#Distance by company, prorated by ownership share

#format MergedKm (Pipelines) and PercentN (Owners) columns to numbers first

owners<-read.csv("/Users/lydia/Desktop/Owners\_122120.csv", header=TRUE)

names(owners)

owners<-owners[c(3,4,6,7,9,10,12,13,15,16,18,19,21,22,24,25,27,28,30,31,33,34,36,37,39)]

names(owners)

owners<-owners[c(1,2,3,4,6,8,10,12,14,16,18,20,22,24,5,7,9,11,13,15,17,19,21,23,25)]

names(owners)

#make sure no non-numeric characters in data set, will cause R to read-in as factors

owners[is.na(owners)] <- ""

owners[, 15:25] <- sapply(owners[, 15:25],as.numeric)

owners$MergedKm <- as.numeric(owners$MergedKm)

owners[is.na(owners)] <- ""

owners <- subset(owners, owners$MergedKm>0)

owners11<-subset(owners, owners$Owner11!="" & owners$Percent11=="")

owners11[ , 15:25]<- 1/11

owners11[, 15:25] <- sapply(owners11[, 15:25],as.numeric)

owners10<-subset(owners, owners$Owner10!="" & owners$Percent10=="" & owners$Owner11=="")

owners10[ , 15:24]<- 1/10

owner10[, 15:25] <- sapply(owners10[, 15:25],as.numeric)

owners9<-subset(owners, owners$Owner9!="" & owners$Percent9=="" & owners$Owner10=="")

owners9[ , 15:23]<- 1/9

owners9[, 15:25] <- sapply(owners9[, 15:25],as.numeric)

owners8<-subset(owners, owners$Owner8!="" & owners$Percent8=="" & owners$Owner9=="")

owners8[ , 15:22]<- 1/8

owners8[, 15:25] <- sapply(owners8[, 15:25],as.numeric)

owners7<-subset(owners, owners$Owner7!="" & owners$Percent7=="" & owners$Owner8=="")

owners7[ , 15:21]<- 1/7

owners7[, 15:25] <- sapply(owners7[, 15:25],as.numeric)

owners6<-subset(owners, owners$Owner6!="" & owners$Percent6=="" & owners$Owner7=="")

owners6[ , 15:20]<- 1/6

owners6[, 15:25] <- sapply(owners6[, 15:25],as.numeric)

owners5<-subset(owners, owners$Owner5!="" & owners$Percent5=="" & owners$Owner6=="")

owners5[ , 15:19]<- 1/5

owners5[, 15:25] <- sapply(owners5[, 15:25],as.numeric)

owners4<-subset(owners, owners$Owner4!="" & owners$Percent4=="" & owners$Owner5=="")

owners4[ , 15:18]<- 1/4

owners4[, 15:25] <- sapply(owners4[, 15:25],as.numeric)

owners3<-subset(owners, owners$Owner3!="" & owners$Percent3=="" & owners$Owner4=="")

owners3[ , 15:17]<- 1/3

owners3[, 15:25] <- sapply(owners3[, 15:25],as.numeric)

owners2<-subset(owners, owners$Owner2!="" & owners$Percent2=="" & owners$Owner3=="")

owners2[ , 15:16]<- 1/2

owners2[, 15:25] <- sapply(owners2[, 15:25],as.numeric)

owners1<-subset(owners, owners$Owner1!="" & owners$Percent1=="" & owners$Owner2=="")

owners1[ , 15]<- 1/1

owners1[, 15:25] <- sapply(owners1[, 15:25],as.numeric)

ownersall <- rbind (owners1,owners2,owners3,owners4,owners5,owners6,owners7,owners8,owners9,owners10,owners11)

ownersall$MergedKm<-as.numeric(ownersall$MergedKm)

new11<-subset(owners, owners$Owner11!="" & owners$Percent11!="")

new10<-subset(owners, owners$Owner10!="" & owners$Percent10!="" & owners$Owner11=="")

new9<-subset(owners, owners$Owner9!="" & owners$Percent9!="" & owners$Owner10=="")

new8<-subset(owners, owners$Owner8!="" & owners$Percent8!="" & owners$Owner9=="")

new7<-subset(owners, owners$Owner7!="" & owners$Percent7!="" & owners$Owner8=="")

new6<-subset(owners, owners$Owner6!="" & owners$Percent6!="" & owners$Owner7=="")

new5<-subset(owners, owners$Owner5!="" & owners$Percent5!="" & owners$Owner6=="")

new4<-subset(owners, owners$Owner4!="" & owners$Percent4!="" & owners$Owner5=="")

new3<-subset(owners, owners$Owner3!="" & owners$Percent3!="" & owners$Owner4=="")

new2<-subset(owners, owners$Owner2!="" & owners$Percent2!="" & owners$Owner3=="")

new1<-subset(owners, owners$Owner1!="" & owners$Percent1!="" & owners$Owner2=="")

ownersall2 <- rbind (new1,new2,new3,new4,new5,new6,new7,new8,new9,new10,new11)

ownersall2$MergedKm<-as.numeric(ownersall2$MergedKm)

ownersall2[, 15:25] <- sapply(ownersall2[, 15:25],as.numeric)

ownersall <- rbind(ownersall, ownersall2)

per1 <- ownersall[c(1,2,3,4,15)]

names(per1)[4]<-"Owner"

names(per1)[5]<-"Percent"

per2 <- ownersall[c(1,2,3,5,16)]

names(per2)[4]<-"Owner"

names(per2)[5]<-"Percent"

per3 <- ownersall[c(1,2,3,6,17)]

names(per3)[4]<-"Owner"

names(per3)[5]<-"Percent"

per4 <- ownersall[c(1,2,3,7,18)]

names(per4)[4]<-"Owner"

names(per4)[5]<-"Percent"

per5 <- ownersall[c(1,2,3,8,19)]

names(per5)[4]<-"Owner"

names(per5)[5]<-"Percent"

per6 <- ownersall[c(1,2,3,9,20)]

names(per6)[4]<-"Owner"

names(per6)[5]<-"Percent"

per7 <- ownersall[c(1,2,3,10,21)]

names(per7)[4]<-"Owner"

names(per7)[5]<-"Percent"

per8 <- ownersall[c(1,2,3,11,22)]

names(per8)[4]<-"Owner"

names(per8)[5]<-"Percent"

per9 <- ownersall[c(1,2,3,12,23)]

names(per9)[4]<-"Owner"

names(per9)[5]<-"Percent"

per10 <- ownersall[c(1,2,3,13,24)]

names(per10)[4]<-"Owner"

names(per10)[5]<-"Percent"

per11 <- ownersall[c(1,2,3,14,25)]

names(per11)[4]<-"Owner"

names(per11)[5]<-"Percent"

perall <- rbind (per1,per2,per3,per4,per5,per6,per7,per8,per9,per10,per11)

perall<-subset(perall, perall$Owner!="")

perall$Propkm <- perall$Percent\*perall$MergedKm

library(reshape2)

gas<-subset(perall, Fuel=="Gas")

gasperall <- dcast(gas, Owner ~ Status, value.var = "Propkm", fun.aggregate = sum)

write.csv(gasperall,'/Users/lydia/Desktop/Gas Km by Owner.csv')

oil<-subset(perall, Fuel=="Oil")

oilperall <- dcast(oil, Owner ~ Status, value.var = "Propkm", fun.aggregate = sum)

write.csv(oilperall,'/Users/lydia/Desktop/Oil Km by Owner.csv')

ngl<-subset(perall, Fuel=="NGL")

nglperall <- dcast(ngl, Owner ~ Status, value.var = "Propkm", fun.aggregate = sum)

write.csv(nglperall,'/Users/lydia/Desktop/NGL Km by Owner.csv')