McCall - com
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RECEIVED
JUL 16 2002
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

July 15, 2002
020162-02

Mr. Tom Gainer, P.E.
Project Manager, Portland Harbor and Voluntary Cleanup
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201-4987

Re: Status Report; McCall Oil and Chemical Corporation, RIFS, Portland, Oregon

Dear Tom:

This status report provides DEQ with information on the remedial investigation tasks completed during the second quarter 2002, and work planned for the third quarter 2002.

WORK COMPLETED, SECOND QUARTER 2002

- Submitted first quarter sampling results to DEQ on May 15, 2002
- Performed aquifer testing using Ferris Time-Lag Method

PLANNED THIRD QUARTER 2002 RI TASKS

- Meet with DEQ on August 6 to discuss RI results.
- Data Management and Reporting.
- Project Management and Meetings.

AQUIFER TEST RESULTS

On June 3, 2002, pressure transducers were installed in monitoring wells EX-5, MW-6, MW-7 and the Willamette River at location WG-1. The pressure transducers were removed on June 11, 2002. The locations of the monitoring wells and WG-1 are shown in Figure 1. Water levels were recorded at 1-minute intervals to evaluate response time of water levels in the monitoring wells associated with the tidal fluctuations in the Willamette River.

Figure 2 is a plot of pressure head at WG-1 in feet. The period of each tidal event was calculated and an average period for the duration of the test was calculated at 742 minutes.

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Calculations are shown on the attached worksheet. Figures 3, 4, and 5 display comparison plots between WG-1 and EX-5, WG-1 and MW-6, and WG-1 and MW-7, respectively. The aquifer thickness was estimated from the depth to basalt (75 feet) measured at borings GP-41, GP-42, GP-43, and GP-44.

Hydraulic conductivity values were calculated at 3.4×10^{-3} ft/minute at EX-5, 5.4×10^{-3} ft/minute at MW-6, and 1.6×10^{-1} ft/minute at MW-7. These data are still being evaluated, however, they preliminarily indicate a range of aquifer conditions from a low hydraulic conductivity typical of a silty, very-fine sand at EX-5 up to a high hydraulic conductivity typical of a coarse sand at MW-7.

PROBLEMS ENCOUNTERED

The time setting on the transducer in EX-5 was one hour fast. Data were corrected before analyzed.

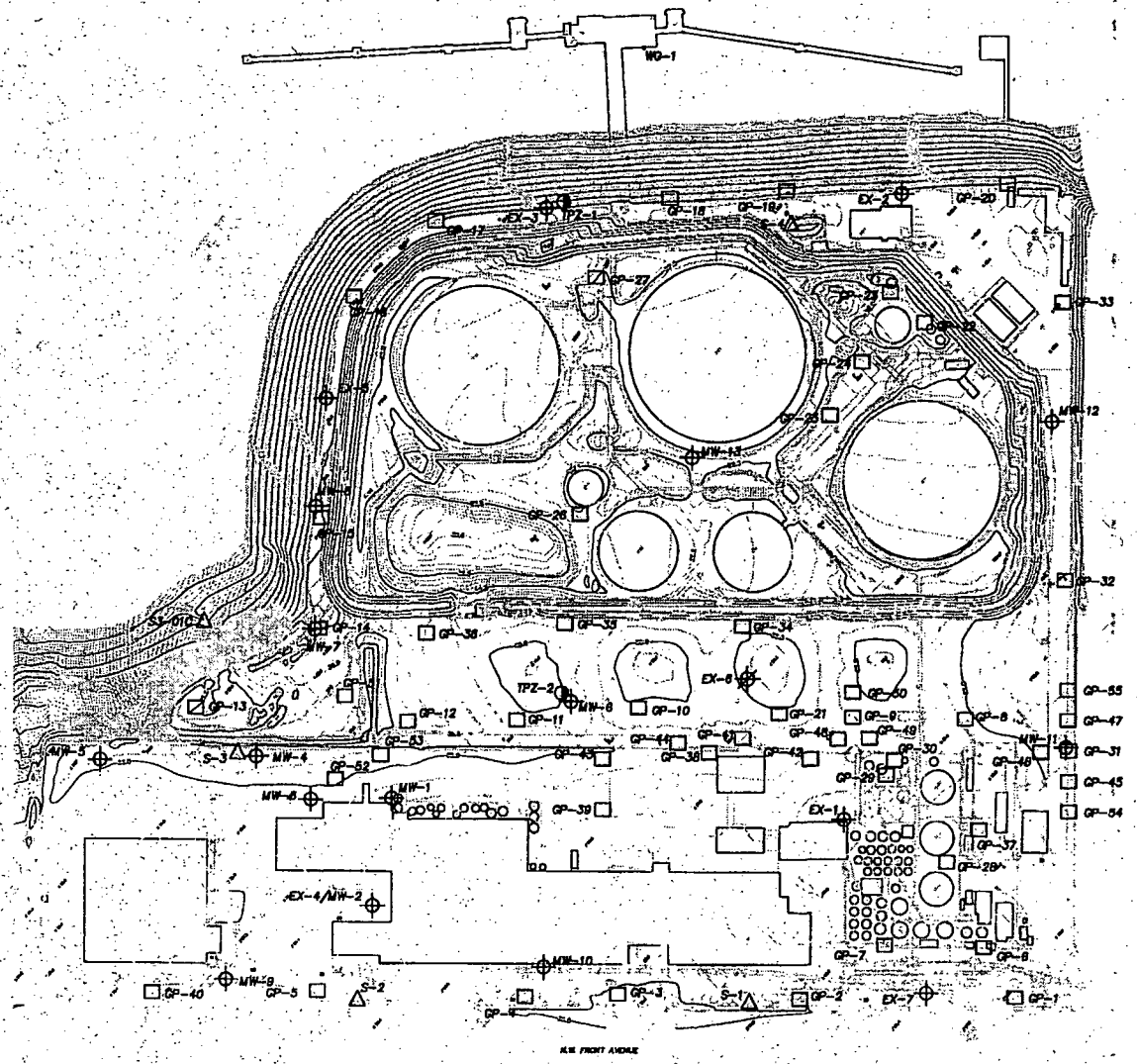
If you have any questions, please let us know.

Sincerely,

John J. Renda, R.G.
Anchor Environmental, L.L.C.

John E. Edwards, C.E.G, R.G.

Cc: Ted McCall; McCall Oil and Chemical
Don Pyle, Lane, Powell, Spears, Lubersky, LLP



MONITORING WELL

DECOMMISSIONED MONITORING WELL

GEOPROBE BORING

SURFACE WATER/SEDIMENT SAMPLE LOCATION

VEGETATION

BUILDING

TANK

PIEZOMETER

HORIZONTAL DATUM
COORDINATES ARE ON A LOCAL PLANE AND ARE ASSUMED.

ELEVATION DATUM
ELEVATIONS ARE BASED ON CITY OF PORTLAND BENCHMARK #2528.
ELEVATION = 34.64 FEET

0 150
Scale in Feet

Note: Figure prepared from drawing provided by IT Corporation.

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Figure 1
Boring and Well Locations
McCall Oil

Figure 2
Willamette River Tidal Period
McCall Oil and Chemical Corporation
Portland, Oregon

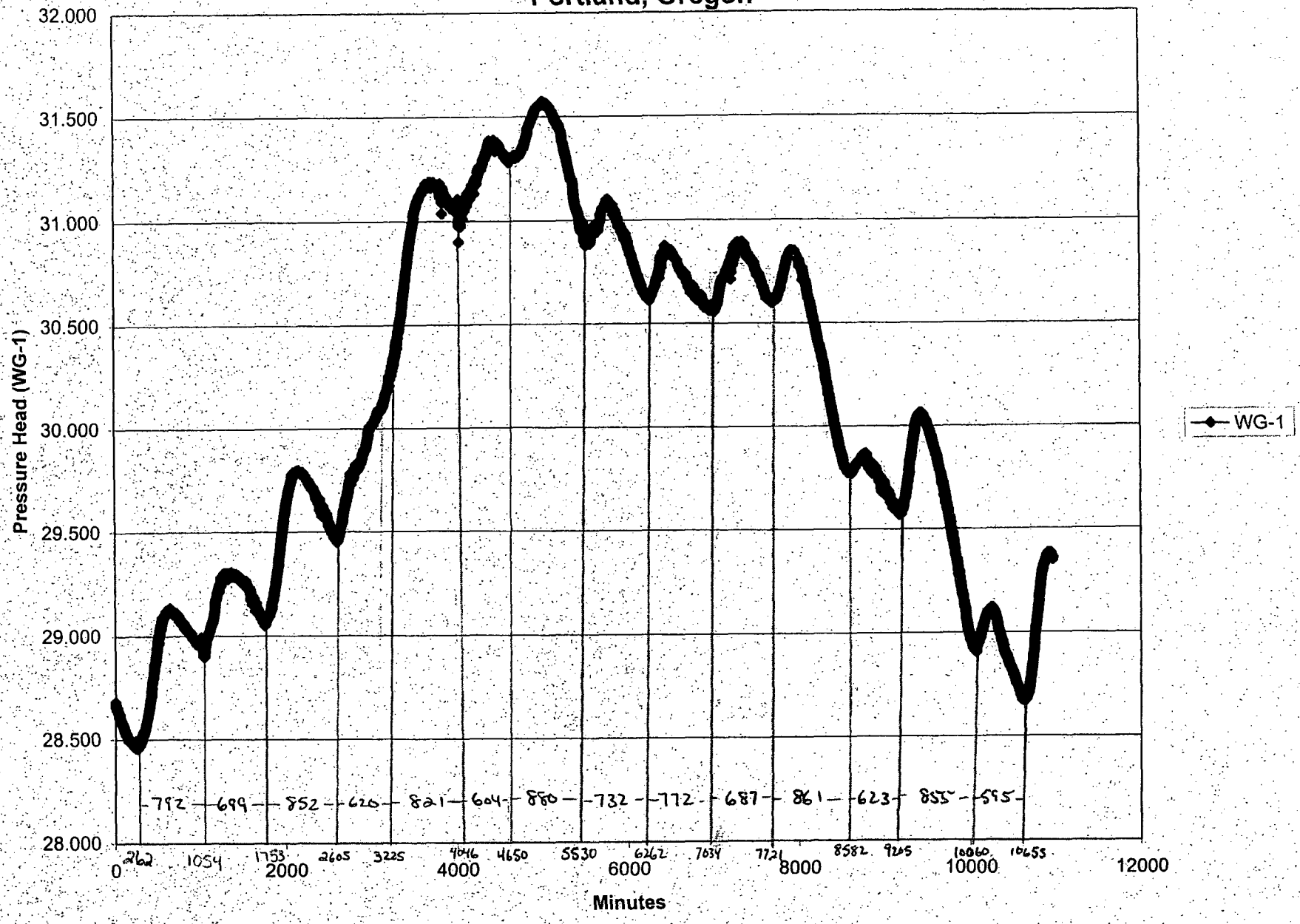

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Figure 3
Time Lag WG-1/EX-5
McCall Oil and Chemical Corporation
Portland, Oregon

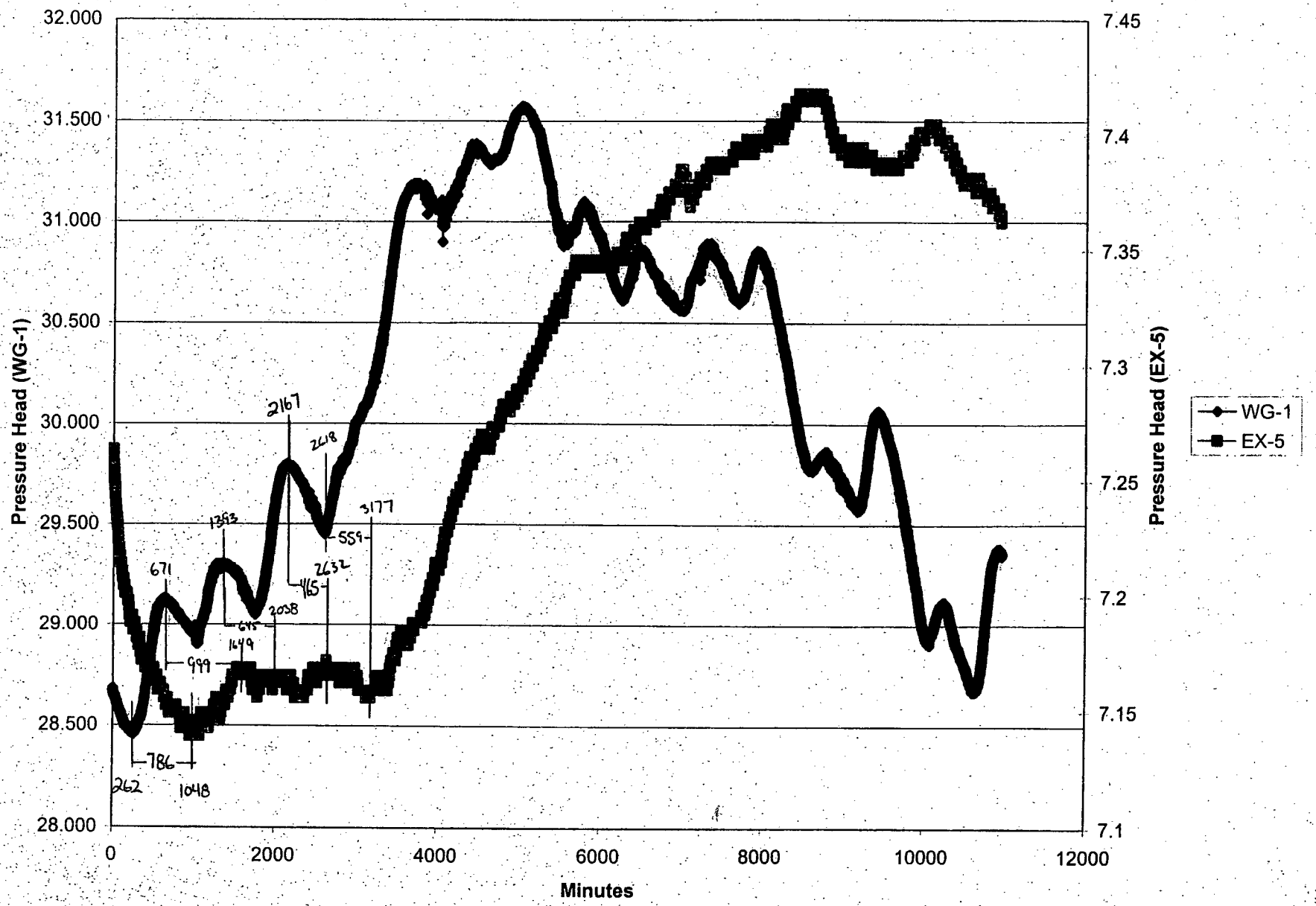

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Figure 4
Time Lag WG-1/MW-6
McCall Oil and Chemical Corporation
Portland, Oregon

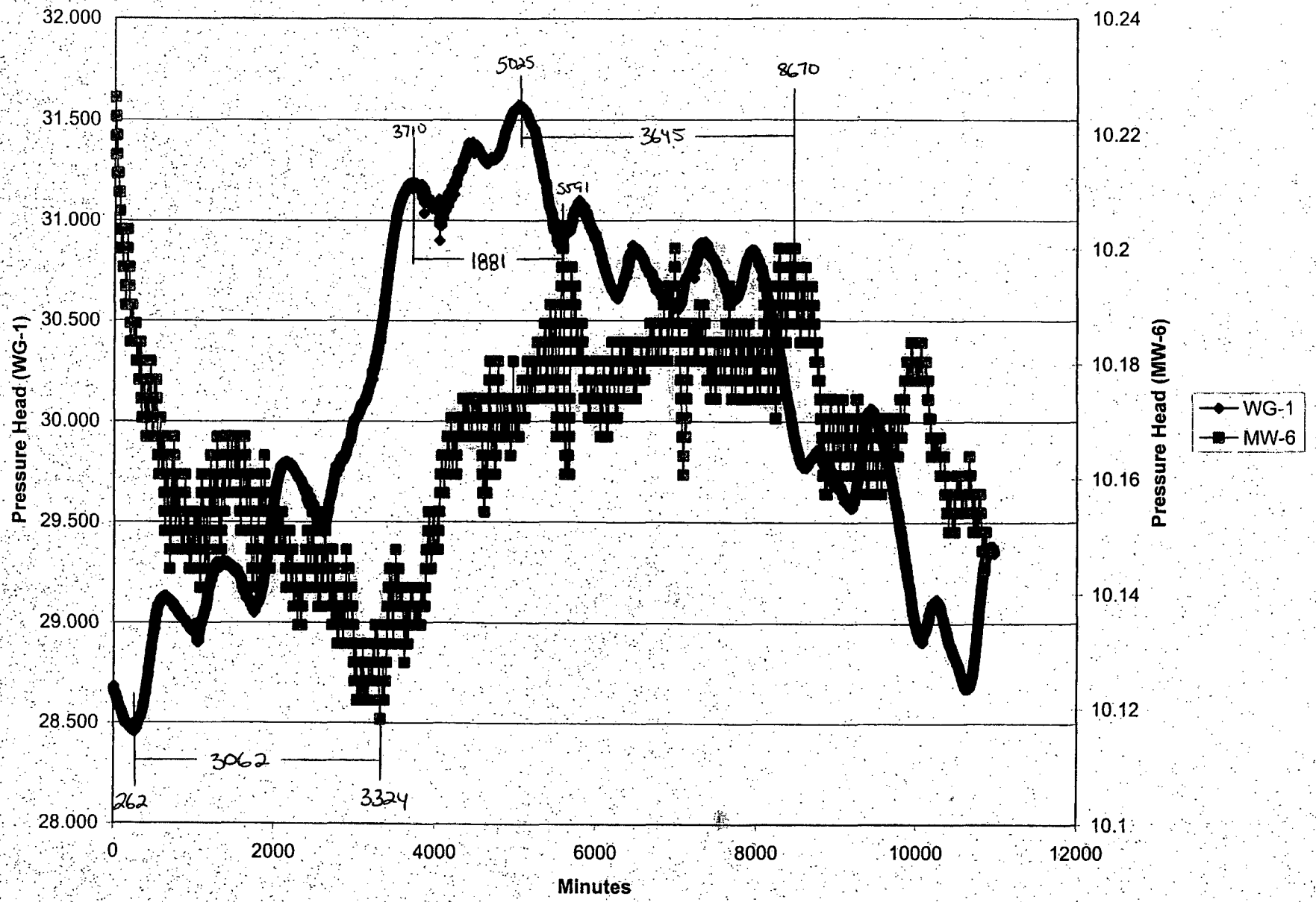

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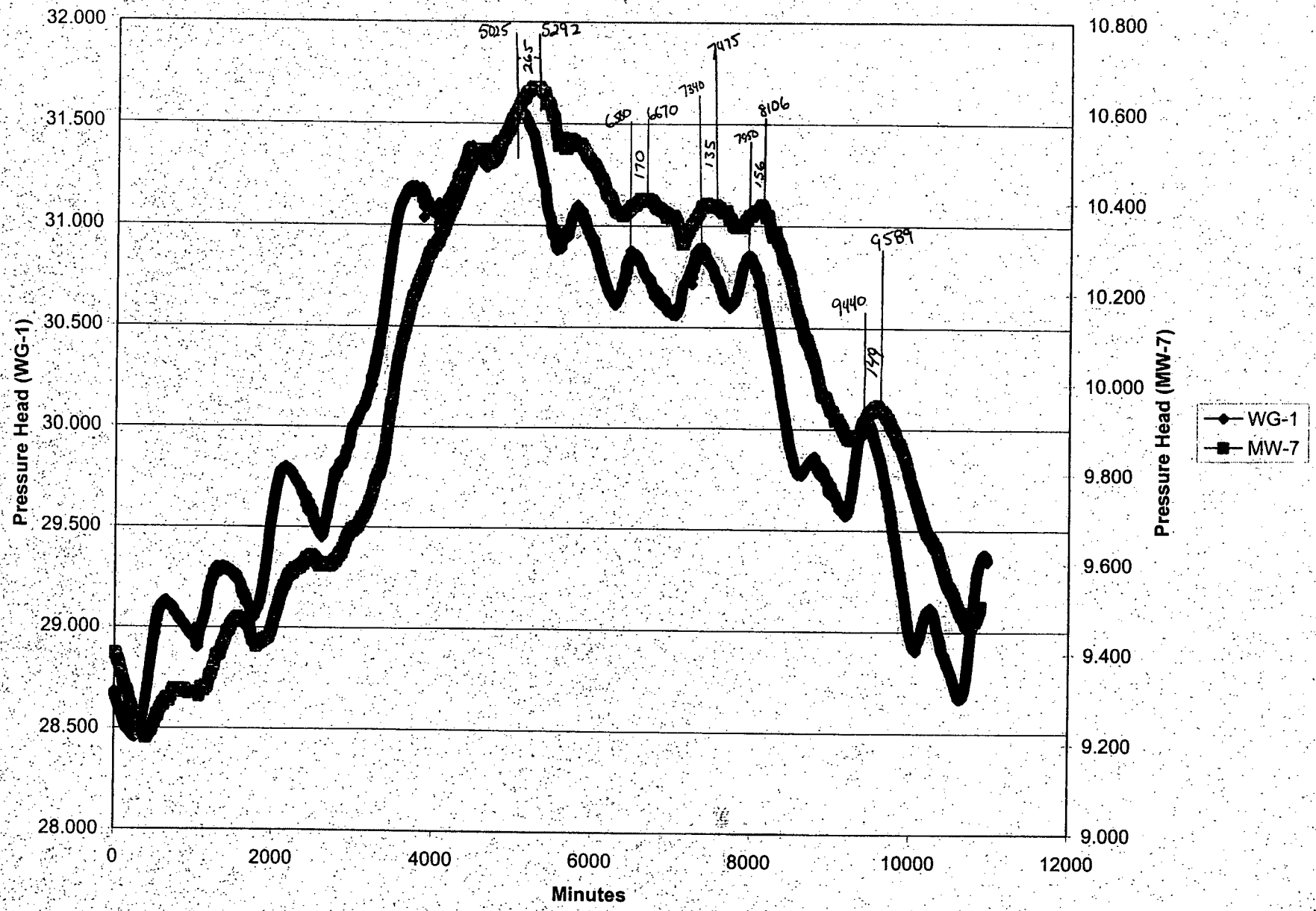
Figure 5
Time Lag WG-1/MW-7
McCall Oil and Chemical Corporation
Portland, Oregon



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Worksheet
Time Lag Calculations
McCall Oil and Chemical
Portland, Oregon

T = Transmissivity
S = Specific storage
t_0 = period
x = distance of well from river
t = lag
PI = 3.14159
K = Hydraulic conductivity

T/S = (t_0/4*PI)(x/t)^2
K = T/Aquifer Thickness

Willamette River Period Measured at WG-1

Low Tide (minutes after start of test)	Period (minutes)
262	
1054	792
1753	699
2605	852
3225	620
4046	821
4650	604
5530	880
6262	732
7034	772
7721	687
8582	861
9205	623
10060	855
10655	595
t_0 =	742

WG-1/EX-5

t_0 =	742	minutes
x =	90	feet
S =	0.2	(estimated value)
t =	690.8	minutes
DTW =	16.55	feet (on 6/3/02 16:40)
Aquifer Thickness =	75 feet - DTW	75 feet is Depth to Basalt measured at GP-41, GP-42, GP-43, GP-44)
Aquifer Thickness =	58.45	feet
T =	0.200449402	ft^2/minute
K =	0.003429417	ft/minute
K =	4.938359945	ft/day

Worksheet
Time Lag Calculations
McCall Oil and Chemical
Portland, Oregon

WG-1/MW-6

t_0 =	742	minutes
x =	475	feet
S =	0.2	(estimated value)
t =	2862.7	minutes
DTW =	14.28	feet (on 6/3/02 16:03)
Aquifer Thickness =	75 feet - DTW	75 feet is Depth to Basalt measured at GP-41, GP-42, GP-43, GP-44)
Aquifer Thickness =	60.72	feet
T =	0.325132173	ft^2/minute
K =	0.005354614	ft/minute
K =	7.710644425	ft/day

WG-1/MW-7

t_0 =	742	minutes
x =	150	feet
S =	0.2	(estimated value)
t =	173.2	minutes
DTW =	20.64	feet (on 6/3/02 16:26)
Aquifer Thickness =	75 feet - DTW	75 feet is Depth to Basalt measured at GP-41, GP-42, GP-43, GP-44)
Aquifer Thickness =	54.36	feet
T =	8.857499704	ft^2/minute
K =	0.162941496	ft/minute
K =	234.6357538	ft/day