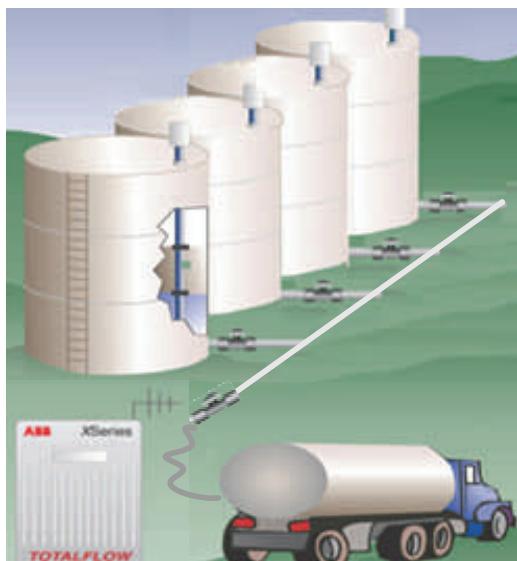


DESCRIPTION

Tank ELS is a simple “prepackaged” implementation of SCADAvantage for Tank Battery Applications. This system is pre-engineered to the most popular configurations and data displays. The system provides options for both remote and local security for oil removal.



Tank ELS can show from one to five tanks at each site. Only tanks present will be shown.

- Includes three basic screens. In addition, all of the built-in SCADAvantage screens are available, including trend display and set point download for authorized users
- Includes one basic reports -- The Daily Production Report
- A Monthly Production Report is available as an option.
- Installation, configuration, and basic operator training at customer's site (Cost depends on time spent, but is normally 3 to 5 days). Further training (e.g., System Administration Training) is available in Bartlesville.
- Fully expandable in the future
- Kickoff meeting (normally by telephone) to review hardware and installation requirements
- Pricing is based on the number of batteries and tanks in the system. Additional Batteries and Tanks can be added in various increments as required, and the license can be updated easily online.
- Predefined Alarming – Oil Level > {value}, Water Level > {value}
- User has the ability to define additional alarms, new users, and assign rights to user ID / password
- Proven Map, Tabbed, and Treeview navigation tools
- Can utilize WinCCU Groups for Treeview and Overview Definition

FEATURES

- The initial system requires no system engineering and can be deployed quickly and inexpensively
- Tank ELS can support any number of Tank locations and Tanks at each site. The detail display screen can show up to five tanks at one time.
- Includes a full SCADAvantage license with all features – DVI polling engine, real-time relational data base, trending, unlimited client access, etc.
- Supports Totalflow Flow Computers and Remote Terminal Units (RTU).

- Security – There is optional Security available when a solenoid actuated valve is present so that Truck loading can take place only when authorized:
 - ◊ The Totalflow RTU supports a keypad where the trucker can enter a code to open the valve. The code is specified by the user and can be changed when desired (e.g., for a new trucker). Authorization can be programmed into the RTU, or the code can be returned to the SCADAvantage Operator as a request to open the valve. The valve can then be opened remotely.
 - ◊ The Totalflow RTU supports a proximity
- sensor which reads either cards or fobs. These cards or fobs can be issued to a trucker, and used to verify an authorized withdrawal. Then, either the RTU can open the valve, or a message is sent to the SCADAvantage Operator who can then send a command to the RTU to open the valve.
- ◊ The trucker can simply call the SCADAvantage Operator and request that the valve be opened. The operator can then open the valve.
- ◊ The RTU can be programmed to automatically close the valve after a specified length of time.

Map Overview

The screenshot displays the SCADA Vision HMI interface. On the left, a Tree View window shows a hierarchy of SCADA servers and specific lease locations like 'Black Bart Lease' and 'Lone Horse Lease'. On the right, a Map window shows a geographical area with roads, rivers, and various locations labeled. A callout box points to the Tree View with the text: 'The tree view provides easy and fast navigation from site to site. It expands to a detailed view of the sites and tanks. This grouping is specified by the user during system installation or using WinCCU groups.' Another callout box points to the Map window with the text: 'Off-the-shelf map linked to real time data. Can show or hide features such as roads, rivers, etc. Includes Lat/Long in the upper left corner.' At the bottom, an Alarms window lists several tank oil level changes, with a callout box pointing to it stating: 'The alarm view automatically shows and sorts alarms. Alarms can be acknowledged and cleared.' A legend at the bottom of the map window indicates that black stars represent well sites, green squares represent pod locations, and blue diamonds represent leases. A callout box points to this legend with the text: 'Well sites, pod locations, leases, fields, etc are located automatically on the map using Lat/Long or Township/Range information.' Finally, a callout box points to a flyover bubble on the map with the text: 'Placing the mouse pointer over a site will display information about the site in a flyover bubble. This can be static information (e.g. Tank ID) or selected dynamic data (e.g. Oil Volume).'

Timestamp [-2]	Name	Description	Alarm Text
NOV-21-2006 15:02:25	Lone Horse Tank 3	Tank Oil Level	Change of state - 'Oil Level Normal' (10.0 inches)
NOV-21-2006 15:02:25	Lone Horse Tank 1	Tank Oil Level	Change of state - 'Oil Level Normal' (10.0 inches)
NOV-21-2006 15:02:24	Far Creek Tank 3:Oil	Tank Oil Level	Change of state - 'Oil Level Normal' (10.0 inches)
NOV-21-2006 15:02:24	Lone Horse Tank 2	Tank Oil Level	Change of state - 'Oil Level Normal' (10.0 inches)
NOV-21-2006 15:02:24	Far Creek Tank 2:Oil	Tank Oil Level	Change of state - 'Oil Level Normal' (10.0 inches)
NOV-21-2006 15:02:14	Lone Horse Tank 4	Tank Oil Level	Change of state - 'Oil Level Normal' (10.0 inches)

BENEFITS**Engineered Systems Options**

These options require an Engineered Solution and thus are not part of the Entry Level System.

Engineered Solutions require significantly more labor to produce, and this will affect the price considerably.

These options provide much greater functionality in a SCADAVision system and should be considered either in the original system configuration or as additions to a system after it has been installed.

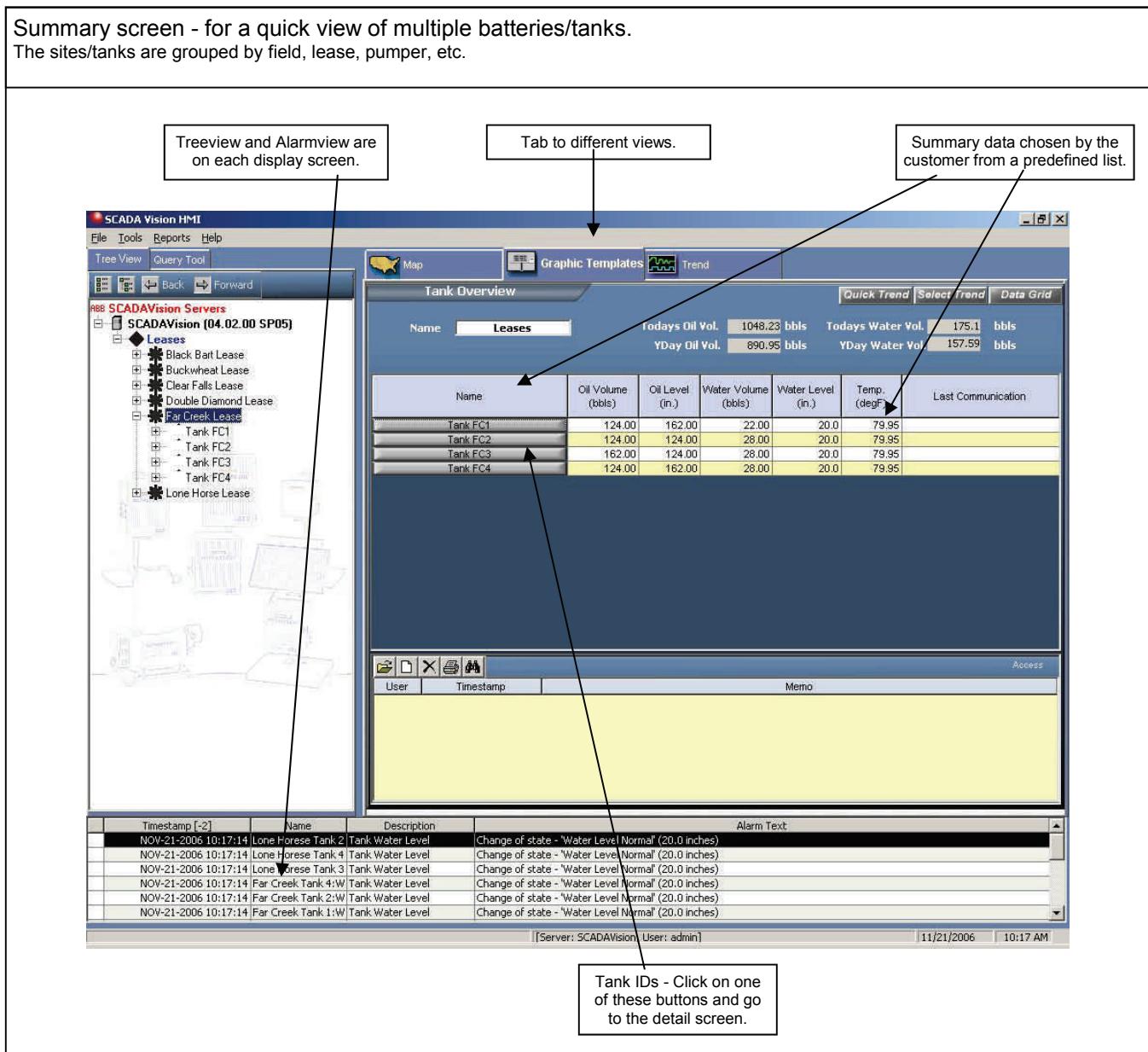
Example Engineered Options

- Query Tool (See below) – This tool provides filters for the navigation display below it. Since it can be easily changed as needed and query definitions can be saved, it is a valuable tool for the operator.

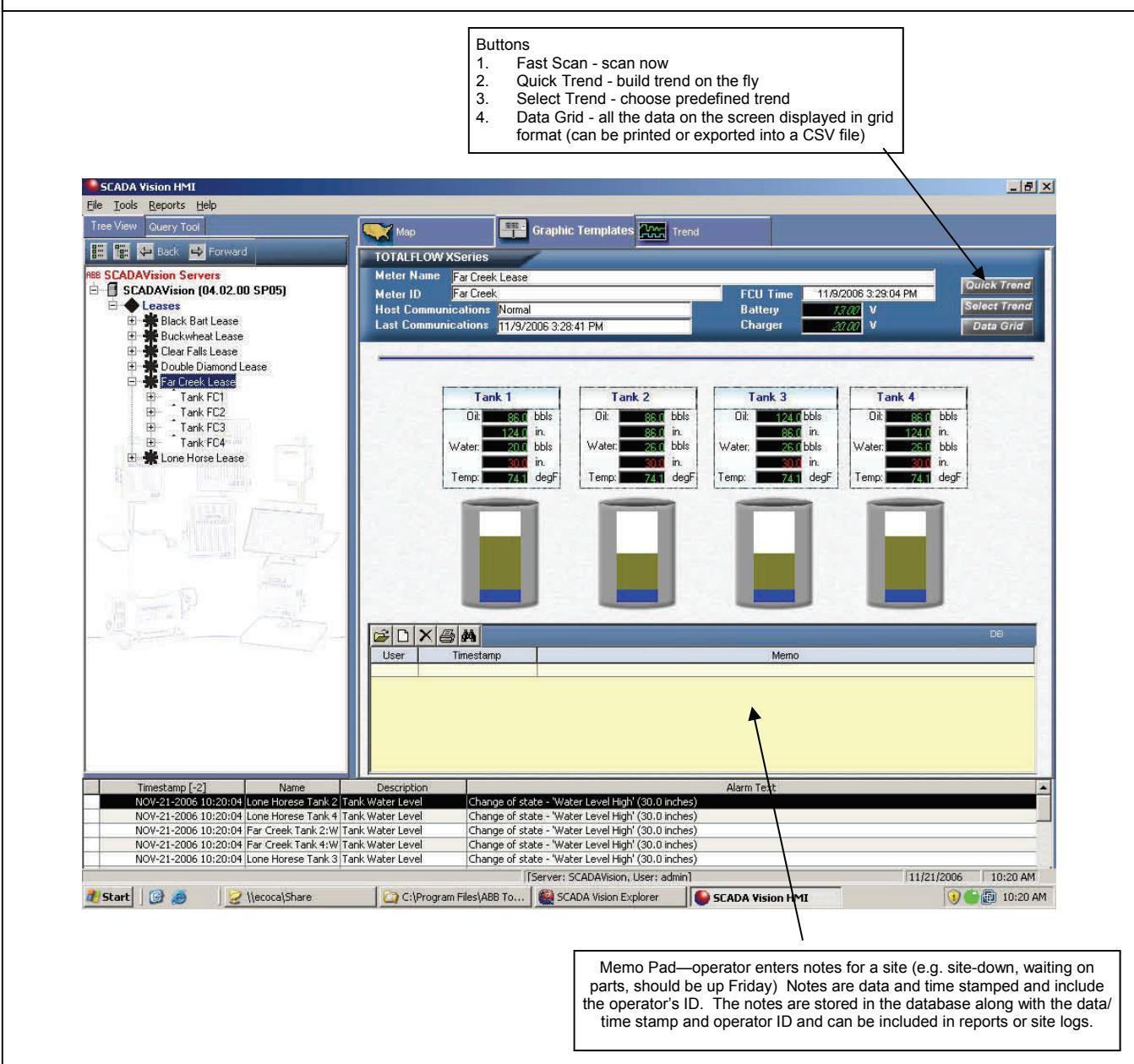
A reporting feature is also available as an addition to the Query Tool. The query tool is used to specify a group of wells, then a date range can be specified at the report tab. Reports can be run, saved, and retrieved from the report tab.

Summary screen - for a quick view of multiple batteries/tanks.

The sites/tanks are grouped by field, lease, pumper, etc.



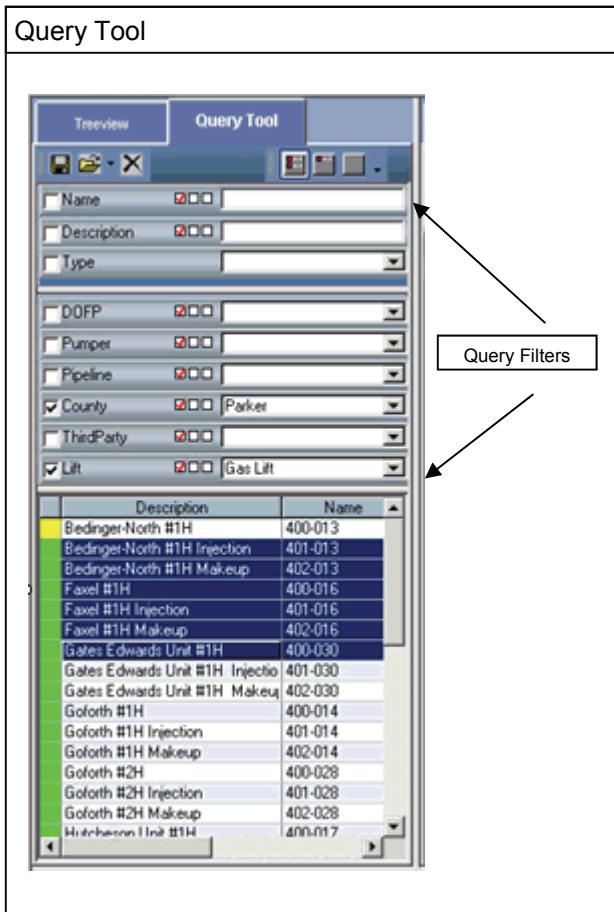
Battery/Tank Detail Screen



- Alarm Call-out / call-in –Will call the required phone number when there is a specified alarm. Provides for escalation if there is no answer. Alternatively, it can send an email or page. An alarm code allows the recipient with proper authorization to acknowledge the alarm over the phone. It also provides for a user with proper authorization to call-in and hear current values reported Standard SCADAvantage Report Functionality – A battery of reports can be

created easily using this SCADAvantage feature. The HMI can also be modified to allow the reports to be called from with it.

- Non-Totalfow EFM, RTUs, PLCs, etc. – Support for multiple protocols over the same serial port or master radio.



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