



**TELEDYNE  
BROWN ENGINEERING, INC.**  
A Teledyne Technologies Company  
2508 Quality Lane  
Knoxville, TN 37931-3133  
865-690-6819

*Zoe Cox*  
Byron Station  
Exelon Nuclear  
4450 N. German Church Road  
Byron, IL 61010

**Report of Analysis/Certificate of Conformance**

06/26/2008

LIMS #: L35422  
Project ID# EX001-3ESPBYRON-06  
Received: 06/06/2008  
Delivery Date 07/11/2008  
P.O.#: 01000298 REL.#00011  
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 received by the laboratory, 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*  
Keith Jeter  
Operations Manager

*Cross Reference Table*

Client ID	Laboratory ID	Station ID (if applicable)
BY-AR-1	L35422-1	BY-AR-1
BY-AR-7	L35422-2	BY-AR-7
BY-AR-8	L35422-3	BY-AR-8
BY-AR-9	L35422-4	BY-AR-9
BY-AR-10	L35422-5	BY-AR-10
BY-CAR-3	L35422-6	BY-CAR-3

*10-23*



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*Method Reference Numbers*

Matrix	Analysis	Method Reference
WG	H-3 (DIST)	EPA 906.0

**This report shall not be reproduced or distributed except in its entirety.**

# Report of Analysis

06/26/08 19:52



## L35422

Byron Station

EX001-3ESPBYRON-06

Sample ID: <b>BY-AR-1</b>	Collect Start: 06/02/2008 13:33	Matrix: Ground Water (WG)
Station: <b>BY-AR-1</b>	Collect Stop:	Volume:
Description:	Receive Date: 06/06/2008	% Moisture:
LIMS Number: L35422-1		

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values
H-3 (DIST)	2011	3.79E+01	1.08E+02	1.87E+02	pCi/L		10	ml		06/23/08	60	M	U

Sample ID: <b>BY-AR-7</b>	Collect Start: 06/02/2008 11:30	Matrix: Ground Water (WG)
Station: <b>BY-AR-7</b>	Collect Stop:	Volume:
Description:	Receive Date: 06/06/2008	% Moisture:
LIMS Number: L35422-2		

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values
H-3 (DIST)	2011	2.07E+02	1.18E+02	1.85E+02	pCi/L		10	ml		06/23/08	60	M	+ High
H-3 (DIST)	2011	2.28E+02	1.21E+02	1.89E+02	pCi/L	CI	10	ml		06/26/08	60	M	+ High

Sample ID: <b>BY-AR-8</b>	Collect Start: 06/02/2008 11:45	Matrix: Ground Water (WG)
Station: <b>BY-AR-8</b>	Collect Stop:	Volume:
Description:	Receive Date: 06/06/2008	% Moisture:
LIMS Number: L35422-3		

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values
H-3 (DIST)	2011	1.61E+02	1.15E+02	1.85E+02	pCi/L		10	ml		06/24/08	60	M	U

Sample ID: <b>BY-AR-9</b>	Collect Start: 06/02/2008 13:08	Matrix: Ground Water (WG)
Station: <b>BY-AR-9</b>	Collect Stop:	Volume:
Description:	Receive Date: 06/06/2008	% Moisture:
LIMS Number: L35422-4		

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values
H-3 (DIST)	2011	4.70E+01	1.11E+02	1.89E+02	pCi/L		10	ml		06/24/08	60	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

# Report of Analysis

06/26/08 19:52

**L35422**

Byron Station

EX001-3ESPBYRON-06



*Zoe Cox*

Sample ID: <b>BY-AR-10</b>	Collect Start: 06/02/2008 13:48	Matrix: Ground Water (WG)
Station: BY-AR-10	Collect Stop:	Volume:
Description:	Receive Date: 06/06/2008	% Moisture:
LIMS Number: L35422-5		

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values
H-3 (DIST)	2011	<b>1.89E+02</b>	1.17E+02	1.86E+02	pCi/L		10	ml		06/24/08	60	M	+

Sample ID: <b>BY-CAR-3</b>	Collect Start: 06/02/2008 12:47	Matrix: Ground Water (WG)
Station: BY-CAR-3	Collect Stop:	Volume:
Description:	Receive Date: 06/06/2008	% Moisture:
LIMS Number: L35422-6		

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values
H-3 (DIST)	2011	<b>1.36E+02</b>	1.14E+02	<b>1.85E+02</b>	pCi/L		10	ml		06/24/08	60	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

- 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

**Bolded text indicates reportable value.**

L35422  
E11D

Byron Generating Station  
Groundwater Samples

Sample Collection/Receipt Sheet  
EXELON NUCLEAR

Lab. No.	Client ID	Station Code	Sample Medium	Start date	Start time	Stop date	Stop time	Sample Size	Analysis	Comments
	BY-AR-1	BY-	GW	06/02/2008	13:33	06/02/2008	13:33	250 mL	H-3 (DIST)	Collected by Byron personnel.
	BY-AR-7	BY-	GW	06/02/2008	11:30	06/02/2008	11:30	250 mL	H-3 (DIST)	Collected by Byron personnel.
	BY-AR-8	BY-	GW	06/02/2008	11:45	06/02/2008	11:45	250 mL	H-3 (DIST)	Collected by Byron personnel.
	BY-AR-9	BY-	GW	06/02/2008	13:08	06/02/2008	13:08	250 mL	H-3 (DIST)	Collected by Byron personnel.
	BY-AR-10	BY-	GW	06/02/2008	13:48	06/02/2008	13:48	250 mL	H-3 (DIST)	Collected by Byron personnel.
	BY-CAR-3	BY-	GW	06/02/2008	12:47	06/02/2008	12:47	250 mL	H-3 (DIST)	Collected by Byron personnel.

Collected by: Byron Station  
Shipped by: FedEx  
Received by: [Signature]

Date: 06/02/2008  
Date: 06/05/2008  
Date: 06/10/08

06/11/08 08:15

**Teledyne Brown Engineering  
Sample Receipt Verification/Variance Report**

SR #: SR17531

Client: Exelon

Project #: EX001-3EREMBYRON-05

LIMS #: L35422

Initiated By: JGREER  
Init Date: 06/11/08      Receive Date: 06/11/08

**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	

Raw Data Sheet (rawData)  
 Jun 26 2008, 07:53 pm

Work Order: L35422

Customer: Exelon

Page: 1

Nuclide: H-3 (DIST)

Project : EX001-3ESPBYRON-06

Sample ID Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt	Bkg counts	Bkg dt	Eff. Factor	Decay & Ingrowth	Analyst
L35422-1		H-3 DIST		10 ml			0		23-jun-08 22:11	LS7	141	60 (M)	174 (M)	80 (M)	.215		DW
BY-AR-1																	
Activity: 3.79E+01 Error: 1.08E+02 MDC: 1.87E+02 * pCi/L																	
L35422-2		H-3 DIST		10 ml			0		23-jun-08 23:14	LS7	190	60 (M)	174 (M)	80 (M)	.216		DW
BY-AR-7																	
Activity: 2.07E+02 * Error: 1.18E+02 MDC: 1.85E+02 pCi/L																	
L35422-2	C1	H-3 DIST		10 ml			0		26-jun-08 01:49	LS7	204	60 (M)	184 (M)	80 (M)	.218		DW
BY-AR-7																	
Activity: 2.28E+02 * Error: 1.21E+02 MDC: 1.89E+02 pCi/L																	
L35422-3		H-3 DIST		10 ml			0		24-jun-08 00:18	LS7	176	60 (M)	174 (M)	80 (M)	.216		DW
BY-AR-8																	
Activity: 1.61E+02 Error: 1.15E+02 MDC: 1.85E+02 * pCi/L																	
L35422-4		H-3 DIST		10 ml			0		24-jun-08 01:21	LS7	143	60 (M)	174 (M)	80 (M)	.211		DW
BY-AR-9																	
Activity: 4.7E+01 Error: 1.11E+02 MDC: 1.89E+02 * pCi/L																	
L35422-5		H-3 DIST		10 ml			0		24-jun-08 02:25	LS7	184	60 (M)	174 (M)	80 (M)	.215		DW
BY-AR-10																	
Activity: 1.89E+02 * Error: 1.17E+02 MDC: 1.86E+02 pCi/L																	
L35422-6		H-3 DIST		10 ml			0		24-jun-08 03:28	LS7	169	60 (M)	174 (M)	80 (M)	.217		DW
BY-CAR-3																	
Activity: 1.36E+02 Error: 1.14E+02 MDC: 1.85E+02 * pCi/L																	