CLAIMS

1. A conditioning head comprising:

(a) a substrate comprising a substrate surface;

(b) at least one raised non-planar abrasive region relative to the substrate surface, wherein the raised non-planar abrasive region comprises between one and fifty protrusions arranged in at least four radially extending vanes, wherein each vane comprises:

an edge shaving region; and

a point cutting region, ~~the ratio of the surface area of the edge shaving region to the point cutting region is at least 2:1; and~~ wherein the point cutting region comprises ~~one or more~~between zero and five protrusions extending no more than 250 microns from the mean height of the edge shaving region, wherein each protrusion is positioned greater than 70% along a radial line starting at the central axis and ending at the peripheral edge of the conditioning head;

wherein the ratio of the surface area of the edge shaving region to the point cutting region is at least 2:1.

2. The conditioning head according to any one of the preceding claims, wherein the edge shaving region is coated with a CVD diamond layer.

3. The conditioning head according to any one of the preceding claims, wherein the point cutting region is positioned greater than 50% along a straight radial line starting from a central axis and ending at a peripheral edge of the conditioning head.

4. The conditioning head according to any one of the preceding claims, wherein the point cutting region is positioned greater than 90% along a radial line starting from a central axis and ending at a peripheral edge of the conditioning head.

5. The conditioning head according to any one of the preceding claims, wherein the point cutting region comprises one or more protrusions comprising CVD diamond coated diamond grit.

6. The conditioning head according to any one of claim 1 to 5, wherein the point cutting region and the edge shaving region comprises a polycrystalline diamond layer, the average grain size of the polycrystalline diamond on the point cutting region being greater than the average grain size of the polycrystalline diamond layer on the edge shaving region.

7. The conditioning head according to claim 6, wherein the cutting point region is adjacent catalytic seeds disposed upon the substrate.

8. The conditioning head according to claim 7, wherein the catalytic seeds comprise diamond, silicon, iron, cobalt, nickel and/or alumina.

9. The conditioning head according to any one of the preceding claims, wherein the one or more protrusions extend between 5 and 250 micron from the mean height of the edge shaving region.

10. The conditioning head according to any one of the preceding claims, wherein the one or more protrusions extend between 10 and 50 micron from the mean height of the edge shaving region.

11. The conditioning head according to any one of the preceding claims, wherein the one or more protrusions are rounded or convex.

12. The conditioning head according to any one of the preceding claims, wherein the one or more protrusions are non-geometric with other protrusions.

13. The conditioning head according to any one of the preceding claims, wherein the raised non-planar abrasive region comprises one or more discrete raised non-planar abrasive segments.

14. The conditioning head according to any one of the preceding claims , wherein the one or more segments have a shape selected from the group consisting of concentric circles, broken concentric circles, spirals, broken spirals segments, linear segments, broken linear segments, curved segments, broken curved segments and combinations thereof.

15. The conditioning head according to claims 13 or 14, wherein the point cutting region is distributed across one or more of the segments.

16. The conditioning head according to claim 15, wherein the point cutting region is distributed across less than 60% of the segments.

17. The conditioning head according to any one of the preceding claims, wherein the point cutting region comprising one or more isolated or clusters of protrusions.

18. The conditioning head according to any one of the preceding claims, wherein the ratio of the surface area of the edge shaving region to the point cutting region is at least 100:1.

19. The conditioning head according to any one of the preceding claims, wherein the ratio of the surface area of the edge shaving region to the point cutting region is at least 200:1.

~~20. The conditioning head according to any one of the preceding claims, wherein the raised non-planar abrasive region or R_{es} comprises at least four radially extending vanes and between one and fifty protrusions, wherein each vane comprises between zero and five protrusions and said protrusion(s) are positioned greater than 70% along a radial line starting at the central axis and ending at the peripheral edge of the conditioning head.~~