Details	Smart-Alek [®]
01-23-174-01 W4M	Intelligent Flow Monitoring System
Mell Information	ster Ratori Listinu
Well Name	05-14-089-16 W4M
Well Name	05-14-089-13 W4M
Smart Alek Serial Number	200611
Well Name	05-14-069-13 VV4M
Smart Alak Serial Number	200611
Meter Report Time (Local)	2007-05-08 15.27.18 (MDT)
Wel Name	05-14-009-13 W4M
Smart Alak Serial Number	200611
Meler Report Time (Local)	2007-05-08 15:27.18 (MDT)
Contract Hour	6:00
Well Name	05-14-009-13 W4M
Smart Alak Serial Number	200611
Meter Report Time (Local)	2007-05-08 15.27.18 (NDT)
Contract Hour	6:00
Calibrated Static Pressure Range	10000 kFa
Wel Name	05-14-UE9-13 W4M
Smart Alak Serial Number	200611
Meter Report Time (Local)	2007-05-08 15:27.18 (MDT)
Contract Hour	6:UU
Caliorated State Pressure Range	10000 kFa
Caliorated Differential Pressure Range	129 kHa
Well Name	05-14-UE9-15 W4M
Smart Alek Serial Number	200611
Meter Report Time (Local)	2007-05-08 15.27.18 (MDT)
Contract Hour	6:UU
Calibrated State Pressure Range	10000 kFa
Calibrated Unterential Pressure Range	129 kHa
Calibrated Unterential Pressure Range	-40 to 160 C

Sample flow calculation

Sample Flow Calculation	
Static Pressure	467.89 kPa(g)
Differential Pressure	77 49 kPa
Flowing Temperature	7.14 °C
Calculated Flow Rate	16.02 E3M3/Day
Coefficient of Discharge (Cd)	0.6014
Expansion Factor - Upstream (Y1)	0.9558
Compressibility at Flowing Conditions (Zf)	0.9875
Compressibility at Base Conditions (Zb)	0.998
Velocity of Approach Factor (Ev)	1.0114
Supercompressibility Factor (Fpvs)	1.0053
Gae Flow Calc Version Stamp	1.0.2.7

Meter parameters

Meter Parameters	
Atmospheric Pressure (Patm)	95.8940 kPa
Dase Pressure (Fb)	101325 Fa
Base Temperature (Tb)	15 C
Low Flow Cut-Off	.13 kPa
Calibration Factor	1
Meter Run Type	Flange
Static Pressure Tap Location	Up Stream
Meter Tube Diameter (Dr)	1.9390 m
Orifice Plate Diameter (dr)	0.75 in
Bera Ratin (B)	Only Reported for eTube
Reference Temperature of Meter Tube	20 C
Reference Temperature of Orifice Plate	20 C
Meter Tube Material	Carbon Steel
Orifice Plate Naterial	Stainless Steel
Fluid Compressibility Type	Compressible
Viscosity	0.010268 contipoises
Isentropic Exponent (k)	1.30
Compressibility Method	AGA 8 (1992) Detailed
Relative Density (Gr)	0.5834
Reference Lemperature of Helative Density	15 C
Reference Pressure of Relative Density	101325 Fa

Gas composition

Sample Flow Calculation	
Static Pressure	467.89 kPa(g)
Differential Pressure	77 49 kPa
Flowing Temperature	7.14 °C
Calculated Flow Rate	16.02 E3M3/Day
Coefficient of Discharge (Cd)	0.6014
Expansion Factor - Upstream (Y1)	0.9558
Compressibility at Flowing Conditions (Zf)	0.9875
Compressibility at Base Conditions (Zb)	898.0
Velocity of Approach Factor (Ev)	1.0114
Supercompressibility Factor (Fpvs)	1.0053
Gas Flow Calc Version Stamp	1.0.2.7

Using the Flow Parameters link

Site Alarm Manager QTRs Event Log Instrument Log Meter Reports Flow Parameters Well Test Satellite

For Smart-Alek to be able to calculate the correct gas flow and volume, you need to set the well's configurations in **Flow Parameters**. These parameters influence the calculations made by the web portal, and reflect the physical characteristics of the site and of the gas composition. The web portal uses defaults for these paratmeters until you enter initial values for them. To ensure your gas flow data is correct, it is important you enter your values as soon as possible.

The parameters should be updated immediately after the initial installation of your Smart-Alek instrument and again any time there is a change in the well's characteristics. At those times where there has been a change that was not recorded in the system immediately, use the Flow Parameter backdate feature which allows a change to historical calculated gas flow based on the updated Flow Parameter table.

Permissions required to access this function are:

Flow Parameters - Flow Parameter Console

Flow Parameters - Gas Composition Import

Flow Parameters - Manage Gas Composition

Flow Parameters - Manage Meter Parameters

You must have full permissions to a well to use the flow parameter functions.

Information contained in this chapter is:

- Flow parameter timing issue on page 144
- Setting Meter parameters on page 146
- Setting Gas Composition values on page 150.

Flow parameter timing issue

When you update the flow parameters on the Smart-Alek web portal, the beginning of the parameter update cannot occur in the future. This check protects the flow parameters from being used (incorrectly) by the calculation system before the parameter change actually become effective. This same constraint is applied if the Smart-Alek instrument is late in dialing into the web portal—even when the update is to be applied before the current date.

See Figure 20. In both cases, a manually requested back calculation of the yellow (shaded) "trouble" area, initiated after all data for the yellow area had been received, would correctly update all gas calculations for the entire yellow (shaded) period.

Figure 20 Flow parameter update and use.



incorrectly used for these calculations, as 3-tier always uses the most current flow parameters in Smart-Alek.com.
To access this function, choose **Flow Parameters** from the Well Site Options bar. the following window opens:

BB BBB BB WOM		Smar Intellig	t-Alek [®] ent Flow Monitoring Sy	
	YICW	/ History		
er Parameters		-		
Base Values				
Atmospheric Pressure (Pat	m)	90.4178 kPa		
Base Temperature (Tb)		15 C		
Base Pressure (Pb)		101325 Pa		
Low Flow Cutoff		0.50 in 1120		
Calibration Factor		1		
Meter Run				
Meter Run Type		Flange		
Static Pressure Tap Locati:	n .	Up Stream		
Meter Tube Diameter (Dr.)		2.90 iii		
Orifice Plate Diameter (dr)		1.50 h		
Deta Ratio (B)		Only Reported for eTube		
Reference Temperature of	Veter Tube (TrefD)	20 C		
Reference Temperature of	Onitice Plate (Trefd)	20 C		
Meter Tube Material		Carbon Steel		
Onfice Plate Material		Stainless Steel		
Fluid Information				
Fluid Compressibility Type		Compressible		
Viacosity		0.010268 confipoiac		
Isenfropic Exponent (k.)		1.50		
s Composition			zed i Veler Code	
Compressibility Cole	ulation Method			
		AGA 8 (1992) Groce (Gr	/N2/CO2)	
Compressibility Method				
Compressibility Method				
Compressibility Method Cos Components Hydrogen (H2)	0 %	Helium (He)	0 76	
Compressibility Method Cas Components Hydrogen (H2) Nitrogen (N2)	0 % 0 %	Helium (He) Carbon Dioxide (CO2)	0.75	
Compressibility Method Cas Components Hydrogen (H2) Nitrogen (N2) Hydrogen Sulphide (H2S)	0% 0%	Helium (He) Carbon Dioxide (CO2) Methane (CH4)	0 % 0 %	
Compressibility Method Cos Components Hydrogen (H2) Nitrogen (N2) Hydrogen Sulphide (H2S) Ethono (U2H6)	0 % 0 % 0 % 0 %	Helium (He) Carbon Dioxide (CO2) Nethane (CH4) Propens (C3Hs)	0 % 0 % 0 % 0 %	
Compressibitly Method Cas Components Hydrogen (H2) Nitrogen (N2) Hydrogen Sulphide (H2S) Ethane (C2H5) Iso-Rutane (C4H10)	0% 0% 0% 0%	Hellum (He) Carbon Dioxide (CO2) Methane (CH4) Propend (CSH5) Normal Dirfane (C4H10)	0 % 0 % 0 % 0 % 0 %	
Compressibility Method Cas Components Hydrogen (H2) Ntrogen (N2) Hydrogen Sulphide (H2S) Ethone (C2H6) Ixo-Dutane (C4H10) Iso-Pentane (C5H12)	ย % 8 0 % 0 % 0 % 0 % 0 %	Helium (He) Carbon Dioxide (CO2) Nethane (CH4) Prosenc (C3H5) Normal Didane (C3H12) Normal Pentane (C5H12)	0 75 0 75 0 75 0 75 0 75 0 75 0 75	
Comprescibitly Method Gas Components Hydrogen (H2) Ntrogen (H2) Hydrogen Sulphide (H2S) Ethano (C2H5) Iso-Pentane (C4H10) Iso-Pentane (C5H12) Hoxono (C6H14)	U % D % D % U % D % D % D %	Helium (He) Carbon Dioxide (CO2) Metrane (CH4) Prosono (CSH6) Normal Butane (CSH12) Normal Pentane (CSH12) Hoptono (C7H16)	0 % 0 % 0 % 0 % 0 % 0 %	
Compressibility Method Cas Components Hydrogen (H2) Nitrogen (H2) Hydrogen Sulphide (H2S) Ethane (C2H6) Iso-Flutane (C4H10) Iso-Flutane (C5H12) Hokane (C5H14) O. Haire (C6H18)	U %6 0 %6 0 %6 0 %6 0 %6 0 %6 0 %6 0 %6	Helium (He) Carbon Diaxide (CO2) Metrane (CH4) Prosend (CSH5) Normal Dufane (CSH12) Normal Pentane (CSH12) Hoptend (C7H16) Nurai et (CSH22)	0 % 0 % 0 % 0 % 0 % 0 % 0 %	
Compressibility Method Cas Components Hydrogen (H2) Ntrogen (H2) Hydrogen Sulphide (H2S) Ethano (C2H6) Ixo-Putane (C4H10) Iso-Putane (C6H12) Hoxano (C5H12) Decane (C1H22)	U %6 O %6 D %6 D %6 D %6 D %6 D %6 D %6	Helium (He) Carbon Dioxide (CO2) Methane (CH4) Prosono (CAH6) Normal Pentane (CH10) Normal Pentane (CSH12) Hoptono (C7H16) Norma re (C9H20) Carbon Monoxide (C0)	0 15 0 15 0 15 0 15 0 15 0 15 0 15 0 15	
Compressibility Method Cas Components Hydrogen (H2) Hydrogen Sulphide (H2S) Ethone (H2H4) Iso-Pentane (C4H10) Iso-Pentane (C5H12) Hokone (C5H14) Olisie e (C5H14) Decane (C10H22) Water (H2O)	U %6 U %6 U %6 U %6 D %6 D %6 U %6 U %6 U %6 U %6	Helium (He) Carbon Djoxide (CO2) Methane (CH4) Prosence (CH4) Normal Pentane (CH10) Normal Pentane (CH12) Hoptone (C7116) Nora et (C3122) Carbon Voncxide (C0) Oxygen (02)	0 % 0 % 0 % 0 % 0 % 0 % 0 % 0 % 0 %	

Note: Updating composition parameters is the responsibility of the customer. Changes made to any parameter creates an event in the Event Log.

Edt

0.80

101325 Pa

Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Relative Density (Gr)

Reference Pressure of Relative Density (Pgr)

Reference Temperature of Relative Density (Tgr) 15 C

Setting Meter parameters

Use this procedure to define meter parameters for the Smart-Alek.

Procedure steps

Step Action

1 Scroll down to the **Meter Parameters** box. Click **Edit**. The following window opens:

90.4178 №3 ₩2 15 ℃ ₩ 101325 Pa ₩ 0.50 In H20 1
15 ℃ ₩ 101325 Pa ₩ 0.50 In H20 1
101328 Pa w 0.50 In H20 1
0.50 In H20
1
Flange 😽
Up Stream 🔽
2.90 in 🔛
1.50 in 💌
eTube Only
20 "C 👽
20 "C 🖌
Carbon Steel
Stainless Steel 😽
Compressible 🍟
0.01 02 68 centipolse
1.30

2 Enter the appropriate new values into the fields described Table 10 on page 147.

Step	Action
3	Enter the Start Date (Mountain Time): yyyy-MM-dd 24HH:mm:ss for the changes to take effect.
	If the parameters will be ongoing, leave the End Date at 2099.
	If a particular period is being updated, enter the End Date (Mountain Time): yyyy-MM-dd 24HH:mm:ss
4	Once you have completed making the meter changes, click Update.

Table 10 Meter parameter values

Parameter	Description
Atmospheric Pressure (Patm) Note: True Atmospheric Pressure is	Local Atmospheric Pressure is the pressure exerted by the weight of the earth's atmosphere.
Barometric Pressure is normalized to sea-level for meteorological use.	AGA-3 (1992) provides the following formula (taken from the Smithsonian Metrological Tables) to esti- mate atmospheric pressure based on elevation.
<i>Note:</i> For Model 2000 EM Smart- Alek instruments, atmospheric pressure is locally entered on the Field Instrument. Patm is displayed, but not configurable on the Flow Parameters page.	Patm = 14.54 x [(55096 - (elevation in feet - 361)) / (55096 + (elevation in feet - 361))] psia Similar formulas are available for metric values.
Contract Base Temperature (Tb)	The temperature to which the Flow Rate and Vol- ume are corrected and reported.
	Common Values: Canada 15°C (59°F), US 60°F
Contract Base Pressure (Pb)	The pressure to which the Flow Rate and Volume are corrected and reported.
	Common values: Canada 101.325 Pa (14.696 psia), USA 14.73 psia

Sheet 1 of 3

Table 10Meter parameter values (continued)

Parameter	Description
Low Flow Cutoff Note: For Model 2000 EM Smart- Alek instruments, Low Flow Cutoff is locally entered on the Field Instrument. It is displayed, but not configurable, on the Flow Parameters page.	If dP drops below this value, flow rate will be set to 0. Set this value to 0 to disable the cutoff feature. The Unit of Measure displayed in the setting box is the same as the Company default Units of Measure for Differential Pressure.
Meter Run Type	Type of Primary meter
	Flange - Flange-tapped orifice meter
	Pipe - Pipe-tapped orifice meter
	eTube - eTube (elliptical tube) meter
	Default: Flange
Static Pressure Tap Location	Location of the Static Pressure Tap
	Upstream for Smart-Alek
Pile Diameter (Dr)	Inside Meter Tube Diameter (at Reference Tempera- ture TrefD)
Orifice Plate Diameter (dr)	Orifice Plate Bore Diameter (at Trefd)
Beta Ratio	Entry for eTube meters.
Reference Temperature of Meter Tube (TrfD)	Reference Temperature for Meter Tube Diameter D
Reference Temperature of Orifice Plate (Trefd)	Reference Temperature for Orifice Plate Bore Diam- eter d
Meter Tube Material	Selections: Carbon Steel, Monel, Stainless Steel
Orifice Plate Material (MatOrf)	Selections: Carbon Steel, Monel, Stainless Steel
<i>Note:</i> Automatically set to Stainless Steel for eTube meters.	
Fluid Compressibility Type	Natural Gas is Compressible

Sheet 2 of 3

Parameter	Description			
Viscosity	Absolute (dynamic) Viscosity			
	Viscosity of a fluid is its resistance to deformation. The flow equations are not sensitive to small varia- tions in viscosity, therefore, it is normal practice to use a nominal value.			
	A nominal value for Natural Gas is 0.010268 cP (= $0.010268 \text{ mPa-sec} = 0.0000069 \text{ lbm per ft-sec}$). e.g., see AGA3 (1992), Part 4, procedure 4.3.3.6. Also see AGA3 (1992), Part 3, section 3.4.5.			
Isentropic Exponent (k)	A thermodynamic state property relating an expand- ing fluid's pressure and density as it flows through the orifice restriction.			
	As per AGA3 (1992) Part 3, "From a practical stand- point, the flow equation is not particularly sensitive to small variations in the isentropic exponent."			
	Accepted practice for natural gas applications is to use $kr = k = 1.3$.			
Calibration Factor	Default: 1			
	A straight multiplier factor that can be used to apply an appropriate calibration standards correction, i.e., as described for the product of the 6 calibration fac- tors listed in AGA3 (1992) Appendix 3-A.			

Table 10Meter parameter values (continued)

Sheet 3 of 3

Setting Gas Composition values

Use this procedure to set gas composition values for a well.

Procedure steps

Step Action

1 Scroll down to the **Gas Composition** box. Click **Edit**. The following window opens:

composition					2eun Meter Code. o
Compressibility Cale Current Compressibility Me	sulation	Method	AGA-8 (1992) Gross (G	r/N2/CO2)	
					-
Gas Components		-	(i	Percenta	age MC ir Fractions
Hydrogen (H2)	0	%	Hellum (He)	0	%
Nitrogen (N2)	0	%	Carbon Dioxide (CO2)	0	%
Hydrogen Sulphide (H2S)	0	96	Methane (CH4)	0	96
Ethane (C2H6)	0	%	Propane (C3H8)	0	%
Iso-Butane (C4H10)	0	96	Normal Butane (C4H10)	0	96
Iso-Pentane (C5H12)	0	%	Normal Pentane (C5H1)	2) O	96
Hexane (C6H14)	0	%	Heptane (C7H16)	0	%
Octane (C&H18)	0	96	Nonane (C9H20)	0	95
Decane (C10H22)	0	%	Carbon Monoxide (CO)	0	%
Nater (H2O)	0	%	Oxygen (02)	0	96
Argon (Ar)	0	%	TOTAL	0.%	
Gas Relative Density	ſ		٥	K to use a j	partial composition? C (Requires Gr. N2, CO)
Relative Density (Gr)			0.60		
Reference Pressure of Rela	ative Densit	ty (Pgir)	101325 Pa 😿		
Reference Temperature of f	Relative De	nsity (Tgr)	15 °C 😪		
Start Date (Mountain Time): y=MMI=00 24%+tmmss 006=12-25 10:00:00 □					
ind Date (Mounta	ai <mark>n T</mark> im	e):			
-MM-dd 24HH:mm:ss 05-12-25 110:00:00	-				
Change will be in effect inc ancel	definitely				Save

2 Enter the appropriate new values into the fields described in Table 11 on page 152. Enter values as either molar fractions or percentages.

Enter the Start Date (Mountain Time): yyyy-MM-dd 24HH:mm:ss for the changes to take effect.

If the parameters will be ongoing, leave the End Date at 2099.

If a particular period is being updated, enter the End Date (Mountain Time): yyyy-MM-dd 24HH:mm:ss

3 Once you have completed making the meter changes, click **Update**.

4 To import gas composition from a file, see, *Data Import* on page 111.

More guidelines and sources are provided below:

- Compressibility Calculation Method-AGA-8 (1994)
- Compressibility Factors of Natural Gas and Other Related Hydrocarbon Gases" Transmission Measurement Committee No. 8
- American Gas Association, 2nd Printing July 1994, AGA Catalog XQ9212
- Synonymous with American Petroleum Institute MPMS Chapter 14.2
- Characterization Methods available for Smart-Alek are: Complete Composition (Detail Method), and Partial Composition (Gross Method 2 (Gr/N2/CO2).
 - Note: In Alberta, EUB Directive 017 requires that the Detail method be used.
- The Partial (Gross) method should be used only for dry, sweet gases within the Normal Range given by Table 1 in AGA8 (1992). Normal and Expanded range values are listed in under each of the Gas symbols.
- The Partial (Gross) method(s) should also only be used for Flowing Pressures less than 12066 kPa (1750 psia) and Flowing Temperatures between -8.3 °C (17 °F) and 61.6 °C (143 °F).
- The Partial (Gross) method available for Smart-Alek flow calculations (Gr/N2/CO2) requires inputted values for Gr, N2, and CO2.
- There will be an indication of current calculation method used.

Note: Although the Gas Composition screen lists Complete and Partial, 'Detail' and 'Gross(Gr,N2,CO2)' will still be recorded in the Meter Reports.

- Each time the page is saved, it will assume the user has a complete composition. There will be a check box allowing the user to allow partial compositions as needed.
- If the page violates the rules for a complete composition, (100% ± 2%), you will be alerted that there is a problem to correct or that you must select partial composition.
- If the data appears to be fractions and you have percent chosen (or vise-versa) you'll be asked if you want to convert the data.

Gas	Normal Range	Expanded Range	
Hydrogen (H2)	< 10%	0% to 100%	
Helium (He)	< 0.2%	0% to 3%	
Nitrogen (N2)	0% to 50%	0% to 100%	
Definition: Carbon Diox- ide (CO2)	0% to 30%	0% to 100%	
Hydrogen Sulphide (H2S)	< 0.02%	0% to 100%	
Methane (CH4)	45% to 100%	0% to 100%	
Ethane (C2H6)	< 10%	0% to 100%	
Propane (C3H8)	$< 4^{0}/_{0}$	0% to 12%	
Iso-Butane (C4H10)	All Butanes < 1%	< 6%	
Normal Butane (C4H10)	All Butanes < 1%	< 6%	
Iso-Pentane (C5H12)	All Pentanes < 0.3%	$< 4^{0}/_{0}$	
Normal Pentane (C5H12)	All Pentanes < 0.3%	< 4%	
Hexane (C6H14)	For Hexanes Plus (i.e., C6, C7, etc.) combined: < 0.2%	0% to Dew Point	
Heptane (C7H16)	For Hexanes Plus (i.e., C6, C7, etc.) combined: < 0.2%	0% to Dew Point	
Octane (C8H18)	For Hexanes Plus (i.e., C6, C7, etc.) combined: < 0.2%	0% to Dew Point	
Nonane (C9H20)	For Hexanes Plus (i.e., C6, C7, etc.) combined: < 0.2%	0% to Dew Point	
Decane (C10H22)	For Hexanes Plus (i.e., C6, C7, etc.) combined: < 0.2%	0% to Dew Point	
Carbon Monoxide (CO)	Normal < 3%	Expanded Range < 3%	
Water (H2O)	Normal Range < 0.05%	Expanded Range 0% to 10%	
Oxygen (02)	Normal Range considered to be 0	Expanded Range 0% to 21%	
Argon (Ar)	Normal Range considered to be 0	Expanded Range 0% to 1%	

Table 11 Gas Composition

- Gr Real Gas Relative Density (Specific Gravity) at Pgr and Tgr
- Applicable Ranges: Using AGA-8 Gross Method 0.554 < Gr < 0.87 Using AGA-8 Detail Method 0.07 < Gr < 1.52
 - Note: An input value for Gr is only required if the Gross (Gr/N2/CO2) Compressibility method is used.
- Pgr Reference Pressure for Real Gas Relative Density
- Tgr Reference Temperature for Real Gas Relative Density

Using Reports and Report Manager

There are several ways to display on-screen graphical or text reports. This section describes those methods in the following sections:

- Understanding simple trend reporting on page 155
- Understanding graphing tools on page 156
- Understanding sensors in reporting on page 159
- Default reports on page 161
- Using Report Manager on page 163
- Sample reports on page 182

Understanding simple trend reporting

Understanding how your well is performing today compared to in the past is critical for the identification of current or imminent problems. Trend reporting provides you a view into that performance.

You can do this for a single well by clicking on the variable in the well site display (see Figure 21).

Figure 21 Flowing Temperature parameter

>	X-XXX-XX-	WXM					[Model 2	000 EM]
19	5011	(Online)	SmartAlek				Last Transmission: 2006-12-12 09:28:	33 (MST)
То 20	day 06-12-11		1:36 Hours Flowing 22:30 Hours Flowing)	_		. Volume .0 Volume .1	1 MMCF 9 MMCF
00000	Flowing T Differentia Internal T Flow Inter No Flow S	l'emperature al Pressure l'emperature gral Bample Count		9.58 °C .0+ psi 28.4 °C 21.44 kPa 0 #	0 0 0	Static Pressure Voltage Gas Flow Rate Sample Count Orifice Plate	229.45 psig 8.47 V .13 MMCF/Day 294 # 1.1111 in	
Si	te Alarm	Manager	QTRs Event Lo	og Inst	trument Log	Meter F	Reports Flow Parameters	

For example, clicking on **Flowing Temperature** generates a trend report similar to that shown in Figure 22 on page 156. For an operator, checking trend reports before traveling to a well site can help them in making informed decisions about potential problems at a well.



This type of trend reporting is available for any of the variables that are reporting information.

The first time you use this feature, you may be asked to accept the ChartFX plugin. Click "Yes" to enable graphic reporting. (You will only need to do this once per computer.) If you are unable to load this plug-in, contact your internal IT support group for technical assistance.

Understanding graphing tools

These tools are available in all the graphical reports (see Figure 23). They can be found both at the top of the graph and from the "right mouse click" menu.

Figure 23 Graphing toolbar



If the toolbar is not visible, right-click in the graph and select "Toolbar" (see Figure 24 on page 157).

Figure 24 Right-click to enable graphing toolbar

•	<u>T</u> oolbar	
	<u>D</u> ata Editor	۳W
88	Legend <u>b</u> ox	
∞	<u>G</u> allery	•
	Color	۲
a.b	<u>E</u> dit title	
	Point labels	
	<u>F</u> ont	
16	Properties	

See Table 12 for descriptions of the toolbar icons and their functions.

Table 12					
Graphing	toolbar	icons	and	their	functions

Icon	Function	Description
	Open	Click to open a graph previously saved on the user directory.
,	Save	Click to save a graph as a file to your local hard drive. It is rec- ommended that the default Chart FX format be used.
ß	Copy to Clip- board	Click to copy the graph so it can be pasted into another pro- gram. The program choices are: Bitmap, Metafile, Text (data only), or OLE Object.
∞	Gallery	Click to select the type of graph (e.g., line chart, pie graph) to create.
٨	Fill	Click to change the graph display color.
E	Vertical Grid	Click to add vertical grid lines to the graph.

Icon	Function	Description	
	Horizontal Grid	Click to add horizontal grid lines to the graph.	
	Legend	Click to display or hide the graph's corresponding data legend. By clicking on the Legend Box, the name of the well(s) and marker(s) will appear on the top of your graph. Right-click -> Legend Box.	
	Data Editor	Click to display the graph data in a spreadsheet format below the graph. You can then modify individual data points in the graph. Right-click -> Data Editor. Another way of viewing this data is by holding your mouse over a data point. Editing data here only affects the chart display—it does not change the raw data.	
	Properties	Click to change the appearance of a graph (e.g., font, color, axis, 3D, etc.) Color can be added to various components of your graph including: Chart Box Background—choose: Properties->General->Chart Box->Apply->OK. Page Background—choose: Properties->General->Background->Apply->OK. Marker Fill—choose: Properties->Series->Marker Fill->Color->Apply->OK. Graph Lines—choose: Properties->Series->Select well name from Series drop-down box->Lines->Color->Apply->OK.	
44	3D	Click to toggle between a 2-dimensional and 3-dimensional view of the graph.	
4	3-D Rotation	(Available in 3D view only) When selected, you can rotate 3D charts about their axis.	

Table 12Graphing toolbar icons and their functions (continued)

Sheet 2 of 3

Icon	Function	Description
	Z-Cluster	(Available in 2D view only) Click to take a bar graph with two or more wells for each time period on the x- axis, and get a sin- gle bar graph for each time period. This single bar graph repre- sents the wells as a cluster and highlights the well with the highest data point.
P	Zoom	Click to zoom in on a line graph to view a particular section on the graph. It will zoom in the entire graph, so use the scroll at the bottom of the line graph to see another section zoomed in.
	Print Preview	Click to view the graph as it will be printed and change page set- up options if necessary.
	Print	Click to print the displayed graph to your printer.
×	Tools	Click to display or hide the toolbar, palette bar, and fill bar.

Table 12 Graphing toolbar icons and their functions (continued)

Sheet 3 of 3

Understanding sensors in reporting

Sensors refer to both transducer-based (e.g., Static Pressure) and calculationbased values (e.g., Volume).

In the Smart-Alek web portal Report Manager, they are associated with the data Source where the values are stored. Most Sensors are available in Raw Data and Daily Production Data Sources, however, Hourly Production Data contains values for only some of the gas flow based Sensors.

Sensor values can only be displayed in a report when the selected Report Source (set in the "Basic Settings" screen) matches the Source type of the selected Sensor (listed in the "Sensor Selection" screen).

For example, Sensors listed in the "Raw Data and Production Data Report" listing in the "Sensor Selection" screen are displayed using Daily Production and Raw Report Sources selected in the "Basic Settings" screen, while Sensors only located in Raw Data can only be displayed in a Raw Data Report Sources. Only two axes can be displayed in a Graphical Report at one time. However, multiple sensors with common base units-of-measure can be assigned to the same axis by selecting the L(eft) or R(ight) button. An example of common base units is kPa and kPa(g), (kPa and psi are not as common and cannot be graphed together). The first two different base units-of-measure in the selected sensors list will determine which of the many selected sensors will be graphed.

External Sensors, are available in Raw Data and Daily Production Data Sources. There are:

- Well Head Pressure 1
- Well Head Temperature 1
- Well Head Pressure 2
- Well Head Temperature 2

Liquid Volume 1 and Liquid Volume 2 are available in both:

- Raw Data Source--contains the Cumulative Volume readings for those Sensors (from the last reset of the flow totalizer)
- Daily Production Data Source--contains the calculated Daily Volume.

The Daily values are listed in the Daily Quality Transaction Records (QTRs). These Sensors are available for daily export or Daily Production Data reports as well as Raw Data reports. Cumulative volume is reportable through Raw Data Reports, while Daily Volume is reported through Daily Production Data Reports and Daily Quantity Transaction Records (QTR).

Two other related Liquid Sensors are also available. Liquid Rate 1 and Liquid Rate 2, which correspond to Liquid Volume 1 and Liquid Volume 2. They represent the average flowing rate between the last two readings delivered from the Smart-Alek instrument. They are stored as Raw Data only, and while not available for export (other than CSV Export), they may be displayed on the main well listing page.

Note that in report setup, these sensors are listed as a generic type. In the report they will be listed by their assigned sensor name. For example, Wellhead Pressure 1 and Wellhead Temperature 1 will display on a report as Casing Pressure and Casing Temperature, if so named. The sensors available for reporting from the standard Smart-Alek instrument are:

Differential Pressure	Flowing Temperature	Gas Flow
Static Pressure	Volume	Flow Integral
Internal Temperature	No Flow Sample	Sample Count
Voltage	Count	

In addition, external pressure and liquid totalizer sensors can be added to Smart-Alek instrument upload and included in your reports. The default names for these sensors are:

Liquid Rate 1 Liqu	uid Rate 2 Well Hea	d Pressure 1
Well Head Temperature 1 Wel	ll Head Well Hea	d
Pres	ssure 2 Tempera	ture2

If you have renamed your external sensors, your selected names will be used.

Default reports

Your organization can designate the four reports that are most useful for daily operations and make them available on your screen in the default report bar. In the example in Figure 25 on page 162, there are four (4) reports designated as defaults.

This is a useful tool for comparing performance on similar wells and will help identify the need for well stimulation activities, which may result in the application of targeted operational actions to deliver higher flow volumes.

Figure 25 Default reports						
User Manager Alarm Manage	er <u>Well Site S</u> i	ummary <u>Fields</u> Co	mpany Da	ta Export	Data Push Data Imp	ort <u>Support Loqout</u>
Notifications						
Default Flowing Temperat (Flowing Temperature)	ure <u>Defa</u>	ult Static Pressure (Static Pressure)	Def	f <mark>ault Differe</mark> (Differentia	e <mark>ntial Pressure</mark> al Pressure)	<u>Default Gasflow</u> (Flow Rate)
02-29-076-09 W6M		F				[Model 2000 EM]
195011 (Online) Sm	nartAlek	Default Re	ports	L	ast Transmission: 2006	5-12-12 09:28:33 (MST)
Today 1: 2006-12-11 2:	:36 Hours Flowing 2:30 Hours Flowing	•				Volume .01 MMCF Volume .19 MMCF
Flowing Temperature Differential Pressure Internal Temperature Flow Integral No Flow Sample Count		9.58 °C .04 psi 28.4 °C 21.44 kPa 0#	 Static Voltage Gas F Samp Orifice 	Pressure ge Tow Rate de Count e Plaie	229.45 p 8.47 V .13 MMC 294 # 1.1111 ir	sig F/Day
Site Alarm Manager	QTRs Event L	og Instrument	Log	Meter Re	ports Flow F	Parameters

Running a default report

Use this procedure to run a default report.

Procedure steps

Step Action

- 1 Display the well site data-you may open more than one well at a time. The report will include all open wells.
- 2 Click the name of the report you want to run on the Default Report Bar. The trends for all open wells will be graphed. An example of a multi-well default report is shown below. Each well is represented by a separate color on the graph.



Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Using Report Manager

Use the Report Manager to create, modify or view a report generated by Smart-Alek web portal data on individual or multiple sites. With it, you can create customized reports, based on one or more variables that are measured at the well, to provide insight into well production.

Using the Report Manager you can create your own reports by selecting:

- the variables you want displayed
- the time frame of the data collected
- one or more wells

Use the Report Manager to create, modify or view a report generated by the Smart-Alek web portal data on individual or multiple sites.

Information and procedures provided in this section are:

- Understanding text vs. graphical reports on page 163
- Understanding manual and auto ranging on page 165
- Understanding data sources for reports on page 165
- Opening Report Manager on page 166
- Creating a new report on page 167
- *Modifying a report* on page 176
- Managing reports on page 178

Understanding text vs. graphical reports

Reports are a formatted and organized presentation of data. Graphical reports allow you to see data displayed on a chart. Text based is useful for quickly seeing a list of data for a well without needing to export the data first. A text based report can support as many sensors as you want at one time.

163

Figure 26 Report example: graphical



Figure 27 Report example: text

Gas Flow Rate	- 30 days, raw	
Mountain Time (UTC -7.00)	Guil of Mexico # 2 Gas Flow Rate E3M3/Day	
2004/04/01 12:42:11	2605.15	
2004/04/01 11:42:11	3893.00	
2004/04/01 10:42:11	3395.19	
2004/04/01 09:42:11	3287 87	
2004/04/01 08 42:11	2617.33	
2004/04/01 07:42:11	3303.44	
2004/04/01 06:42:11	2903.89	
2004/04/01 05:42:11	2024.94	
2004/04/01 04:42:11	3474.76	
2004/04/01 03:42:11	3245.39	
2004/04/01 02:42:11	2451.11	
2004/04/01 01 42 11	2677.07	
2004/04/01 00:42:11	2485.09	
2004/03/31 23 42:11	2199.09	
2004/03/31 22:42:11	3205.47	
2004/03/31 21:42:11	2512.84	
2004/03/31 20:42:11	3359 51	
2004/03/31 19:42:11	3787.38	
2004/03/31 18 42 11	2086.39	
2004/03/31 17 42 11	3598.22	
2004/03/31 16:42:11	2841.88	
2004/03/31 15:42:11	3299.76	

Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Understanding manual and auto ranging

By default, all graphical reports auto range their minimum and maximum Y-axis. The Y-axis is auto ranged to 10% above the greatest data point, and 10% below the smallest data point. The left and the right Y-axis are both auto ranged independently.

If you wish, you may override the auto range feature, by specifying your own minimum and maximum. The manual range for the left and right Y-axis are input independently. If you prefer, you may have one Y-axis auto range, and one Y- axis manual range.

To revert a graph to auto ranging, simply set the minimum and maximum for each axis to zero (0).

Understanding data sources for reports

Data for the reports can come from one of three sources:

- Hourly Production Averages,
- Daily Production Averages,
- Raw Data.

The hourly and daily production averages are both time weighted quantity transaction records, while the raw data is the collected individual data points transmitted by the Smart-Alek instrument. The source you select may have an impact on the sensors you may add to your report.

The Raw Data source represents the data being collected by the Smart-Alek instrument. It contains readings and averages of varying sample sizes, and may not be time- weighted over a constant period. There can be an indeterminate amount of Raw data samples per day.

The Hourly Production Data source, linked to the hourly Quantity Transaction Records, are time weighted hourly averages of the data collected from the Smart-Alek instrument. There will be twenty four hourly production data samples per day. Daily Production Data source, linked to the Daily Quantity Transaction Records, are time weighted daily averages derived from the Raw Data. Daily Production values are calculated for most sensors.

Opening Report Manager

Use this procedure to open Report Manager for the purposes of either defining a new report, or for modifying an existing one.

Procedure s	teps
-------------	------

Step

Action

1 Choose a well from the well tree list.



2 Select **Report Manager** from the report drop down list, located at the top of the Well Site Display. (Or, to view a report, select a pre-defined one from the list.)



The drop-down list also provides access to existing reports. Existing reports from the drop-down list in the Well Site Display are View Only. To modify an existing report, use the Report Manager.

Creating a new report

Use this procedure to create a new report using Report Manager wizard.

Procedure steps

Step Action

1 In the report drop-down list, select Report Manager.



2 In the Report Manager, select New Report.



Note: As you proceed through the Wizard, the Information Bar at the top of the window will highlight where you are in the Wizard. The Information Bar is display-only; you cannot use it to navigate back and forth through the Report Wizard. Use the Next and Back buttons at the bottom of each screen to navigate through the Report Wizard.

Name		Түре	Data Source	Report Span			
4			Info Bar				
Welcom	Welcome to the Report Wizard.						
			-				
Welcome to the Repo You may watch your	ort wizard. progress u	This wizard will loing the status	quide you step by step t bar at the top of the pag	through the report creatic c.			
First, please select a name for your report. This is the name that the report will be listed by, and used as a header when you generate this report.							
Report Name:			€				
Please also select the report directory to store this report in. The report directory helps you port your reports.							
Report Directory:			▼ 4)			
Finally, you also have the ability to make this report private. If you check the box below, only per- with your account will be able to view, edit, or run this report.							
☑ Make my report private so only I may access it.							
🗲 Back Next 🕨 🗿							

- **3** Enter a Name for your report.
- 4 Select the directory where the report is to be stored. If your company has a large number of reports that they use, it is important that directories be used to manage where the reports are stored.
- 5 If you want to share your report with all of your company's users, uncheck the "Make my report private so only I can access it" check box.
- **6** When you are done, click Next.

Step	Action
7	In the Type window use the radio buttons to choose the kind of report you want (Graphical or Text based; see <i>Understanding text vs. graphical</i> <i>reports</i> on page 163).
	Name Type Data Source Report Span
	Welcome to the Report Wizard.
	The next step is to determine what format this report will be presented in. Current, the FINE types of reports: graphical and text based.
	Graphical reports allow you to see data displayed on a chart. Using either IE or NETSCAPE interactive. After running a graphical report, you will be able to zoom in and out, change colo virtually any other property you chose.
	A graphical report has the limitation of only having two Y-Axis to plot data on. However, you sensors with common units of measure on the same axis. You will also be able to stack as the graphical report as you want.
	The other report type offered by the FINE system is a simple text based data listing. This is seeing a list of data for a well without needing to export the data first. A text based report ha advantage of supporting as many sensors as you want at one time.
	C Yes, I want a text based report.
	< Back Next 👌 3
0	
8	Choose Next to proceeds to the Data source window.
	Name Type Data Source Report Span
,	Welcome to the Report Wizard.

Data for the reports can come from one of three places, Hourly Production Averages, Daily Pr Averages, and Raw Data. The hourly and daily production averages are both time weighted qu records, while the raw data is the collected individual data points transmitted by the Smart-Al Daily Production Averages contain one data point per contract day of your report. These are t reports, and can easily display many months of data at once.

· Yes I want to base my report on Daily Production Averages 0

Hourly Production Averages contain one data point per hour. These are also very fast reports, slower than their Daily counterparts.

C Yes, I want to base my report on Hourly Production Averages

Raw data reports are the most restricted of all three data sources. Only a certain amount of r on hand at any given time (currently about two months). Raw data reports do not guarantee c data point frequency. They are also much slower, and do not account for any time weighting. certain circumstances, the detail offered by raw data reports can out-weigh these restrictions C Yes, I want to base my report on Raw Data

 \searrow Next 🕨 🛈 Back

> Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

- 9 Use the radio buttons to select either Hourly, Daily or Raw (see *Understanding data sources for reports* on page 165).
- **10** Click Next to continue.
- 11 Choose the span type (Dynamic or Static) and the report span you want to run (ether the number of days from the current date for Dynamic, or a specific date range for Static).

Name Type Data Source Report Span				
Welcome to the Report Wizard.				
Now you must determine what dates your report will encompass. You can do this in two ways reports and Dynamic reports.				
Using a Static report is easy. You specify the date and time you wish your report to start at, a time you want it to end. Every time this report is run, the same set of data will be displayed. T looking at a set of data over a known, specific time. The date and time format is YYYY/MM/D (Example: 2000/01/01 18:00).				
C Yes, I want to create a Static Report, starting at, and r				
A Dynamic report is useful for day-to-day use, and is even easier to configure. To create a dyr simply choose how many days of data the report will display. Each time the report is run, it w for that many days prior to the current date. This allows you to reuse your report for as long a: without editing or re-creating it.				
ℑ Yes, I want to create a Dynamic Report, displaying the most current days ol				
< Back Next ►				

12 Click Next.

The sensors window is displayed.

Name	Туре	Data Source	Report Span	Senso	rs
					$\sum_{i=1}^{n}$
Welcome to	o the	Report Wi	zard.		₹
					Ż
The last step is to select the s	sensors that	will be included in your rep	oort. Feel free to select a	ny sensors you v	visi
measurement units to display	the sensor	readings in. Remember, on	ly two axis are available	in Graphical repo	orts
					5
Contacts		Eat			- 2-
Chemical Pump Alarm 1 ESD Alarm 1		Chen	Alarm 2	- *	3
Line Heater Alarm 1		Line	Heater Alarm 2	- *	5
Methanol Alarm 1	- 🗸	☐ Meth	anol Alarm 2	- 🛩	1
Separator Level Alarm 1	- 🗸	□ Sepa	rator Level Alarm 2	- 🕶	\geq
Site Alarm 1	- 🕶	🖂 Site /	Alarm 2	- 🗸	5
Tank Level Alarm 1	- 🕶	Tank	Level Alarm 2	- 🛩	
U Vibration Alarm 1	- 🗸	Uibra	tion Alarm 2	- 💙	1
Corrosion					\geq
□ Instability	% 🗸	🗖 Pittin	g	% 🗸	
Sequence	- 💙				<u>~</u>
EFM					
Differential Pressure	in H20 💌	E Flow	Integral	kPa 💌	- 1
Flowing Temperature	°C 🗸	Gas Gas	Flow Rate	E3M3/Day 💙	Ì.
Hours on Flow	hrs 🗸	No Fl	low Sample Count	- 💙	\geq
Sample Count Volume	- ¥	I_ Statio	c Pressure	psi 💉	à.
	20110				1
Hardware	10 44			N III	1
I Internal Temperature	τ 💌	I_ Volta	ge	v •	_>
Wellhead					\sim
Bath Temperature	*C 🗸	Casir	ng Meth Volume	M3 🗸	- All
Casing Pressure	M3/Dav		ng remperature	M3 V	5
Control Valve Position	kPa 🗸	Contr	ol Valve Temperature	°C 🗸	- 5
Discharge Pressure	kPa 🗸	Disch	narge Temperature	°C 🗸	\sim
ESD Valve Pressure	kPa 🗸 🗸	🗆 ESD	Valve Temperature	°C 🗸	1
Emulsion	M3 💌	Emul	sion Rate	M3/Day 🖌	\leq
Emulsion/Blow Case	M3/Day	Emul	sion/Separator	M3/Day 💙	<
Engine Oil Pressure	kPa 💙	Engir	Coo Deto	10 V	1
Fuel Gas Temperature		E Fuel	Gas Volume	M3 V	1
Gas Lift Rate	M3/Day	✓ Gas	Lift Volume	M3 🗸	- 4
Inlet Pressure	kPa 💌	Inlet	Temperature	°C 🗸	<
Liquid Rate 1	M3/Day	🔽 📃 Liquid	d Rate 2	M3/Day 🗸	3
Liquid Volume 1	M3 🗸	🗖 Liquid	d Volume 2	M3 🗸	5
Methanol Pump Pressure	kPa 💉	Meth	anol Pump Temperature	°C 🗸	>
Oli Rate Pineline Pressure	kPa		oiume ine Temperature	1113 V	\geq
Suction Pressure	kPa 🗸	□ l ipei	on Temperature	°C 🗸	\leq
Tank 1 Level	kPa 🗸	Tank	1 Temperature	°C 🗸	
Tank 2 Level	kPa 🗸	Tank	2 Temperature	°C 🗸	<
Tubing Meth Volume	M3 🗸	🗔 Tubin	g Pressure	kPa 🗸	3
Tubing Temperature	°C 🗸	Wate	r Rate	M3/Day 🗸	\geq
Wall Head Bressure 2	M3 V	Well	Head Pressure 1	psi 💙	1
Well Head Temperature 2	°C 🗸		neau remperature 1		2
,					5
Back Next					\geq

171

13 Choose any sensors you wish for the report. For each sensor you pick, also choose the measurement units in which to display the sensor readings. If you have selected a Graphical report, only two axis are available for the sensors with common (base) unit-of-measure.

Make your selections from:

- Primary sensors
- External sensors
- VSA only sensors
- Legacy V1 sensors
- Other sensors
- In production average reports you can also choose hours on and volume.
- 14 Click Next to continue.

The finish screen appears.

Velcome to the Report Wizard

r report is now complete. You can edit this report in the future from the report

eturn to report manager, please click here.

Back Next 🕨

15 You have completed building your report. Click "here" to continue.

The Modify window opens and a synopsis of your report can be reviewed and changed. There are three windows:

• Basic settings of your report. On each of these screens are Tips buttons that contain useful information for you in determining the best settings for your report.

Slide Show <u>60 day gas and static</u> pressure report	Basic Settings	Sensor Selections	Advanced Settings
7 day flow/diff chart	Report Title	Barbs Test	
Barbs Test Image: State Sta	Tip - Dynamic VS Static Use Dynamic Report Span	<u>هــــــــــــــــــــــــــــــــــــ</u>	
 Daily Line Pressures Daily Line Pressures - 180 days Chart DC Voltage 	Number of Days to Report	7	
 Flows Graph Flow & Hours Graph Flow and Pressures - 30 Day 	Start Report From Run Report To	2002/01/01 12:00 2002/01/02 12:00	
Image: state flow diff static Image: state flow diff static Image: state flow diff static Image: state flow diff state Image: state flow diff state <th>Tip - Report Sources Report Source</th> <th>Hourly Production Data 💌</th> <th></th>	Tip - Report Sources Report Source	Hourly Production Data 💌	
Voltage and int	Report Type	Graphical 💌	
Temperature - 7 day	Save Changes	New Report	Delete Report

• Sensors; you can review and change the sensors selected in this report.

Basic Settings	Sens	or Selections	Advanced Settings
Tip - Sensors and Sources	External Sensors		
	Sensor	Units	Y Axis Order
All Reports			
ifferential Pressure	Differential Pressure	kPa 🗸	L R Up Down Remove?
lowing Temperature	Carllow	E3M3/Dav	Down Remove?
itatic Pressure	Gastiow	C3H3/Day V	
iouid Rate 1	Hours on Flow	Hours 💟	C R DD Down Remove?
iquid Rate 2			
iquid Volume 1			
iquid Volume 2			
Vell Head Pressure 1			
Vell Head Temperature 1			
Vell Head Temperature 2		N	
lours On (VSA)		12	
olume (VSA)		°,	
1 Casing Pressure			
1 Tubing Pressure			
1 well Head Temperature			
Pitting			
Raw Data Reports Only Flow Integral Internal Temperature to Flow Sample Count Sample Count /oltage /1 Well Head Int Temperature /1 Well Head Voltage Production Data Reports Only fours on Flow	4		
VIUTIC .			
Save Changes	Ne	w Report	Delete Report

Step

Basic Settinge	Sensor Selections	Advanced Setti
Report Folder	Talisman/	*
Harris Facon Flags		
Flag as Private Report P	Flag as Locked Report	
Flag as Multi Report	Flag as Default Report	
Tip - Manual and Auto Ranging		
Left Y Axis Maximum	Right Y Axis Maximum	
Left Y Axis Minimum	Right Y Axis Minimum	
Show Y Axis in a Base 10 Logarithmic Scale	E	
Time Zone	(GMT-07:00) Mountain Time (US & Cana	da)
Display Data in Reverse Chronological Order in Text Reports	Display Data in Chronological Order in Text Reports	
Tip + Test Report Grouping		
Group Sensors in Text. ⊂ Reports	Group Wells in Text Reports	
Show Recorded QTR Flags in Text Reports	Г	
Append Comments to Report	Г	
Comments		2

The Flags portion of the screen will only appear if you are the creator of the report. elected flags will perform the following:

- Private Report—the report appears in YOUR listing only.
- Multi Report—each well will appear on a separate window (slideshow reports)
- Locked Report—no one else can change ANY parameters.
- Default Report—will appear as one of the four default reports in the Well Site Display.
- 16 Choose Save Changes to complete your report.
- 17 Click Reload Newest Reports



and the report you have created will appear in the Drop Down list for selection.

Modifying a report

At any time, you may modify an existing report by left clicking on the blue hyperlinked report name in the report list. After selecting the report you want to modify, you will be placed in the Basic Settings screen. In Edit you can:

- modify the number of reported days for Dynamic Reports.
- modify the date range selected for Static Reports.
- select an alternate data source.
- select an alternate report type (i.e Graphical or Text).
- create a new report. This option will take you directly into the Report Wizard.
- delete this report. You may only delete reports that you have created yourself.
- if you need to provide a report containing the same or similar information periodically, you can use Edit Reports to change the report parameters.

Note: Modifying a report overrides existing report information. If you wish to keep an existing report as it is, you will have to create a New Report through the Report Wizard with a new name.

Use this procedure to modify a report.

Procedure steps

Step Action

1 Select one or more wells in the well tree, and select "Report Manager" from the "Smart-Alek Reporting" pull down menu at the top of the screen.



A list of reports to which you have access appears.

New Folder Delete Folder
New Report
Tip - Folder Listings
Z.I. Probes/
default/
DO NOT TOUCH/
DGYHTD
minus 40
Sat Test
Temperature
Voltage
All Data Real Time

2 Click on the Underlined Name of the report you wish to modify. (To see a Report that is View Only, click on either the graph or text icon of the desired Report.)

The report opens in the Edit window.

- **3** Make the changes you need (see *Creating a new report* on page 167 for information).
- 4 Choose Save Changes to complete your report.

Managing reports

Folders, Charts and Text Reports are grouped and listed alphabetically on the left side of the Reports Manager window. You will only be able to run Reports for the wells you have selected.

Once you are in Report Manager you cannot select additional wells for reporting purposes. You must close down Report Manager, select the new well(s) desired and go back into Report Manager. To manage folders and move reports, open Report Manager from the reports drop down list.

Procedures in this section are:

- Creating a new reports folder on page 178
- Deleting a folder on page 179
- Moving a report to a different folder on page 181

Creating a new reports folder

Use this procedure to create a new folder in which to store reports.

Procedure steps

Step Action 1 Select one or more wells in the well tree, and select "Report Manager" from the "Smart-Alek Reporting" pull down menu at the top of the screen.



New Folder Delete Folder New Report
Tip - Folder Listings
Z.I. Probes/
default/
ininus 40 Sat Test
Temperature
Tory
All Data Real Time

A list of folders and reports to which you have access appears.

- 2 Click New Folder
- **3** Enter a name for the folder, and click the OK button.
- 4 The new folder now appears in the list.

Deleting a folder

Use this procedure to delete a reports folder.



Note: You cannot delete a folder which contains reports; any reports it contains must be deleted or moved first.

Procedure steps

Step Action

1 Select one or more wells in the well tree, and select "Report Manager" from the "Smart-Alek Reporting" pull down menu at the top of the screen.



A list of folders and reports to which you have access appears.

New Folder Delete Folder New Report
Tip - Folder Listings
Z.I. Probes/
minus 40
Sat Test Image: Sat Test Image: Sat Test Image: Sat Test Image: Sat Test
Tory Voltage
III All Data Real Time

- 2 Double click the folder in the list to open the folder.
- **3** Click Delete Folder.
- 4 A message appears telling you the folder has been deleted.

If the folder contains any reports, the following message will appear:

Can not delete: Folder not empty.

See Moving a report to a different folder on page 181.
Moving a report to a different folder

Use this procedure to move a report to a different folder. You would typically do this if you wanted to delete the folder, but wanted to keep any reports it contains.

Procedure steps

Step Action

1 Select one or more wells in the well tree, and select "Report Manager" from the "Smart-Alek Reporting" pull down menu at the top of the screen.



A list of folders and reports to which you have access appears.

New Folder Delete Folder New Report
Tip - Folder Listings
Z.I. Probes/
default/
DO NOT TOUCH/
dgyhtd
🌃 <u>minus 40</u>
🚯 Sat Test
Temperature
K Tory
Koltage
III All Data Real Time

- 2 Double click the folder in the list to open it.
- **3** Click on the report you want to move, and click "Advanced Settings" at the top of the screen



5 Click Save Changes.

Sample reports

Examples of reports that customers have used to improve well performance are included here for your reference.

Report #1 – Line pressure optimization

This report charts the Static Pressure and the Gas Flow Rate. The resulting graph prompted tuning of the compressor, which resulted in a 15% increase in flow.

Figure 28

Line pressure optimization report example



Report #2 – Methanol pump efficiency

This report charts the Static Pressure and the Gas Flow Rate on two (2) wells that have historically had similar performance. The resulting graph highlighted a restriction in the flow of one (1) well, prompting the operator to inject methanol, which removed the restriction and increased the performance by 20%.

Figure 29 Methanol pump efficiency report example



Report #3 – Plunger lift well performance

This report charts the Differential Pressure and the Gas Flow Rate on a plunger lift well. You can graphically see the net increase in flow that is being measured using a Smart-Alek instrument, as opposed to a chart.

Figure 30 Plunger lift well performance report example



Using the Instrument Log link

Site Alarm Manager QTRs Event Log Instrument Log Meter Reports Flow Parameters Well Test Satellite

The Instrument Log displays instrument **Events**. Events are those changes that could affect the gas flow calculation (for example, calibration activity or firmware changes). When these are transmitted to the server, they are stored and numbered sequentially in the **Instrument Log**. The instrument log lists changes that occurred in the field, while the Event Log lists changes that occurred on the web site.

Permissions required to access this function are: Wells - Instrument Log Console

To access this function, choose **Instrument Log** from the Well Site Options bar. A window similar to the one shown in Figure 31 opens.

Figure 31 Instrument log

	-	,		
Instrur	nent Log 01-23-174-(01 W4M	Smart-Ale	<mark>k</mark> ® w Monitoring System
help]				
Showing Las	t 35 Days. Days Show Extende	ed Information	Apply	Data Export
	U		2	B
Event Sequence	Time	Smart Alek	Туре	
26	2007-07-15 09:32:41 (MDT)	200197	Time changed by sync	Details
25	2007-07-01 07:32:29 (MDT)	200197	Time changed by sync	Details
━	G		\longrightarrow	
-			P	

Table 13 on page 188 describes the areas shown in this figure.

Smart-Alek Secure Internet Portal User Guide MNL-SA-W-1 10Dec07

Table 13		
Description o	f Instrument	Log window

Window item	Description					
1 Show Extended Information	Select the Show Extended Information check box and click Apply to display related activities. Extended Information includes items such as Laptop sign-on activity and Cryout alarm configuration changes. Extended Information activities are not assigned a number by the Server.					
	Event Time Smart Alek Type					
	2007-07-21 09:02:40 (WDT) 200197 Yesterday Volume change Details					
	2007-07-21 07:33:00 (MDT) 200197 Flow Factor change Details					
	2007-07-20 09.52.48 (MDT) 200197 Yesterday Volume change <u>Details</u>					
	2007-07-20 07/33:04 (MDT) 200197 Flow Factor change Details.					
	2007-07-19 09:32.48 (MDT) 200197 Yesterday Volume change Details					
	2017 0.1 10 0022-02 00111 200002 Elaur Sachar abanan 11abata					
2 Apply	Changes to Show Extended and from Show Extended back to default view.					
3 Data Export	A B L D 1 Time Well Smart Nel Type Source Event Sequence New Value Previous Value 2 2007 07 20 17. 05 14 04 200611 Mode char Laptop 25 322 Normal 3 2007-07-20 17: 06-14-04 200611 Mode char Laptop 24 321 Offline 5 2007-07-20 16: 05-14-04 200611 Mode char Laptop 23 315 Offline 5 2007-07-20 16: 05-14-04 200611 Mode char Laptop 23 315 Offline 5 2007-07-20 16: 05-14-04 200611 Mode char Laptop 21 309 Normal 7 2007 07 20 16: 05-14-04 200611 Mode char Laptop 21 309 Normal 7 2007 07 20 14: 05 14 04 200611 Mode char Laptop 20 298 Offline 8 2007-07-01 14: 05 14 04 200611 Mode char Laptop 20 298 Offline 8 2007-07-01 14: 05 14 04 200611 Ime chan Internal 19 276 2007-1-1 12:007-1-1 13:00					

Sheet 1 of 2

Table 13 Description of Instrument Log window (continued)

Window item	Window item Description				
4 Details	Displays the detailed information for each instrument event.				
	Instrument Log Details 01-23 174-01 W4M	3- Smart-Alek* Intelligent Flow Monit			
	Instrume	nt Log Listing			
	- Time -	2007-07-20 17:14:16 (MDT)			
	- Well -	01-23-174-01 VV4M			
	- Smart Alek Serial Number -	200611			
	- Type - Mode change				
	- Source - Laptop				
	- Event Sequence Number - 25				
	- New Value -	Normal			
	- Previous Value -				
5 Column	imn left to right:				
Information	Event Sequence—the Smart-Alek web portal keeps track of each instrument event with a number				
	Time—the event occurred				
	Smart Alek—the number of the	einstrument			
	Type—the type of instrument e	went recorded			

Sheet 2 of 2

Sample Instrument Log Events:

- Low Differential Cutoff pressure change
- Atmospheric Pressure change
- Mode change
- Time changed by sync
- Flow Temp offset coefficient change
- Erase Trend Log

Sample Extended Information:

- High Temperature range change
- Low Temperature range change
- Local Laptop User Identification
- Modem Test
- Host Connection Test

Welltest Satellite

Site Alarm Manager QTRs Event Log Meter Reports Control & I/O Viell Test Satelite

The Welltest Satellite feature is used in situations where wells are grouped together, and the metering isn't performed at the well itself. Instead, valves are used to periodically (e.g., monthly) run the well through the Smart-Alek Field Instrument.

This window is used to:

- add wells to the battery
- set up the battery parameters (applies to all of the wells being tested by the battery)
- change gas composition (unique for each well)
- review parameter changes that have been made for each well
- view test periods on a calendar
- run reports on each test

Information found in this chapter includes:

- Adding a well to the test site on page 193
- Reviewing an existing well on page 193
- Setting the gas composition for each well on page 194
- Checking parameter history on page 194
- Running and recording tests on page 195
- *Calendar* on page 196
- Setting a text based report on page 197
- Updating Fieldview on page 197

To access this function, choose **Well Test Satellite** from the Well Site Options bar. A widow similar to the one shown in Figure 32 opens.

Figure 32 Well Test Satellite window



Table 14 describes the parts of the window.

We	Nell Test Satellite window				
Screen area		Description			
1	Wells	Allows you to add, modify, review and delete wells to the bat- tery.			
2	Meter Parameters	Allows you to define the meter parameters for the selected well.			
3	Gas Composition	Allows you to add, modify, review and delete the gas composi- tion for the wells. You can define unique compositions for each or apply the same composition to all.			
4	Parameter History	Tells you what composition was set for each well over a period of time.			
5	Calendar	The calendar displays all tests that have occurred for all wells that report to the test site.			
6	Reports	This option provides a tabular report on all of the tests com- pleted, It can be run for all wells or an individual well.			

Table 14:

Adding a well to the test site

Use this procedure to add a well to a test site.

Procedure steps

Step Action 1 Select New Well for the Wells drop down list and enter the information for the well. Manage Wells

Common N	ame / LSD	XX XXX X	(
uwi						
Comments		General in	General information			
Showing Las	t 35 Days.				Apply	
	[Click	for New	Test		
Record	Start	24h Oil (m3)	24h Water (m3)	24h Emul (m3)	24h Gas (E3m3) Status	

2 Click Update Oil Well Information.

Reviewing an existing well

Use this procedure to review information about an existing well.

Procedure steps

Step	Action
1	Select the name of the well you want to review from the Wells drop down list.
	(Satellite field) Meter parameters apply to all wells.
2	Enter the information for the well.
3	Click Update Oil Well Information.

Setting the gas composition for each well

Use this procedure to define gas composition parameters for each well.

Step	Action			
1	Click the Name of the well you want to define the gas composition from the Gas Composition Drop down list.			
	-Wells-			
	-Well-			
	The composition can be unique to each well, or you can apply the same composition to all wells.			
	It can be applied for a specific period and backdated for recalculation purposes.			
2	Once the dates are selected, click Schedule update job and all values will be recalculated.			

Checking parameter history

Use this check gas composition parameters for each well.

Step	Action		
1 Click the UWI of the well you want to define the gas composition from the Parameter History drop down list.			
	-Parameter History-		
	-Well-		
	You can choose all wells, or a single well.		
	The parameter history tells you what was set for each well over a period of time		
2	You can select the number of days you want to view.		

Running and recording tests

If you are uncertain of these actual test period, click Gas Flow Rate in the sensor area of the Well Site display for visual clues to appropriate test times.



The circled area shows a change occurred. this could have been a valve changeover from one well to another. Holding your cursor on top of data points will give you the exact date and time that point occurred.

This information can be used to set up your test.

Select two points, one for the start of the test and one for the end of the test.

Procedure steps

Step	Action			
1	Select the well you want to test from the Wells drop down list.			
	-Wells-			
2	Click Click for new test .			
3	Enter the start date and time and the end date and time.			
	Ensure Start and End times DO NOT overlap other tests. If unsure, refer to the Calendar or Reports (Entire Satellite)			
4	Enter any comments you want to record with respect to this test.			
5	Click Update Well Test.			

Calendar

The calendar displays all tests that have occurred, for all wells that report in to this test site.



Figure 33 Well test satellite calendar display

Each well is identified with a separate color and identified in a legend box.

When there are lines showing in a single day, it identifies the start and finish of separate tests.

If a test had not been accepted, there will be a dashed red line through the boxes for those dates.

Accepted tests will have boxes with solid colors.

Setting a text based report

Use this procedure to set a text based report.

Procedure steps

1

2

Step Action Select the entire satellite or the individual well from the Reports drop down list. -Reports--Well-¥ This option provides a tabular report on all tests completed. It can be run for all wells or for an individual well. Select your date range and the wells you want to include.

Start and end times are critical. If a test has not been completed before the date and time indicated in the "To" boxes, it will not be included in the report.

- 3 Select which reports to include from the Report Options drop-down list:
 - Accepted and Rejected •
 - Accepted Only
 - **Rejected Only**
- 4 Click Run Report.

Updating Fieldview

Select Data Export from the Standard function bar.

The steps for export are described in *Data Export* on page 103.

Zedi SCADA

Site	Alarm Manager	OTRs	Event Log	Meter Reports	Live Data
0110	r dar fift fillandager		CTOTIC CON	motor noporto	<u>Live outu</u>

Zedi SCADA allows the Smart-Alek web portal to integrate with third party RTUs (Remote Terminal Unit) and EFM (Electronic Flow Measurement) devices. Using a custom-tailored interface and universal polling engine, users can have complete two-way communication and well site control using RTU and EFM hardware.

The setup for a Zedi SCADA differs from that for a regular Smart-Alek field instrument. The hardware, such as modem, RTU and polling engine are installed. Then register values from the RTU are mapped to the Smart-Alek web portal display and grouped into screens.

Permissions required to access this function are: Zedi SCADA - Admin Access Zedi SCADA - Control Access Zedi SCADA - Edit Access Zedi SCADA - Use Zedi SCADA Sub-System



Note: With the appropriate permissions, customers can develop their own screens. However, we recommended that screens be built for you by Zedi support personnel. That way, you can be sure that screens work perfectly, and contain all the elements you need.

To access this function, choose Live Data from the Well Site options bar.

Limitations

The speed of the data refresh depends on the polling frequency.

Unlike the Smart-Alek instrument, the web portal cannot retrieve historical data in Zedi SCADA. If a unit does not respond to a poll, then the data for that scheduled poll is not retrieved and not backfilled by the next successful poll. Historical data from the RTU can be retrieves through a local connection to the RTU.

Screens

There can be as many registers (for example 5-500) displayed as your company wants to monitor, so the registers have been organized into screens. There are five main suggested screens for each Zedi SCADA location. These are:

- EFM & Control Main
- EFM Parameters
- Control Parameters (Optional)
- EFM Parameters Edit (Optional)
- Control Parameters Edit

Defining or editing a screen

When you click Live Data, and no screens have been customized for your company, the screen shown in Figure 34 opens.

Figure 34 No screen, or no default screen, defined

00-00-999-00 W4N	1		[New] [Edit] (Please s	select a Screen) 💙 <u>Refresh</u>
ABC000XYZMP012345678W000 (Offline) Zedi SCADA			IP: VSA	
Last Communication: 2007-08-16 23:12:25			Bytes Sent: -2147483648	
Screen Access Level: Control			Bytes Recv: -2147483648	
				Refresh
Command Log				View History
Register Value	Issued By	Issued On	Sequence	Status

Select a previously defined screen from the drop down menu at the upper right of the window; *Screen overview* on page 203 describes elements on a screen.

To build a new screen, click on the "New" link, and a blank screen opens with which you can build one with the elements you want. See Figure 35 on page 201.

Figure 35 Blank Zedi SCADA screen



Figure 36 on page 202 shows the various elements on the build screen; numbered elements in this diagram are described in Table 15 on page 202.

Figure 36 **Build screen elements** RTU xyz 4 [Cancel] [Save] EFM Screen 5 Refresh [Delete Item] [Edit Item] [Add Item] N Screen Name: EFM Screen 6 7 8 Access Level: Control 🔽 2 Default Screen: 🗖 🖪 EFM Data Demand Status = Not Polling Execute Demand Poll **(D**) Demand Poll: 1 🕕 Static Pressure = 293.33 kPa Diff Pressure = 113.07 in H2O Temperature = 17.92 C Flow Rate = 268.69 E3M3/day Volume = 44.18 E3M3 9 Hours On = 4.31 H YVol = 211.97 E3M3 Hours Yesterday = 19.29 H My Flow Rate Graph Valve Set Point = 65.00 % Valve Position = 64.00 % Valve Set Point: 65 % 12 Execute Valve Set Point 13 14 [Cancel] [Save] EFM Screen Refresh

Table 15Zedi SCADA build screen element descriptions for Figure 36

No.	Element	Description
1	Screen Name text box	Allows entering a name for the screen. Note: a company cannot use the same name for two different screens.
2	Access Level drop-down	Allows setting a screen to Display Mode or Control Mode. Dif- ferent users will have access to different types of screens.
3	Default screen check box	Checking this box will cause this screen to be shown first when Live Data is opened for the current RTU in the future.
4	Cancel / Save links	Allows saving or canceling all changes made. Changes are not committed until the Save button is pressed.
5	Screen Selector drop down	Allows moving from one screen to another while editing.

Sheet 1 of 2

Table 15	
Zedi SCADA build screen element descriptions for Figure 36 (contin	nued)

No.	Element	Description
6	Delete Item link	Allows deleting the currently selected item. Pressing the Delete key on the keyboard has the same effect.
7	Edit Item link	Allows editing the currently selected item. Double clicking the item has the same effect.
8	Add Item link	Allows adding an item to the screen. Pressing the Insert key on the keyboard has the same effect.
9	Register displays	Displays a register for the RTU stored in Zedi SCADA.
10	Pre-defined write register	Allows writing a register with a predefined value (the value is defined while editing the screen). This pre-defined write register will not be displayed at run time.
11	Execute button for pre-defined write register	This will write all registers of the same color as the button. In this case, the pre-defined value of "1" will be written to the register "Demand Poll".
12	Undefined write register	This will allow entry of a value from a user viewing the screen. A text box (or radio buttons in the case of Boolean values) will be displayed while the screen is viewed.
13	Execute button for undefined write register	This will write all registers of the same color as the button. In this example, the value entered into the "Valve Set Point" text box will be written to the register "Valve Set Point".
14	In-line graph	An in-line graph can be displayed on the screen. At edit time, the graph will not be rendered; a placeholder box is shown instead.

Sheet 2 of 2

Screen overview

Figure 37 on page 204 shows the layout for an EFM and Control Main screen. Various numbered elements in this diagram are described in Table 16 on page 204.



Table 16Zedi SCADA screen element descriptions for Figure 37

No.	Element	Description
1	Well Name and RTU Serial Num- ber	Usually the LSD of the well and the RTU serial number.
2	Last Poll Date and Time	Displays the date and time of the last communication with the RTU. can be updated with a demand poll and instantaneous values are displayed.

Sheet 1 of 3

Table 16Zedi SCADA screen element descriptions for Figure 37 (continued)

No.	Element	Description
3	Access Level	All screens can be configured as either display screens or control screens. In a control screen, a user can control the behavior of the monitored well. Generally, access to these screens is limited and this is based on the privileges of your login account.
4	RTU IP Address	
5	Bytes Sent and Received	The total bytes sent and received by zedi since the last time zedi was restarted. This feature is a function of zedi, and can not be changed or disabled.
6	Edit/New	Any user with Zedi SCADA edit/admin ability is able to modify viewable screens or add new screens at any time. Clicking either Edit or New will bring up the screen edit interface (see below).
7	Manual Refresh Buttons	Pressing a manual refresh button will reload data from the Zedi SCADA database and display it on the web screen. This does not request new data from the RTU.
8	Drop Down List Box	Displays the shortcuts to the screens the current user can view.
9	Command with pre-determined values	Commands are all composed of writable registers and an execute button. When this command button is clicked, the corresponding register on the RTU will be set to the value of the textbox. The poll- ing displayed is updated.
10	Title	Name of the current screen.
11	Green Flags	A good quality flag. The data displayed is an exact match to the data found on the RTU at the moment of the last poll. This item may be clicked to view a 7 day graph of the data.
12	Grey Flags	An unknown quality flag. The data displayed is not known to be a match to the data found on the RTU at the moment of the last poll.Until Zedi SCADA connects to the RTU, these values could possibly be out of synchronization, or not available. Once commu- nication to the RTU occurs and there there is associated data avail- able, the flag would again become green. This item may be clicked to view a 7 day graph of the data.
13	Black Flags	A black flag means that a communication attempt with the RTU occurred and the data could not be retrieved. Again, it is unknown if the data displayed on the screen is a match to the data in the RTU.

Sheet 2 of 3

No.	Element	Description
14	Alarm	The sensor is in an alarm condition
15	Refresh	The automatic screen refresher slowly fills up over time (one bar every two seconds, or ten seconds for a complete fill). If at that time any data has changed in the Zedi SCADA database, the screen will be refreshed as if the user clicked the manual refresh button (see above).
16	Recent Com- mand History	 A searchable (by date / time) list of all commands ever executed on this RTU can be found by clicking here. All commands that have had processing occur on them in the last two minutes will be displayed here for easy viewing.

Table 16Zedi SCADA screen element descriptions for Figure 37 (continued)

Sheet 3 of 3

For more information on creating new Zedi SCADA screens, configuring RTUs, well site and installation parameters, please see the on-line help.