0057616

PNL 0033

M

Battelle
Putting Technology To Work
Pacific Northwest National Laboratory
Battelle Boulevard
P.O. Box 999
Richland, Washington 99352

FACSIMILE TRANSMITTAL

DATE:

To: JH Kessner OR G. Thomas

Company: BHI

City/State:

Facsimile #: 372-9487

Telephone #:

From: SR Bivins

Facsimile #: 372-1484

Telephone #: 376-9492

Transmittal Consists of ~~(4)~~ 3 Page(s) including cover page.

COMMENTS:

Signed Report to Follow

SRB

RECEIVED
DEC 2001

RECEIVED
JUN 13 2002
EDMC

PRIORITY

Payne

EA-1950-231 (4/96)

ID:HS-C14 LS6500-1' 6 DEC 2001 11:33
TRK: 3' COMMENT:SN70A8R1

PRESET TIME : 2.00
DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER :EDIT
COUNT BLANK : NO LC# : NO REPLICATES : 1 RS232 : OFF
TWO PHASE : NO ADC :YES CYCLE REPEATS : 1 DISK :EDIT
SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0
DATA BUFFER IS FULL. DATA WILL GO TO PRINTER ONLY.
RAW LIST : OFF
LOW LEVEL : NO HALF LIFE CORRECTION DATE: 8 DEC 2000 00:00

Bechtel
100F
12-6-01
JW
#2276

ISOTOPE 1: 3H %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 21
ISOTOPE 2: 14C %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 13
WIDE OPEN WINDOW %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 66

BACKGROUND QUENCH CURVE: OFF DULUK QUENCH CORRECTION: OFF

Quench Limit= Low:27.257 High:370.30

SAM NO	POS	TIME MIN	H#	ISO	CORRECTED CPM	%ERROR	DPM	EFF-1	EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	21-1	2.00	62.1	3H	2.30	294.88	5.60	43.46	0.66	-284.8	15.70	2.56
		BLANK		14C	0.02	25980	-0.02	17.61	75.20			
				WIDE	0.00	1.E+06						
2	21-2	2.00	85.6	3H	0.00	1.E+06	-0.67	37.69	0.66	-0.466	5.38	5.13
		1378-1		14C	1.02	527.96	1.38	17.38	74.20			
				WIDE	0.00	1.E+06						
3	21-3	2.00	99.7	3H	0.00	1.E+06	0.00	34.53	0.67	0.000	3.67	7.75
		1378-2		14C	0.00	1.E+06	0.00	17.27	73.62			
				WIDE	0.00	1.E+06						
4	21-4	2.00	96.2	3H	1.30	510.25	3.54	35.31	0.67	5.252	5.56	10.33
		1378-3		14C	0.52	1017.6	0.67	17.30	73.76			
				WIDE	1.58	755.38						
5	21-5	2.00	85.3	3H	1.80	372.66	5.06	37.75	0.66	-118.9	4.29	12.94
		1378-4		14C	0.00	1.E+06	-0.04	17.38	74.21			
				WIDE	0.00	1.E+06						
6	21-6	2.00	77.7	3H	2.30	294.88	4.28	39.53	0.66	1.068	3.22	15.54
		1378-5		14C	3.02	190.22	4.02	17.45	74.32			
				WIDE	4.08	290.00						
7	21-7	2.00	91.4	3H	0.00	1.E+06	-3.29	37.96	0.66	-0.485	3.32	18.16
		1378-6		14C	5.02	121.17	6.79	17.39	74.24			
				WIDE	3.08	381.41						
8	21-8	2.00	135.4	3H	8.30	91.76	31.56	27.18	0.72	28.242	24.25	20.81
		1378-7		14C	1.02	527.96	1.12	16.90	72.04			
				WIDE	18.58	69.97						
9	21-9	2.00	118.7	3H	0.00	1.E+06	-0.43	30.54	0.69	-0.592	6.95	23.41
		1378-8		14C	0.52	1017.6	0.72	17.11	72.01			
				WIDE	3.58	329.32						
10	21-10	2.00	85.2	3H	0.80	819.20	2.25	37.77	0.66	-119.0	2.43	26.02
		1378-9		14C	0.00	1.E+06	-0.02	17.39	74.21			
				WIDE	5.58	214.31						
11	21-11	2.00	75.5	3H	0.00	1.E+06	-1.87	40.13	0.66	0.460	2.78	28.63
		1378-10		14C	3.02	190.22	4.06	17.47	74.43			
				WIDE	0.00	1.E+06						
12	21-12	2.00	103.8	3H	2.30	294.88	6.87	33.67	0.67	10.602	11.49	31.26
		1378-11		14C	0.52	1017.6	0.65	17.24	73.45			
				WIDE	0.88	1456.1						

PRIORITY

SAM NO	POS	TIME MIN	H#	ISO	CORRECTED CPM	%ERROR	DPM	EFF-1	EFF-2	RATIO	LUMEX %	ELAPSED TIME
13	12-1	2.00	126.1	3H	0.00	1.E+06	0.00	29.64	0.70	0.000	10.13	33.99
		1378-12		14C	0.00	1.E+06	0.00	17.06	72.62			
				WIDE	1.58	735.38						
14	12-2	2.00	103.2	3H	0.00	1.E+06	-7.26	32.73	0.68	-0.556	3.07	36.60
		1378-13		14C	5.52	71.24	13.06	17.20	73.27			
				WIDE	4.08	290.00						
15	12-3	2.00	112.7	3H	0.00	1.E+06	-0.80	31.77	0.68	-0.571	6.84	39.73
		1378-14		14C	1.02	527.96	1.40	17.16	73.07			
				WIDE	2.08	560.67						
16	12-4	2.00	111.3	3H	0.00	1.E+06	-0.40	32.07	0.68	-0.566	3.48	41.85
		1378-15		14C	0.52	1017.6	0.71	17.18	73.13			
				WIDE	4.08	290.00						
17	12-5	2.00	108.4	3H	0.00	1.E+06	-0.40	32.68	0.68	-0.557	8.51	44.47
		1378-16		14C	0.52	1017.6	0.71	17.20	73.26			
				WIDE	1.58	735.38						
18	12-6	2.00	127.5	3H	0.00	1.E+06	-1.76	28.74	0.71	-0.626	9.36	47.10
		1378-17		14C	2.02	275.63	2.81	17.01	72.41			
				WIDE	0.00	1.E+06						
19	12-7	2.00	115.0	3H	0.00	1.E+06	-0.02	31.30	0.69	-0.579	3.90	49.71
		1378-18		14C	0.02	25980	0.03	17.14	72.98			
				WIDE	0.00	1.E+06						
20	12-8	2.00	69.5	3H	0.00	1.E+06	0.00	36.81	0.66	0.000	3.68	52.33
		1378-19		14C	0.00	1.E+06	0.00	17.35	74.04			
				WIDE	0.00	1.E+06						
21	12-9	2.00	87.5	3H	0.00	1.E+06	-3.02	37.25	0.66	-0.493	2.78	54.95
		1378-20		14C	4.52	132.74	6.12	17.37	74.12			
				WIDE	7.58	159.95						
22	12-10	2.00	36.9	3H	0.00	819.68	1.89	44.84	0.66	-121.1	3.92	57.58
		1378-21		14C	0.00	1.E+06	-0.02	17.68	73.44			
				WIDE	0.00	1.E+06						
23	12-11	2.00	107.4	3H	0.00	1.E+06	0.00	32.90	0.68	0.000	6.47	60.20
		1378-22		14C	0.00	1.E+06	0.00	17.21	73.30			
				WIDE	0.00	1.E+06						
24	12-12	2.00	139.6	3H	0.00	1.E+06	0.00	26.40	0.73	0.000	8.76	62.83
		1378-23		14C	0.00	1.E+06	0.00	16.84	71.84			
				WIDE	0.00	1.E+06						
25	40-1	2.00	110.3	3H	0.00	1.E+06	-0.02	32.28	0.68	0.563	4.47	65.56
		1378-24		14C	0.02	25980	0.03	17.18	73.18			
				WIDE	2.58	453.67						
26	40-2	2.00	78.7	3H	0.00	1.E+06	-0.33	39.30	0.66	-0.469	8.02	68.18
		1378-25		14C	0.52	1017.6	0.70	17.44	74.48			
				WIDE	0.00	1.E+06						
27	40-3	2.00	117.5	3H	0.80	819.68	1.93	30.79	0.69	1.399	9.39	70.80
		1378-26		14C	1.02	527.96	1.38	17.12	72.87			
				WIDE	0.00	1.E+06						
28	40-4	2.00	110.5	3H	3.80	184.21	9.80	32.23	0.68	2.075	5.36	73.43
		1378-27		14C	3.52	165.65	4.73	17.18	73.17			
				WIDE	16.58	69.97						
29	40-5	2.00	101.9	3H	0.00	1.E+06	0.00	34.06	0.67	0.000	5.80	76.04
		1378-28		14C	0.00	1.E+06	0.00	17.25	73.53			
				WIDE	0.00	1.E+06						
30	40-6	2.00	129.1	3H	0.00	1.E+06	-0.46	28.43	0.71	-0.632	7.07	78.66
		1378-29		14C	0.52	1017.6	0.72	16.99	72.34			
				WIDE	4.08	290.00						
31	40-7	2.00	93.3	3H	0.00	1.E+06	-2.47	35.51	0.67	-0.515	2.97	81.27
		1378-30		14C	3.52	165.65	4.79	17.31	73.80			
				WIDE	5.58	414.31						

PRIORITY

SAM NO	POS	TIME MIN	HH	ISO	CORRECTED CPM	%ERROR	DPM	EFF-1	EFF-2	RATIO	LUMEX %	ELAPSED TIME
32	40-8	2.00	94.0	3H	0.00	1.E+06	-2.45	35.60	0.67	0.511	3.19	83.89
		1378-31		14C	3.52	165.65	4.79	17.32	73.86			
				WIDE	0.00	1.E+06						
33	40-9	2.00	94.4	3H	0.00	1.E+06	-1.41	35.72	0.67	-0.513	3.49	86.50
		1378-32		14C	2.02	275.63	2.75	17.31	73.84			
				WIDE	6.58	329.32						
34	40-10	2.00	121.3	3H	0.00	1.E+06	-2.93	30.00	0.70	-0.602	6.10	89.13
		1378-33		14C	3.52	165.65	4.87	17.08	72.70			
				WIDE	0.00	1.E+06						
35	40-11	2.00	95.5	3H	0.00	1.E+06	-3.88	35.45	0.67	-0.516	3.69	91.74
		1378-34		14C	5.52	111.67	7.51	17.30	73.79			
				WIDE	5.00	234.57						
36	40-12	2.00	120.5	3H	0.00	1.E+06	-2.09	30.16	0.70	-0.599	1.80	94.35
		1378-35		14C	2.52	224.48	3.48	17.09	72.73			
				WIDE	0.00	1.E+06						
37	27-1	2.00	87.4	3H	0.00	1.E+06	-2.29	38.20	0.66	-0.482	2.56	97.07
		1378-36		14C	3.52	165.65	4.76	17.40	74.29			
				WIDE	10.08	122.31						
38	27-2	2.00	109.9	3H	0.00	1.E+06	-1.17	32.38	0.68	-0.561	3.87	99.69
		1378-37		14C	1.52	360.34	2.09	17.19	73.20			
				WIDE	4.08	290.00						
39	27-3	2.00	109.7	3H	0.00	1.E+06	-2.71	32.41	0.68	-0.561	4.58	102.31
		1378-38		14C	3.52	165.65	4.83	17.19	73.20			
				WIDE	6.58	183.00						
40	27-4	2.00	99.5	3H	0.00	1.E+06	0.00	34.59	0.67	0.000	2.50	104.92
		1378-39		14C	0.00	1.E+06	0.00	17.27	73.63			
				WIDE	2.08	560.67						
41	27-5	2.00	76.4	3H	0.00	1.E+06	-0.01	39.86	0.66	-0.463	3.41	107.54
		1378-40		14C	0.02	25980	0.03	17.46	74.58			
				WIDE	0.08	14361						

PRIORITY

ID = DAILY SOURCE 6 DEC 2001 11:32
USER: 8 COMMENT:LSC#1 USF UNW C14 DIVIDEBY10

PRESET TIME :	0.10						
DATA CALC :	CPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	LC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1	DISK	: OFF
SCINTILLATOR:	LTQUID	LUMEX:	NO	LOW SAMPLE REJ:	0	RWM LIST	: OFF
LOW LEVEL :	NO	HALF LIFE		CORRECTION DATE:		none	

ISOTOPE 1:	14C	%ERROR: 0.00	FACTOR:	1.000000	BKG. SUB:	0
WIDE OPEN WINDOW		%ERROR: 0.00	FACTOR:	1.000000	BKG. SUB:	0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	14C CPM	14C %ERROR	WIDE CPM	WIDE %ERROR	LUMEX %	ELAPSED TIME
1	R-1	0.10	0.8	93380.00	2.07	94070.00	2.06	0.00	0.56

Source OK

JM

12-6-01

PRIORITY

ID: NI-63 LS6500-1 6 DEC 2001 13:21
USER: 4 COMMENT: SN20X8871
PRESET TIME : 2.00

DATA CALC :	SL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	:EDIT
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AGC	: NO	CYCLE REPEATS :	1	DISK	:EDIT
SCINTILLATOR:	LIQUID	LUMEX	: NO	LOW SAMPLE REJ:	0	RUN LIST	: OFF
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				10 MAR 1997 12:00	

ISOTOPE 1: NI63 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 31
WIDE OPEN WINDOW %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 66

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low:68.852 High:337.48

SAM NO	POS	TIME MIN	H#	NI63 CPM	NI63 %ERROR	WIDE CPM	WIDE %ERROR	NI63 DPM	NI63 EFF-1	LUMEX %	ELAPSED TIME	
1	24-1	2.00	62.9	8.52	104.98	0.00	1.E+06	11.76	74.91	25.61	2.55	BLANK
		WARNING: QUENCH VALUE IS OUTSIDE QUENCH LIMIT										
2	24-2	2.00	84.0	0.00	1.E+06	0.00	1.E+06	0.00	71.96	4.73	5.13	1375.
3	24-3	2.00	98.3	5.02	170.20	8.63	141.92	7.43	69.89	4.08	7.73	-2
4	24-4	2.00	91.9	2.02	405.22	1.13	1028.2	2.95	70.70	4.47	10.31	-3
5	24-5	2.00	87.2	0.00	1.E+06	2.13	549.52	0.00	71.50	4.17	12.91	-4
6	24-6	2.00	83.1	0.52	1538.5	0.00	1.E+06	0.75	72.10	4.44	15.51	-5
7	24-7	2.00	86.6	4.52	187.73	3.63	325.96	6.53	71.55	3.46	18.11	-6
8	24-8	2.00	143.5	0.02	39665	0.00	1.E+06	0.03	61.94	18.13	20.72	-7
9	24-9	2.00	128.6	4.52	187.73	0.00	1.E+06	7.22	64.72	6.55	23.31	-8
10	24-10	2.00	85.3	2.52	327.23	6.63	152.25	3.63	71.77	3.05	25.91	-9
11	24-11	2.00	75.8	0.00	1.E+06	1.63	715.46	0.00	73.15	3.42	28.51	-10
12	24-12	2.00	109.6	0.00	1.E+06	0.00	1.E+06	0.00	67.98	8.40	31.11	-11
13	12-1	2.00	125.9	0.52	1538.5	0.00	1.E+06	0.82	65.19	6.56	33.81	-12
14	12-2	2.00	109.2	4.02	209.61	2.63	446.67	6.11	68.06	3.31	36.42	-13
15	12-3	2.00	118.5	0.00	1.E+06	1.13	1028.2	0.00	66.48	5.60	39.03	-14
16	12-4	2.00	112.7	2.52	327.23	1.63	715.46	3.86	67.46	4.70	41.63	-15
17	12-5	2.00	107.5	0.52	1538.5	0.00	1.E+06	0.79	68.33	6.75	44.24	-16
18	12-6	2.00	130.0	0.52	1538.5	0.00	1.E+06	0.83	64.46	6.59	46.84	-17
19	12-7	2.00	114.0	2.02	405.22	0.00	1.E+06	3.10	67.26	3.53	49.46	-18
20	12-8	2.00	94.0	0.00	1.E+06	0.00	1.E+06	0.00	70.46	3.40	52.06	-19
21	12-9	2.00	90.7	0.00	1.E+06	2.63	446.67	0.00	70.96	3.32	54.64	-20
22	12-10	2.00	57.4	8.52	104.98	8.13	150.14	11.64	75.64	4.28	57.26	-21
		WARNING: QUENCH VALUE IS OUTSIDE QUENCH LIMIT										
23	12-11	2.00	112.4	0.00	1.E+06	0.00	1.E+06	0.00	67.52	4.43	59.86	-22
24	12-12	2.00	135.0	0.00	1.E+06	0.00	1.E+06	0.00	63.54	6.74	62.46	-23
25	40-1	2.00	111.2	0.52	1538.5	0.00	1.E+06	0.79	67.73	4.86	65.17	-24
26	40-2	2.00	80.7	10.02	90.92	7.13	170.05	14.30	72.45	5.65	67.76	-25
27	40-3	2.00	118.3	0.00	1.E+06	0.00	1.E+06	0.00	66.52	7.11	70.37	-26
28	40-4	2.00	111.1	0.00	1.E+06	0.00	1.E+06	0.00	67.74	5.55	72.98	-27
29	40-5	2.00	101.8	3.02	275.05	0.13	8871.4	4.51	69.24	4.76	75.59	-28
30	40-6	2.00	131.1	2.02	405.22	1.63	715.46	3.25	64.26	4.94	78.19	-29
31	40-7	2.00	94.3	6.52	133.71	11.63	107.37	9.57	70.42	2.77	80.79	-30
32	40-8	2.00	96.2	1.02	790.42	0.00	1.E+06	1.50	70.13	3.33	83.39	-31
33	40-9	2.00	96.4	0.00	1.E+06	0.00	1.E+06	0.00	70.10	3.60	86.01	-32
34	40-10	2.00	122.2	0.00	1.E+06	0.00	1.E+06	0.00	65.95	5.10	88.61	-33
35	40-11	2.00	98.3	0.02	39665	0.00	1.E+06	0.03	69.80	4.11	91.21	-34
36	40-12	2.00	120.2	0.00	1.E+06	0.00	1.E+06	0.00	66.19	2.05	93.80	-35

PRIORITY

TD=NI-63 LS6500-1 6 DEC 2001 15:57

USER: 4 COMMENT:SN70[illegible]

PRESET TIME : 2.00

DATA CALC :	SL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	:EDIT
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	: NO	CYCLE REPEATS :	1	DISK	:EDIT
SCINTILLATOR:	LIQUID	LUMEX:	NO	LOW SAMPLE REJ:	0	RWM LIST	: OFF
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			10 MAR 1997 12:00		

ISOTOPE 1: NI63 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 31

WIDE OPEN WINDOW %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 66

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low:68.852 High:337.48

SAM NO	POS	TIME MIN	H#	NI63 CPM	NI63 %ERROR	WIDE CPM	WIDE %ERROR	NI63 DPM	NI63 EFF-1	LUMEX %	ELAPSED TIME	
1	24-1	2.00	63.7	14.52	66.06	10.13	122.11	20.06	74.80	20.95	2.52	BLANK
		WARNING: QUENCH VALUE IS OUTSIDE QUENCH LIMIT										
2	24-2	2.00	84.6	1.52	534.48	1.13	1028.2	2.19	71.88	3.50	5.11	1378-3[illegible]
3	24-3	2.00	110.9	0.00	1.E+06	0.00	1.E+06	0.00	67.79	4.22	7.71	-37
4	24-4	2.00	111.3	4.02	209.61	5.13	233.10	6.14	67.71	4.48	10.30	-3
5	24-5	2.00	98.9	0.00	1.E+06	0.00	1.E+06	0.00	69.71	3.11	12.87	-3[illegible]
6	24-6	2.00	77.0	0.00	1.E+06	4.13	287.51	0.00	72.97	3.76	15.47	1378-4[illegible]

PRIORITY

Ayres, Doris E

From: Kessner, Joan H
Sent: Monday, December 17, 2001 10:39 AM
To: Duncan, Jeanette M; Ayres, Doris E
Subject: FW: 100F Samples

Would you see if this helps??

—Original Message—
From: Stankovich, Michael T
Sent: Monday, December 17, 2001 10:37 AM
To: Kessner, Joan H
Cc: Trent, Stephen J
Subject: RE: 100F Samples

Get a copy of page 4 of EL-1535-3. In the meantime:
1 = B13LM4
2 = B13LM5
3 = B13LM6
.
.
.
40= B13LT3

Michael T Stankovich
Sampling Analytical Lead
Group 4 Remedial Action
(509) 531-7620
(509) 521-8001 (fax)
X9-11

—Original Message—
From: Kessner, Joan H
Sent: Monday, December 17, 2001 9:16 AM
To: Stankovich, Michael T
Cc: Trent, Stephen J
Subject: FW: 100F Samples

Mike—
Do you have some way of helping with this??
Thanks,
Joan

—Original Message—
From: Bivins, Steven R [mailto:steven.bivins@pnl.gov]
Sent: Monday, December 17, 2001 8:51 AM
To: Trent, Stephen J; Kessner, Joan H
Subject: 100F Samples

Steve/Joan

Finally got the information of these samples. The samples as we received them had the 1378-## on the vial caps not the number as stated on the COC. The RCT in my lab did not notice that the numbers were different and reported the results by the number on the vials. Looking at the COC I am not sure how to resolve this since we cannot confirm that the samples were in the same sequence. If your folks out there can not come up with the correlation, I'm not sure where to go from here.

Steven Bivins

RCT Supervisor
(509) 376-9492