

**Salmon Forever / Watershed Watch
ISCO Sampler Proficiency Checklist**

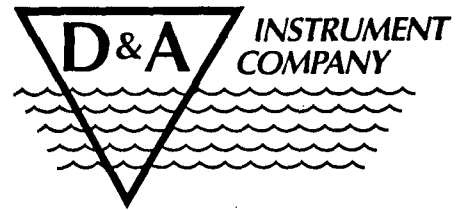
This checklist documents proficiency in the proper procedures for setting up and maintaining an ISCO sampler and recording pertinent information.

Sampler Clark Fenton Date 4/27/01 Certified By Eileen Cashner

- Record Observations / Filling out Field Form / Sequence of events
- View the Current Data / Numeric Display
- Setting up ISCO Controller
- Check Equipment / Clean probes / debris / moving boom
- Manual Sample Options
- Using Ports and Flags
- Taking DIS AND / OR AUX samples
- Changing the ISCO Bottles, Incrementing the Dump Number, and Collecting the Data File
- Bottle Labeling
- Collect the file from the data logger and copy it to the hard disk.
- Adjusting the Stage Offset / Turbidity offset

Comments: _____

STAT10J FTR HFY 99



CALIBRATION CERTIFICATE

Customer: Salmon Forever

Instrument Model: OBS-3

Serial Number: 430

Type of Calibration: Formazin Sediment

Number of Standard Values: Two

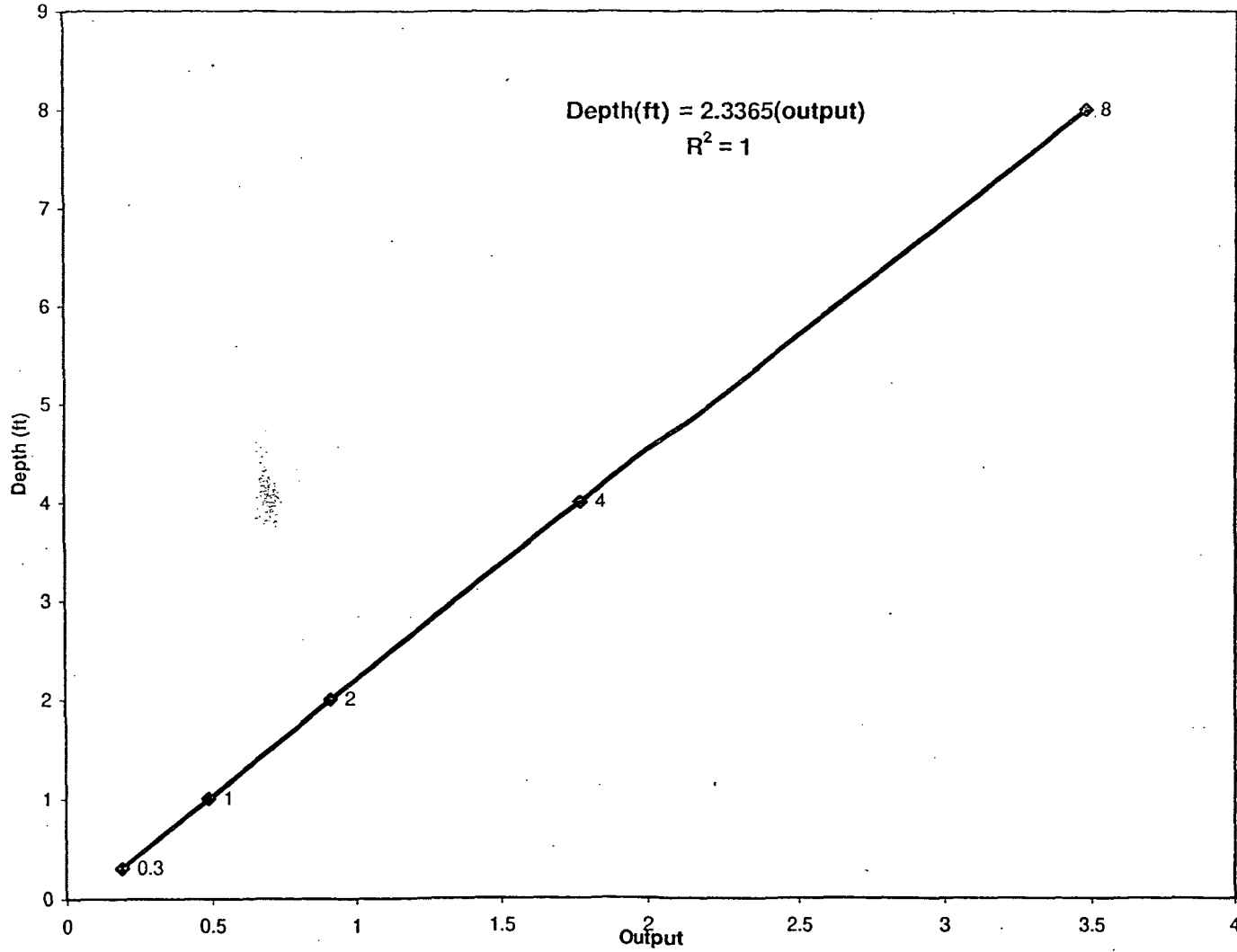
Calibration Data

Standard Value	Output
<u>0 FTU</u>	<u>0.001 V +/- 0.002 V</u>
<u>2000 FTU</u>	<u>2.501 V +/- 0.005 V</u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>

Date: 11 March 1998

Certified by: *Pon Flinders*

Druck Calibration S/N 1088275
98 12 31 R. Eads
FTR



00 YH

STATION FTR HY00/0

Watershed Watch / Salmon Forever Instrument Calibration

Instrument Calibration

Isco Automatic Sampling Station (FTR)

120 Pacific Lumber Camp Road

Calibration Data

Serial # s/n 430

D&A OBS-3 Turbidity Probe: By C.F / R.E / T.R. Date 11-14-99

Specific Gravity of 4000 NTU Solution from HACH MSDS sheet = 1.002 g/cc

Rands RSL Scale check: 1000 g wt. = 500.0 g Air Temp 64° F

Solutions:

Distilled Water - No dilutions needed - purchased 1 gallon jugs for blackened 5 gal. bucket

HACH 2100P Turbidimeter sample turbidity 0.61 NTU

1500 NTU: $\frac{1500}{4000} * 3500 = 1312.5$ ml of 4000 NTU solution sol. used _____ g

3500 ml - 1312.5 ml = 2187.5 ml of distilled water needed for 6.0" id bucket
distilled water used _____ g

HACH 2100P Turbidimeter sample turbidity _____ NTU

750 NTU: $\frac{750}{1500} * 3500 = 1750$ ml of 1500 NTU solution sol. used _____ g

3500 ml - 1750 ml = 1750 ml of distilled water needed for 6.0" id bucket
distilled water used _____ g

HACH 2100P Turbidimeter sample turbidity 745/753 NTU

~~400 NTU: $\frac{400}{750} * 3500 = 1866.7$ ML OF 750-NTU solution sol. used _____ g~~

~~3500 ml - 1866.7 ml = 1633.3 ml of distilled water needed for 6.0" id bucket
distilled water used _____ g~~

~~HACH 2100P Turbidimeter sample turbidity _____ NTU~~

Input Locations:

(1) Lowest Raw Turbidity _____ (60) Highest Raw Turb. _____

(med_0) Median Turb. of distilled water 9 9 9

(med_1500) Median Turbidity of 1500 ntu standard 1938 1938 1939

(med_750) Median Turbidity of 750 ntu standard 994 994 996 (745 HACH)

(med_400) Median Turbidity of 400 ntu standard _____

Turb_mult _____

Turb_off -12.346

SL
off 7775
-12.346

Serial # 1088275

HY 00

Druck 1830 Pressure Transducer: By R.F./R.E./T.R Date 11-14-99

1.0" id PVC pipe 10 feet long capped at one end.

Depth avg_stg. Slope (multiplier)

0.5 2.4804, 2.460, 2.4566

2.5 1.030, 0.999, 0.936

5.0 2.1757, 2.1750, 2.1752 avg_stg

7.0 3.0660, 3.0644, 3.0635 Staff plate

SLOPE 2.3084

TR525I Tipping Bucket Rain Gauge: By _____ Date _____

Cleaned bucket and base y n

Bottle Tare 74.9g

6" inch diameter intake. 1 tip = 16.63 ml

Calibrated Vessel volume 487 g/ml

Should be _____ tips for _____ ml delivered. actual tips _____

If tip error = +/- 3 tips per 100 tips recalibrate

20 TIPS IN W. OF FIELD. AVERAGE 4.55 mL/TIP

Campbell 107 Thermistor Temperature Probe: _____

By _____ Date _____

RSL supplied Thermometer # _____

Ice water Temp -0.00 Probe Temp. 0.00

Warm Water Temp 18.80 Probe Temp. 18.825 18.76

Druck 1830 Pressure Transducer S/N 1088275

By C.F./R.E./T.R. Date 11-14-99

1.0" id PVC pipe 10 feet long capped at one end. Cable is marked and lowered at certain depths and Mv recorded. 0.0 feet is at holes at tip of transducer.

Depth	mV	Slope
0.5	0.24804, 0.24602, 0.24566	2.3084
2.5	1.1030, 1.0999, 1.0936	
5.0	2.1757, 2.1750, 2.1752	
7.0	3.0660, 3.0644, 3.0635	

TR525I Tipping Bucket Rain Gauge: S/N

By R.E. Date 11-14-99 Cleaned bucket and base (y)

6.0 inch diameter intake: 1 tip = 0.01 inches = 4.63 ml

Calibrated Vessel volume g/ml Bottle Tare

Should be tips for ml delivered. actual tips

If tip error = +- 3 tips per 100 tips recalibrate

Pipette Calibration 20 tips for average 4.55 ml/tip Rand accepts

Campbell 107 Thermistor Temperature Probe:

By C.F./R.E. Date 11-14-99 RSL supplied Thermometer #

Ice water Temp 0.05 Probe Temp. -0.001

Warm Water Temp 18.80 Probe Temp. 18.825, 18.76

Slope Offset Exact same left alone.

HY 00

2008801 WAZ Watershed Watch / Salmon Forever
Instrument Calibration

For
Isco Automatic Sampling Station (FTR)

120 Pacific Lumber Camp Road
Calibration Data

D&A OBS-3 Turbidity Probe: S/N 430

By C.F./R.E./T.R. Date 11-14-99

Specific Gravity of 4000 NTU Solution from HACH MSDS sheet = 1.002 g/cc

Scale check: 500.0 g wt. = 500.0 g Air Temp 64° F

Solutions:

Distilled Water - No dilutions needed - purchased 1-gallon jugs for blackened 5 gal. Bucket

HACH 2100P Turbidimeter distilled water turbidity 0.61 NTU

1500 NTU: $\frac{1500}{4000} * 3500 = 1312.5$ ml of 4000 NTU solution sol. used 1312.5 g

3500 ml - 1312.5 ml = 2187.5 ml of distilled water needed for 6.0 lid bucket

Distilled water used 2187.5 g

HACH 2100P Turbidimeter sample turbidity _____ NTU NEEDS DILUTION
TOOK SAMPLE

750 NTU: $\frac{750}{1500} * 3500 = 1750$ ml of 1500 NTU solution sol. used 1750.0 g

3500 ml - 1750 ml = 1750 ml of distilled water needed for 6.0 lid bucket

Distilled water used 1750.0 g

HACH 2100P Turbidimeter sample turbidity 745/753 NTU

mV of distilled water 999

mV of 1500 NTU standard 1938 - 1938 - 1939

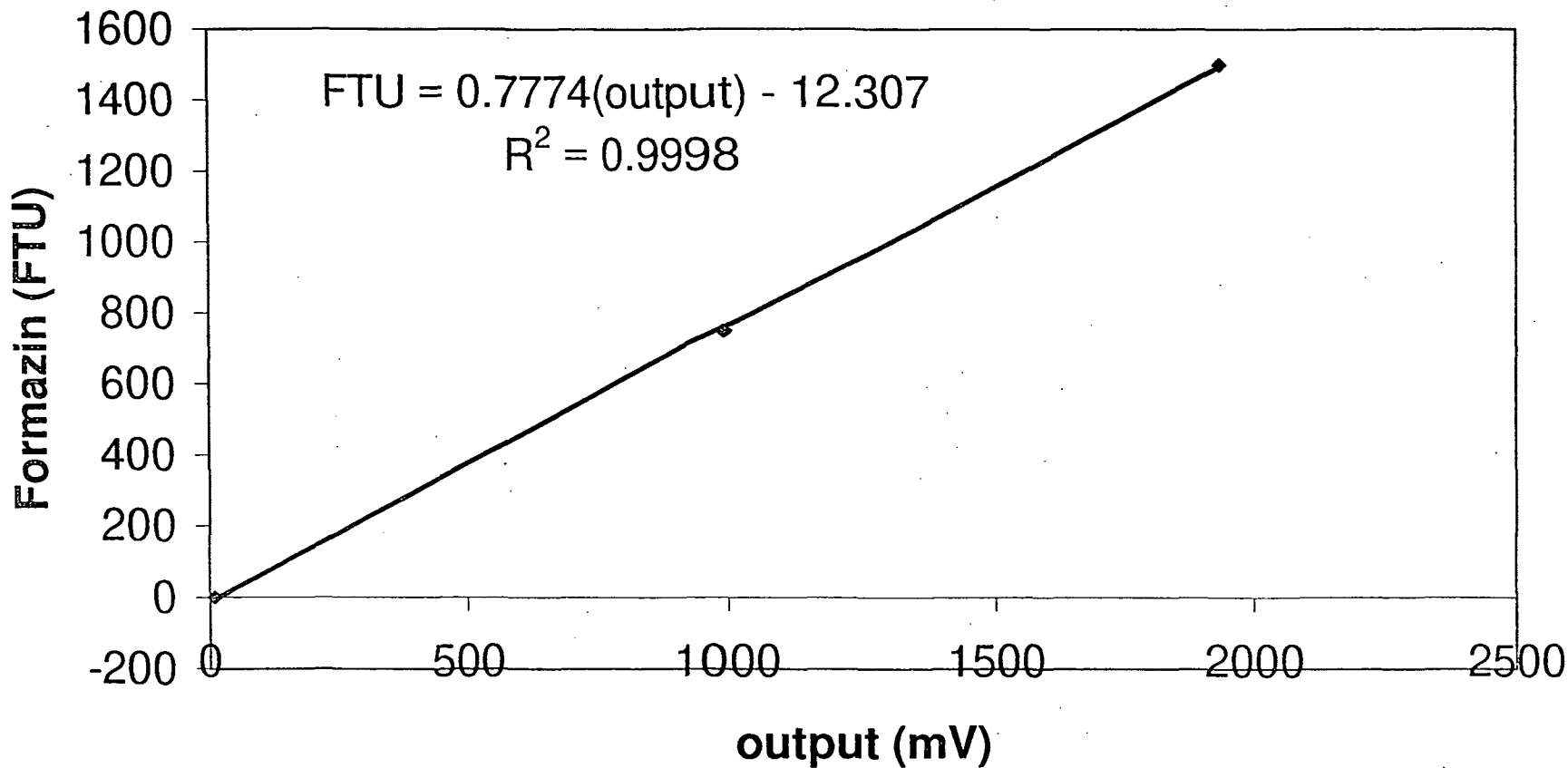
mV of 750 NTU standard 994 - 994 - 996

Turb_off -12.346 Slope 0.7775

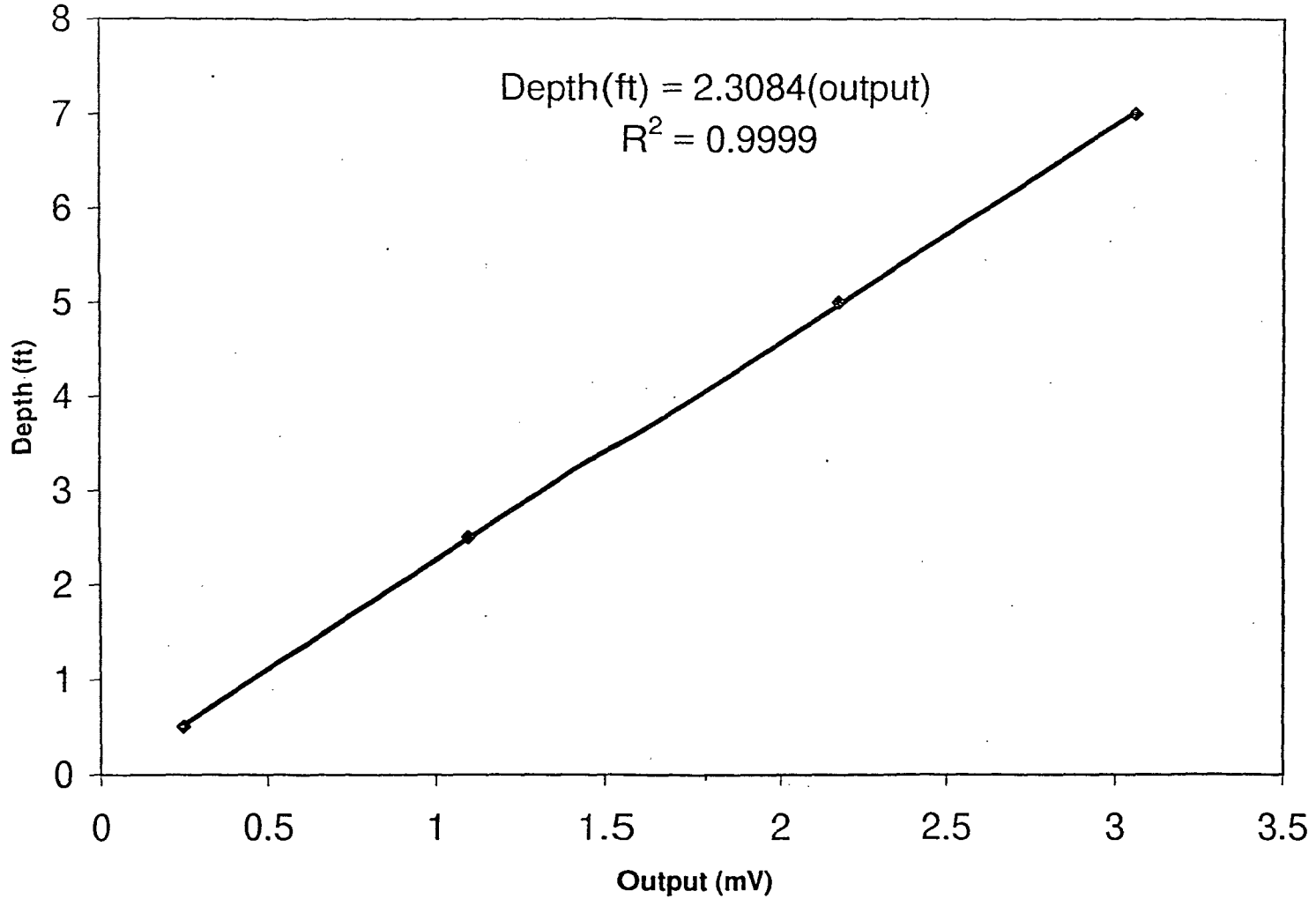
OBS-3 Turbidity Probe S/N 430

R. Eads 991114

FTR



Druck Calibration S/N 1088275
99 11 14 R. Eads
FTR



Druck 1830 Pressure Transducer: S/N 1088275

By R. Eads C. Fenton Date 10/14/00

1.0" id PVC pipe 10 feet long capped at one end. Cable is marked and lowered at certain depths and Mv recorded. 0.0 feet is at holes at tip of transducer

Depth. ft.	mV
<u>0.30</u>	<u>.16739</u>
<u>1.0</u>	<u>.45885</u>
<u>2.0</u>	<u>.8746</u>
<u>3.0</u>	<u>1.2907</u>
<u>4.0</u>	<u>1.7036</u>
<u>5.0</u>	<u>2.1157</u>
<u>6.0</u>	<u>2.5315</u>

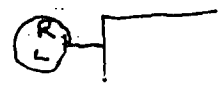
Slope 2.4/22

Stg_offset -.295

LINEAR
R² = 1
intercept = -0.1076

R

TR525I Tipping Bucket Rain Gauge: S/N



By _____ Date _____ Cleaned bucket and base y n

6.0 inch diameter intake. 1 tip = 0.01 inches = 4.63 ml

Calibrated Vessel volume _____ g/ml Bottle Tare _____

Should be _____ tips for _____ ml delivered. actual tips _____

If tip error = +- 3 tips per 100 tips recalibrate

Pipette Calibration _____ tips for average _____ ml/tip

Campbell 107 Thermistor Temperature Probe:

By C.F/R.E Date 10-14-00 RSL supplied Thermometer #

Ice water Temp 0.05 Probe Temp. 0.04

Warm Water Temp 14.70 °C Probe Temp. 14.79 °C

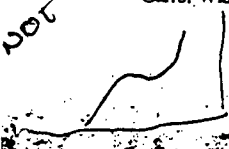
Slope _____ Offset _____

~~Same~~
Left

.55
-.25

.30

NOT
SEND
LICK LOT
L2EM



Watershed Watch / Salmon Forever
Instrument Calibration

For
Isco Automatic Sampling Station (FTR)
120 Pacific Lumber Camp Road
Calibration Data

D&A OBS-3 Turbidity Probe: S/N 430

By C.F. / R.E. Date 10-14-00

*Done
By R.E.
@ DSL*

Specific Gravity of 4000 NTU Solution from HACH MSDS sheet = 1.002 g/cc

Scale check: 500.0 g wt. = _____ g Air Temp _____

Solutions:

Distilled Water - No dilutions needed - purchased 1-gallon jugs for blackened 5 gal. Bucket

HACH 2100P Turbidimeter distilled water turbidity _____ NTU

1500 NTU: $\frac{1500}{4000} * 3500 = 1312.5$ ml of 4000 NTU solution sol. used _____ g

3500 ml - 1312.5 ml = 2187.5 ml of distilled water needed for 6.0 " id bucket

Distilled water used _____ g

HACH 2100P Turbidimeter sample turbidity _____ NTU

750 NTU: $\frac{750}{1500} * 3500 = 1750$ ml of 1500 NTU solution sol. used _____ g

3500 ml - 1750 ml = 1750 ml of distilled water needed for 6.0 " id bucket

Distilled water used _____ g

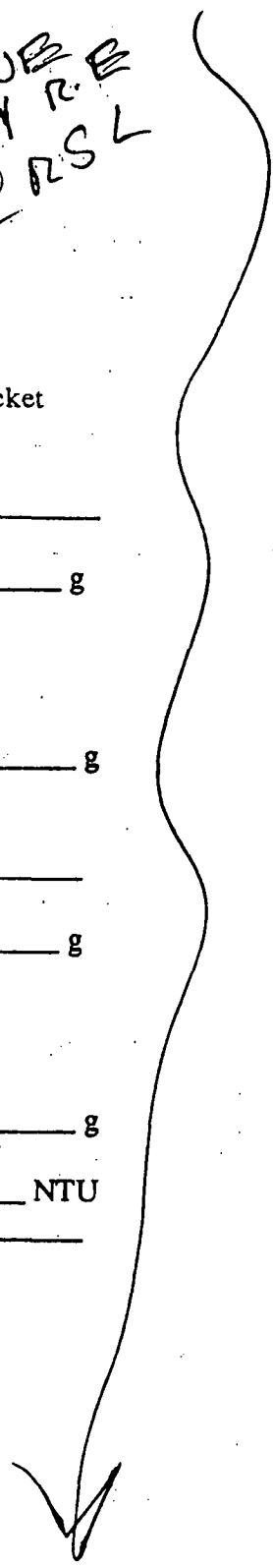
HACH 2100P Turbidimeter sample turbidity _____ NTU

mV of distilled water _____

mV of 1500 NTU standard _____

mV of 750 NTU standard _____

Turb_off _____ Slope _____



STATION ARR HY01

D&A OBS-3 Calibration Redwood Sciences Lab

Lab Personnel Rand Eads

Date 9/20/2000

Air Temperature 19.5°C Solution Temperature 19.3°C

Zero standard is filtered lab water checked with Hach 2100P = 0.02 NTU

2000 NTU standard diluted from Hach 4000 Formazin standard

S/N	0.00 NTU Std. (mV)	2000 NTU Std. (mV)
370	2.6	2505
430	1.3	2512

offset = 0.0
mult = 0.8