From: "Jones, T. R." <tjones2@entergy.com>
To: "James Noggle" <JDN@nrc.gov>
Date: 10/27/05 3:31PM
Subject: FW: Jim Noggle has requested the following:

From: Peters, James
Sent: Thursday, October 27, 2005 3:22 PM
To: Jones, T. R.
Cc: Lavera, Ron; Peters, James
Subject: FW: Jim Noggle has requested the following:

For Jim Noggle

Teledyne does not extract liquid from the soil so there is no way to obtain the information in request 1.

From: Hood, Floyd
Sent: Thursday, October 27, 2005 9:24 AM
To: Peters, James
Subject: RE: Jim Noggle has requested the following:

As per your request, check to see if this is all the data you requested:
<<tritium resuls oct-2005.pdf>> <<gamma spec NCD inlet 10-6-2005.txt>> <<gamma spec NCD outlet 10-6-2005.txt>> <<gamma spec NCD sampler#2 10-7-2005.txt>> <<gamma spec SFDS 9-30-2005.txt>> <<gamma spec west sfp 9-30-2005.txt>> <<teledyne results NCD and SFDS jun-2005.pdf>> <<teledyne results west SFP apr-2004.pdf>>

From: Peters, James
Sent: Thursday, October 27, 2005 6:58 AM
To: Hood, Floyd
Subject: FW: Jim Noggle has requested the following:

Floyd - can you give an electronic copy of the information requested in item 2.

From: Jones, T. R.
Sent: Wednesday, October 26, 2005 2:19 PM
To: Axelson, William L; Lavera, Ron; Sandike, Steven; Peters, James
Cc: Leach, Don; Rutkoske, Michael; Mayer, Don; Croulet, Donald; Jones, T. R.
Subject: Jim Noggle has requested the following:

Jim Noggle has requested the following:
1. Sample information in mci /ml of the tritium liquid counting from the soil samples taken early by Teledyne.
2. Sphere Foundation, North Curtain Drain, and Unit 1 West Spent Fuel Pool data (Gamma, tritium and difficult to measure)
3. Update of all sample data / spread sheet.
4. On Wednesday 11/2/05 Jim plans to finish his review of the 80.10 program on storm sewage system results and more current information and use of that in the effluent report. Jim said this info was being provided by Steve Sandike.

Items 1, 2 and 3 should be sent to Noggle via email as soon as we have it available.

A/16

T.R. Jones

Week # 08A

Tritium Data Reduction

Data Processed: 10/23/05 7:17 AM

SAMPLE INFORMATION					ANALYSIS DATA	
S\N	Volume	Unit #	Sample ID	uCi/ml	CPM	Notes
1	2.50	3	Blank		6.96E+00	
2	2.50	3	Calibration Standard	4.51E-02	1.24E+05	
3	2.50	3	Control Standard	2.66E-03	7.31E+03	
4	2.50	IPEC	MW-111 10/14/05	6.82E-06	1.87E+01	
5	2.50	3	RAMS vent end 10/18/05	3.35E-06	9.21E+00	
6	2.50	3	VC #1 10/19/05 140 mls	1.26E-02	3.45E+04	
7	2.50	3	VC #2 10/19/05 186 mls	8.46E-04	2.32E+03	
8	2.50	3	VC#3 10/19/05 111 mls	7.67E-05	2.11E+02	
9	2.50	3	Strorm Drain A-4 10/19/05	<MDA	7.50E-01	
10	2.50	3	Strorm Drain B-8 10/19/05	8.41E-07	2.31E+00	
11	2.50	IPEC	MW-111 10/21/05 0940	2.84E-04	7.79E+02	
12	0.50	2	WDST M/E Sept '05	7.37E-02	4.05E+04	
13	2.50	3	blank	<MDA	0.00E+00	
14	2.50	3	Calibration Standard	4.51E-02	1.24E+05	
15	2.50	3	Control Standard	2.66E-03	7.30E+03	
16	2.50	2	SFDS M/E Sept '05	9.54E-07	2.62E+00	
17	2.50	2	NCD M/E Sept '05	1.29E-05	3.53E+01	
18	2.50	2	2 RWST 10/14/05	2.01E-01	5.51E+05	
19	2.50	2	2 S/G M/E Sept '05	2.88E-06	7.91E+00	
20	2.50	IPEC	MW-111 10/07/05 1030	1.88E-04	5.16E+02	
21	2.50	2	NCD Influent 10/07/05	2.25E-05	6.19E+01	
22	0.50	2	2 RCS 10/09/05	1.42E+00	7.82E+05	
23	2.50	2	2 SFP 10/10/05	2.71E-02	7.43E+04	
24	2.50	2	MW-111 10/14	6.32E-06	1.74E+01	

CALIBRATION SOURCE DATA S/N 66838-40			Crit Level = 1.76E+00 cpm
Date of Source:	09/17/03	5.07E-02 uCi/ml	Efficiency= 49.47% cpm/dpm
Date & Time Sample Counted:	10/23/05 7:17	4.51E-02 uCi/ml	Background= 6.96 cpm

(NOTE: Background is automatically subtracted from sample counts)

Performed By:

Reviewed By: 10/25

Control Chart Updated: (Initial)

SCINTILATOR USED:
Beckman / Tricarb 2900

IPEC Chemistry Gamma Spectroscopy Report 6-OCT-2005 10:39:18

FILENAME : DISK$CANBERRA:[GAMMA.SCUSR.ARCHIVE]SMP_6639_NUC4_1LPOLY_42728.CNF;1

---- Sample Information ----

Sample Title : NCD INF
Sample ID : 6639 Sample Quantity : 1.00000E+03 CC
Technician : JY
Sequence File : GENERIC_LIQUID.A Nuclide Library : CHEM_MAIN.NLB

---- Sample Deposition Information ----
Dep. Correction? : No Dep. Duration :
Deposition Start : Deposition End : 6-OCT-2005 09:45:00.

---- Sample Decay/Count Information ----
Sample Date : 6-OCT-2005 09:45:00. Acquisition date : 6-OCT-2005 09:54:39.
Decay time : 0 00:09:39.75 % dead time : 0.0%
Elapsed live time: 0 00:44:08.00 Elapsed real time: 0 00:44:09.22
Activity Units : uCi Activity Multiplier: 1.00000E+00

---- Detector Parameters ----
Energy cal. time : 5-OCT-2005 08:54:34. Detector name : NUC4
Effic. cal. time : 19-SEP-2004 18:12:25.Counting geometry: 1L POLY

---- Processing Parameters ----
Start channel : 80 End channel : 4096
Sensitivity : 5.00000 Gaussian Sens. : 10.00000
Critical level? : Yes Propagate Errors?: No
Empirical Eff? : No Library-based eff: No
Energy tolerance : 1.25000 Half life ratio : 8.00000
Abundance limit : 75.00000 WTM error limit : 3.00000
MDA Width (FWHM) : 3.00000 MDA Confid Level : 5.00000 %

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	661.63	12984	131	1.61	1322.70	1314	18	0.9		CS-137

Summary of Nuclide Activity Page : 2
Sample ID : 6639 Acquisition date : 6-OCT-2005 09:54:39

Total number of lines in spectrum 1
Number of unidentified lines 0
Number of lines tentatively identified by NID 1 100.00%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/CC	Wtd Mean Decay Corr uCi/CC	1-Sigma Error	%Error	Flags
CS-137	30.17Y	1.00	4.408E-05	4.408E-05	0.040E-05	0.90	
			---	---			
Total Activity :			4.408E-05	4.408E-05			

Grand Total Activity : 4.408E-05 4.408E-05

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/CC)
BE-7	483.	477.59	2.3176E-06
NA-22	0.	1274.54	1.2673E-08
NA-24	2.	1368.53	4.5828E-08
K-40	19.	1460.85	1.0781E-06
AR-41	1.	1293.16	4.2702E-08
CR-51	434.	320.08	1.7568E-06
MN-54	4.	834.83	4.0839E-08
CO-56	3.	846.75	3.6324E-08
MN-56	3.	846.75	4.2243E-08
CO-57	602.	122.06	1.8118E-07
CO-58	8.	810.78	5.3353E-08
FE-59	1.	1099.25	6.1845E-08
CO-60	6.	1173.24	6.2020E-08
ZN-65	1.	1115.52	6.2390E-08
BR-84	2.	881.60	1.4844E-07
KR-85	263.	513.99	4.4025E-05
KR-85M	602.	151.17	2.6035E-07
KR-87	486.	402.59	5.7450E-07
KR-88	4.	834.83	3.5687E-07
RB-88	1.	1836.01	6.2786E-07
KR-89	647.	220.90	6.6570E-05
RB-89	2.	1031.88	2.2252E-07
NB-95	11.	765.80	5.8224E-08
NB-95M	521.	235.68	6.5548E-07
ZR-95	6.	756.72	8.2440E-08
MO-99	5.	739.58	3.1460E-07
TC-99M	589.	140.51	1.6120E-07
RU-103	302.	497.08	2.2221E-07
RU-106	113.	621.80	1.4710E-06

AG-108M	6.	722.95	5.2685E-08
CD-109	491.	88.03	6.3125E-06

Minimum Detectable Activity Report (continued) Page : 3
Sample ID : 6639 Acquisition date : 6-OCT-2005 09:54:39

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/CC)
AG-110M	1.	884.67	3.6126E-08
SN-113	474.	391.70	3.2018E-07
SB-122	132.	564.20	2.0819E-07
TE-123M	630.	159.00	1.7338E-07
SB-124	2.	1691.02	1.0505E-07
SB-125	506.	427.89	7.7869E-07
XE-127	708.	202.84	2.4207E-07
I-131	464.	364.48	2.4124E-07
XE-131M	592.	163.93	7.2452E-06
I-132	8.	667.69	5.6005E-08
TE-132	615.	228.16	1.8726E-07
BA-133	451.	356.00	3.1599E-07
I-133	210.	529.87	2.0478E-07
XE-133	477.	81.00	8.0883E-07
XE-133M	555.	233.22	1.5438E-06
CS-134	4.	795.84	4.8144E-08
I-134	3.	847.03	5.8350E-08
I-135	0.	1260.41	8.1498E-08
XE-135	554.	249.79	1.9043E-07
XE-135M	234.	526.56	8.0135E-07
CS-136	5.	818.51	4.4322E-08
CS-138	4.	1435.86	1.5306E-07
XE-138	507.	258.31	1.9791E-06
BA-140	223.	537.31	7.2205E-07
LA-140	0.	1596.49	1.5588E-08
CE-141	612.	145.44	2.9978E-07
LA-142	144.	641.17	3.9542E-07
CE-144	591.	133.51	1.3134E-06
NP-239	546.	103.76	7.5241E-07
AM-241	494.	59.54	3.5075E-06

Rejected Report Page : 4
Sample ID : 6639 Acquisition date : 6-OCT-2005 09:54:39

Flag: "*" = Keyline

IPEC Chemistry Gamma Spectroscopy Report 6-OCT-2005 10:13:33

FILENAME : DISK$CANBERRA:[GAMMA.SCUSR.ARCHIVE]SMP_6640_NUC2_1LPOLY_42727.CNF;1

---- Sample Information ----

Sample Title : NCD EFF
Sample ID : 6640 Sample Quantity : 1.00000E+03 CC
Technician : JY
Sequence File : GENERIC_LIQUID.A Nuclide Library : CHEM_MAIN.NLB

---- Sample Deposition Information ----
Dep. Correction? : No Dep. Duration :
Deposition Start : Deposition End : 6-OCT-2005 09:45:00.

---- Sample Decay/Count Information ----
Sample Date : 6-OCT-2005 09:45:00. Acquisition date : 6-OCT-2005 09:53:48.
Decay time : 0 00:08:48.42 % dead time : 0.6%
Elapsed live time: 0 00:19:14.00 Elapsed real time: 0 00:19:20.50
Activity Units : uCi Activity Multiplier: 1.00000E+00

---- Detector Parameters ----
Energy cal. time : 6-OCT-2005 09:10:11. Detector name : NUC2
Effic. cal. time : 21-OCT-2004 17:42:29.Counting geometry: 1L Poly

---- Processing Parameters ----
Start channel : 80 End channel : 4096
Sensitivity : 5.00000 Gaussian Sens. : 10.00000
Critical level? : Yes Propagate Errors?: No
Empirical Eff? : No Library-based eff: No
Energy tolerance : 1.25000 Half life ratio : 8.00000
Abundance limit : 75.00000 WTM error limit : 3.00000
MDA Width (FWHM) : 3.00000 MDA Confid Level : 5.00000 %

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	280.66	9	5	1.07	562.07	557	7	55.7		
0	661.77	26	3	2.08	1323.94	1317	13	24.4		CS-137

Summary of Nuclide Activity Page : 2
Sample ID : 6640 Acquisition date : 6-OCT-2005 09:53:48

Total number of lines in spectrum 2
Number of unidentified lines 1
Number of lines tentatively identified by NID 1 50.00%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/CC	Wtd Mean Decay Corr uCi/CC	Decay Corr 1-Sigma Error	%Error	Flags
CS-137	30.17Y	1.00	1.970E-07	1.970E-07	0.481E-07	24.42	
			---	---			
Total Activity :			1.970E-07	1.970E-07			

Grand Total Activity : 1.970E-07 1.970E-07

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/CC)
BE-7	2.	477.59	4.6222E-07
NA-22	2.	1274.54	1.0487E-07
NA-24	1.	1368.53	8.9512E-08
K-40	7.	1460.85	1.7142E-06
AR-41	1.	1293.16	9.5333E-08
CR-51	11.	320.08	6.7123E-07
MN-54	4.	834.83	9.8171E-08
CO-56	0.	846.75	2.4424E-08
MN-56	0.	846.75	2.6804E-08
CO-57	12.	122.06	4.9578E-08
CO-58	0.	810.78	2.1368E-08
FE-59	1.	1099.25	1.3011E-07
CO-60	0.	1173.24	2.8414E-08
ZN-65	4.	1115.52	2.3882E-07
BR-84	3.	881.60	3.2239E-07
KR-85	2.	513.99	1.1780E-05
KR-85M	15.	151.17	8.1183E-08
KR-87	6.	402.59	1.3943E-07
KR-88	10.	196.30	1.7703E-07
RB-88	1.	1836.01	1.0257E-06
KR-89	12.	220.90	7.6000E-06
RB-89	0.	1031.88	9.8951E-08
NB-95	1.	765.80	5.5368E-08
NB-95M	10.	235.68	2.1391E-07
ZR-95	2.	724.18	1.4114E-07
MO-99	2.	739.58	5.1696E-07
TC-99M	17.	140.51	5.3946E-08
RU-103	4.	497.08	6.8155E-08
RU-106	5.	621.80	8.1906E-07

AG-108M	3.	433.93	6.0282E-08
CD-109	7.	88.03	1.2271E-06

Minimum Detectable Activity Report (continued) Page : 3
Sample ID : 6640 Acquisition date : 6-OCT-2005 09:53:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/CC)
AG-110M	4.	657.75	8.1043E-08
SN-113	9.	391.70	1.0568E-07
SB-122	6.	564.20	1.1212E-07
TE-123M	15.	159.00	5.4655E-08
SB-124	0.	1691.02	7.7714E-08
SB-125	3.	427.89	1.6546E-07
XE-127	14.	202.84	7.4397E-08
I-131	3.	364.48	5.0766E-08
XE-131M	13.	163.93	2.2585E-06
I-132	0.	772.60	2.9278E-08
TE-132	18.	228.16	7.2515E-08
BA-133	7.	356.00	9.4768E-08
I-133	1.	529.87	5.0375E-08
XE-133	10.	81.00	1.6523E-07
XE-133M	9.	233.22	4.6187E-07
CS-134	0.	795.84	2.4465E-08
I-134	1.	847.03	6.7514E-08
I-135	0.	1260.41	1.0931E-07
XE-135	8.	249.79	5.2891E-08
XE-135M	3.	526.56	1.5945E-07
CS-136	0.	1048.07	3.2852E-08
CS-138	1.	1435.86	1.4670E-07
XE-138	9.	258.31	3.7460E-07
BA-140	4.	537.31	2.5768E-07
LA-140	1.	1596.49	1.0343E-07
CE-141	16.	145.44	9.8259E-08
LA-142	3.	641.17	1.4177E-07
CE-144	14.	133.51	4.0516E-07
NP-239	13.	103.76	2.0734E-07
AM-241	4.	59.54	2.9194E-07

Rejected Report Page : 4
Sample ID : 6640 Acquisition date : 6-OCT-2005 09:53:48

Flag: "*" = Keyline

IPEC Chemistry Gamma Spectroscopy Report 7-OCT-2005 14:24:23

FILENAME : DISK$CANBERRA:[GAMMA.SCUSR.ARCHIVE]SMP_6659_NUC4_1LPOLY_42760.CNF;1

---- Sample Information ----

Sample Title : NCD SAMPLER #2
Sample ID : 6659 Sample Quantity : 1.00000E+03 CC
Technician : JY
Sequence File : GENERIC_LIQUID.A Nuclide Library : CHEM_MAIN.NLB

---- Sample Deposition Information ----
Dep. Correction? : No Dep. Duration :
Deposition Start : Deposition End : 7-OCT-2005 10:30:00.

---- Sample Decay/Count Information ----
Sample Date : 7-OCT-2005 10:30:00. Acquisition date : 7-OCT-2005 14:06:56.
Decay time : 0 03:36:56.62 % dead time : 0.0%
Elapsed live time: 0 00:17:03.00 Elapsed real time: 0 00:17:03.04
Activity Units : uCi Activity Multiplier: 1.00000E+00

---- Detector Parameters ----
Energy cal. time : 7-OCT-2005 08:38:59. Detector name : NUC4
Effic. cal. time : 19-SEP-2004 18:12:25.Counting geometry: 1L POLY

---- Processing Parameters ----
Start channel : 80 End channel : 4096
Sensitivity : 5.00000 Gaussian Sens. : 10.00000
Critical level? : Yes Propagate Errors?: No
Empirical Eff? : No Library-based eff: No
Energy tolerance : 1.25000 Half life ratio : 8.00000
Abundance limit : 75.00000 WTM error limit : 3.00000
MDA Width (FWHM) : 3.00000 MDA Confid Level : 5.00000 %

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	661.41	17	0	1.90	1322.24	1316	10	24.3		CS-137

Summary of Nuclide Activity Page : 2
Sample ID : 6659 Acquisition date : 7-OCT-2005 14:06:56

Total number of lines in spectrum 1
Number of unidentified lines 0
Number of lines tentatively identified by NID 1 100.00%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/CC	Wtd Mean Decay Corr uCi/CC	Decay Corr 1-Sigma Error	%Error	Flags
CS-137	30.17Y	1.00	1.493E-07	1.493E-07	0.362E-07	24.25	
			---	---			
Total Activity :			1.493E-07	1.493E-07			

Grand Total Activity : 1.493E-07 1.493E-07

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/CC)
BE-7	2.	477.59	5.0631E-07
NA-22	3.	1274.54	1.2309E-07
NA-24	0.	1368.53	4.1139E-08
K-40	6.	1460.85	1.7138E-06
AR-41	3.	1293.16	5.2776E-07
CR-51	8.	320.08	7.2664E-07
MN-54	1.	834.83	6.5111E-08
CO-56	5.	846.75	1.1730E-07
MN-56	5.	846.75	3.2486E-07
CO-57	13.	122.06	7.8747E-08
CO-58	2.	810.78	7.8797E-08
FE-59	0.	1099.25	5.2089E-08
CO-60	3.	1173.24	1.1806E-07
ZN-65	2.	1115.52	2.0650E-07
BR-84	3.	881.60	3.1944E-05
KR-85	3.	513.99	1.5696E-05
KR-85M	9.	151.17	1.5770E-07
KR-87	8.	402.59	1.3273E-06
KR-88	14.	196.30	6.4462E-07
RB-88	0.	898.30	Half-Life too short
KR-89	0.	220.90	Half-Life too short
RB-89	0.	1031.88	Half-Life too short
NB-95	5.	765.80	1.0550E-07
NB-95M	8.	235.68	2.5912E-07
ZR-95	3.	756.72	1.6061E-07
MO-99	2.	739.58	6.3142E-07
TC-99M	19.	140.51	8.6281E-08
RU-103	5.	497.08	8.8886E-08
RU-106	4.	621.80	8.7857E-07

AG-108M	2.	614.37	8.0489E-08
CD-109	13.	88.03	3.0550E-06

Minimum Detectable Activity Report (continued) Page : 3
Sample ID : 6659 Acquisition date : 7-OCT-2005 14:06:56

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/CC)
AG-110M	1.	657.75	5.8928E-08
SN-113	4.	391.70	9.1127E-08
SB-122	6.	564.20	1.3674E-07
TE-123M	10.	159.00	6.4589E-08
SB-124	4.	602.72	8.8192E-08
SB-125	0.	600.56	1.0649E-07
XE-127	12.	202.84	9.1893E-08
I-131	5.	364.48	7.9061E-08
XE-131M	21.	163.93	3.9397E-06
I-132	0.	667.69	1.2815E-07
TE-132	10.	228.16	7.4761E-08
BA-133	5.	356.00	1.0956E-07
I-133	4.	529.87	9.8694E-08
XE-133	10.	81.00	3.5297E-07
XE-133M	5.	233.22	5.0099E-07
CS-134	3.	795.84	1.0767E-07
I-134	5.	847.03	2.3908E-06
I-135	1.	1260.41	4.5785E-07
XE-135	10.	249.79	9.7580E-08
XE-135M	0.	526.56	Half-Life too short
CS-136	1.	818.51	6.4877E-08
CS-138	0.	1435.86	5.9740E-06
XE-138	0.	258.31	Half-Life too short
BA-140	0.	537.31	1.3482E-07
LA-140	0.	1596.49	4.0645E-08
CE-141	17.	145.44	1.4547E-07
LA-142	5.	641.17	9.3867E-07
CE-144	16.	133.51	6.2532E-07
NP-239	9.	103.76	3.0526E-07
AM-241	9.	59.54	1.4394E-06

Rejected Report Page : 4
Sample ID : 6659 Acquisition date : 7-OCT-2005 14:06:56

Flag: "*" = Keyline

IPEC Chemistry Gamma Spectroscopy Report 30-SEP-2005 10:55:50

FILENAME :
DISK$CANBERRA:[GAMMA.SCUSR.ARCHIVE]SMP_6543_NUC4_500MLPOLY_42581.CNF;1

---- Sample Information ----

Sample Title : SFDS R-62
Sample ID : 6543 Sample Quantity : 5.00000E+02 cc
Technician : pf
Sequence File : GENERIC_LIQUID.A Nuclide Library : CHEM_MAIN.NLB

---- Sample Deposition Information ----
Dep. Correction? : No Dep. Duration :
Deposition Start : Deposition End : 30-SEP-2005 10:00:00

---- Sample Decay/Count Information ----
Sample Date : 30-SEP-2005 10:00:00 Acquisition date : 30-SEP-2005 10:05:22
Decay time : 0 00:05:22.42 % dead time : 0.0%
Elapsed live time: 0 00:50:00.00 Elapsed real time: 0 00:50:00.45
Activity Units : uCi Activity Multiplier: 1.00000E+00

---- Detector Parameters ----
Energy cal. time : 30-SEP-2005 02:53:52 Detector name : NUC4
Effic. cal. time : 18-SEP-2004 14:14:48.Counting geometry: 500ml poly

---- Processing Parameters ----
Start channel : 80 End channel : 4096
Sensitivity : 5.00000 Gaussian Sens. : 10.00000
Critical level? : Yes Propagate Errors?: No
Empirical Eff? : No Library-based eff: No
Energy tolerance : 1.25000 Half life ratio : 8.00000
Abundance limit : 75.00000 WTM error limit : 3.00000
MDA Width (FWHM) : 3.00000 MDA Confid Level : 5.00000 %

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	242.14	89	171	1.16	483.67	481	9	28.5		
0	352.02*	136	112	1.60	703.50	696	17	24.8		
0	609.26*	67	46	1.45	1218.23	1211	12	32.4		
0	934.73	28	6	1.12	1869.63	1865	12	25.8		
0	1121.01*	21	8	0.98	2242.51	2234	18	59.5		
0	1764.58*	14	0	2.14	3531.17	3525	12	56.8		

Summary of Nuclide Activity Page : 2
Sample ID : 6543 Acquisition date : 30-SEP-2005 10:05:22

Total number of lines in spectrum 6
Number of unidentified lines 5
Number of lines tentatively identified by NID 1 16.67%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/cc)
BE-7	52.	477.59	1.0612E-06
NA-22	14.	1274.54	1.2617E-07
NA-24	10.	1368.53	1.2196E-07
K-40	243.	1460.85	4.8204E-06
AR-41	12.	1293.16	1.4581E-07
CR-51	118.	320.08	1.2210E-06
MN-54	34.	834.83	1.3770E-07
CO-56	30.	846.75	1.2985E-07
MN-56	30.	846.75	1.5002E-07
CO-57	321.	122.06	1.6248E-07
CO-58	34.	810.78	1.3453E-07
FE-59	18.	1099.25	2.2705E-07
CO-60	13.	1332.50	1.2604E-07
ZN-65	18.	1115.52	2.5241E-07
BR-84	25.	881.60	5.4140E-07
KR-85	74.	513.99	3.1742E-05
KR-85M	317.	151.17	2.3716E-07
KR-87	92.	402.59	3.3363E-07
KR-88	256.	196.30	5.4940E-07
RB-88	5.	1836.01	1.4059E-06
KR-89	232.	220.90	2.2923E-05
RB-89	24.	1031.88	7.6291E-07
NB-95	45.	765.80	1.4583E-07
NB-95M	182.	235.68	5.0736E-07
ZR-95	31.	756.72	2.1948E-07
MO-99	32.	739.58	9.4291E-07
TC-99M	325.	140.51	1.4950E-07
RU-103	50.	497.08	1.2497E-07
RU-106	38.	621.80	1.1803E-06
AG-108M	27.	722.95	1.3470E-07
CD-109	315.	88.03	5.8635E-06
AG-110M	28.	657.75	1.1152E-07
SN-113	78.	391.70	1.7720E-07
SB-122	47.	564.20	1.7048E-07
TE-123M	300.	159.00	1.5146E-07
SB-124	39.	602.72	1.1627E-07
SB-125	61.	427.89	3.7340E-07
XE-127	270.	202.84	1.9329E-07
I-131	96.	364.48	1.4789E-07

XE-131M	318.	163.93	6.7283E-06
I-132	42.	667.69	1.4957E-07

Minimum Detectable Activity Report (continued) Page : 3
Sample ID : 6543 Acquisition date : 30-SEP-2005 10:05:22

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/cc)
TE-132	184.	228.16	1.3401E-07
BA-133	84.	356.00	1.8442E-07
I-133	50.	529.87	1.3718E-07
XE-133	246.	81.00	6.6343E-07
XE-133M	203.	233.22	1.2193E-06
CS-134	42.	604.70	1.2145E-07
I-134	31.	847.03	2.0270E-07
I-135	23.	1260.41	5.8538E-07
XE-135	174.	249.79	1.4015E-07
XE-135M	54.	526.56	4.7856E-07
CS-136	24.	818.51	1.1634E-07
CS-137	53.	661.60	1.6592E-07
CS-138	16.	1435.86	3.5246E-07
XE-138	177.	258.31	1.3676E-06
BA-140	59.	537.31	5.1030E-07
LA-140	5.	1596.49	1.0309E-07
CE-141	385.	145.44	2.9732E-07
LA-142	34.	641.17	2.6567E-07
CE-144	333.	133.51	1.2241E-06
NP-239	338.	103.76	7.0926E-07
AM-241	189.	59.54	2.2668E-06

Rejected Report Page : 4
Sample ID : 6543 Acquisition date : 30-SEP-2005 10:05:22

Nuclide	Half-Life Half-life	Ratio	Energy	%Abund	Activity 1-Sigma (uCi/cc)	%Error	Rejected by
RU-103	39.35D	0.00	497.08*	89.00	--- Not Found ---		Abun.
			610.35	5.60	4.340E-06	32.43	
			621.80	9.80	--- Not Found ---		
	% Abundances Found = 5.36						
XE-135	9.11H	0.06	249.79*	89.90	--- Not Found ---		Abun.
			608.18	2.89	8.735E-06	32.43	
	% Abundances Found = 3.11						

Flag: "*" = Keyline

IPEC Chemistry Gamma Spectroscopy Report 30-SEP-2005 16:45:42

FILENAME :
DISK$CANBERRA:[GAMMA.SCUSR.ARCHIVE]SMP_6551_NUC4_500MLPOLY_42592.CNF;1

---- Sample Information ----

Sample Title : WSFP
Sample ID : 6551 Sample Quantity : 5.00000E+02 cc
Technician : DG
Sequence File : LIQ_WO_MDA Nuclide Library : CHEM_MAIN.NLB

---- Sample Deposition Information ----
Dep. Correction? : No Dep. Duration :
Deposition Start : Deposition End : 30-SEP-2005 16:00:00

---- Sample Decay/Count Information ----
Sample Date : 30-SEP-2005 16:00:00 Acquisition date : 30-SEP-2005 16:35:00
Decay time : 0 00:35:00.71 % dead time : 4.1%
Elapsed live time: 0 00:10:00.00 Elapsed real time: 0 00:10:25.73
Activity Units : UCI Activity Multiplier: 1.00000E+00

---- Detector Parameters ----
Energy cal. time : 30-SEP-2005 02:53:52 Detector name : NUC4
Effic. cal. time : 18-SEP-2004 14:14:48.Counting geometry: 500ml poly

---- Processing Parameters ----
Start channel : 80 End channel : 4096
Sensitivity : 5.00000 Gaussian Sens. : 10.00000
Critical level? : Yes Propagate Errors?: No
Empirical Eff? : No Library-based eff: No
Energy tolerance : 1.25000 Half life ratio : 8.00000
Abundance limit : 50.00000 WTM error limit : 3.00000
MDA Width (FWHM) : 3.00000 MDA Confid Level : 5.00000 %

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	661.61*	301439	4364	1.63	1322.99	1314	18	0.2		CS-137
0	1173.30	1128	94	1.80	2347.18	2340	17	3.6		CO-60
0	1322.89	43	27	1.66	2646.68	2642	10	28.3		
0	1332.51	1059	8	2.31	2665.94	2659	15	3.1		CO-60

Summary of Nuclide Activity Page : 2
Sample ID : 6551 Acquisition date : 30-SEP-2005 16:35:00

Total number of lines in spectrum 4
Number of unidentified lines 1
Number of lines tentatively identified by NID 3 75.00%

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Uncorrected UCI/cc	Decay Corr UCI/cc	1-Sigma Error	%Error	Flags
CO-60	5.27Y	1.00	3.482E-05	3.482E-05	0.109E-05	3.12	
			---	---			
Total Activity :			3.482E-05	3.482E-05			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Uncorrected UCI/cc	Decay Corr UCI/cc	1-Sigma Error	%Error	Flags
CS-137	30.17Y	1.00	6.825E-03	6.825E-03	0.013E-03	0.19	
			---	---			
Total Activity :			6.825E-03	6.825E-03			

Grand Total Activity : 6.860E-03 6.860E-03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/cc)
BE-7	11409.	477.59	7.2410E-05
NA-22	30.	1274.54	8.1400E-07
NA-24	9.	1368.53	4.9496E-07
K-40	8.	1460.85	4.3096E-06
AR-41	48.	1293.16	1.3454E-06
CR-51	10317.	320.08	5.4279E-05
MN-54	266.	834.83	1.7416E-06
CO-56	32.	1238.25	1.2219E-06
MN-56	2.	1810.72	1.2397E-06
CO-57	11751.	122.06	4.7631E-06
CO-58	271.	810.78	1.7277E-06
FE-59	49.	1291.60	2.4320E-06
ZN-65	120.	1115.52	2.8756E-06
BR-84	229.	881.60	9.6153E-06
KR-85	6262.	513.99	1.3716E-03
KR-85M	11951.	151.17	7.2327E-06
KR-87	11391.	402.59	1.9332E-05
KR-88	266.	834.83	1.5774E-05
RB-88	1.	1836.01	4.2366E-06
KR-89	0.	220.90	Half-Life too short
RB-89	31.	1248.10	1.1629E-05

NB-95	313.	765.80	1.7705E-06
NB-95M	12101.	235.68	1.9840E-05

Minimum Detectable Activity Report (continued) Page : 3
Sample ID : 6551 Acquisition date : 30-SEP-2005 16:35:00

Nuclide	Bckgnd Sum	Energy (keV)	MDA (UCI/cc)
ZR-95	332.	756.72	3.2690E-06
MO-99	349.	739.58	1.4100E-05
TC-99M	11792.	140.51	4.3708E-06
RU-103	7510.	497.08	7.0846E-06
RU-106	2972.	621.80	4.7673E-05
AG-108M	415.	722.95	2.3790E-06
CD-109	10431.	88.03	1.6327E-04
AG-110M	5.	1384.27	1.4238E-06
SN-113	11146.	391.70	9.9218E-06
SB-122	3648.	564.20	6.9350E-06
TE-123M	12169.	159.00	4.6691E-06
SB-124	1.	1691.02	3.4169E-07
SB-125	12060.	427.89	2.4380E-05
XE-127	15016.	202.84	6.9604E-06
I-131	10443.	364.48	7.2921E-06
XE-131M	12218.	163.93	2.0212E-04
I-132	305.	772.60	2.8246E-06
TE-132	12519.	228.16	5.3058E-06
BA-133	10303.	356.00	9.6092E-06
I-133	5266.	529.87	6.5530E-06
XE-133	9960.	81.00	2.0352E-05
XE-133M	12303.	233.22	4.5689E-05
CS-134	312.	795.84	2.1296E-06
I-134	249.	847.03	3.0274E-06
I-135	33.	1260.41	3.1788E-06
XE-135	11309.	249.79	5.4754E-06
XE-135M	5427.	526.56	4.1995E-05
CS-136	260.	818.51	1.7030E-06
CS-138	6.	1435.86	1.2632E-06
XE-138	11274.	258.31	1.0547E-04
BA-140	4803.	537.31	2.1377E-05
LA-140	3.	1596.49	3.2312E-07
CE-141	11845.	145.44	8.0114E-06
LA-142	2.	1901.30	4.2289E-06
CE-144	11743.	133.51	3.5210E-05
NP-239	10770.	103.76	1.9430E-05
AM-241	10092.	59.54	7.9445E-05

Unidentified Energy Lines

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	1322.89	43	27	1.66	2646.68	2642	10	7.10E-02	28.3	2.75E-01	

Flags: "T" = Tentatively associated

Rejected Report Page : 4
Sample ID : 6551 Acquisition date : 30-SEP-2005 16:35:00

Flag: "*" = Keyline

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Floyd Hood
Entergy Nuclear Northeast
Indian Point Energy Center
295 Broadway - Suite 3, P.O. Box 308
Buchanan NY 10511-0308

Report of Analysis/Certificate of Conformance

09/02/2005

LIMS #: L26232
Project ID#: EN002-3P50IP2-04
Received: 08/05/2005
Delivery Date: 09/04/2005
P.O. #: 4500539361
Release #:
SDG #:

This is to certify that Teledyne Brown Engineering - Environmental Services located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

Keith Jeter
Operations Manager

Cross Reference Table

Client ID	Laboratory ID	Station ID(if applicable)
IP2-05-33	L26232-1	PLANT VENT
IP2-05-34	L26232-2	STACK VENT
IP2-05-35	L26232-3	NCD
IP2-05-36	L26232-4	SFDS
IP2-05-37	L26232-5	SGBD
IP2-05-38	L26232-6	WDST

Report of Analysis

09/02/05 09:04

L26232

Entergy Nuclear Northeast

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Floyd Hood

EN002-3P50IP2-04

Sample ID: IP2-05-33
Station: PLANT VENT
Description:
LIMS Number: L26232-1

Collect Start: 05/31/2005 08:15
Collect Stop: 06/28/2005 12:22
Receive Date: 08/05/2005

Matrix: Air Particulate Filters (AP)
Volume: 1.690E+09 CU.CM
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
GR-A	2008	<		1.19E-14	uCi/cc		10	%		08/22/05	5	M	U			
GR-B	2008	<		1.85E-14	uCi/cc		10	%		08/24/05	5	M	U			
SR-89	2019	<		4.27E-14	uCi/cc		10	%	06/28/05 12:22	08/29/05	15	M	U			
SR-90	2019	<		5.69E-15	uCi/cc		10	%	06/28/05 12:22	08/29/05	15	M	U			

Sample ID: IP2-05-34
Station: STACK VENT
Description:
LIMS Number: L26232-2

Collect Start: 05/26/2005 09:40
Collect Stop: 06/30/2005 09:46
Receive Date: 08/05/2005

Matrix: Air Particulate Filters (AP)
Volume: 1.630E+09 CU.CM
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
GR-A	2008	<		1.27E-14	uCi/cc		10	%		08/22/05	5	M	U			
GR-B	2008	3.69E-14	1.83E-14		uCi/cc		10	%		08/24/05	5	M	+			
NI-63	2013	1.59E-14	6.93E-15		uCi/cc		10	%		08/25/05	100	M	+			
SR-89	2019	<		4.03E-14	uCi/cc		10	%	06/30/05 09:46	08/29/05	15	M	U			
SR-90	2019	<		6.86E-15	uCi/cc		10	%	06/30/05 09:46	08/29/05	15	M	U			

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

09/02/05 09:04

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L26232

Entergy Nuclear Northeast

Floyd Hood

EN002-3P50IP2-04

Sample ID: IP2-05-35
Station: NCD
Description:
LIMS Number: L26232-3

Collect Start: 06/01/2005 00:00
Collect Stop: 06/30/2005 23:59
Receive Date: 08/05/2005

Matrix: Secondary Coolant (SC)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
FE-55	2006	<		**8.10E-07**	uCi/ml		50	ml	06/30/05 23:59	08/22/05	1800		U		No	
GR-A	2008	<		**6.00E-08**	uCi/ml		10	ml		08/29/05	50	M	U			
GR-B	2008	**5.59E-06**	2.27E-07		uCi/ml		10	ml		08/24/05	50	M	+			
NI-63	2013	**2.61E-07**	1.06E-07		uCi/ml		10	ml		08/26/05	100	M	+			
SR-89	2019	**5.17E-08**	1.94E-08		uCi/ml		100	ml	06/30/05 23:59	08/29/05	100	M	+			
SR-90	2019	**8.88E-08**	1.86E-08		uCi/ml		100	ml	06/30/05 23:59	08/29/05	15	M	+			

Sample ID: IP2-05-36
Station: SFDS
Description:
LIMS Number: L26232-4

Collect Start: 06/01/2005 00:00
Collect Stop: 06/30/2005 23:59
Receive Date: 08/05/2005

Matrix: Secondary Coolant (SC)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
FE-55	2006	<		**8.41E-07**	uCi/ml		50	ml	06/30/05 23:59	08/22/05	1800		U		No	
GR-A	2008	<		**3.85E-08**	uCi/ml		10	ml		08/24/05	50	M	U			
GR-B	2008	<		**7.06E-08**	uCi/ml		10	ml		08/24/05	50	M	U			
NI-63	2013	<		**1.63E-07**	uCi/ml		10	ml		08/26/05	100	M	U			
SR-89	2019	<		**2.76E-08**	uCi/ml		100	ml	06/30/05 23:59	08/29/05	100	M	U			
SR-90	2019	<		**1.72E-08**	uCi/ml		100	ml	06/30/05 23:59	08/30/05	15	M	U			

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma specturm
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

09/02/05 09:04

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L26232

Entergy Nuclear Northeast

Floyd Hood

EN002-3P50IP2-04

Sample ID: IP2-05-37
Station: SGBD
Description:
LIMS Number: L26232-5

Collect Start: 06/01/2005 00:00
Collect Stop: 06/30/2005 23:59
Receive Date: 08/05/2005

Matrix: Secondary Coolant (SC)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
FE-55	2006	<		7.66E-07	uCi/ml		50	ml	06/30/05 23:59	08/22/05	1800		U		No	
GR-A	2008	<		3.32E-08	uCi/ml		10	ml		08/24/05	50	M	U			
GR-B	2008	<		6.64E-08	uCi/ml		10	ml		08/24/05	50	M	U			
SR-89	2019	<		2.97E-08	uCi/ml		100	ml	06/30/05 23:59	08/29/05	100	M	U			
SR-90	2019	<		6.19E-09	uCi/ml		100	ml	06/30/05 23:59	08/29/05	15	M	U			

Sample ID: IP2-05-38
Station: WDST
Description:
LIMS Number: L26232-6

Collect Start: 06/01/2005 00:00
Collect Stop: 06/30/2005 23:59
Receive Date: 08/05/2005

Matrix: Secondary Coolant (SC)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
FE-55	2006	<		8.52E-07	uCi/ml		50	ml	06/30/05 23:59	08/22/05	1800		U		No	
GR-A	2008	<		4.34E-08	uCi/ml		10	ml		08/24/05	50	M	U			
GR-B	2008	2.20E-06	1.50E-07		uCi/ml		10	ml		08/24/05	50	M	+			
NI-63	2013	4.90E-07	1.12E-07		uCi/ml		10	ml		08/26/05	100	M	+			
SR-89	2019	<		2.90E-08	uCi/ml		100	ml	06/30/05 23:59	09/01/05	100	M	U			
SR-90	2019	<		1.24E-08	uCi/ml		100	ml	06/30/05 23:59	08/29/05	15	M	U			

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

L26232
P-15D

Teledyne Browne Engineering Environmental Services
Customer Sample Receipt Form

from:
Entergy - Nuclear Northeast
Indian Point 2

			collection period start MM-DD-YY HHHH	collection period stop MM-DD-YY HHHH	volume or area	units	smp type		g alpha (#52)	gr beta (#53)	Sr-89 (#60)	Sr-90 (#61)	Fe-55 (#34)	Ni-63 (#43)	Notes
L26232-1	IP2 - 05 - 33		05/31/05 08:15	06/28/05 12:22	1.69E+09	C	AP		X	X	X	X			Plant Vent
-2	IP2 - 05 - 34		05/26/05 09:40	06/30/05 09:46	1.63E+09	C	AP		X	X	X	X		X	Stack Vent
-3	IP2 - 05 - 35		06/01/05 00:00	06/30/05 23:59	3.50E+02	C	LR		X	X	X	X	X	X	NCD
-4	IP2 - 05 - 36		06/01/05 00:00	06/30/05 23:59	3.50E+02	C	LR		X	X	X	X	X	X	SFDS
-5	IP2 - 05 - 37		06/01/05 00:00	06/30/05 23:59	3.50E+02	C	SC		X	X	X	X	X		SGBD
-6	IP2 - 05 - 38		06/01/05 00:00	06/30/05 23:59	3.50E+02	C	LR		X	X	X	X	X	X	WDST
	IP2 - 05 -														
	IP2 - 05 -														
	IP2 - 05 -														
	IP2 - 05 -														
	IP2 - 05 -														

Shipped_____

Received Pat Marshall 8/5/05

Distributed_____

Plant Vent

Week 1	1.41E+04
Week 2	1.49E+04
Week 3	1.57E+04
Week 4	1.51E+04
Week 5	
Total Volume	5.98E+04

Stack Vent

Week 1	1.22E+04
Week 2	1.15E+04
Week 3	1.13E+04
Week 4	1.17E+04
Week 5	1.10E+04
Total Volume	5.76E+04

INDIAN POINT STATION
RADWASTE

RW-SQ-4.105
Rev 12
L26232

ATTACHMENT 7.3
Page 1 of 1
CONTAINER / PACKAGE SURVEY SUMMARY SHEET

SHIPMENT NO: 05-142 DATE: 7-29-05/1100

A. Container Data (Multiple containers should be recorded individually on Attachment 7.4 also)

- ☑ LTD QTY ☐ DEVICE ☐ INST/ARTICLES
- ☐ EMPTY
- ☐ SCO
- ☐ LSA ☐ TYPE A ☐ TYPE B
- ☐ HWY ROUTE CONTROLLED QUANTITY

Container No. 05-142 Part 61 Class N/A
Label / Marking: RADIOACTIVE Transport Index N/A
Description of Contents: UNIT 2 MONTHLY SAMPLES

Radionuclide Data Sheet Attached: ☐ YES ☐ NO ☑ NA
Locking Device (Seal): ☐ INTACT ☐ MISSING ☐ BROKEN ☑ NA
Container/Package Properly Marked: ☑ SAT ☐ UNSAT
Container/Package Properly Labeled: ☑ SAT ☐ UNSAT
Container/Package Weight: Net: 4.0 lbs.
Gross: 5.0 lbs.

B. Container Survey (Attach HP Survey)
(Multiple containers should be recorded on Attachment 7.4, with maximum levels recorded here)

Purpose of Survey:
- ☐ Arrival (reciept)
- ☑ Release (shipment)
- ☐ Storage

Survey Summary (highest level):
Contact: <.05 mRem/hr
1 Meter: <.05 mRem/hr
Contamination: <12 dpm/100 cm^2 Alpha
Contamination: <129 dpm/100 cm^2 B-G

The Survey Instrument (E-520 or equivalent) has been source checked after completion of the survey, prior to the release of the vehicle (for release / shipment survey only).

E520	05086	[signature]	7-29-05
Instrument Type	Serial No.	Survey Technician Signature	Date

C. Survey Evaluation
Survey results comply with ☑ Addendum 8.1
☑ Addendum 8.2 limits and the container(s) are radiologically acceptable.

[signature] Health Physics Technician — Date 7-29-05

[signature] Radwaste Supervisor — Date 7-29-2005

D. Comments: none

L26232 / 7 of 9

Indian Point Energy Center
Radiological Survey Sheet

Unit: [x] 1 [ ] 2 [ ] 3

Location: Shipment

Component: NCD Samples
or Area

Date: 7-29-05 Time: 0910

RWP No: 052001 Rx Power 100%

Survey Type: [x] Dose rate [x] Contamination [ ] Hot particle [ ] Airborne

Reason: [ ] Pre-job [ ] Job coverage [ ] Post-Job [ ] Weekly ___ [ ] Monthly ___ [ ] Quarterly ___ [ ] Pre-decon. [ ] Post-decon. [ ] Annual ___ [ ] Routine L26232 [ ] RWP Update [x] Other Shipment

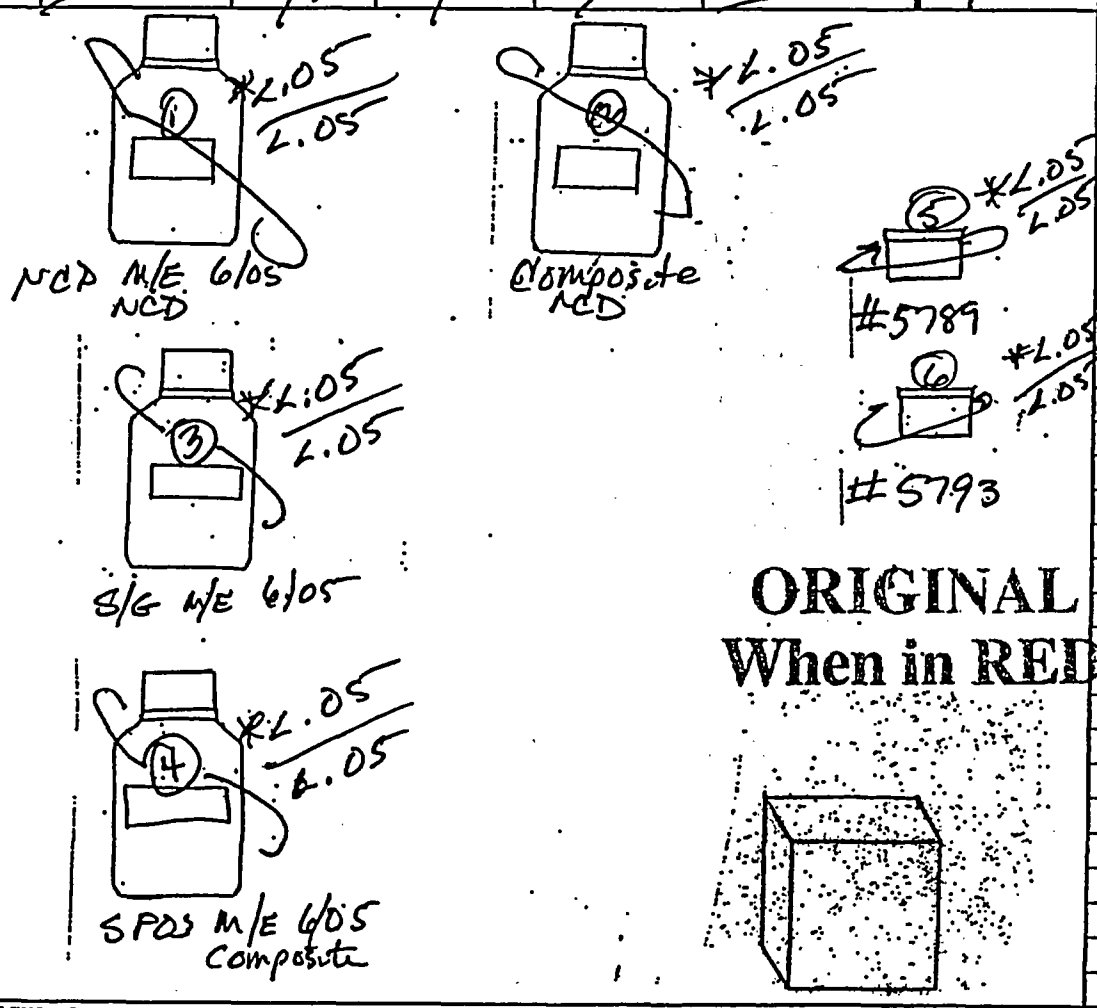
Instrument	Serial No.	Cal. due	Source check Sat	Source check N/A
E520	5086	10-27-05	[x]	[ ]
BC4	1077	8-26-05	[x]	[ ]
SAC4	774	9-3-05	[x]	[ ]
			[ ]	[ ]

Area Posting: [ ] RCA [ ] Radiation [ ] High Rad Area [ ] LHRA [ ] REA [ ] VHRA [ ] Contam. [ ] High Contam. [ ] Hot Particle [ ] Airborne [x] Radioactive Materials

Posting Changed? [ ] Yes [x] No (if yes see below for I/V signature)

Smears: 1 to 6	γ [ ] µRem/hr [x] mRem/hr [ ] Rem/hr	β mRad/hr (x2 BCF applied)	n [ ] mRem/hr [ ] Rem/hr	Hot Part. (cpm) [ ] Adhesive [ ] Wipe	Contam. [x] dpm/100cm² [x] β/γ [x] α [ ] cpm	Airborne (DAC) (or see printout)	Contamination Results
RESULTS General levels	L.05	N/A	N/A	N/A	L129 / L12	Particulate N / Iodine N	MDA/BC4 129
Maximum levels							MDA/SAC4 12

[x] β/γ [x] α [ ] cpm [x] dpm/100cm²



1	L129	L12
2	L129	L12
3	L129	L12
4	L129	L12
5	L129	L12
6	L129	L12

Remarks / Work in progress:
Shipment.

*D - Contact γ Dose Rate
D - Gen. Area γ Dose Rate
D β - Gen. Area β Dose Rate
D N - Neutron Dose Rate
- Smear location
- Large Area Smear
- Air Sample location

Independent Verification of Posting Changes: Name: _____ Print _____ Signature

Name: Robin M. Tombini (Surveyor Name Print) — Surveyor Signature

Exposure: 0 µRem

Name: M. Borkowski (Reviewed by Watch H.P. Print) — Watch H.P Signature

Name: Ray Tucker (Reviewed by H.P. Supervisor Print) — H.P. Supervisor Signature

Page 1 of 1

Survey #: 0520993

WMG, Inc.

RADIOACTIVE MATERIAL MANIFEST

SHIPPING PAPER

5. SHIPPER -- NAME AND FACILITY
Entergy Nuclear Northeast
Indian Point Energy Center
450 Broadway, Suite 1
P.O. Box 249
Buchanan,NY 10511-0249

L26232

7. PAGE 1 OF 1 PAGE(S)

8. SHIPMENT NUMBER (Use this number on all continuation pages)
05 - 142

1. EMERGENCY TELEPHONE NUMBER (Include Area Code)
(914) 734-5028, 5029

ORGANIZATION
Control Room

SHIPPER LICENSE NO.: DPR-26
SHIPPER ID NUMBER: DPR-26

CONTACT: William Scholtens
TELEPHONE NUMBER (Include Area Code): (914) 734-5405

9. CONSIGNEE -- Name and Facility Address
Teledyne Brown Engineering
2508 Quality Lane
Knoxville,TN 37931-3133

CONTACT: Rebecca Charles
TELEPHONE NUMBER (Include Area Code): (865) 690-6819

2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[ ] YES
[X] NO

3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==> 1

6. CARRIER - Name and Address
Federal Express

EPA ID NUMBER: N/A

SHIPPING DATE: 07/29/2005

SIGNATURE -- Authorized consignee acknowledging receipt: N/A

DATE:

10. CERTIFICATION

FEDERAL CERTIFICATION: "This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?
[ ] YES
[X] NO

If "Yes," provide Manifest Number ==>

EPA MANIFEST NUMBER: N/A

CONTACT:

TELEPHONE NUMBER (Include Area Code): (800) 463-3339

SIGNATURE - Authorized carrier acknowledging material receipt: N/A

DATE:

AUTHORIZED SIGNATURE: William Scholtens

TITLE: RW Specialist

DATE: 7-29-2005

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL	13. RAD LEVEL mSv/hr mrem/hr Contact	T.I.	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES Radionuclide	MBq	(mCi)	16. CONTAINER TYPE	17. LSA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Radioactive material, excepted package-limited quantity of material, 7, UN2910, Unit 2 Monthly Samples	N A	0.0005 0.05	N A	Liquid/ Metal Oxides	Co-58 Co-60	9.85E-06 9.96E-06	(2.66E-07) (2.69E-07)	Plastic Pail	N/A	2.3 Kg 5.0 Lbs	05 - 142
					Sb-125 Cs-137	2.49E-05 3.22E-04	(6.72E-07) (8.70E-06)				
					Package Total:	3.66E-04	(9.90E-06)				
					Shipment Total :	3.66E-04	(9.90E-06)			2.3 Kg 5.0 Lbs	

L26232 / 8 of 9

08/08/05 10:27

SR #: SR04995

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Client: Entergy Nuclear Operations, Project #: EN002-3P50IP2-04 LIMS #: L26232

Initiated By: PMARSHALL
Init Date: 08/08/05 Receive Date: 08/08/05

Notification of Variance

Person Notified: Contacted By:
Notify Date:
Notify Method:
Notify Comment:

Client Response

Person Responding:
Response Date:
Response Method:
Response Comment

	Criteria	Yes No NA	Comment
1	Shipping container custody seals present and intact.	NA	
2	Sample container custody seals present and intact.	NA	
3	Sample containers received in good condition	Y	
4	Chain of custody received with samples	Y	
5	All samples listed on chain of custody received	Y	
6	Sample container labels present and legible.	Y	
7	Information on container labels correspond with chain of custody	Y	
8	Sample(s) properly preserved and in appropriate container(s)	NA	
9	Other (Describe)	NA	

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Entergy Nuclear Northeast
Attn: Floyd Hood
Indian Point Energy Center
295 Broadway - Suite 3, P.O. Box 308
Buchanan NY 10511-0308

Report of Analysis/Certificate of Conformance

5/26/04

LIMS #: L23403
Project ID#: EN002-3P50IP2-04
Received: 4/27/04
Delivery Date: 5/27/04
P.O. # : 4500528810 LINE 0002
Release #:
SDG #: N/A

This is to certify that Teledyne Brown Engineering - Environmental Services located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

Keith Jeter
Operations Manager

Cross Reference Table

Client ID	Laboratory ID	Station ID (if applicable)
IP2-04-14	L23403-1	NCD
IP2-04-15	L23403-2	SFDS
IP2-04-16	L23403-3	SGBD
IP2-04-17	L23403-4	WDST
IP2-04-18	L23403-5	PV M/E
IP2-04-19	L23403-6	SV M/E
IP2-04-20	L23403-7	FRAC TRUCK
IP2-04-21	L23403-8	WEST POOL
IP2-04-22	L23403-9	RCS