**Carroll Engineering, Inc**

**Production Information, when you need it.**

**PumperPal**

**Training Manual**

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**January 2011**

**PumperPal Training Contact Info**

**Carroll Engineering Help Desk**

Carroll Engineering: 405-720-2421

The Help Desk primary hours are Monday thru Friday 8 am to 5 pm CDT

**PumperPal Training**

Carroll Engineering Website for demonstration and training videos.

<http://carrollengr.com/training.htm>



**Downtime Codes**

|  |  |
| --- | --- |
| **Code** | **Description** |
| INT | INTERMITTENT FLOW |
| WO | WORK OVER |
| PBUP | PRESSURE BUILD UP |
| DHP | DOWN HOLE PROBLEMS |
| HLP | HIGH LINE PRESSURE |
| COMP | COMPRESSOR (UNSCHEDULED) |
| CMPS | COMPRESSOR (SCHEDULED) |
| CNTR | CONTROLLER MALFUNCTION |
| CONU | CONSTRUCTION (UNSCHEDULED |
| CONS | CONSTRUCTION (SCHEDULED) |
| EQRG | REGULATOR FREEZE/FAILURE |
| MECH | MECHANICAL (UNSCHEDULED) |
| MECS | MECHANICAL (SCHEDULED) |
| STOW | SHUT IN TEST OTHER WELL |
| SIS | SHUT IN AFTER SWAB |
| STFU | SHUT IN TANK FULL (UNSCHE) |
| STF | SHUT IN TANK FULL (SCHEDU) |
| WEA | WEATHER |
| WLU | WELL LOADED UP |
| WSU | WELL SANDED UP |
| DEP | DEPLETED |
| MTRF | METER FREEZE |
| MTRL | METER FAIL |
| MKT | MARKET DEMAND |
| PLF | PIPELINE FREEZE |
| PLR | PIPELINE REQUEST |
| REG | REGULATORY |
| PLL | PIPELINE LEAK |
| IP | INITIAL PRODUCTION |
| GLK | GAS LOCK |
| OTH | OTHER |

**PumperPal Lease Operator Typical Day**

**DATA ENTRY**

Daily Tab.

Functional Tab where majority of a Lease Operator’s time is spent.

Used to enter data into a number of Navigational Sub Tabs.

* + Gas Meter (F1 or Alt + G)
* Meter type effects data entry.
* ELECT (electronic)
* LINEAR (% method of measurement)
* SQUARE RT (L-10 or direct read)
* Calc Mcfd box.
* Checked for the system to calculate Mcfd.
* Uncheck to allow operator to calculate Mcfd.
* fields are required.
* fields are optional.
* fields are filled-in from Equipment tab or are calculated by PPAL.
* F11 to calculate, production will also calculate when another tab is selected or when dropdown for leases is selected.
* Tanks (F2 or Alt + T).
* If tank gauges change, reflect changes in tanks tab.
* Top gauge is top of the oil. A top gauge is not needed if there is no oil in the tank.
* Bottom gauge is the top of the water. No bottom gauge is needed if there is no water in the tank.
* All Oil tanks should include a Bottom Water or BS&W gauge.
* Tank capacity is reflected in the Bbl / Desc box.
* Use / Calc indicates the primary liquid stored in the tank and the Bbl per inch.
* Purchaser Number – all oil sales tanks should include a Purchaser Number in the setup.
* Stock in tank – The total stock of both Oil & Water are displayed for each individual tank.
* Wellhead (F3 or Alt + W).
* Enter pressures for Tubing and Casing.
* Enter Choke size in 64ths .
* Production Status.

Reflects a well or completion’s ability to produce during the last 24 hr period. There are only two(2) choices:

PR (Producing) If any volume of Oil, Gas, or Water is produced, sold, or recorded as production in PPAL, then the Production Status MUST BE PR (Producing.)

SI (Shut-in) If no volume of Oil, Gas, or Water is produced, sold, or recorded as production in PPAL, then the Production Status MUST BE SI (Shut-in.)

* Producing Method.

Reflects the type of equipment or facility related method used to produce the well.

* Downtime

The number of hours a well or completion is in a non-productive condition producing no Gas, Oil or Water.

* Downtime Hours reflects the amount of time that a well produced no Gas, Oil, or Water. The total number of hours will not exceed 24 hrs. If Downtime Hours equals 24 hrs, then a Shut-in Pressure and Shut-in Hours is required. Downtime Hours can potentially affect calculated Gas Sales volumes

Example 1:

ELECT meter is not affected because there is no option for Calc Mcfd to be selected.

Example 2:

LINEAR Meter is affected when the Calc Mcfd option has been selected. For chart meters the calculated gas rate is reduced to take into account the Downtime on the wellhead tab. If Sales Time is entered on the plunger tab it is used to reduce the calculated gas rate instead of downtime.

Example 3:

SQ ROOT Meter is affected when the Calc Mcfd option has been selected. For chart meters the calculated gas rate is reduced to take into account the Downtime on the wellhead tab. If Sales Time is entered on the plunger tab it is used to reduce the calculated gas rate instead of downtime.

* Downtime Category has a dropdown box that allows the operator to select a downtime Category from a list.
* The second dropdown box is for the detailed Downtime Reason to give a more specific reason for the downtime.
* SI Pressure and SI Hours are required if the daily Downtime equals 24 hrs. The SI Hours must be between 0 and 24 hours.
* Comments are encouraged to help provide additional information to Supervisors, Engineers, and Prod Acctg.
* Run Tickets (F4 or Alt + R). Involve any Type of Adjustment to an Oil Tank Inventory as categorized into (3) three groups:
* LACT Meter Sales,
* Oil Sales via Truck and
* Inventory Adjustments.
* LACT Meter Sales.
* While on Daily Tab and Run Tickets Tab
* Enter data in LACT Meter box. You do not need to click the Add button.
* Oil Sales via Truck or Ticket.

Oil Tank Sales.

* While on Daily Tab and Run Tickets Tab, click add button.
* Select Ticket Type ‘Oil Sales’ from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter ticket number from Oil Sales ticket.
* Enter Open and Close Gauges
* Enter ticket details such as Actual Date, BS&W, Gravity , Temperatures and Time from Oil Sales ticket.
* Save when all fields are entered.
* If you observe negative oil production, proceed to Oil Run Gauge Discrepancy Ticket Type.

Frac Tank Sales

* Entered the same as ‘Oil Tank Sales’. The Frac Tank is setup using the Strapping Calc Method.
* Inventory Adjustment

Water DrawOff (used to make adjustment when water accumulates in the bottom of an oil tank. This occurs when you realize that what you thought was oil in the bottom of a tank is actually water. When you increase the bottom gauge on an oil tank the oil production will calculate negative. This negative oil production can be entered as a ‘Water DrawOff’ adjustment to prevent oil production from calculating negative).

* While on Daily Tab and Run Tickets Tab, click add button.
* Select Ticket Type ‘Water DrawOff’ from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number. I use the date mmddyy as a number.
* Enter the revised bottom gauge for the Open Gauge.
* Enter the previous bottom gauge for the Close Gauge. Bbls will be calculated.
* Save when all fields are entered.

Note: Water is not actually pulled out of the tank when a ‘Water DrawOff’ Adjustment is entered.

Kolor Kut Adjustments (used to make adjustments to gauges after a negative daily oil production).

* While on Daily Tab and Run Tickets Tab, click add button.
* Select Ticket Type Kolor Kut Adjustments from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number. I use the date mmddyy as a number.
* Enter the revised bottom gauge for the Open Gauge.
* Enter the previous bottom gauge for the Close Gauge.
* Bbls will be calculated.
* Save when all fields are entered.

Oil Run Gauge Discrepancy (top gauge discrepancy between purchaser and pumper).

* While on Daily Tab and Run Ticket Tab, click add button.
* Select Ticket Type Oil Run Gauge Discrepancy from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number. I use the date mmddyy as a number.
* Enter operator’s top gauge into Open Gauge.
* Enter oil haulers top gauge into Close Gauge. Bbls will be calculated.
* Save when all fields are entered.

Oil Run Gauge Discrepancy (bottom gauge discrepancy).

* Run ticket close gauge is higher than lease operator close gauge.
* Contact Foreman.
* Contact oil hauler to correct and adjust Run Ticket gauges.

Spill (Company is required to report all Spills for Regulatory, Environmental, and Ownership purposes.)

* Go to Daily Tab then Tank Tab.
* Enter new tank gauge after Spill.
* A Warning will indicate that negative production is not allowed.
* Click OK.
* Observe negative oil production (Red Warning).
* While on Daily Tab and Run Ticket Tab, click add button.
* Select Ticket Type Spill from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number.
* Enter Top and Bottom Gauges for Spill.
* Save when all fields are entered.
* Confirm Spill Bbls equal negative oil production (Red Warning).

Transfer Off (moving Oil/Condensate from lease to another lease).

* Go to Daily Tab then Tank Tab on tank that you are transferring from.
* Enter new tank gauge after the Transfer Off.
* Save when all fields are entered.
* A Warning will indicate that negative production is not allowed.
* Click OK.
* Observe negative oil production (Red Warning).
* While on Daily Tab and Run Ticket Tab, click add button.
* Select Ticket Type Transfer Off from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number.
* Enter Top and Bottom Gauges for Transfer Off.
* Save when all fields are entered.
* Confirm Transfer Off Bbls equal negative oil production (Red Warning).
* Note: If a Transfer Off is made to another lease, a Transfer On must be made on receiving lease.
* Proceed to Transfer On ticket.

Transfer On (moving Oil/Condensate from one lease to another).

* Go to Daily Tab then Tank Tab on tank that you are transferring from.
* Enter new tank gauge after the Transfer On.
* Save when all fields are entered.
* While on Daily Tab and Run Ticket Tab, click add button.
* Select Ticket Type Transfer On from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number.
* Enter Top and Bottom Gauges for Transfer On.
* Save when all fields are entered.
* Confirm Transfer On Bbls equal negative oil production (Red Warning) on Transfer Off lease.
* Note: If a Transfer Off is made to another lease, a Transfer On must be made on receiving lease.

Treat with Lease Oil (oil removed from tank for downhole treatment that remains on same lease)

* Go to Daily Tab then Tank Tab on tank that you are using to treat lease.
* Enter new tank gauge after the Treat with Lease Oil.
* Save when all fields are entered.
* A Warning will indicate that negative production is not allowed.
* Click OK.
* Observe negative oil production (Red Warning).
* While on Daily Tab and Run Ticket Tab, click add button.
* Select Ticket Type Treat with Lease Oil from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter false ticket number.
* Enter Top and Bottom Gauges for Treat with Lease Oil.
* Save when all fields are entered.
* Confirm Treat with Lease Oil Bbls equal neg oil prod (Red Warning)
* Water Hauls (F5 or Alt + H).
* While on Daily Tab and Water Hauls Tab, click add button.
* Select Ticket Type Water Haul from Dropdown Box.
* Use Dropdown Box to enter Tank Number.
* Enter the ticket number.
* Enter Open and Close Gauges from Water Hauls ticket.
* Bbls must be entered.
* Save when all fields are entered.
* Water Meters (F6 or Alt + M).
* Water Volumes can be manually entered
* Option to have PPAL calculate Water Volumes using odometer readings
* Option to have PPAL calculate Water Volumes using Meter Factor.
* Compressor (F7 or Alt + C).
* While on Daily Tab go to the Compressor Tab.
* Enter Compressor Data.
* Compressor Downtime is tracked for three(3) purposes:

- Overall Equipment Performance

- Tracking Mechanical Availability on Rental Agreement

- Fuel Consumption

Mech Downtime (Mechanical) - Associated with the compressor’s physical ability to run. Tracked for purposes of determining Mechanical Availability on Rental Compressor Contracts for purposes of recovering monthly rental fees.

Cond Downtime (Conditional) - Associated with conditions external to a Compressor’s physical ability to run, i.e., Well is Shut-in, unloaded water, high operating temperatures, etc. Conditional Downtime reasons are excluded from Mechanical Availability on rental compressor contracts

* Use Dropdown Boxes to record reasons.
* Save when all fields are entered.
* Plunger (F8 or Alt + P).
* Go to Daily Tab then Plunger Tab.
* Enter Plunger Data.
* Save when all fields are recorded.
* Compare to Previous Data.
* Dehydrator (F9 or Alt + Y).
* Go to Daily Tab then Dehydrator Tab.
* Enter Dehydrator Data.
* Save when all fields are recorded.
* Well Tests (F10 or Alt + E)

Reflects a Well’s Production for a specific amount of time. Wells should be tested every month, when production changes, or when otherwise directed

While on Daily tab and Well Test tab, click add button.

**\*\* Warning\*\***

When first entering the Status screen, it opens in the data entry mode. If you begin entering data, you are actually editing a previously entered record. You must hit the **ADD** button to start a new data entry record.

* Previous Well Tests are reflected in the information grid.
* Time Tested. Program will automatically calculate a 24 hr test based upon the number of Hours the test was conducted, the amount of Total Fluid produced, and the Oil Cut %
* Simple Test (24 hr test) Most commonly used option. Enter production volumes on a 24 hr basis.
* Oil (bo) actual oil produced during test
* Water (bw) actual water produced during test
* Gas (mfdc) actual gas produced during test
* Enter all relative test information including comments
* Save when all fields are entered.
* Status (Alt + S)

Replaces Wellhead tab to record Daily Producing Status, Pressures and Downtime where daily wellhead operating data cannot be obtained or is not required.) \*\* NOTE – Wellhead Tab and Status Tab should not be both active for data entry.

While on Daily tab and Status tab, click ADD button to enter a new record.

**\*\* Warning\*\***

When first entering the Status screen, it opens in the data entry mode. If you begin entering data, you are actually editing a previously entered record. You must hit the **ADD** button to start a new data entry record.

* Previous Status and Dates are reflected in the information grid.
* Well Test Status
* PR (producing)
* SI (shut in)
* Tubing Pressure
* Casing Pressure
* Choke
* Downtime Hours (will not exceed 24 hrs).
* Producing Method (Flowing, Gas Lift, Plunger, Pumping, etc.)
* SI Pressure
* Hours (will not exceed 24 hrs).
* Downtime Reasons has a dropdown box that allows the operator to select downtime from an available list.
* First dropdown box is the Downtime Reason category.
* Second dropdown box is the detailed Downtime Reason.
* Comments

**Generate and Transmit Reports**

DAILY

* Generate Daily Report
* Go to Reports Tab.
* Include Leases.
* (All) leases should be checked when sending a daily or monthly report.
* Uncheck (All) leases and check particular lease to send multi-day report for only one lease.
* Begin Date/End Date
* For Daily Report both Begin and End dates will be the same.
* Multiday Report, Begin date will be previous day in which a correction was made. End date will be current date.
* Click on the Run report button.
* Report.
* Click check box “only Errors and No Data”.
* Leases with errors and no data will be shown with a validation reason at the bottom of the screen.
* Correct errors.
* Uncheck box “only Errors and No Data”.
* Review data.
* Send data.

END OF MONTH

* Generate Daily Report (see above)
* Generate Monthly Report
* Go to Reports Tab.
* Include Leases.
* (All) leases should be checked when sending a monthly report.
* Uncheck (All) leases and check particular lease to send monthly report for only one lease.
* Choose the month and year.
* Click on the Run report button.
* Report.
* Click check box “only Errors and No Data”.
* Leases with errors and no data will be shown with a validation reason at the bottom of the screen.
* Correct errors.
* Uncheck box “only Errors and No Data”.
* Review data.
* Send data.

**Correcting Errors**

Current Day Report.

* + Data must be correct with no errors before data can be sent. PPAL will help with identifying validation errors.
	+ Reports
* Click check box “only Errors and No Data”.
* Leases with errors will be highlighted in red.
* Leases with errors will display a reason for not being validated at the bottom of the screen upon checking “only Errors and No Data”.
* Review the reason for the error and return to that lease to correct errors.
* Regenerate report and repeat process to make sure that the errors are gone.
* Leases with no data will display “No Data”.
* No data represents that no data has been entered for a particular lease for that day.
* Return to lease and enter data for the day, regenerate report, check to reflect changes are present.
* Correct errors.
* Review data.
* Send data.

Multiday Report.

* + If errors are discovered for previous days entries.
* Click on date at bottom of screen for day error was discovered.
* Make changes as needed to make entry correct.
* If tank gauges are adjusted to make correction, any previous days up to current day must be corrected as well.
* At the end of the day generate, review and send current days production.
* A Multiday Report must now be sent for the leases with the corrections.
* Uncheck all, select lease that corrections were made on.
* Begin date is set to first day that corrections were made.
* End date will be the current day.
* Generate and review Multiday Report.
* Send data.

Others Items

Check for Updates

This option is used to obtain the most updated version of the PPAL software.

* + Go to Options.
	+ Select Check for Updates.
	+ The Check for Updates option will open a screen that indicates if Updates are available or if you have the latest version.
	+ If Updates are available, you want to update now.
	+ PPAL program will close and reopen after update.

Retrieve Route

This option is used to retrieve route equipment setups and data that has been previously sent. It is used when returning from days off or a relief pumper who retrieves multiple routes in a week’s time are examples.

* + Go to Options.
	+ Select Retrieve Route.
	+ The Retrieve Route option will open a screen that gives you choices for Pumper Number and Date.
	+ Company Name defaults to current company and should not change.
	+ Pumper Number is given to represent the route. Pumper Number should not change unless route changes have taken place or as a relief pumper.
	+ Set Date to day in which route production was last sent.
	+ FTP settings should not be changed.
	+ Retrieve Route button.
* Click to retrieve.
* Laptop will connect to FTP site and download route.
* Will alert when successful.
* Change FTP is only used to change FTP settings and should not be used.
* Cancel will cancel the process.

Review Previous Day’s Entries

A Lease Operator should review various portions of the basic route information after Retrieving the Route.

* + Check route Notes that have been left by previous operator.
	+ Do a quick overview of past entries.
	+ Scan each well or generate report for past days to check for accuracy.