

RECEIVED

SEP 05 1997

Department of Water Resources

A. GENERAL INFORMATION

Permit No. 11-7119

1. Owner: NORTH SIDE PIPELINE CO INC

Phone No. (208) 847-1743

Current Address: 24761 Hwy 30 Montpelier Id 83254

2. Accompanied by: SCOTT Crane

EXAM DATE : 8-28-97

Address: 24761 Hwy 30 Montpelier Id 83254

Phone No. 847-1743

Relationship to Permit Holder:

3. Source: GROUNDWATER

tributary to

B. OVERLAP REVIEW

1. Other water rights with the same place of use:

2. Other water rights with the same point of diversion:

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

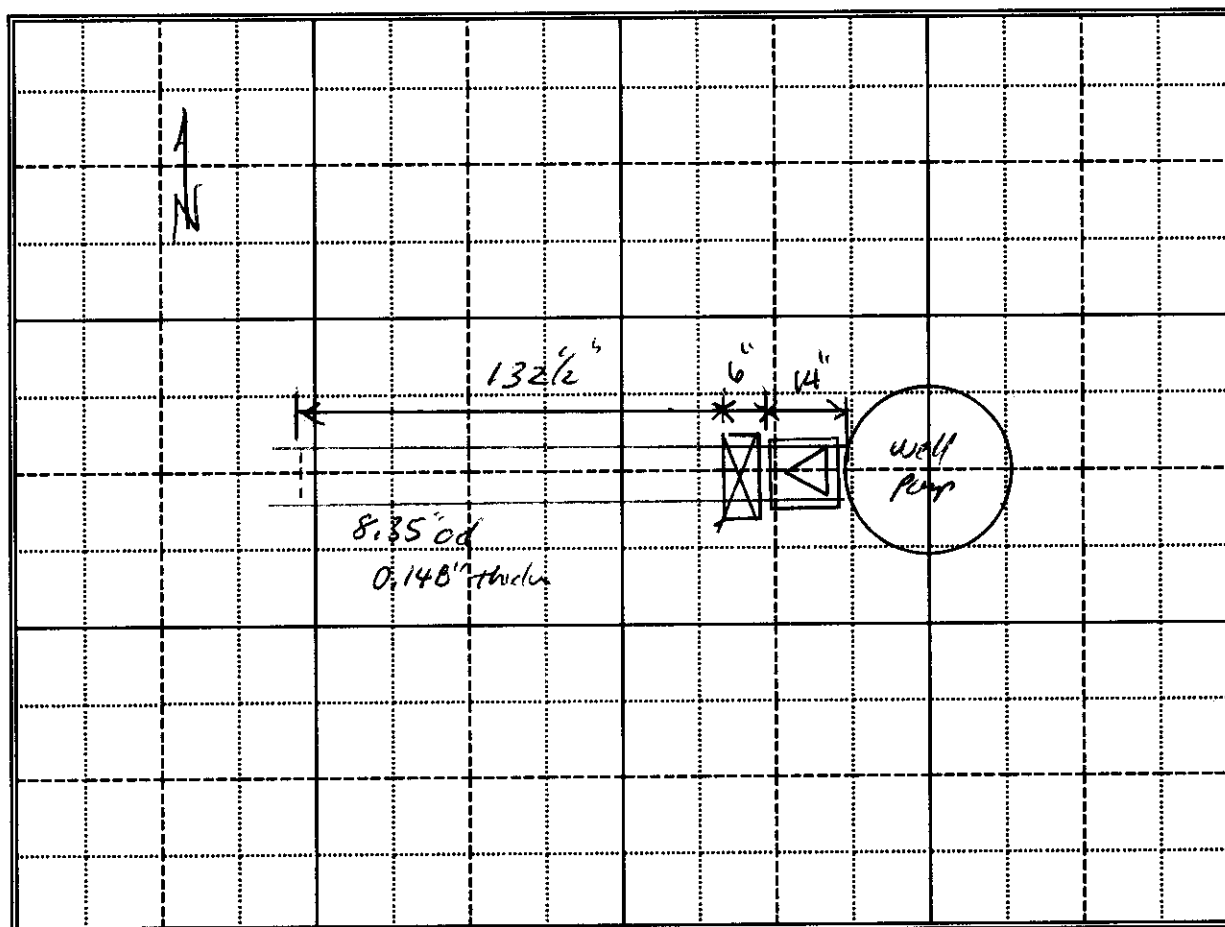
[illegible]

2. Place(s) of Use:

Indicate Method of Determination

[illegible]

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable.



Scale: 1" = _____

____ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

____ Aerial Photo Attached (required for irrigation of 10+ acres)

____ Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	GE	75	GNJ727326	Johnston	8"

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
TRANSIT TIME ULTRASONIC	Polysonics	Poelc	DCT-7088			
	Polysonics	Poelc	ISTEP			

2. Measurements: 12 psi (Taken downstream of Check & Gate Valve)

E. NARRATIVE/REMARKS/COMMENTS

Well pump mainline to laterals with sprinklers

FLOW MEASUREMENT WERE TAKEN WITH BOTH THE DCT-7088; THE
ISTT-P.

THE ISTT-P SEEMED TO GIVE A MORE STABLE CONSTANT
READING, THEREFORE, THIS EXAMINER BELIEVES THAT THE
FLOW RATE OF 1464.79 gpm (3.26 cfs) TAKEN FROM THE
ISTT-P READING IS MORE ACCURATE. (Theoretical flow rate
of 3.30 cfs to 4.11 cfs WAS USED AS A CHECK)

Contact # for Scott Crane

Shop 847-3163

Home 847-1743

Fax 847-3759

Have conditions of permit approval been met? ☒ yes ☐ no

F. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

$$Q = 1464.79 \text{ gpm} = 3.26 \text{ cfs}$$

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3500 \times 3.5 \text{ af} = 1225$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 3.26 \text{ cfs} (183) (1.9835) = 1183.3$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 1183.3$$

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
IRRIGATION	4/15	10/15	3.26 cfs	1183.3
Totals:			3.26 cfs	1183.3 cfs

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None
☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATIONField Examiner's Name KETH C WILSON Date 8-28-1997

Reviewer _____ Date _____

SEAL

THEORETICAL PUMP FLOW CALCULATIONS

Formula:

$$Q_{cfs} = [(Hp)(8.814)(Eff)] \div [Lift + (psi \times 2.308)]$$

Hp = Horsepower = 75

Eff = Efficiency = 70% (Usually 70%)

Lift: (Static Level + Assumed Draw down)

Static Water Level = 70 ft.

Assumed Draw down = + 15 ft.

Assumed Lift = 85
OR

WELL LOGS IN AREA
STATIC 55' - 70'

Measured Dynamic Water Level = _____ ft.

psi = Operating Pressure = 12 psi

$$Q_{cfs} = \left[\frac{75}{Hp} \times 8.814 \times \frac{0.7}{eff} \right] \div \left[\frac{85}{Lift} + \left(\frac{12}{psi} \times 2.308 \right) \right]$$

$$Q_{cfs} = [462.735] \div [112.696]$$

$$Q_{cfs} = \underline{4.11} \text{ cfs}$$

SINCE PRESSURE MEASURED DOWNSTREAM OF GATE CHECK VALVE

ASSUME PSI = 24 psi upstream

$$Q = [462.735] \div [85 + (24 \times 2.308)] = 3.296 = 3.30 \text{ cfs}$$

PERMIT NO. 11-07119

DCT-7088 Meter
11-7119

Pipe
Material = CARBON
OD = 8.350 inches
WT = 0.148 inches
ID = 8.054 inches
Sound Vel. = 10597 FPS
Roughness = 0 Ft
Liner
Material = NONE
Thickness = 0.000 inches
Sound Vel. = 0 FPS
Roughness = 0 Ft
Fluid
Type = WATER
Sound Vel. = 4863 FPS
Viscosity = 1.13
Transducer
Type = S
Mounting = U
Flow
Scale Fact = 0.9700
Offset = 0.00 GPM
Damping = 15 secs
Max Range = 1000.00 GPM
Min Range = 100.00 GPM
Cutoff
Low Flow = 0.00
Low Signal = 0.00 %
Flow = 985.71 GPM
Vel = 6.21 FPS
Net 10614 x16al
Pos 10614 x16al
Neg 0 x16al
SigStr = 1.1%
Cutoff = 0.0%
Reynolds = 322457
Factor = 0.945402
SigStr = 1.1%
Margin = 99%
Delta = 345.95 ns
SSpeed = 4720.14 FPS
4-20mA = 19.83 mA
Flow = 1006.34 GPM
Vel = 6.34 FPS

Flow = 1002.99 GPM
Flow = 1003.02 GPM
Flow = 1012.68 GPM
Flow = 993.88 GPM
Flow = 975.55 GPM
Flow = 973.81 GPM
Flow = 942.09 GPM
Flow = 920.90 GPM
Flow = 913.97 GPM
Flow = 899.64 GPM
Flow = 913.47 GPM
Flow = 916.65 GPM

ISTIT-P Meter

SETUP NO. 1

PIPE O.D. 8.350 IN

PIPE WALL THICKNESS 0.148 IN

PIPE I.D. 8.054 IN

PIPE MATERIAL CARBON STEEL

PIPE SOUND VELOCITY 10597.129 F/S

LINER MATERIAL NONE

LINER SOUND VELOCITY 0.000 F/S

LINER THICKNESS

PIPE SOUND VELOCITY 10597.129 F/S

LINER MATERIAL NONE

LINER SOUND VELOCITY 0.000 F/S

LINER THICKNESS 0.000 IN

INSIDE ABS ROUGHNESS 0.00015000

FLUID MATERIAL WATER

FLUID SOUND VELOCITY 4863.330 F/S

FLUID VISCOSITY 1.132 Cst

TRANSDUCER TYPE STANDARD

TRANSDUCER MOUNTING U

TRANSDUCER SPACING 6.424 IN

12:30:32 08-28-97

SCALE FACTOR = 0.990
OFFSET (GPM) = 0.000
nsec OFFSET = 11.64
usec OFFSET = -0.29
XMT DET DLY = 20.14
AERATION FAC. = 1.00
XDCER: STANDARD/U

WIN_DLY = 305.16 UP DOWN
SEDR = 2.90 2.02
BIAS = 1.94 1.73
AGC = 4.37 4.57
SIG_STG = 1.29 1.53
MISSED = 0 0
TIME(us) = 308.2 307.6
DEL TIME(ns) = 318.2
DIFF COUNT = 3423
P2X = 96
SPS = 16.39
AERATION = 0.000

FLUID (F/S) = 4863.33
REYNOLDS NO. = 341276
PROFILE FACTOR = 0.9456
FLOW: = 997.973 GPM
6.285 F/S

DIF CNT= 2022
DELTA T= 320.43

DIF CNT= 924
DELTA T= 329.40

12:32:23 08-28-97

Min. Rate 0.00 GPM
Max. Rate 1354.75 GPM
Avg. Rate 957.82 GPM
FLOW RATE 863.43 GPM
NET TOT(X1) 83158 GAL
POS TOT(X1) 83837 GAL
NEG TOT(X1) 679 GAL

12:33:23 08-28-97

Min. Rate 812.64 GPM
Max. Rate 1302.33 GPM
Avg. Rate 1016.93 GPM
FLOW RATE 1363.05 GPM
NET TOT(X1) 84144 GAL
POS TOT(X1) 84823 GAL
NEG TOT(X1) 679 GAL

12:33:33 08-28-97

Min. Rate 1363.05 GPM
Max. Rate 1461.70 GPM
Avg. Rate 1420.87 GPM
FLOW RATE 1464.79 GPM
NET TOT(X1) 84144 GAL

AERATION = 0.000
FLUID (F/S) = 4863.33
REYNOLDS NO. = 341276
PROFILE FACTOR = 0.9456
FLOW: = 997.973 GPM
6.285 F/S

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FLOW RATE 863.43 GPM
NET TOT(X1) 83158 GAL
POS TOT(X1) 83837 GAL
NEG TOT(X1) 679 GAL

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Max. Rate 1302.33 GPM
Avg. Rate 1016.93 GPM
FLOW RATE 1363.05 GPM
NET TOT(X1) 84144 GAL
POS TOT(X1) 84823 GAL
NEG TOT(X1) 679 GAL

12:33:33 08-28-97

Min. Rate 1363.05 GPM
Max. Rate 1461.70 GPM
Avg. Rate 1420.87 GPM
FLOW RATE 1464.79 GPM
NET TOT(X1) 84190 GAL
POS TOT(X1) 84869 GAL
NEG TOT(X1) 679 GAL

12:36:10 08-28-97

Min. Rate 1027.20 GPM
Max. Rate 2377.37 GPM
Avg. Rate 1567.05 GPM
FLOW RATE 1027.20 GPM
NET TOT(X1) 964 GAL
POS TOT(X1) 964 GAL
NEG TOT(X1) 0 GAL

12:37:10 08-28-97

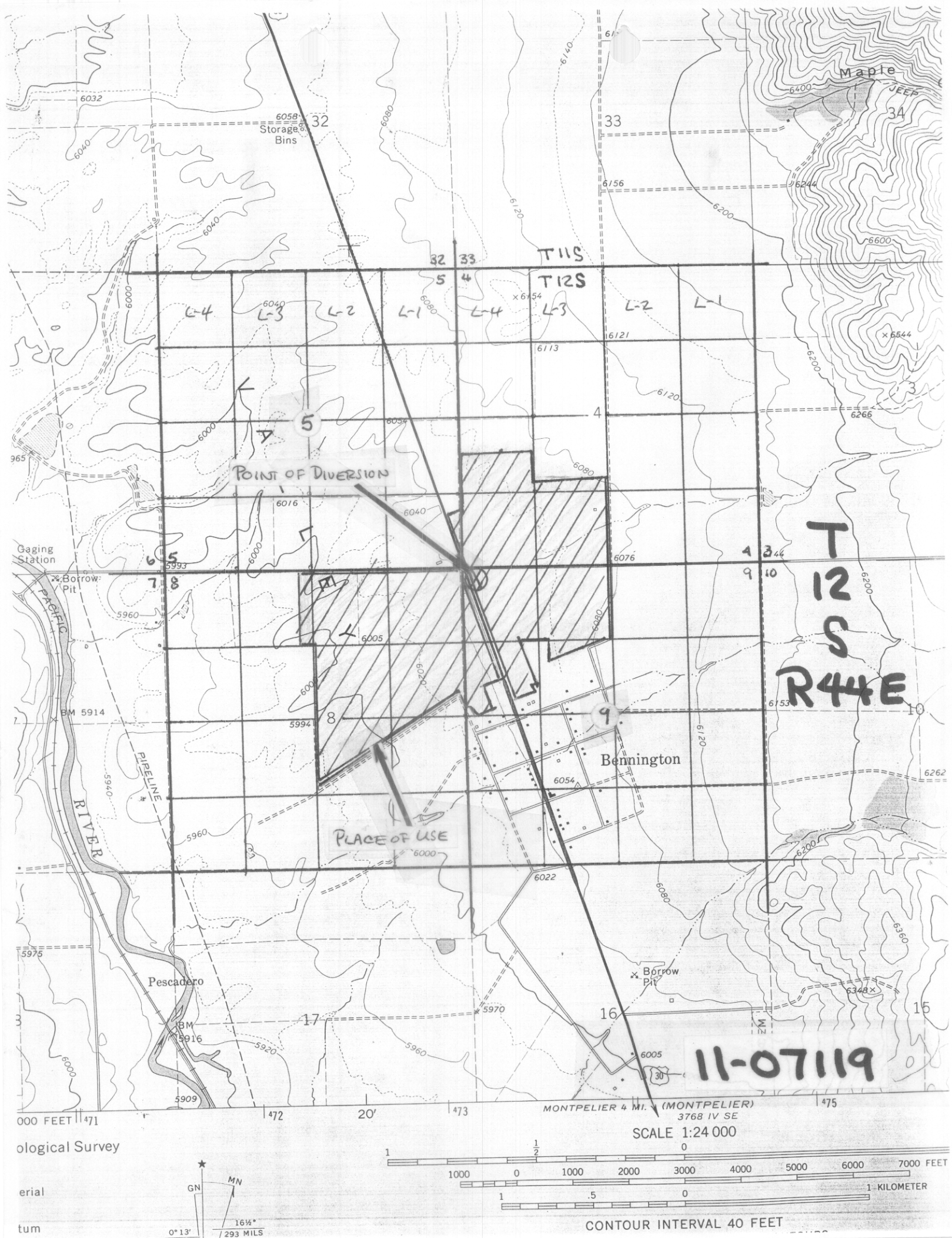
Min. Rate -919.53 GPM
Max. Rate 1027.20 GPM
Avg. Rate 831.19 GPM
FLOW RATE 884.54 GPM
NET TOT(X1) 456 GAL
POS TOT(X1) 523 GAL
NEG TOT(X1) 67 GAL

12:38:10 08-28-97

Min. Rate 783.82 GPM
Max. Rate 987.90 GPM
Avg. Rate 882.46 GPM
FLOW RATE 932.38 GPM
NET TOT(X1) 608 GAL
POS TOT(X1) 608 GAL
NEG TOT(X1) 0 GAL

2

11-07119



NHEL

13²

1172
T 5042
NHEL

POINT OF DIVERSION

R44E

1173
T 5041

T
12
S

NHEL
7²

NHEL

NHEL

② 37⁹ 41¹

5⁴

32²

27⁵

NHEL

NHEL

8⁹

1235
T 741

①
NHEL

6⁹

39

NHEL 39

37

39

92⁸

6

23⁵

⑤

36⁴

④

②
NHEL

4³ ④ ③ NHEL

40

36⁵

2

26
13²

PLACE OF USE

24

11-07119

73⁵
T 124
70⁰

②
NHEL
2⁰



POINT OF DIVERSION

11-07119