

FROM REARDON STEEL LLC
TO DRMS

PERMIT M-1982-090
TECHNICAL REVISION TR-4

Pipeline Hydraulics

Site: Camp Bird

Manning's

$$Q = (.463/n) * (d)^{2.6667} * s^{.5}$$

$$n = 0.011$$

$$\text{pipe dia (ft)} = 2.5$$

$$\text{Hyd Radius} = 0.625$$

$$\text{Slope} = 0.14130435$$

$$Q = 182.15$$

find friction loss

$$Q(\text{cfs}) = 6.69642857$$

$$\text{length (ft)} = 460$$

16926.5625 gallons

$$\text{Head loss (ft)} = 0.09$$

$$\text{Velocity (fps)} = 1.36$$

5.6372549 minutes

Hydraulics

Manning's

$$Q = (.463/n) * (d)^{2.6667} * s^{.5}$$

$$n = 0.011$$

$$\text{pipe dia (ft)} = 2.5$$

$$\text{Hyd Radius} = 0.625$$

$$\text{Slope} = 0.01587302$$

$$Q = 61.05$$

find friction loss

$$Q(\text{cfs}) = 2.23214286$$

225 gpm

$$\text{length (ft)} = 315$$

$$\text{Head loss (ft)} = 0.00$$

$$\text{Velocity (fps)} = 0.45$$

$$\text{Pipe area} = 4.90625 \text{ ft}$$



Pipe Diam.		Flow		Slope ft/ft		Fric Loss	
ft	gpm	cfs		Segment1	Segment 2	ft	Velocity
2.5	1000	2.23		0.016	0.141	0.02	
2.5	3000	6.70		0.016	0.141	0.15	

Segment 1							
				Slope ft/ft	length ft		
2.5	1000	2.23214286		0.016	315	0.01	0.45
2.5	3000	6.69642857		0.016	315	0.06	1.36

Segment 2							
				Slope ft/ft	length ft		
2.5	1000	2.23214286		0.14130435	460	0.01	0.45
2.5	3000	6.69642857		0.14130435	460	0.09	1.36