



PDC DRILL BIT REPAIR SUMMARY REPORT

The **MES & NAPESCO** bit repair service customer has had 12.25" PDC and 10-8.5" PDC bits repaired bits. All of the bits used on drilling in Sahara desert in similar wells. All of the bits had average or above average performance with average dull condition.

2 of these bits have been repaired multiple times.

THE TABLES BLOW SHOW THE COMPARISON BETWEEN OFFSET WELL AGAINST OFFSET WELLS

WELL NAME	2X	1X OFFSET WELL
Bit	12.25" TD506X REBUILT	12.25" DP606X NEW
SN	***3818	***4046
Depth In (ft)	4097'	4250'
Depth Out (ft)	9040'	8845'
Footage (ft)	4943'	4595'
Hours	57	56,5
ROP	86.7 fph	81.3 fph
Dull	3-6-CT-G X-1-FC-RIG	1-3-CT-S-X-I-WT-TD
Price	\$ 17 580	\$ 50 000
Rig Spread Cost	\$ 95 000	\$ 94 167
Cost Per Foot	\$ 27,35	\$ 36,19

WELL NAME	First New Run A (1st Run)	1st Repair B	2nd Repair C
Bit	8.5" T506	Run #2 8.5" T506X Rebuilt	8.5" T506X REBUILT
SN	***0336	***0336-X 1 st Repair	***0336-X 2 nd Repair
Depth In (ft)	10,865'	2445' on PowerDrive-V	9715'
Depth Out (ft)	11,191' (ROP & Torque)	8423' (Power Drive failure)	11,300'
Footage (ft)	326'	5978'	1585'
Hours	21,5	79.4 on btm / 128.5 hrs Total	36
ROP	15 fph	75.3 fph on btm	44 fph
Dull	0-2-WT-S-X-I-NO-PR	3-1-WT-C-X-IN-CT-BHA	1-3-WT-SH-X-IN-CT-PR
Price	\$ 35 000	\$ 11 705	\$ 11 705
Rig Spread Cost	\$ 53 750	\$ 132 333	\$ 60 000
Cost Per Foot	\$ 303,10	\$ 41,31	\$ 63,06





WELL NAME	2	1 OFFSET WELL	1	2 OFFSET WELL
Bit	8.5" T506X REBUILT	8.5" MXi616BPX New	8.5" T506X REBUILT	8.5" FX65D NEW
SN	***4736-X	***2494	***6355-X	***76637
Depth In (ft)	13,830'	13,968'	12,600'	12,588'
Depth Out (ft)	14,463'	14,390'	13,830'	13,968'
Footage (ft)	633'	422'	1230'	1380'
Hours	35,5	26	31	34,5
ROP	17.8 fph	16.2 fph	39.7 fph	40 fph
Dull	1-2-WT-SH-X-IN-LN-PR/TQ	1-6-WT-SH-X-IN-CT-PR	1-2-WT-SH-X-IN-CT-PR/TQ	1-6-RO-N-X-IN-WT-PR
Price	\$ 11 315	\$ 35 000	\$ 13 600	\$ 35 000
Rig Spread Cost	\$ 59 167	\$ 43 333	\$ 51 667	\$ 57 500
Cost Per Foot	\$ 168,47	\$ 270,87	\$ 81,17	\$ 92,33

CONCLUSION

The performance and dull condition of these bits shows that PDC bit repair is an option with substantial cost savings.