Brockham – Water Acceptance and Unloading Procedure

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REVISION RECORD

REV. NO	DATE	BRIEF SUMMARY OF REVISIONS
00	10/10/2013	Previously BRO-PR-Q0004
01	03/03/20	Fully reviewed and updated
02		
03		

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1.0 SCOPE

Water is to be transferred from road tanker to produced water tank BRO-PW-T-01. Waters to be received on site are brines only, that have demonstrated compatibility with Brockham produced water. The transfer lines are to be purged with water from the road tanker to the produced fluids tank BRO-MR131 to ensure any oil in these lines has been removed prior to transfer of water to tank BRO-PW-T-01.

2.0 PROCEDURE

2.1 Establish brine compatibility

Prior to any imported brine being accepted on site, the compatibility with Brockham produced waters (and hence the reservoir) needs to be confirmed. This is do as follows:

- Send samples as required to a certified testing laboratory to verify that:
  - Combining imported brine with Brockham procedure waters does not cause any precipitation or formation of solid scale
  - Salinity is in the range 50,000 – 80,000 ppm
- Brines will be categorized by origin, and a list of approved brines will be kept
- Only brines classified as "approved" can be accepted on site
- Laboratory testing will be conducted at least every 6 months to ensure continued compatibility

2.2 Check the ullage available in tank BRO-PW-T-01

2.3 Check that the ullage available in tank BRO-PW-T-01

Check that the ullage available in tank BRO-PW-T-01 is sufficient to take the full load from the tanker prior to arrangement for tanker to arrive on site.

2.4 Tanker arrival to site

On tanker arrival ensure banksman available to position tanker, and ensure that the driver positions the tanker correctly within the Tanker Loading Bund.

Verify that origin of the tanker load is consistent with "approved" brines list. Record origin and check on the brine transfer spreadsheet.

2.5 Re-check that the ullage available in tank BRO-PW-T-01

Re-check that the ullage available in tank BRO-PW-T-01 is sufficient to take the full load from the tanker, recording the tank level.

2.6 Earth connection

Connect the earthing lead to a metal part on the rear of the tanker chassis.

2.7 Connect tanker unloading hose to the tanker unloading point and the tanker

Connect tanker unloading hose to the tanker unloading isolation valve BRO-BV-08 and the tanker ensuring that it is not stretched or kinked.

2.8 Valve line up as follows, as per P&ID BRO-PID-02

Valve Number	Valve Type	Valve Description	Status
BRO-BV-07	Ball Valve	Tanker loading isolation	Closed
BRO-BV-08	Ball Valve	Tanker unloading isolation	Open
BRO-GAV-13	Gate Valve	Produced water tank isolation	Closed
BRO-BFV-14	Butterfly	Produced water tank isolation	Closed
BRO-BFV-19	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFV-20	Butterfly	Fluid transfer manifold isolation	Open
BRO-BFY-21	Butterfly	Fluid transfer manifold isolation	Open
BRO-BFV-22	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFY-23	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFY-24	Butterfly	Fluid transfer manifold isolation	Open
BRO-BFY-25	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFY-27	Butterfly	Production tank M425 isolation	Closed
BRO-BFY-29	Butterfly	Storage tank MR131 isolation	Open
Sample point 2	Instrument	Fluid sampling	Open*

* Double block open, bleed closed

2.9 Road tanker valve arrangement check

Ensure with the tanker driver that the tanker valves are set to allow water to flow from the tanker when the transfer pump is switched on.

2.10 Activate remote control of export pump in the control room

2.11 Start centrifugal transfer pump BRO-P-01

After pump start continually check sight flow indicator, this will be only a short period in time as only 25 meter of piping is being purged. When the indicator shows water continue purging for a further two minutes to ensure all oil is purged into tank BRO-MR131.

2.12 Switch off the transfer pump

2.13 Disengage the remote start for the export pump

2.14 Valve line up as follows, as per P&ID BRO-PID-03

Valve Number	Valve Type	Valve Description	Status
BRO-BV-07	Ball Valve	Tanker loading isolation	Closed
BRO-BV-08	Ball Valve	Tanker unloading isolation	Open
BRO-GAV-13	Gate Valve	Produced water tank isolation	Open
BRO-BFV-14	Butterfly	Produced water tank isolation	Open
BRO-BFV-19	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFV-20	Butterfly	Fluid transfer manifold isolation	Open
BRO-BFY-21	Butterfly	Fluid transfer manifold isolation	Open
BRO-BFV-22	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFY-23	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFY-24	Butterfly	Fluid transfer manifold isolation	Open
BRO-BFY-25	Butterfly	Fluid transfer manifold isolation	Closed
BRO-BFY-27	Butterfly	Production tank M425 isolation	Closed
BRO-BFY-29	Butterfly	Storage tank MR131 isolation	Closed
Sample point 2	Instrument	Fluid sampling	Closed
BRO-NDV-01	Needle	IBC fluid injection isolation	Open
BRO-NDV-33	Needle Valve	Produced fluids IBC isolation	Closed
BRO-NDV-34	Needle Valve	Biocide IBC isolation	Open
BRO-NDV-35	Needle Valve	De-emulsifier IBC isolation	Closed

2.15 Biocide rate

Biocide rate is 1 litre per 60 bbls transferred water.

2.16 Activate remote control of export pump in the control room

2.17 Start centrifugal transfer pump BRO-P-01

Start the export pump BRO-P-01 and remain with the pump ready to switch it off when driver indicates the tanker is empty or if a problem occurs.

2.18 Personnel in position

The tanker driver must remain beside his vehicle whilst the transfer is in progress. It is the duty of the person manning the export pump to ensure the driver remains in his location.

2.19 Monitor biocide dosage quantity

When required biocide dosage quantity is met close valves BRO-NDV-01 and BRO-NDV-34

2.20 Stopping water transfer

When signalled by the driver that the tank is empty, stop the export pump BRO-P-01 immediately.

2.21 Disengage the remote start for the export pump

2.22 Ensure double isolation from the tanker unloading

Close isolation valve BRO-BV-08 and manifold valve BRO-BFV-24

2.23 Disconnect unloading hose

With no fluid transfer the inlet valve/check valve on the tanker will close automatically then disconnect the unloading hose from the tanker. Return the unloading hose to the bund without leaving loops of hose draped on the bund wall.

2.24 Remove the earthing lead from the tanker

2.25 Water transfer quantity

Using the read outs from the level indicator BRO-LI-02 for tank BRO-MR131, determine the volume of oil remaining in the tank and by difference, the volume transferred into the tanker.

2.26 Recording data

Record water quantity transferred and biocide dosage quantity.

2.27 Return the valve status to normal operations as per procedure BRO-PR-Q0036

3.0 REVIEW

This procedure is to be reviewed at least annually or earlier if required for reasons such as a modification of change to procedures or equipment and changes in legislation.