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CW0557/58 Vacuum Breaker Vault Leak

On 11-20-00 water was observed leaking from the CW057/58 Vacuum Breaker Vault. It was estimated the leak had been occurring for approximately 3 hours. Tritium samples were taken from three locations: the vault, center of the south end of the 345' switchyard fence, and from the southwest end of the 345' switchyard fence. A gamma isotopic was performed on the water from the vault.

No radioactive releases were performed during the period of the leaking vacuum breaker.

Gamma isotopic analysis indicated no quantifiable peaks. All tritium analyses were below the lower limit of detection ($1.87E-06$ uCi/ml).

$L \approx 2000 \text{ pCi/L}$

No further sampling warranted.

Kim Aleshire 2/5/01
Kim Aleshire, HP

Rick Thacker 2-5-01
Rick Thacker, LHP, Technical

D-39

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TRITIUM SAMPLE DATA SHEET

Liquid Scintillation Analyzer Model 2500TR

Date: 11-20-00

Serial Number# 40000 1

Analyst: RJW

①

②

③

1. Sample Name	BLANK	CW 057158 Vacuum Breaker Vault	345 yards Fence South Center	345 yards Fence South West	
2. Date/Time Sample Obtained	N/A	11-20-00 1330	11-20-00 1345	11-20-00 1345	
3. Sample Number	1	2	3	4	
4. Count Duration (min)	11.0	11.0	11.0	11.0	
5. Blank CPMA	3.91	N/A	N/A	N/A	N/A
6. DPM1	N/A	2.10	1.15	2.29	
7. Sample Amount (g)	2.0	2.0	2.0	2.0	
8. Tritium Activity (μCi/g)	N/A	<1.87E-6	<1.87E-6	<1.87E-6	

CORRECTED

* For Water Sample Calculations Activity (μCi/g) = $\frac{\text{DPM 1}}{(2.22E6) \text{ (grams of sample)}}$

* For Silica Gel Calculations - See BwCP 220-2

Remarks: _____

APPROVED

Reviewed by: Ann Albin

APR 14 1996

(Final)

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20 Nov 2000 18:12 TRI-CARB - 1.09 Page #1
Protocol #: 8 UNCONDITIONAL RELEAS User : LSC 400001

Time: 11.00
Data Mode: DPH Nuclide: BRAID H3 Quench Set: BRAID H3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 8.0		0	0.0	3.91
Region B:	0.0 - 18.6		0	0.0	6.91
Region C:	0.0 - 0.0		0	0.0	0.00

Quench Indicator: tSIE
Ext Std Terminator: Count
WATER SAMPLES COUNTED TO ENVIRONMENTAL LLD
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CFMA	DPM1	SIS	tSIE	FLAGInst	SN#
1	11.00	3.91		24.364	563.71	B	400001
2	11.00	1.00	2.10	5.938	560.55		400001

3	11.00	0.55	1.15	16.050	562.60		400001
4	11.00	1.09	2.28	25.546	566.82		400001

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	351.98	20	28	2.10	703.97	700	8	51.0		PB-214
0	610.01	27	26	0.97	1220.03	1214	9	40.5		BI-214
0	1166.99	10	2	1.37	2333.96	2328	9	40.0		cs 134 low abundance
0	1764.17	24	0	2.10	3528.29	3523	11	20.4		BI-214

Wjpe

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Unidentified Energy Lines

Sample ID :

Acquisition date : 20-NOV-2000 14:23:22

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	1166.99	10	2	1.37	2333.96	2328	9	2.87E-03	40.0	1.98E+00	

Flags: "T" = Tentatively associated

*Cs137
low abundance
reject*

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Rejected Report
Sample ID :

Page : 5
Acquisition date : 20-NOV-2000 14:23:22

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (UCI/1600)	1-Sigma %Error	Rejected by
RU-103	39.26D	0.00	497.08*	91.00	---	Not Found	---
			610.33	5.76	7.015E-08	41.36	Abun.
% Abundances Found =				5.95			

Flag: "*" = Keyline

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Minimum Detectable Activity Report

Sample ID :

Acquisition date : 20-NOV-2000 14:23:22

Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/1600)
BE-7	21.	477.61	3.0094E-08
NA-24	9.	1368.63	4.7186E-09
CL-38	4.	1642.42	4.9947E-08
K-40	64.	1460.81	1.0286E-07
AR-41	2.	1293.64	3.6514E-09
SC-46	18.	889.28	4.3132E-09
CR-51	24.	320.08	2.8117E-08
MN-54	15.	834.84	3.8527E-09
MN-56	11.	846.76	4.9602E-09
CO-57	47.	122.06	4.4426E-09
CO-58	17.	810.77	3.9984E-09
FE-59	11.	1099.25	7.2968E-09
CO-60	15.	1332.50	5.3195E-09
CU-64	4.	1345.88	7.2647E-07
NI-65	1.	1481.84	1.3255E-08
ZN-65	13.	1115.55	8.7557E-09
ZN-69M	19.	438.63	3.2776E-09
SE-75	39.	264.66	5.3890E-09
AS-76	23.	559.08	8.3157E-09
BR-82	18.	776.52	4.7907E-09
BR-85	28.	514.01	8.5314E-07
BR-85M	44.	151.19	5.3204E-09
R-87	20.	402.58	1.1917E-08
R-88	33.	196.32	1.4971E-08
B-88	3.	1836.00	3.1694E-07
B-89	8.	1031.88	1.9527E-07
R-91	12.	1024.30	1.3657E-08
R-92	8.	1383.94	6.7647E-09
-92	9.	934.46	3.1281E-08
B-95	8.	765.79	2.7939E-09
R-95	12.	756.72	5.8885E-09
B-97	15.	657.92	7.3532E-09
R-97	16.	743.36	4.1354E-09
O-99	35.	140.51	3.3695E-09
O-99M	35.	140.51	3.4312E-09
O-101	29.	306.81	1.4026E-07
J-103	15.	497.08	3.0193E-09
J-105	19.	724.50	9.7826E-09
B-110M	16.	657.76	3.5585E-09
J-113	41.	255.12	1.7498E-07
B-122	10.	564.24	3.6130E-09
B-123M	51.	159.00	4.0412E-09
B-124	14.	602.73	3.0992E-09
B-125	22.	427.89	1.0346E-08
B-125M	39.	109.28	1.3920E-06
B-126	22.	666.33	3.9216E-09
B-126M	29.	414.70	6.7783E-08
131	27.	364.48	3.8332E-09
-131M	36.	163.93	1.4742E-07
132	21.	667.72	5.7896E-09
-132	34.	228.16	3.2918E-09

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Sample ID :

Acquisition date : 20-NOV-2000 14:23:22

Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/1600)
3A-133	34.	356.02	5.4547E-09
I-133	13.	529.87	3.2434E-09
4E-133	29.	81.00	1.7843E-08
4E-133M	33.	233.22	2.8245E-08
CS-134	19.	604.70	3.5208E-09
I-134	11.	847.03	1.0491E-08
I-135	6.	1260.41	1.4236E-08
4E-135	30.	249.79	3.4297E-09
4E-135M	19.	526.57	1.2878E-07
CS-136	11.	818.50	3.3379E-09
CS-137	15.	661.66	3.8424E-09
CS-138	6.	1435.86	2.8531E-08
4E-138	35.	258.41	4.1297E-07
3A-139	31.	165.85	2.2724E-08
3A-140	11.	537.32	1.0355E-08
3A-140	3.	1596.18	3.4560E-09
3A-141	34.	190.22	1.1031E-07
4E-141	37.	145.44	6.2567E-09
A-142	41.	255.12	2.2650E-06
E-143	32.	293.26	7.3280E-09
E-144	36.	133.54	2.8054E-08
R-144	12.	696.51	5.1597E-06
F-181	19.	482.00	3.5139E-09
A-182	19.	1121.30	1.5070E-08
-187	18.	685.74	1.4290E-08
L-208	19.	583.14	4.0125E-09
I-212	18.	727.17	3.1569E-08
C-228	7.	911.07	1.0795E-08
H-234	34.	92.38	1.8422E-07
P-239	33.	106.12	1.6862E-08
VH-511	85.	511.00	0.0000E+00
321_SUM	6.	1321.00	0.0000E+00
520_SUM	5.	1620.00	0.0000E+00

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Reviewed by:

Bob B

Date:

11/20/00

