

TANK 19 DESLUGGING, JULY '08

DATE	Sampling Time(Hrs.)	Tank situation	Gross at 60 °F		B&S W %	water %	emulsion %	Sediment %
			API	spec. grav				
14/07/08	0900	Circulation of Tank 19 before addition of Chemical	23.6		50.00	32.00	17.9	0.1
14/07/08	2000	Recirculation of Tank 19 after addition of Chemical	23.6		56.0	54.0	1.6	0.4
15/07/08	1900	Transfer from Tank 19 to Production Tank(bottom sample)	24.2		46.0	27.0	18.8	0.1
"	2000	Transfer from Tank 19 to Production Tank(bottom sample)	24.5		40.0	25.0	14.9	0.1
"	2200	Transfer from Tank 19 to Production Tank(bottom sample)	25.5		28.0	18.0	10.0	NIL
"	2400	Transfer from Tank 19 to Production Tank(bottom sample)	28.1		51.0	48.0	4.7	0.3
16/07/08	0200	Transfer from Tank 19 to Production Tank(bottom sample)	29.6		30.0	28	1.9	0.1
"	0400	Transfer from Tank 19 to Production Tank(bottom sample)	24.1		46.0	34.0	11.8	0.2
"	0600	Transfer from Tank 19 to Production Tank(bottom sample)	22.5		28.0	27.0	0.9	0.1
"	0800	Transfer from Tank 19 to Production Tank completed(bottom sample)	26.1		26.0	26	0.8	0.2

2nd Batch

15-Aug-08	1230	Tank 1 bottom sampling before draining into Tank 19	17.7		72.0	50.0	21.3	0.7
"	15:16	Recirculation after addition of chemical	18.5		57.0	50	6.7	0.3
"	2100	Recirculation after addition of chemical	17.7		60.0	3.0	58.0	1.0
"	2300	Tank 4 bottom sample before draining to Tank 19	18.7		60.0	50.0	9.6	0.4
"	0200	Recirculation of contents of Tanks 1 and 4 in Tank 19 after addition of chemical	20		50.0	40.0	9.6	0.4
"	0400	Recirculation of contents of Tanks 1 and 4 in Tank 19 after addition of chemical	20.7		50.0	40.0	9.6	0.4
17/07/08	0800	Recirculation in tank 19 continued Bottom sample	20.7		52.2	47.2	4.6	0.4
"	1000	Recirculation in tank 19 continued Bottom sample	20.5		51.0	46.0	4.6	0.4
"	1200	Recirculation in tank 19 continued Bottom sample	20.6		50.0	45.0	4.6	0.4
"	1400	Recirculation in tank 19 continued Bottom sample	21.4		55.0	47.0	7.6	0.4
"		Transfer from Tank 19 to Production Tank(bottom sample)	21.4		50.00	42.00	7.6	.4
"		Transfer from Tank 19 to Production Tank (Top sample)	34.1		12.20	10.00	2.0	0.2
"	1600	Transfer from Tank 19 to Production Tank (composite sample)	30.1		16.30	12.00	4.0	0.3

Batch 3

18/07/08	1000	Tank 5 sampling before draining into Tank 19	20.8		50.00	40.00	9.8	0.2
"	1200	Recirculation of contents of Tank 5 in Tank 19 after addition of Chemical(bottom 1/5)	23.5		40.00	32.00	7.8	0.2
"	1800	Top Sample of content of Tank 19 Recirculation	34.8		16.00	12.00	3.8	0.2
"		Bottom Sample of content of tank 19 Recirculation	21.5		50.00	42.00	7.8	0.2
"		composite sample recirculation tank-19	31.3		24.00	18.00	5.8	0.2
19/07/08		Tank 19 Top Sample Transfer to production Tank 01	34.1		12.20	10.00	2.0	NIL
"		Tank 19 Bottom Sample Transfer to production Tank 01	27.3		28.00	18.00	10.0	NIL
"	800	Tank 19 composite sample transferred to production tank 01	32.3		12.00	8.00	4.0	NIL

Amal K



INTERNAL MEMORANDUM

FROM:	SENIOR PROD. OPT. SUPV. BRASS TERMINAL	TO:	SWAMP AREA MANAGER
THRU:	PROD. OPTS. SUPT	DATE:	18/7/2008
SUBJECT :	REPORT ON TK 19 DESLUDGING WITH KX-91 BY FACILITY SOLUTIONS LTD		

Desludging of Tk19 with KX-91 commenced on 14th July 2008 by Facility Solutions Ltd and it lasted for 6 days.

TANK DESCRIPTION:

Tank size = 36.576 m (Diameter) x 31.5 m (Height)
Capacity = 48,000 barrels

INITIAL PARAMETERS:

TK 19 initial level before treatment commencement = 5.324 meters
(Qty= 35197 bbls)
Sludge Level in Tk 19 = 1.80 meters (Qty= 11,909 bbls)
Circulation of Tank 19 before addition of KX-91 chemical , API 23.6,
BS&W=50.0 % , Water= 32 % , Emulsion = 17.9 % , Sediments = 0.1 % .
Total number of KX-91 chemical drums used =60

METHODOLOGY OF TREATMENT

The chemical was introduced to tank 19 in batches and the content circulated for some hours for proper mixing before transfer to the production tank.

1st BATCH (14 July 2008)

A total of 60 drums of the KX-91 chemical were emptied into tank 19 using the tank transfer pumps, the content was circulated for 4 hours before being transferred to the production tank.

Some results of the sample collected were as follows.

DATE	Sampling Times	Tank Situation	API	BS&W %	WATER %	EMULSION %	SEDIMENT
14/07/08	0800 hrs	Circulation of Tank 19 before addition of chemical	23.6	50.0	32.00	17.9	0.1
14/7/08	20.00 hrs	Recirculation of tank 19 after addition of chemical	23.6	56.0	54.0	1.6	0.4
15/7/08	1800hrs	Transfer from tank 19 to production tank 5	24.2	46.0	27.0	18.9	0.1

16/7/08	0800hrs	Transfer from tank 19 to production tank 5 completed	26.1	26.0	25.0	0.8	0.2
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Note that the above results were bottom samples only.

At the end of batch-1 the API of the crude oil has increased from 23.6 to 26.1 bottom sample, which was transferred to production tank-6.

2nd BATCH (16 July 2008)

Sludge were transferred from tanks-1 and 4 to tank-19 for the second batch.

Parameters of batch 2 before chemical treatment with KX 91:

Level of Tank 19 = 5.640 meters (Qty = 37,255 bbls)

Sludge level Tank 19 = 1.2meters (Qty = 7,927 bbls)

Bottom Sample Analysis before addition of KX-91 chemical API 17.7, BS&W = 60.0 %.

Water = 3.0 %, emulsion 56.6 % and Sediments = 0.4 %

60 drums of KX-91 chemical were introduced into tank-19 and circulated for 12hours before being transferred to production tank 05.

Below are the initial and final sample results of the treated crude.

DATE	Sampling Times	Tank Situation	API	BS&W %	Water %	Emulsion %	Sediments %
16/7/08	1230 hrs	Tank 1 bottom sample before draining to tank 19	17.7	72.0	50.0	21.3	0.7
16/7/08	1500 hrs	Recirculation after addition of chemical	18.5	57.0	50.0	6.7	0.3
16/7/08	2300 hrs	Tank 4 bottom sample before draining to Tank 19	18.7	60.0	50.0	9.6	0.4
17/7/08	1600hrs	Bottom/S Tank 19 transfer	21.4	50.0	42.0	7.6	0.4
17/7/08	1600 hrs	Top sample tank -19 transfer	34.1	12.2	10.0	2.0	0.2
17/7/08	1600hrs	Composite/S Tank-19 transfer	30.1	16.30	12.0	4.0	0.3

The final crude in the batch that was transferred to tank-05 had a composite sample API of 30.1 and BS&W of 16.3% : water 12% and emulsion 4 percent.

3rd BATCH (18 July 2008)

Sludge from tank-05 was transferred to tank-19 for the 3rd and final batch.

Parameters of Tank 19 before chemical treatment with KX-91.

Level of Tank 19 = 5.506 meters (Qty = 36331 bbls)

Sludge level Tank 19= 0.90 meters (Qty = 5944 bbls)

60 drums of the KX-19 were also introduced into the tank-19 and circulated for about 12 hours before transfer to production tanks.

The results obtained were as below.


DATE	Sampling Times	Tank Situation	API	BS&W %	Water %	Emulsion %	Sediments %
18/07/08	10:00hrs	Tk-5 Sample b/4 drained to TK-19	20.8	50.0	40.0	9.8	0.2
18/07/08	12:00hrs	Bottom/S during circulation	23.5	40.0	32.0	7.8	0.2
18/07/08	18:00hrs	Composite/S during circulation	31.3	24.0	18.0	5.8	0.2
19/07/08	08:00hrs	TK-19 Top/S transferred	34.1	12.20	10.0	2.0	nil
19/07/07	08:00hrs	TK19 Bottom/S transferred	27.3	28.0	18.0	10.0	nil
19/07/08	08:00hrs	TK-19 composite sample transferred	32.3	12.0	8.0	4.0	nil

The composite sample of this batch had an API of 32.3, BS&W of 12%: water 8% and emulsion 4%. This was transferred to Production tank-1.

CONCLUSION:

- The Bottom samples of all the treated tanks and tank-19 were taken and observed to be sludge free.
- Tank-19 bottom was sounded and confirmed to be sludge free.
- There is no presence of black water inter phase in the tanks any more.


19/7/2008


19/07/08