WHAT IS CLAIMED IS:

1. A process for preparing base oil from a waxy hydrocarbon feedstock comprising:

a) contacting the hydrocarbon feedstock in a hydroisomerization zone under hydroisomerization conditions in the presence of hydrogen and an inert gas, with the total pressure in the zone ranging from 750 psig to 2500 psig and the volume ratio of hydrogen to inert gas ranging from 0.1 to 9.0; and

b) collecting a product from the hydroisomerization in a), and passing the product to a hydrofinishing reactor; and

c) collecting a product from the hydrofinishing reactor and separating the product into base oil products and fuel products with the base oil products being recovered, and with the recovered base oil yield being increased relative to using only hydrogen in the hydroisomerization zone.

2. The process of claim 1, wherein inert gas comprises nitrogen, methane, argon, or a combination thereof.

3. The process of claim 1, wherein the inert gas comprises nitrogen.

4. The process of claim 1, wherein the volume ratio of hydrogen to inert gas ranges from 0.2 to 4.0.

5. The process of claim 1, wherein the volume ratio of hydrogen to inert gas is about 1.

6. The process of claim 1, wherein the waxy hydrocarbon feedstock is hydrotreated prior to the hydroisomerization in a).

7. The process of claim 1, wherein the hydroisomerization zone employs a hydroisomerization catalyst that contains an active hydrogenation metal.

8. The process of claim 7, wherein the active hydrogenation metal comprises platinum.

9. The process of claim 7, wherein the hydroisomerization catalyst is doped with a metal modifier selected from the group consisting of Mg, Ca, Sr, Ba, K, La, Pr, Nd, Cr, and combinations thereof.

10. The process of claim 7, wherein the hydroisomerization catalyst comprises a layered catalyst system, comprising first and second hydroisomerization catalysts where the first hydroisomerization catalyst is in a layer disposed upstream of the second hydroisomerization catalyst.

11. The process of claim 1, wherein the product from the hydroisomerization in a) is passed to a high pressure separator to separate gases.

12. The process of claim 11, wherein at least a portion of the separated gases are recycled to the hydroisomerization zone.

13. The process of claim 1, wherein the separating into base oil products and fuel products is achieved by a series of strippers.

14. The process of claim 1, wherein the separating into base oil products and fuel products is achieved by a distillation column.

15 . A process for preparing base oil from a waxy hydrocarbon feedstock comprising:

a) hydrotreating the hydrocarbon feedstock;

b) contacting the hydrotreated waxy hydrocarbon feedstock in a hydroisomerization zone under hydroisomerization conditions in the presence of hydrogen and an inert gas, with the total pressure in the zone at least 400 psig and the volume ratio of hydrogen to inert gas ranging from 0.1 to 9.0; and

c) collecting a product from the hydroisomerization in b), and passing the product to a hydrofinishing reactor; and

d) collecting a product from the hydrofinishing reactor and separating the product into base oil products and fuel products with the base oil products being recovered, and with the recovered base oil yield being increased relative to using only hydrogen in the hydroisomerization zone.

16. The process of claim 15, wherein inert gas comprises nitrogen, methane, argon, or a combination thereof.

17. The process of claim 15, wherein the inert gas comprises nitrogen.

18. The process of claim 15, wherein the volume ratio of hydrogen to inert gas ranges from 0.2 to 4.0.

19. The process of claim 15, wherein the volume ratio of hydrogen to inert gas is about 1.

20. The process of claim 1, wherein the total pressure is at least 500 psig.

21. The process of claim 1, wherein the total pressure in the hydroisomerization zone ranges from 400 psig to 3000 psig.

22. The process of claim 15, wherein the hydroisomerization zone employs a hydroisomerization catalyst that contains an active hydrogenation metal.

23. The process of claim 22, wherein the active hydrogenation metal comprises platinum.

24. The process of claim 22, wherein the hydroisomerization catalyst is doped with a metal modifier selected from the group consisting of Mg, Ca, Sr, Ba, K, La, Pr, Nd, Cr, and combinations thereof.

25. The process of claim 22, wherein the hydroisomerization catalyst comprises a layered catalyst system, comprising first and second hydroisomerization catalysts where the first hydroisomerization catalyst is in a layer disposed upstream of the second hydroisomerization catalyst.

26. The process of claim 15, wherein the product from the hydroisomerization in a) is passed to a high pressure separator to separate gases.

27. The process of claim 26, wherein at least a portion of the separated gases are recycled to the hydroisomerization zone.

28. The process of claim 15, wherein the separating into base oil products and fuel products is achieved by a series of strippers.

29. The process of claim 15, wherein the separating into base oil products and fuel products is achieved by a distillation column.