ATTACHMENT 2
RADIONUCLIDE RELEASE FOLLOW-UP REPORT ELECTRONIC AND HARD COPY FORMAT
PAGE 1 of 5

STATE OF ILLINOIS

NUCLEAR POWER PLANT

RADIONUCLIDE RELEASE REPORT

FOLLOW-UP REPORT

The following information must be submitted to the Illinois Environmental Protection Agency and to the Illinois Emergency Management Agency to report an unpermitted release of a radionuclide pursuant to 35 Ill. Adm. Code 1010.202. The initial report must be submitted to each agency via phone and electronically within 24 hours of the release. Please attach additional sheets as needed.

This form can also be used by a licensee that, pursuant to the last section of 35 Ill. Adm. Code 1010.104, reports a release of radionuclides that is not required to be reported under Section 13.6 of the Environmental Protection Act.

This follow-up report must be submitted electronically to both the Illinois EPA and IEMA within 5 business days after reporting the release. Hard copies of the electronic follow up report must be submitted to the Illinois EPA and IEMA within 5 days after the submission of the electronic report.

Report Date/Time 6-12-17 1600 Revised on 6-14-17

Follow-up Report Date 6-16-17 1600

Nuclear Generation Station Name Braidwood Station

Address: 35100 South Route 53

City, State, Zip: Braceville, IL 60407

Name of Principal Executive Officer: Marri Marchionda

Telephone Number 815-417-3600

Signature Marri Marchionda

If any of the information provided in the initial report for this release has changed, please provide an update of changed information.

Updated information relative to the unpermitted release was provided in a revised report submitted to the IEPA and IEMA on June 14, 2017.

Estimate the Quantity of Release (Curies):

A conservative estimate of 0.009 Curies of tritium in water was released during the reported event. This estimate was developed by a cross functional team of experts using the best available data and a series of conservative engineering calculations to ensure the estimated quantities released are bounding.

Estimate of Volume Released:

Approximately 35,000 gallons of water was released during the reported event. This estimate was developed by a cross functional team of experts using the best available data and a series of conservative engineering calculations to ensure the estimated quantity released is bounding.

Estimate of Concentration (pCi/L) of Release:

The estimated concentrations are based on a series of calculations and analytical results from samples collected during the course of the release and the station's routine monitoring program. Based on the aforementioned information, the concentrations of tritium in the release ranged from < 1,100 pCi/L to 200,209 pCi/L.

Updated Description of Activities Taken in Response to the Release

The station investigated the event to determine if the water released contained any potential radiological and non-radiological pollutants. The water in the circulating water blow down house sump was pumped onto the sounding soils to prevent a safety hazard in the circulated water blow down house. That water had already been sampled in the circulating water blowdown house, upstream of the release location, as part of the station's NPDES program and Radiological Effluents program. The results of the samples indicate that the water released was in compliance with the station's NPDES and radiological effluent standards, if released to the permitted discharge.

Following the reported event, eleven groundwater monitoring wells (PS-7, PS-8. PS-9, PS-10, PS-11, PS-12, PS-13, PS-14, PS-15, PS-16 and (PS-17 well was dry)) were installed in strategic locations based on information pertaining to the release characteristics. Samples obtained from each of the eleven groundwater monitoring wells were analyzed for tritium and the data was used to delineate the extent of tritiated groundwater (See Figure 2, Figure 4, and Figure 5).

The elevation of the top of the casing for each monitoring well was surveyed by a licensed surveyor and groundwater elevations were obtained. The data from the groundwater well surveys and water elevations were used to develop groundwater flow maps (See Table 1, Table 2, and Figure 3).

The results of the groundwater investigation (See Figure 5) show that tritium has not migrated off Braidwood property. Furthermore, the investigation indicates that the tritium in soils and groundwater is limited to within approximate 125' of the original release. The water that did not enter the soils or groundwater travelled across the soils and entered the discharge canal, an approved discharge location, approximately 50' east of the release.

Additional Activities Planned in Response to the Release

A ground water remediation plan is being designed and implemented. A sampling program will also be implemented in the area of the release in order to monitor the concentrations and migration, if any, of tritium in groundwater on site. Off-site groundwater migration is not threatened based on the ground water investigation (See Figure 3). The data from the monitoring program will be captured in a hydrogeologic report and submitted to IEPA for its review and comment.

The groundwater data collected from the monitoring program described above will be reviewed to aid in determining if additional monitoring wells are recommended. This data will also be used to assist in determining whether additional remedial actions are required.

The investigation to identify the actions that led to the pumping of the water containing tritium to the ground surface is ongoing. Based upon the results of the investigation, corrective actions will be implemented to prevent recurrence.

Additional Information

Copies of laboratory analyses, plan views, locations of samples taken and analyzed, groundwater direction, groundwater contours, map of the boundary of the licensee controlled area (See Figure 1) and other surface features are included with this Follow-Up report

ATTACHMENT 2
RADIONUCLIDE RELEASE FOLLOW-UP REPORT ELECTRONIC AND HARD COPY FORMAT
PAGE 4 of 5

Attach copies of all laboratory analyses used to confirm the presence of, or conducted in response to, the release (if lab analyses have been conducted).

Also attach a plan view and, if available, geological cross-section maps, showing, at a minimum, the location of the release, the locations of samples taken to confirm the release or taken in response to the release (if samples have been taken), the measured and modeled extent of the release (if known), the groundwater flow direction (if known), groundwater contours (if known), the boundary of the licensee controlled area, and structures, roads, and other surface features.

Submit electronically to:

IEPA at "EPA.RadRelease@Illinois.gov"
IEMA at "ema.npprelease@illinois.gov"

Submit hard copies to the addresses below:

Illinois Environmental Protection Agency
Bureau of Water
Groundwater Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Illinois Emergency Management Agency
Division of Nuclear Safety
Bureau of Environmental Safety
1035 Outer Park Drive
Springfield, IL 62704

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RADIONUCLIDE RELEASE FOLLOW-UP REPORT ELECTRONIC AND HARD COPY FORMAT
PAGE 5 of 5

Contacts for Further Information

Name Ray Hall

Address 35100 S. Rt. 53

City, State, Zip Braceville, IL 60407

Telephone Number 815-417-3200

Name N/A

Address

City, State, Zip

Telephone Number

Figure 1

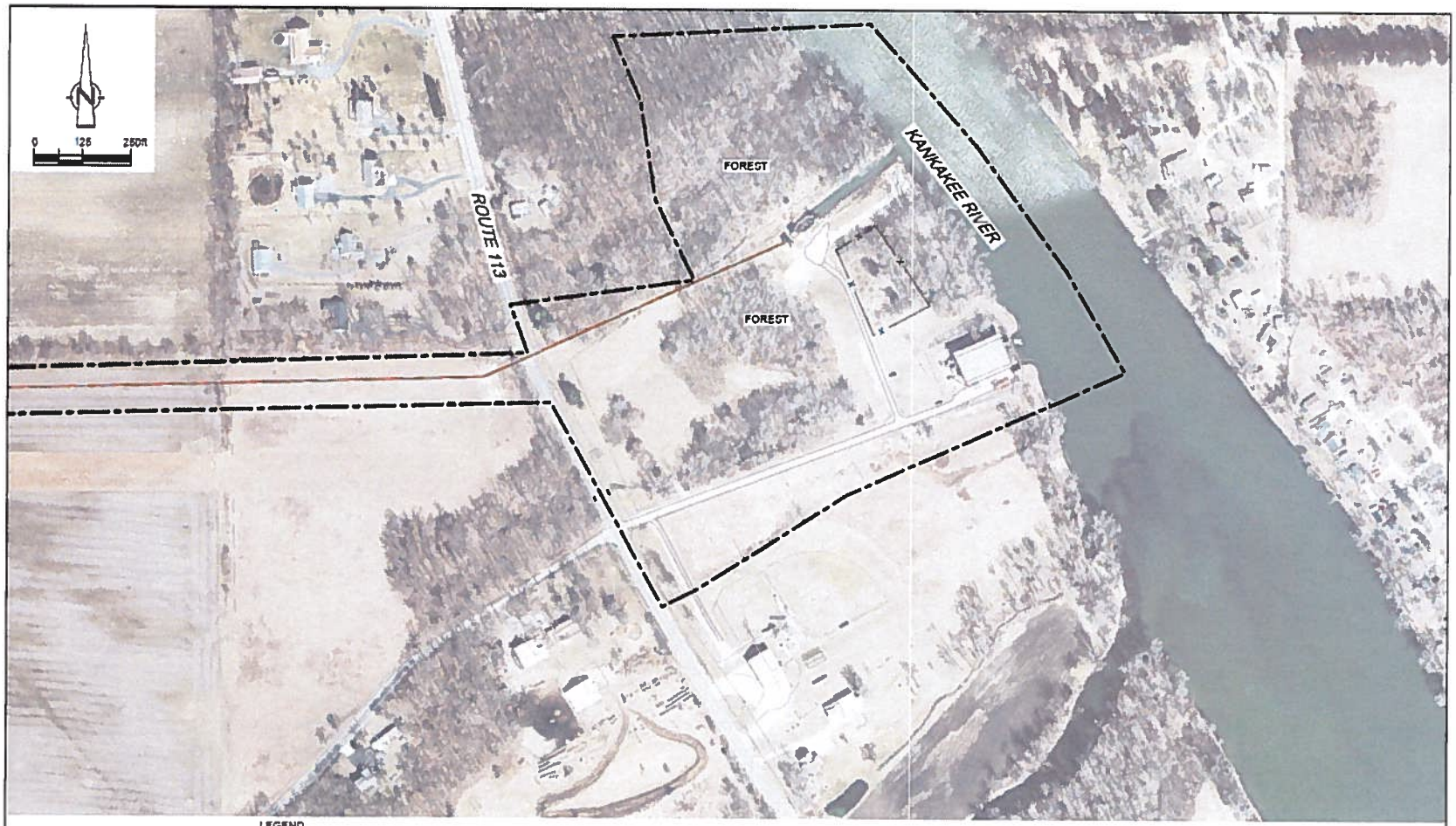

0
125
250ft
ROUTE 113
FOREST
FOREST
KANKAKEE RIVER
LEGEND
APPROXIMATE BLOWDOWN PROPERTY LINE
BLOWDOWN LINE
MAKEUP LINE
GHD
figure 1
INVESTIGATION AREA LOCATION
CIRC WATER BLOWDOWN HOUSE
EXELON GENERATION BRAIDWOOD STATION
Braceville, Illinois
16841-81(PRES085)GN-C0001 JUN 15, 2017

Figure 2

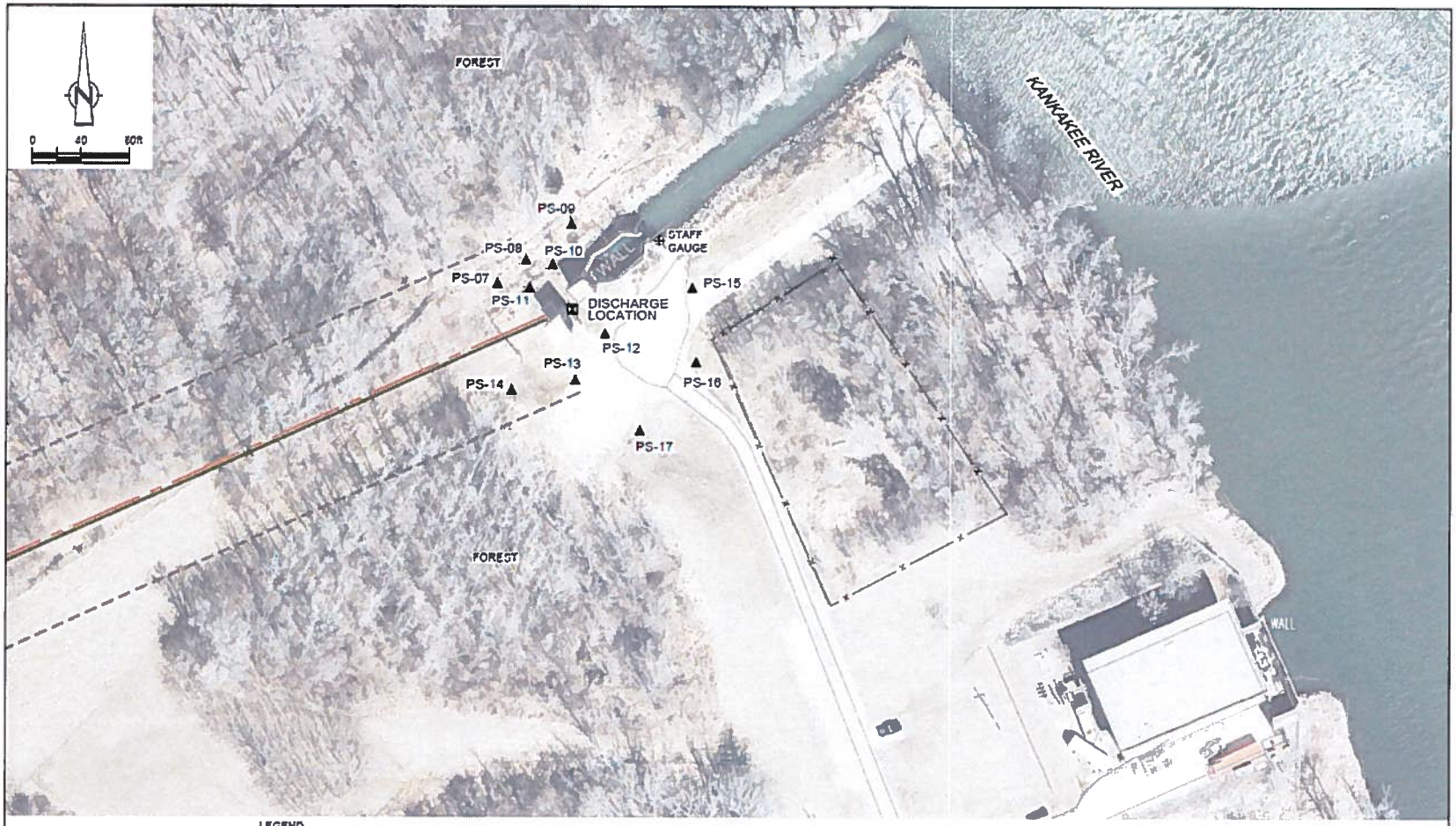

N
0
40
80ft
FOREST
KANKAKEE RIVER
PS-09
PS-08
PS-10
WALL
STAFF GAUGE
PS-07
PS-11
DISCHARGE LOCATION
PS-15
PS-12
PS-13
PS-14
PS-16
PS-17
FOREST
WALL
LEGEND
APPROXIMATE BLOWDOWN PROPERTY LINE
BLOWDOWN LINE
MAKEUP LINE
PS-07 TEMPORARY MONITORING WELL LOCATION AND IDENTIFIER
GHD
figure 2
INVESTIGATION AREA
CIRC WATER BLOWDOWN HOUSE
EXELON GENERATION BRAIDWOOD STATION
Braceville, Illinois
16851-81(PRE3085)GN-CO002 JUN 15, 2017

Figure 3

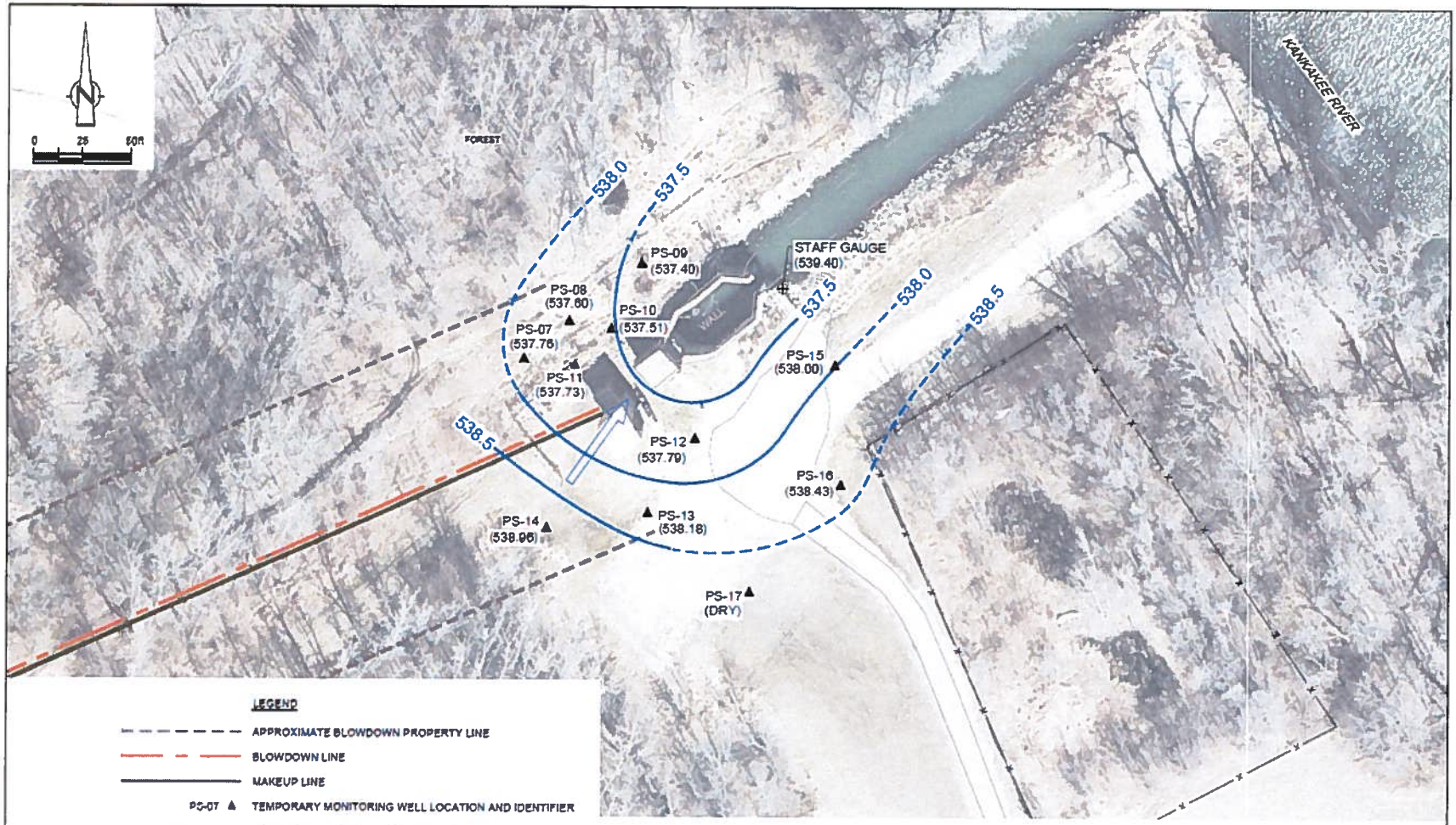
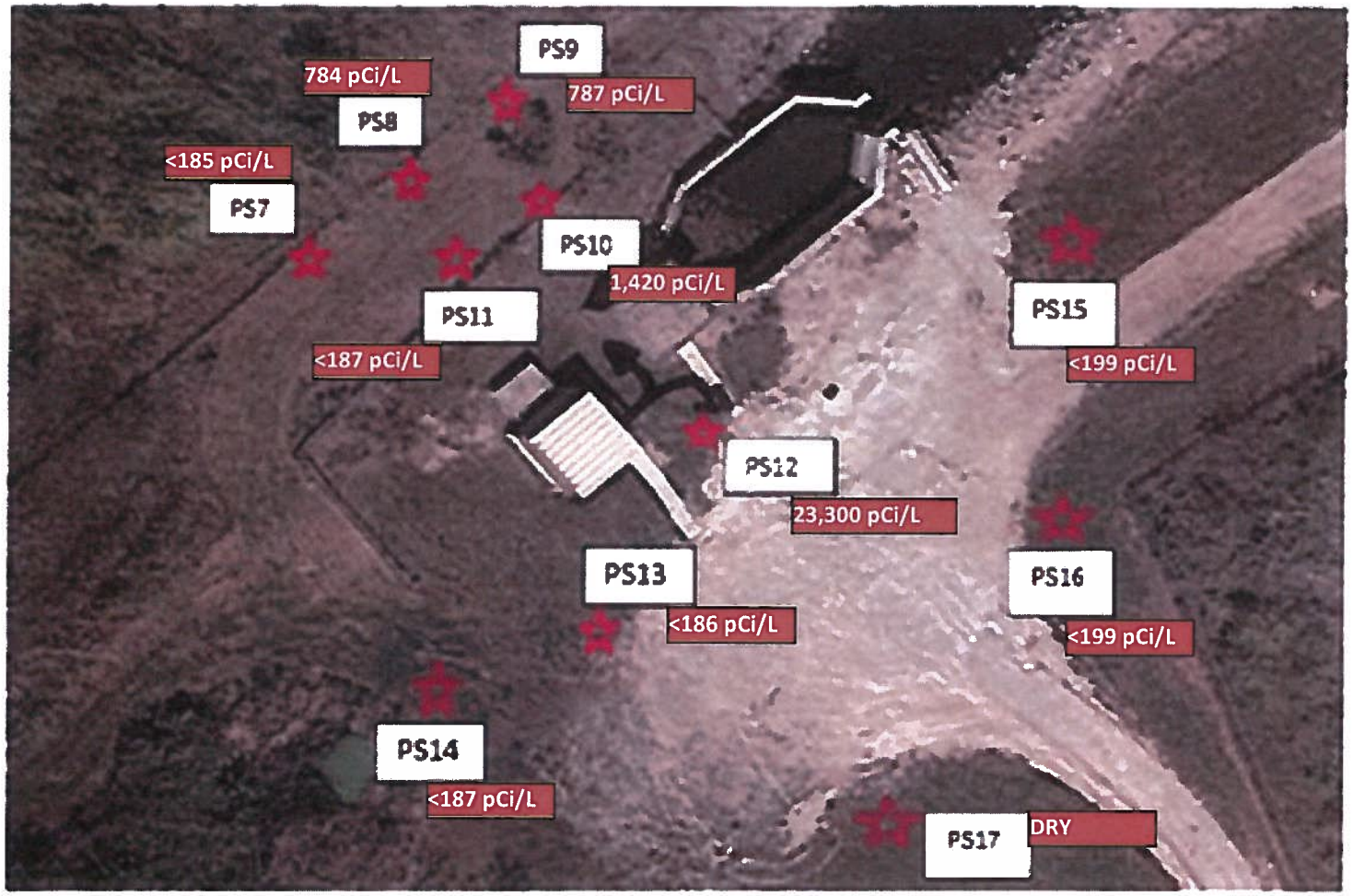


figure 3

GROUNDWATER CONTOURS - JUNE 15, 2017
CIRC WATER BLOWDOWN HOUSE
EXELON GENERATION BRAIDWOOD STATION
Braceville, Illinois

16841-81(PRES085)GN-C0003 JUN 15, 2017

Figure 4



Hose routing and discharge locations

Teledyne Brown Sample Results

Figure 5

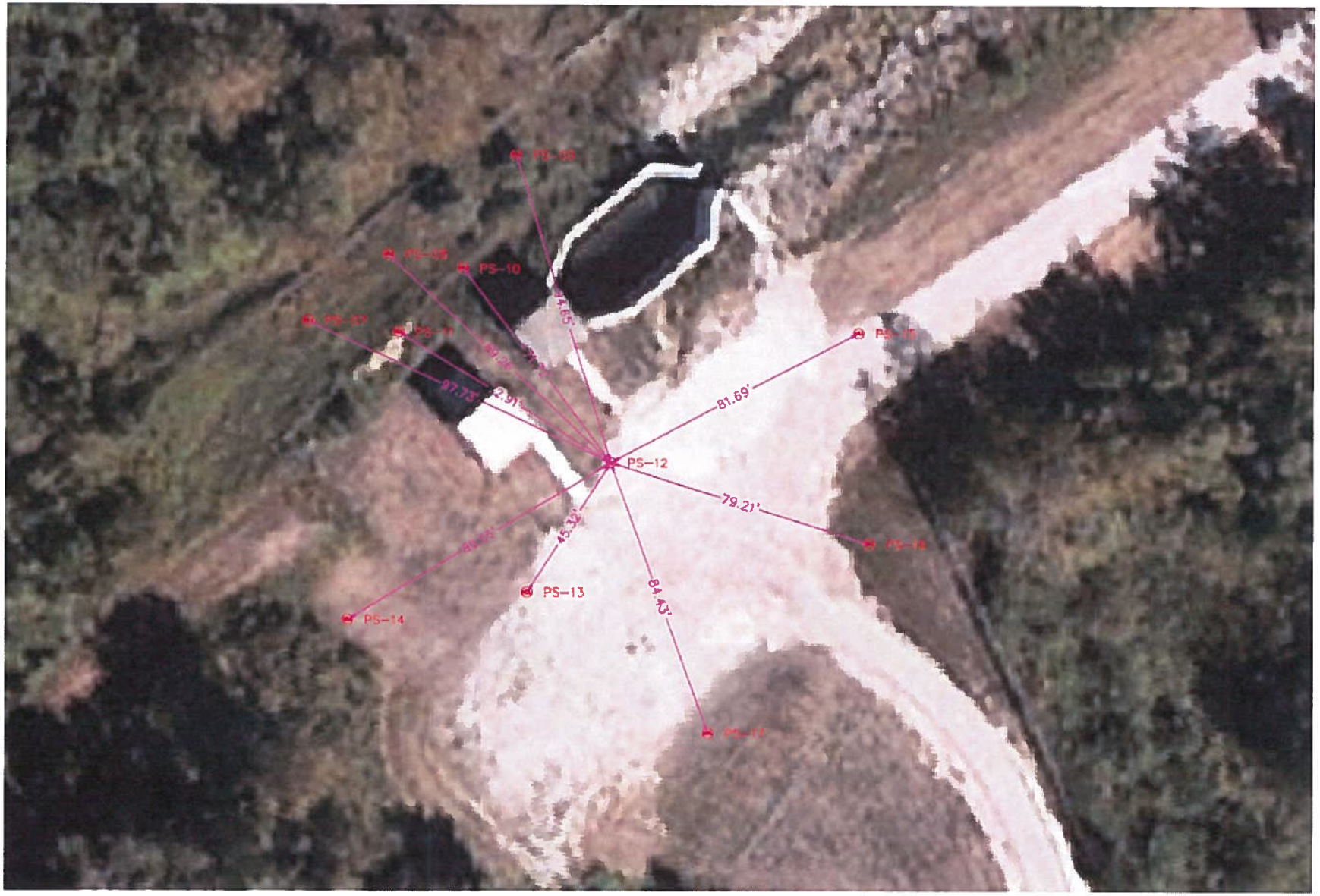

PS-03
PS-08
PS-10
PS-07
PS-11
PS-15
PS-12
PS-16
PS-13
PS-14
PS-17
81.69'
79.21'
45.32'
84.43'

TABLE 1

WELL CONSTRUCTION SUMMARY
EXELON GENERATION BRAIDWOOD STATION
BRACEVILLE, ILLINOIS

Location	*Total Depth of Boring (ft BGS)* [1]	*Top of Casing Ref. Elevation (AMSL)* [2]	*Ground Surface Elevation (AMSL)* [2]	*Well Diameter (inches)*	*Well Material*	*Top of Screen (ft BGS)*	*Bottom of screen (ft BGS)*	*Screen Top Elevation (AMSL)*	*Screen Bottom Elevation (AMSL)*	*State Plane Northing (US Survey ft)*	*State Plane Easting (US Survey ft)*
PS-7	10.0	546.87'	543.59'	1	PVC	5.00	10.00	538.587	533.587	1670003.66'	1038715.78'
PS-8	9.5	546.98'	544.03'	1	PVC	4.50	9.50	539.533	534.533	1670023.16'	1038739.14'
PS-9	10.0	546.18'	543.41'	1	PVC	5.00	10.00	538.407	533.407	1670052.51'	1038776.34'
PS-10	10.5	546.96'	544.22'	1	PVC	5.00	10.00	539.223	534.223	1670019.25'	1038760.94'
PS-11	10.0	547.04'	544.24'	1	PVC	5.00	10.00	539.241	534.241	1670000.36'	1038742.17'
PS-12	15.0	547.79'	544.79'	1	PVC	6.00	11.00	538.788	533.788	1669962.06'	1038804.22'
PS-13	10.0	547.96'	544.96'	1	PVC	5.00	10.00	539.960	534.960	1669923.81'	1038779.91'
PS-14	10.0	547.86'	545.01'	1	PVC	5.00	10.00	540.012	535.012	1669915.81'	1038727.53'
PS-15	10.0	547.39'	543.72'	1	PVC	4.00	9.00	539.717	534.717	1670000.21'	1038876.45'
PS-16	13.0	548.64'	546.11'	1	PVC	6.50	11.50	539.614	534.614	1669938.19'	1038879.74'
PS-17	10.0	548.71'	545.81'	1	PVC	4.50	9.50	541.307	536.307	1669882.60'	1038832.76'
Staff Gauge	--	544.83'	--	--	--	--	--	--	--	1670036.52'	1038846.72'

ft BGS -feet Below Ground Surface
AMSL - Above Mean Sea Level

TABLE 2

SUMMARY OF GROUNDWATER ELEVATION DATA
EXELON GENERATION BRAIDWOOD STATION
BRACEVILLE, ILLINOIS

		June 14, 2017		*June 15, 2017*	
Well Location	*Top of Casing Elevation (AMSL)* [1]	*Depth to Groundwater (ft btoc)* [2]	*Groundwater Elevation (ft AMSL)*	*Depth to Groundwater (ft btoc)* [2]	*Groundwater Elevation (ft AMSL)*
PS-7	546.87'	9.07	537.80	9.11	537.76
PS-8	546.98'	9.27	537.71	9.38	537.60
PS-9	546.18'	8.81	537.37	8.78	537.40
PS-10	546.96'	9.30	537.66	9.45	537.51
PS-11	547.04'	9.14	537.90	9.31	537.73
PS-12	547.79'	9.90	537.89	10.00	537.79
PS-13	547.96'	9.77	538.19	9.78	538.18
PS-14	547.86'	8.75	539.11	8.90	538.96
PS-15	547.39'	NI*	--	9.39	538.00
PS-16	548.64'	NI	--	10.21	538.43
PS-17	548.71'	NI	--	Dry	--
Staff Gauge	544.83	NI	--	5.43	539.40

[1] AMSL - Above Mean Sea Level

[2] ft btoc - feet below top of casing

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

Michael Gorga/JP Georgiou/Megan Holba
Exelon Generation LLC
Braidwood Station
35100 South Rte 53, Suite 84
Braceville, IL 60407-9619

Report of Analysis/Certificate of Conformance

06/15/2017

LIMS #:	L73199
Project ID#:	EX001-3ESPBRAID-06
Received:	06/14/2017
Delivery Date:	06/14/2017
P.O.#:	01000298 REL #00048
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
Operations Manager

Cross Reference Table

Client ID	Laboratory ID	Station ID (if applicable)
CWBD HOUSE WELLS PS-12	L73199-1	CWBD HOUSE WELLS PS-12
CWBD HOUSE WELLS PS-11	L73199-2	CWBD HOUSE WELLS PS-11
CWBD HOUSE WELLS PS-7	L73199-3	CWBD HOUSE WELLS PS-7
CWBD HOUSE WELLS PS-8	L73199-4	CWBD HOUSE WELLS PS-8
CWBD HOUSE WELLS PS-9	L73199-5	CWBD HOUSE WELLS PS-9
CWBD HOUSE WELLS PS-10	L73199-6	CWBD HOUSE WELLS PS-10
CWBD HOUSE WELLS PS-13	L73199-7	CWBD HOUSE WELLS PS-13

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

Cross Reference Table

Client ID	Laboratory ID	Station ID (if applicable)
CWBD HOUSE WELLS PS-14	L73199-8	CWBD HOUSE WELLS PS-14

Method Reference Numbers

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

Report of Analysis

06/15/17 08:55

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L73199

Exelon Generation LLC

EX001-3ESPBRAID-06

Sample ID: **CWBD HOUSE WELLS PS-12** Collect Start: 06/13/2017 18:10 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-12 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-1

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	**2.08E+04**	2.13E+03	7.23E+02	pCi/L		10	ml		06/14/17	3.9	M	+ High

Sample ID: **CWBD HOUSE WELLS PS-11** Collect Start: 06/13/2017 17:10 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-11 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-2

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	-5.18E+01	1.09E+02	**1.87E+02**	pCi/L		10	ml		06/14/17	58.45	M	U

Sample ID: **CWBD HOUSE WELLS PS-7** Collect Start: 06/13/2017 15:05 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-7 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-3

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	-3.53E+01	1.10E+02	**1.85E+02**	pCi/L		10	ml		06/14/17	60	M	U

Sample ID: **CWBD HOUSE WELLS PS-8** Collect Start: 06/13/2017 16:01 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-8 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-4

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	**7.84E+02**	1.52E+02	1.88E+02	pCi/L		10	ml		06/14/17	69.05	M	+

Flag Values
U = Compound/Analyte not detected (< MDC) 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

**** Unless otherwise noted, the analytical results reported are related only to the samples tested in the condition they are received by the laboratory.

MDC - Minimum Detectable Concentration

Report of Analysis

06/15/17 08:55

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L73199

Exelon Generation LLC

Michael Gorga/JP Georgiou/Megan

EX001-3ESPBRAID-06

Sample ID: **CWBD HOUSE WELLS PS-9** Collect Start: 06/13/2017 15:35 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-9 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-5

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	**7.87E+02**	1.51E+02	1.87E+02	pCi/L		10	ml		06/14/17	68.16	M	+

Sample ID: **CWBD HOUSE WELLS PS-10** Collect Start: 06/13/2017 17:55 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-10 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-6

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	**1.42E+03**	2.08E+02	2.29E+02	pCi/L		10	ml		06/14/17	45.63	M	+ Alert

Sample ID: **CWBD HOUSE WELLS PS-13** Collect Start: 06/13/2017 19:55 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-13 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-7

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	5.23E+01	1.16E+02	**1.86E+02**	pCi/L		10	ml		06/14/17	60	M	U

Sample ID: **CWBD HOUSE WELLS PS-14** Collect Start: 06/13/2017 19:52 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-14 Collect Stop: Volume:
Description: Receive Date: 06/14/2017 % Moisture:
LIMS Number: L73199-8

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	1.33E+01	1.14E+02	**1.87E+02**	pCi/L		10	ml		06/14/17	70	M	U

Flag Values
U = Compound/Analyte not detected (< MDC) 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

**** Unless otherwise noted, the analytical results reported are related only to the samples tested in the condition they are received by the laboratory.

MDC - Minimum Detectable Concentration

TELEDYNE BROWN ENGINEERING

Analysis Request Chain of Custody

E - Environmental: X
P - 10CFR61, 10CFR50, Other high level:
Turn-around-time: Expedite days
Purchase order:

LIMS #: L-73199
Variance Report:
(for lab use)

Project Number:

Client name: Exelon Nuclear - Braidwood
Client address: Braidwood Station
35100 S. Route 53
Braceville, IL 60407
Phone Number (815) 417-3232
Fax Number:
Contact: Eric Cisezkiwelcz, J.P. Georgiou

T.I. Number (for lab use)	Client Sample ID	Description	Station	Collection Date/Time Start	Collection Date/Time Stop	Volume	Units	Matrix or type	Analysis Request
	CWBD House wells PS12	Water	Bwd	13-Jun-17 1510	13-Jun-17	500mL	ml	Water	H-3 LLD ≤200pCi/l
	" PS11			13 Jun 17 1710					H-3
	" PS-7			13 Jun17 1505					H-3
	" PS-8			13 Jun2017 1601					H-3
	" PS-9			13 Jun2017 1535					H-3
	" PS-10			13 Jun2017 1755					H-3
	" PS-13			13Jun2017 1955	13 Jun 2017	500	ml	Water	H-3
	" PS-14			13Jun2017 1952	13 Jun 2017	500	ml	Water	H-3

Special Instructions: H-3 Analysis of water samples (analyze to LLD <200pCi/l)

Relinquished by:	M Gagnon	Date:	6/13/2017	Relinquished by:	Date:	Relinquished by:	Date:
Received by:	[signature]	Date:	6/14/17	Received by:	Date:	Received by:	Date:

06/14/17 06:39

SR #: SR52709

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #L73199

Initiated By: KNOXLAB
Init Date: 06/14/17 Receive Date: 06/14/17

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	
For Hazardous Materials Only:					
10	Paperwork shows TBE and shippers name, address and phone number			NA	
11	Paperwork shows sample quantity information			NA	

Raw Data Sheet (rawdata)

06/15/17 08:56

Work Order: **L73199** Customer: **Exelon**

Analysis: **H-3** Project: **EX001-3ESPBRAID-06**

Sample ID / Client ID	Run #	Analysis	Reference Date/Time	Volume/ Aliquot	Scavenge Date/Time	Milking Date/Time	Mount Weight	Recovery	Count Date/Time	Detector ID	Total Counts	Sample dt	Bkg Counts	Bkg dt	Decay & Eff. Ingrowth Factor	Analy
L73199-1		H-3 (DIST)					0		06-14-17 12:18	LS9	401	3.9 M	131.4	60 M	.218	DW
CWBD HOUSE WELLS PS-12				10 ml												
Activity: **2.08E+04** Error: 2.13E+03 MDC: 7.23E+02 pCi/L							L73199-1		H-3 (DIST)							
L73199-2		H-3 (DIST)					0		06-14-17 14:41	LS9	113	58.45 M	131.4	60 M	.217	DW
CWBD HOUSE WELLS PS-11				10 ml												
Activity: -5.18E+01 Error: 1.09E+02 MDC: **1.87E+02** pCi/L							L73199-2		H-3 (DIST)							
L73199-3		H-3 (DIST)					0		06-14-17 12:27	LS9	121	60 M	131.4	60 M	.217	DW
CWBD HOUSE WELLS PS-7				10 ml												
Activity: -3.53E+01 Error: 1.10E+02 MDC: **1.85E+02** pCi/L							L73199-3		H-3 (DIST)							
L73199-4		H-3 (DIST)					0		06-14-17 00:00	LS6	403	69.05 M	160.3	70 M	.204	DW
CWBD HOUSE WELLS PS-8				10 ml												
Activity: **7.84E+02** Error: 1.52E+02 MDC: 1.88E+02 pCi/L							**L73199-4**		**H-3 (DIST)**							
L73199-5		H-3 (DIST)					0		06-14-17 00:00	LS6	401	68.16 M	160.3	70 M	.206	DW
CWBD HOUSE WELLS PS-9				10 ml												
Activity: **7.87E+02** Error: 1.51E+02 MDC: 1.87E+02 pCi/L							**L73199-5**		**H-3 (DIST)**							
L73199-6		H-3 (DIST)					0		06-14-17 00:00	LS6	401	45.63 M	160.3	70 M	.206	DW
CWBD HOUSE WELLS PS-10				10 ml												
Activity: **1.42E+03** Error: 2.08E+02 MDC: 2.29E+02 pCi/L							**L73199-6**		**H-3 (DIST)**							
L73199-7		H-3 (DIST)					0		06-14-17 14:54	LS9	146	60 M	131.4	60 M	.215	DW
CWBD HOUSE WELLS PS-13				10 ml												
Activity: 5.23E+01 Error: 1.16E+02 MDC: **1.86E+02** pCi/L							L73199-7		H-3 (DIST)							
L73199-8		H-3 (DIST)					0		06-14-17 00:00	LS6	165	70 M	160.3	70 M	.203	DW
CWBD HOUSE WELLS PS-14				10 ml												

Raw Data Sheet (rawdata)

06/15/17 08:56

Work Order: **L73199**
H-3

Customer: **Exelon**
EX001-3ESPBRAID-06

L73199-8	H-3 (DIST)				0	06-14-17 00:00	LS6	165	70 M	160.3	70 M	.203		DW
CWBD HOUSE WELLS PS-14		10 ml												
Activity: 1.33E+01	Error: 1.14E+02	MDC:	**1.87E+02**	pCi/L	L73199-8	H-3 (DIST)								

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

Michael Gorga/JP Georgiou/Megan Holba
Exelon Generation LLC
Braidwood Station
35100 South Rte 53, Suite 84
Braceville, IL 60407-9619

Report of Analysis/Certificate of Conformance

06/15/2017

LIMS #:	L73229
Project ID#:	EX001-3ESPBRAID-06
Received:	06/15/2017
Delivery Date:	06/15/2017
P.O.#:	01000298 REL #00048
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
Operations Manager

Cross Reference Table

Client ID	Laboratory ID	Station ID (if applicable)
CWBD HOUSE WELLS PS-12	L73229-1	CWBD HOUSE WELLS PS-12
CWBD HOUSE WELLS PS-15	L73229-2	CWBD HOUSE WELLS PS-15
CWBD HOUSE WELLS PS-16	L73229-3	CWBD HOUSE WELLS PS-16

Method Reference Numbers

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

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

Report of Analysis

06/15/17 15:35

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L73229

Exelon Generation LLC
EX001-3ESPBRAID-06

Sample ID: **CWBD HOUSE WELLS PS-12** Collect Start: 06/14/2017 00:00 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-12 Collect Stop: Volume:
Description: Receive Date: 06/15/2017 % Moisture:
LIMS Number: L73229-1

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	**2.33E+04**	2.38E+03	8.19E+02	pCi/L		10	ml		06/15/17	3.67	M	+ High

Sample ID: **CWBD HOUSE WELLS PS-15** Collect Start: 06/14/2017 00:00 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-15 Collect Stop: Volume:
Description: Receive Date: 06/15/2017 % Moisture:
LIMS Number: L73229-2

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	-2.89E+01	1.19E+02	**1.99E+02**	pCi/L		10	ml		06/15/17	60	M	U

Sample ID: **CWBD HOUSE WELLS PS-16** Collect Start: 06/14/2017 00:00 Matrix: Ground Water (WG)
Station: CWBD HOUSE WELLS PS-16 Collect Stop: Volume:
Description: Receive Date: 06/15/2017 % Moisture:
LIMS Number: L73229-3

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	-5.58E+01	1.18E+02	**1.99E+02**	pCi/L		10	ml		06/15/17	60	M	U

Flag Values
U = Compound/Analyte not detected (< MDC) 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

**** Unless otherwise noted, the analytical results reported are related only to the samples tested in the condition they are received by the laboratory.

MDC - Minimum Detectable Concentration

TELEDYNE BROWN ENGINEERING

Analysis Request Chain of Custody

E - Environmental: X
P - 10CFR61, 10CFR50, Other high level:
Turn-around-time: Expedite days
Purchase order:

LIMS #: L73229
Variance Report:
(for lab use)

Project Number:

Client name: Exelon Nuclear - Braidwood
Client address: Braidwood Station
35100 S. Route 53
Braceville, IL 60407
Phone Number (815) 417-2729
Fax Number:
Contact: Mike Wolfe

T.I. Number (for lab use)	Client Sample ID	Description	Station	Collection Date/Time		Volume	Units	Matrix or type	Analysis Request
				Start	Stop				
	CWBD House wells #PS-12	Water	Bwd	14-Jun-17	14-Jun-17	5.00E+02	ml	Water	H-3 (LLD <= 200 pCi/l)
	CWBD House wells #PS-15	Water	Bwd	14-Jun-17	14-Jun-17	5.00E+02	ml	Water	H-3 (LLD <= 200 pCi/l)
	CWBD House wells #PS-16	Water	Bwd	14-Jun-17	14-Jun-17	5.00E+02	ml	Water	H-3 (LLD <= 200 pCi/l)

Special Instructions: H-3 Analysis of water samples (analyze to LLD <200pCi/l)

Relinquished by:	M. Wolfe	Date:	6/14/2017	Relinquished by:	Date:	Relinquished by:	Date:
Received by:	Shannon Gipp	Date:	6/15/17	Received by:	Date:	Received by:	Date:

06/15/17 07:30

SR #: SR52739

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #L73229

Initiated By: KNOXLAB
Init Date: 06/15/17 Receive Date: 06/15/17

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	
For Hazardous Materials Only:					
10	Paperwork shows TBE and shippers name, address and phone number			NA	
11	Paperwork shows sample quantity information			NA	

Raw Data Sheet (rawdata)

06/15/17 15:35

Work Order: **L73229** Customer: **Exelon**

Analysis: **H-3** Project: **EX001-3ESPBRAID-06**

Sample ID / Client ID	Run #	Analysis	Reference Date/Time	Volume/ Aliquot	Scavenge Date/Time	Milking Date/Time	Mount Weight	Recovery	Count Date/Time	Detector ID	Total Counts	Sample dt	Bkg Counts	Bkg dt	Decay & Eff. Ingrowth Factor	Analy
L73229-1		H-3 (DIST)					0		06-15-17	LS6	401	3.67	167.3	70	.207	DW
				10					00:00			M		M		
CWBD HOUSE WELLS PS-12				ml												
Activity: **2.33E+04** Error: 2.38E+03 MDC: 8.19E+02 pCi/L							L73229-1		H-3 (DIST)							
L73229-2		H-3 (DIST)					0		06-15-17	LS9	145	60	153.6	60	.218	DW
				10					14:09			M		M		
CWBD HOUSE WELLS PS-15				ml												
Activity: -2.89E+01 Error: 1.19E+02 MDC: **1.99E+02** pCi/L							L73229-2		H-3 (DIST)							
L73229-3		H-3 (DIST)					0		06-15-17	LS9	137	60	153.6	60	.218	DW
				10					12:59			M		M		
CWBD HOUSE WELLS PS-16				ml												
Activity: -5.58E+01 Error: 1.18E+02 MDC: **1.99E+02** pCi/L							L73229-3		H-3 (DIST)							