1) 93(12): Riemann Elements of the Ampère Maxwell Law.

The current density components are:

$$J^1_1 = -\frac{A^{(0)}}{\mu_0}\left(R^1{}_0{}^{10} + R^1{}_2{}^{12} + R^1{}_3{}^{13}\right) \quad -(1)$$

$$J^2_2 = -\frac{A^{(0)}}{\mu_0}\left(R^2{}_0{}^{20} + R^2{}_1{}^{21} + R^2{}_3{}^{23}\right) \quad -(2)$$

$$J^3_3 = -\frac{A^{(0)}}{\mu_0}\left(R^3{}_0{}^{30} + R^3{}_1{}^{31} + R^3{}_2{}^{32}\right) \quad -(3)$$

ii spherical polar coordinates (r, θ, ϕ).

$$R^1{}_0{}^{10} = g^{11} R_{10}{}^{10} = -g^{11} R_{01}{}^{10}; \quad -(4)$$

1) $$R_{01}{}^{10} = g_{00} R^0{}_1{}^{10} \quad -(5)$$

Raising:
$$R^1{}_0{}^{10} = -g_{00} g^{11} R^0{}_1{}^{10} \quad -(6)$$

$$R^2{}_0{}^{20} = -g_{00} g^{22} R^0{}_2{}^{20} \quad -(7)$$

$$R^3{}_0{}^{30} = -g_{00} g^{33} R^0{}_3{}^{30} \quad -(8)$$

Here:
$$\left.\begin{aligned} g_{00} &= -(1-x), \quad g^{11} = 1-x, \\ g^{22} &= \frac{1}{r^2}, \quad g^{33} = \frac{1}{r^2 \sin^2\theta} \\ R^0{}_1{}^{10} &= \frac{1}{r^2}\left(\frac{x}{1-x}\right) \\ R^0{}_2{}^{20} &= R^0{}_3{}^{30} = -\frac{2}{r^2}\left(\frac{1+x}{1-x}\right) \end{aligned}\right\} \quad -(9)$$

2)

Where: $$x = \frac{2MG}{rc^2} \quad -(10)$$

So: $$R^1{}_0{}^{10} = (1-x)^2 \frac{1}{r^2} \frac{x}{1-x} = \frac{x}{r^4}(1-x) \quad -(11)$$

$$R^2{}_0{}^{20} = \frac{-2(1-x)}{r^4}\left(\frac{1+x}{1-x}\right) = -\frac{2}{r^4}(1+x) \quad -(12)$$

$$R^3{}_0{}^{30} = \frac{-2(1-x)}{r^4 \sin^2\theta}\left(\frac{1+x}{1-x}\right) = -\frac{2}{r^4 \sin^2\theta}(1+x) \quad -(13)$$

Thus:

$$R^1{}_0{}^{10} = \frac{1}{r^2}\left(\frac{2GM}{rc^2}\right)\left(1-\frac{2GM}{rc^2}\right) \quad -(14)$$

$$R^2{}_0{}^{20} = -\frac{2}{r^4}\left(1+\frac{2GM}{rc^2}\right) \quad -(15)$$

$$R^3{}_0{}^{30} = R^2{}_0{}^{20} / \sin^2\theta \quad -(16)$$