

CLAIMS:

1. A method for producing a low-sulfur bunker fuel composition, the method comprising:

hydrotreating a vacuum resid feed stream with hydrogen in the presence of a hydrotreating catalyst to reduce sulfur to no more than about 1500 parts per million (wppm) without substantially cracking the vacuum resid; and

blending the hydrotreated vacuum resid with no more than about 10 vol % of a first diesel boiling range hydrocarbon stream and no more than about 40 vol % of a second diesel boiling range hydrocarbon stream to form the low-sulfur bunker fuel composition, wherein the hydrotreated vacuum resid makes up at least 60 vol % of the low-sulfur bunker fuel composition,

wherein the vacuum resid feed stream has about 1000 to about 10000 wppm sulfur, the first diesel boiling range hydrocarbon stream has no more than about 20 wppm sulfur, and the second diesel boiling range hydrocarbon stream has no more than about 10 wppm sulfur.

2. The method of claim 1, wherein the vacuum resid feed stream has about 6000 to about 10000 wppm sulfur.

3. The method of claim 2, wherein the vacuum resid feed stream has about 6000 to about 8000 wppm sulfur.

4. The method of claim 1, wherein the sulfur of the hydrotreated vacuum resid is reduced to no more than about 1400 wppm.

5. The method of claim 4, wherein the sulfur of the hydrotreated vacuum resid is reduced to no more than about 1300 wppm.

6. The method of claim 5, wherein the sulfur of the hydrotreated vacuum resid is reduced to no more than about 1200 wppm.

7. The method of claim 6, wherein the sulfur of the hydrotreated vacuum resid is reduced to no more than about 1000 wppm.
8. The method of claim 1, wherein the hydrotreated vacuum resid is blended with no more than about 25 vol % of the second diesel boiling range hydrocarbon stream.
9. The method of claim 8, wherein the hydrotreated vacuum resid is blended with no more than about 20 vol % of the second diesel boiling range hydrocarbon stream.
10. The method of claim 9, wherein the hydrotreated vacuum resid is blended with no more than about 15 vol % of the second diesel boiling range hydrocarbon stream.
11. The method of claim 1, wherein the hydrotreated vacuum resid is blended with no more than about 7.5 vol % of the first diesel boiling range hydrocarbon stream.
12. The method of claim 11, wherein the hydrotreated vacuum resid is blended with no more than about 5 vol % of the first diesel boiling range hydrocarbon stream.
13. The method of claim 1, wherein the vacuum resid feed stream is hydrotreated under at least 130 bar of pressure.