

Schlumberger Technology Corporation  
Radiation Explosives Compliance  
300 Schlumberger Drive, MD 121  
Sugar Land, TX 77478

**Schlumberger**

August 20, 2015

Jack Whitten  
United States Nuclear Regulatory Commission  
Region IV  
1600 East Lamar Blvd  
Arlington, Texas 76011

RE: Source Abandonment for BHP Billiton OCS-G 16764 SS002 ST01BP00

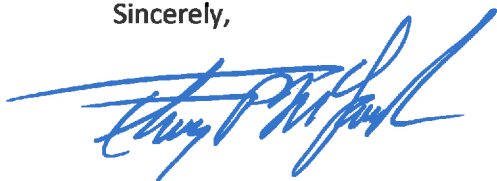
Dear Jack,

This letter is to confirm the abandonment of irretrievable radioactive logging sources in a well in accordance with 10 CFR §39.77(d). Information for this abandonment is attached.

Licensee: Schlumberger Technology Corporation (License# 42-00090-03)

If you have any questions or require additional information, please contact me at 281-285-8775 or [mclaughlin8@slb.com](mailto:mclaughlin8@slb.com).

Sincerely,



Timothy P. McLaughlin  
Radiation Safety Officer  
Schlumberger Technology Corporation

RECEIVED  
AUG 21 2015  
DNMS

**Source Abandonment - BHP Billiton**  
**Well: OCS-G 16764 SS002 ST01BP00**

**Date of Occurrence:** Declared irretrievable: July 04, 2015

**Source #1**

**Identification:** 10 Ci, Americium 241, Neutron, Serial # Q1082

**Manufacturer:** QSA Global

**Model:** NSR-U

**Depth:** 26,865 ft MD

**Source #2**

**Identification:** 1.7 Ci, Cesium 137, Gamma Ray, Serial # A3030

**Manufacturer:** QSA Global

**Model:** GSR-Z

**Depth:** 26,870 ft MD

**Well Identification**

**Company:** BHP Billiton

**Well:** OCS-G 16764 SS002 ST01BP00

**Field:** Green Canyon 609

**County:** Offshore

**API Number:** 608114064501

**Seal Results:** Approximately 700 bbls of remedial cement (16.4 ppg Class H) was pumped around the BHA to help cure the loss zone. Above that, the lower most cement plug consists of approximately 1,675 linear feet of 16.6 ppg Class H cement placed from 23,319 – 24,996 ft MD, near the top of the fish. Several other cement plugs were placed throughout the wellbore for well control and to isolate zones of lost circulation. The well was sidetracked @ 12,300 ft MD through the uppermost cement plug.

**Recovery Attempts:** The rig was losing circulation and became stuck with the drillpipe, Bottom-Hole-Assembly (BHA) and the logging tools with sealed logging sources. After numerous attempts to regain full circulation, initial well control was re-established. The client was able to get free from the BHA and left that fish in the hole with the logging sources. Circulation and well control remained difficult and the client pumped several cement plugs to help isolate the sealed logging sources and zones of fluid loss. No further attempts were made to retrieve the BHA or sealed logging sources.

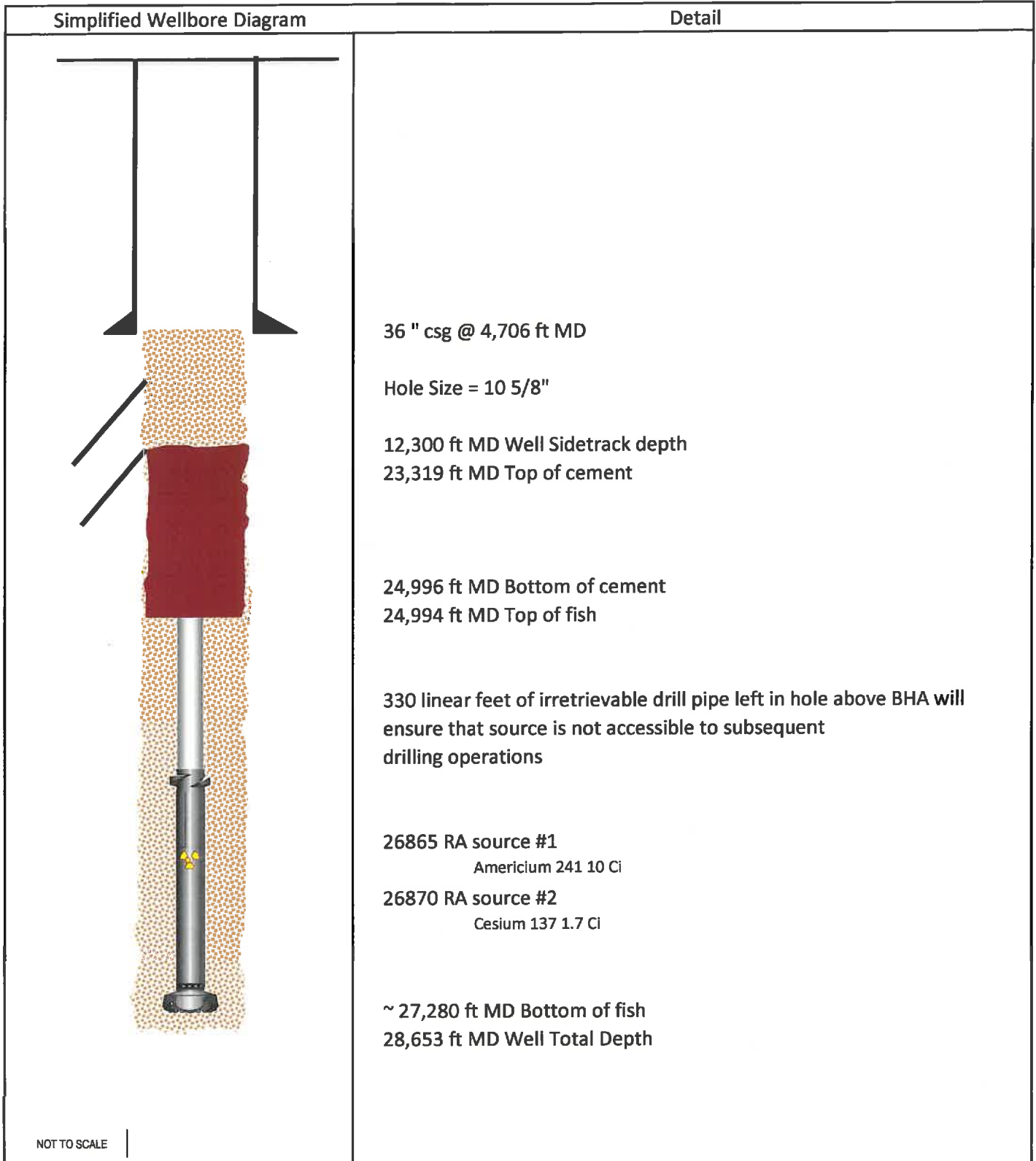
**Depth of Well:** 28,653 ft MD

**Identification** Plaque as required by 10 CFR §39.15(a)(5)(iii) will be provided for attachment to wellhead , if practical.

**Reports:** No other agency will receive a copy of this report.

**Initial Contact:** By telephone with Jack Whitten on July 04, 2015 12:00 PM.

## BHP Billiton OCS-G 16764 SS002 ST01BP00





**QSA GLOBAL**

**QSA Global, Inc.**

40 North Avenue  
Burlington, MA 01803  
Telephone: (781) 272-2000  
Toll Free: (800) 815-1383  
Facsimile: (781) 273-2216

# Radioactive Sealed Source Certificate and Test Report

Model: *NSR-U*                      Radionuclide: *AM241*                      Nominal Activity:        *10.00 Ci*  
Product Code No: *AMNK8320*  
Description: *10 Ci AMBE OWL SOURCE*                      Capsule: *X2175*  
ANSI/ISO Classification: *E66646*                      Special Form Certificate No: *USA/0635/S-96*

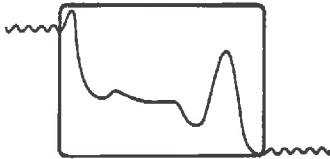
Classifications are based on testing of specimen sources and give the levels expected from the production sources.  
Recommended Working Life: 15 Years  
See other side for explanation.

Source Serial Number	Measurements		Leakage Test		Contamination Test	Other Tests Description
			Type	Type	Type	
			Date Passed	Date Passed	Date Passed	
→ <i>NSR-UQ1082</i>	<i>2.17E+07 N</i>	<i>Feb-05-2008</i>	<i>D</i> <i>Oct-17-2007</i>	<i>M</i> <i>Oct-22-2007</i>	<i>A</i> <i>Feb-06-2008</i>	<i>CPTYPEA</i> <i>003</i>

Notes:  
*This X2175 source capsule passed a pressure test of 4 X 15 minute periods at 30,000 psi IAW SPS-L-1722 on 6 Feb. 2008. Immersion and bubble test are on the X1276 inner capsules. This X2175 capsule contains two (2) X1276 inner capsules containing no more than 5 Ci. each of Am-241.*

Customer: *SCHLUMBERGER TECH C/O NSSI*                      Sales Order: *176026*                      *Feb-06-2008*

Signed:



## Monitoring Services

P.O. BOX 266677 . HOUSTON, TEXAS 77207-6677 . AREA CODE 713-478-6820 . FAX 281-532-0929  
leaktest1@comcast.net

### SEALED SOURCE LEAK TEST CERTIFICATE

#### RADIATION SAFETY

SCHLUMBERGER Anadrill Loc.1004  
135 ROUSSEAU ROAD

CUSTOMER #: 2138

YOUNGSVILLE

LA  
70592

SOURCE #: 38862

ACCOUNT #: 2138

RADIONUCLEIDE: AM241BE

SOURCE CODE: NSRU

ACTIVITY: 10 CI

SERIAL NO: Q1082 \*

WIPE DATE 2/16/2015

EFFICIENCY: 1.32

GROSS CPM: 31 BKG CPM: 15 NET CPM: 16

$\frac{\text{NET CPM}}{\text{EFF} \times 2.22 \times 10^6 \text{ DPM/u CI}} = \text{MICROCURIE}$

THE ABOVE SOURCE WIPE TEST HAS BEEN ASSAYED IN ACCORDANCE WITH OUR RADIOACTIVE MATERIAL LICENSE AND THE APPROPRIATE REGULATORY REQUIREMENTS. THE REGULATIONS DEFINE A LEAKING SOURCE AS ONE FROM WHICH AN APPROPRIATE WIPE TEST HAS REMOVED 0.005 ( $5.0 \times 10^{-3}$ ) MICROCURIE OR MORE OF ACTIVITY.

THE REMOVABLE ACTIVITY WAS: 5.46E-06 MICROCURIE

2.02E-01 Bq

ASSAY NO.: 3/3/2015 89 DATE: 3/4/2015

ASSAYED BY:



**QSA GLOBAL**

**QSA Global, Inc.**

40 North Avenue

Burlington, MA 01803

Telephone: (781) 272-2000

Toll Free: (800) 815-1383

Facsimile: (781) 273-2216

# Radioactive Sealed Source Certificate and Test Report

Model: *CDC.CY3*

Radionuclide: *CS137*

Nominal Activity: *1.78 Ci*

Product Code No: *CDCK8403*

ANSI/ISO Classification: *C66646*

Special Form Certificate No: *USA/0650/S-96*

Description: *GSR-Z (GSR-ZC containing a CDC.CY3 (CDCK7425))*

Capsule: *GSR-ZC (Contains Outer Capsule X2170/1; Inner Capsule X1187)*

Classifications are based on testing of specimen sources and give the levels expected from the production sources.

Recommended Working Life: 15 Years

See other side for explanation.

Source Serial Number	Measurements		Leakage Test		Contamination Test	Other Tests Description
	Measurement	Date	Type Date Passed	Type Date Passed	Type Date Passed	
→ GSR-Z-A3030	<i>1,350 nGy/s ( 1.69 Ci )</i>	<i>Dec-21-2007</i>	<i>M Dec-20-2007</i>	<i>D Dec-18-2007</i>	<i>A Mar-28-2008</i>	<i>SC-924CO 24</i>

**Notes:**

*CDCK7425 Source capsule X2170/1 passed a pressure test of 30,000 psi per SPS-L-1722 on 05 Mar. 08. Passed through gauge No. SCH1999/4949. Immersion test and Bubble test are on X1187 inner cell. Source model CDCK7425 is built to the specifications of SLB Model GSR-Z under drawing H408995D. CDCK8403 is built to the specifications of SLB Model GSR-ZC under drawing S-296173D.*

*Cs-134 content <1% of total activity.*

*Made in USA.*

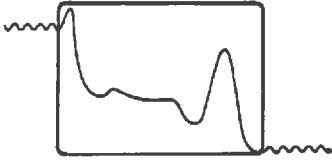
Customer: *SCHLUMBERGER TECH C/O NSSI*

Sales Order: *185391*

*Mar-28-2008*

Signed: \_\_\_\_\_

Page 1 of 1



## Monitoring Services

P.O. BOX 266677 . HOUSTON, TEXAS 77207-6677 . AREA CODE 713-478-6820 . FAX 281-532-0929  
leaktest1@comcast.net

### SEALED SOURCE LEAK TEST CERTIFICATE

#### RADIATION SAFETY

SCHLUMBERGER Anadrill Loc.1004  
135 ROUSSEAU ROAD

CUSTOMER #: 2138

SOURCE #: 38861

YOUNGSVILLE

LA  
70592

ACCOUNT #: 2138

RADIONUCLEIDE: CS-137

SOURCE CODE: GSRZ

ACTIVITY: 1.7 Ci

SERIAL NO: A3030

WIPE DATE 2/16/2015

EFFICIENCY: 0.95

GROSS CPM: 35 BKG CPM: 15 NET CPM: 20

$\frac{\text{NET CPM}}{\text{EFF} \times 2.22 \times 10^6 \text{ DPM/u Ci}} = \text{MICROCURIE}$

THE ABOVE SOURCE WIPE TEST HAS BEEN ASSAYED IN ACCORDANCE WITH OUR RADIOACTIVE MATERIAL LICENSE AND THE APPROPRIATE REGULATORY REQUIREMENTS. THE REGULATIONS DEFINE A LEAKING SOURCE AS ONE FROM WHICH AN APPROPRIATE WIPE TEST HAS REMOVED 0.005 ( $5.0 \times 10^{-3}$ ) MICROCURIE OR MORE OF ACTIVITY.

THE REMOVABLE ACTIVITY WAS:  $9.48 \times 10^{-6}$  MICROCURIE  
 $3.51 \times 10^{-1}$  Bq

ASSAY NO.: 3/3/2015 88 DATE: 3/4/2015

ASSAYED BY:

Schlumberger Technology Corporation  
Radiation Explosives Compliance  
300 Schlumberger Drive, MD 121  
Sugar Land, Tx 77478

**Schlumberger**

**FAX**

To: Ernie Jilek Date: Aug 20, 2015  
Fax: 985-727-2165

From: Timothy P. McLaughlin Tel: (281) 285-8775  
Fax: (281) 285-8526

Subject: Abandonment Plaque Pages: 2 (including cover)

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Ernie,

Request for abandonment plaque for BHP Billiton, well information follows.

Regards,



Tim



Schlumberger Technology Corporation  
Radiation Explosives Compliance  
300 Schlumberger Drive, MD 121  
Sugar Land, Tx 77478



Graphics N' Metal  
1200 Clausel Street  
Mandeville, La. 70448  
(504) 669-6082  
(985) 727-2165

August 20, 2015

Attn: Ernie Jilek,

Please construct the standard abandonment plaque with the following information:

Company	BHP Billiton
Well Name	OCS-G 16764 SS002 ST01BP00
Field	Green Canyon 609
API#	608114064501
Date of abandonment	July 12, 2015
Well depth	28,653 ft MD
Plug back depth	12,300 ft MD
Top of fish	24,994 ft MD
Sources abandoned	Americium 241, 10 Ci, Neutron @ 26,865 ft MD Cesium 137, 1.7 Ci, Gamma Ray @ 26870 ft MD

Special Instructions: DO NOT DRILL BELOW PLUG BACK DEPTH BEFORE CONTACTING REGION IV OF THE NUCLEAR REGULATORY COMMISSION

Please forward the completed plaque and invoice to me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Timothy P. McLaughlin".

Timothy P. McLaughlin  
Radiation Safety Officer  
Schlumberger Technology Corporation