### SHELL GULF OF MEXICO, Inc



#### **Rotary Sidewall Cores Field Report**

### OCS-Y-2321 Burger J 001

Posey 6912 Chukchi Sea, Alaska USA

Provided by:



Approved by: R.C. Scheidemann Compiled by: Ryan Massey

Jeff McBeth

Distribution: 11/12/2015





### 1. Well Summary Data

Burger J								
General Well Data Table								
	WELL NAME, API & LOCATION							
Well Name			OCS-Y	-2321 Burger J 001				
API/UWI			55-352	2-00004-00				
Block/Lease Name			Posey	6912				
Area/Field			Chukc	hi Sea				
State			Alaska					
Country			USA					
		COOR	DINATE	S				
		Surface	Locati	on				
Projection Datum	NAD 83	Coordinate Syst	em	UTM	Zone	3		
Latitude		Longitude		X ( <u>ft</u> )		Y (ft)		
71° 10' 24.0029	9" N	163° 28' 18.522" 1	W	555,036		7,897,424		
		Bottom h	ole Loc	ation				
Projection Datum	NAD 83	Coordinate Syst	em	UTM	Zone	3		
Latitude		Longitude		X ( <u>ft</u> )		Y (ft)		
71° 10' 24.0029	9" N	163° 28' 18.522" 1	N	555,036		7,897,424		
		DA	ATES					
Spud Date	A			7/30/2015 17:05				
TD Date				9/21/2015 23:09				
P&A Date	X			WSG released before P&A	4			
Rig Release Date				WSG released before rig release				
		RIG &	DATU	Л				
Water Depth				146 <u>ft</u>				
RT elevation (above	MSL)			76 <u>ft</u>				
Rig Name				Polar Pioneer				
Rig Company				Transocean				
Rig Type				Semi-submersible / Triple				
		TD a	nd KOP					
				ft MDRT		ft TVDSS		
Planned TD				6,800′		-6,724'		
Pilot Hole Actual TD	Driller			6,800'		-6,719'		





WELL OBJECTIVES											
				Primary Ob	ject	ive					
Formation	Formation Name Expected at						Doculto				
Formation	n Name	MDRT		/DSS		MDRT		TVDSS		Results	
C SA	ND	5,926'	-5	,850'		5,873'		-5,795'		-55′	
A SA	ND	6,006	-5	,930'		5,968'		-5,889'		-41'	
D SA	ND	6,511	-6	,435'		6,451'		-6,719		-64'	
				OFFSET W	VELL	S					
V	Vell Name	!	Ор	erator			Year			e (surface ation)	
	Burger 1		S	WEPI		19	989/1990		~	8 mi	
			ВО	REHOLE & W	ELL F	PROFILE					
Borehole	(pilot hole	, by-pass o	or sidetrack)			Pilot hole					
Well Profi	le (vertica	l, deviated	l, horizontal)			Vertical					
Maximum deviation @ depth (MDRT)							6,445' an	d 6,745'			
Deviation	Deviation at TD					3.99°					
			SERVICE C	OMPANIES A	ND	CONTRAC	TORS				
WSGs						Waters Petroleum Advisors					
Mudloggir	ng					Sperry Drilling					
Wireline L	ogging.			X		Schlumberger					
LWD/MW	D					Sperry D	rilling				
Coring				·		n/a					
Mud						MI-Swaco					
Cementing	3					Halliburton					
		AX	1	WELL CONFIG	URA	TION					
Hole Section	Maximu	m Depth	Mud Weight	Casing/		<u>Csg</u> Jiameter	Shoe	Depth		FIT/ LOT	
(")	ft MD	ft TVDSS	ppg	Liner	ט	(")	ft MD	ft TVDSS	Depth (ft MC		
42	375	-299	8.6 (Sea Water)	Conductor		36	369	-293	n/a	n/a	
26	1,512	-1,436	8.6	Casing		22	1,475	-1,399	1,522	12.6	
17.5	2,963	-2,887	10.4	Casing		14	2,933	-2,857	2,933	14.0	
12.25	5,423	-5,347	11.4	Liner		9 5/8	5,408	-5,347	5433	15.28	}
8.5	6,800	-6,719	12	-		-	-	-	-	-	





#### 2. RSWC Summary Table

#### 2.1 Brief Description of the Operation

The Rotary Sidewall Core Program performed for the Main Objective Interval consisted of 50 sidewall cores. 46 sidewall cores were ultimately collected. The Wireline Logging run was witnessed by Shell Petrophysicists. The sidewall cores were briefly analyzed at the wellsite by the Waters Wellsite Geologists. Per instruction, sidewall core sample integrity was critical. Therefore, the cores were analyzed without damaging or destroying core samples, as required for in depth analysis. Cores were prepped for basic analysis by wiping one side with a clean paper towel. The sample was then described with a hand lens while still in the clam shell. The wellsite analysis also consisted of photographing the core in plain and UV light. Hydrocarbon fluorescence and odor was described only if it was present.

#### **2.2 Rotary Sidewall Coring Table**

Lithology only described if readily apparent

No.	Depth	Rec (cm)	Lithology	Color	Cement	Matrix	Structures	Grain Size	Sorting	Porosity	Odor	Staining	Fluorescence	Cut Fluor	Comments/FI
1	5882.3	4.2	sst	brown				vfg							Kup C
2	5897.3	4.2		brown									trace brivell		Kup C
3	5908.9	4.2	sst	brown							slight		abund brivel		Kup C
4	5924.2	4.0	sst	brown							Sigit		accincion yes		Kup C
			SSI			-									
5	5934.7	4.0		brown		5 mm	white bedding	pane				4	tr br yel		Кир С
6	5941	4.7	sst	brown											Kup C
7	5953	4.2		brown									tr br yel		Кир С
8	5971	4.8	sslt	brown											Kup C
9	5937.7	3.0 / 1.0	sst	it gray				v fg							fracture/Kup (
10	5877	4.5	sst	brown				v fa							Kup C
11	5889.3	4.0		it gray						•					Kup C
12	5912.6	4.5	sst	brown											Kup C
13	5930.2	4.0	sst	t grav						visible			inc brivel		Kup C
	5947	3.8	SSI							Vsibe			inc or yei		
14	_			dk brown											Kup C
15	5962	4.5		brown											КирС
16	5977	4.7		brown											Kup C
17	5992.7	5.0		brown					, ·						Kup A
18	5968.1	4.5		brown											Kup A
19	5955.9	4.5		brown											Kup A
20	5927.1	4.6		it gray									scatit yell		Kup A
21	5906.3	3.9		brown				vis ar					7		Kup A
22	5864.1	miss		DIONII											Pebble Shale
	5886.3	3.6		h											
23				it gray			<del> </del>	vis gr							Kup A
24	5915.6	3.6		it gray	l		,								Kup A
25	5944	4.3	l	brown to blac	×										Kup A
26	5965	3.6		brown											Kup A
27	5980	4.6		dk brown											Kup A
28	5959	4.7		brown											Kup A
29	5918.7	4.6		it gray											Kup A
30	5892.3	4.4 4.5	sst	it gray											Kup A
31 32	5983	4.0	sltst	brown											Kup A
33	5974 5950	4.0		brown	-1-										Kup A
34	5901.3	4.7		k brown to bla	ECK										Kup A Kup A
35	5895.3	4.0	sst sst	it gray				ı i e							Kup A
36	6460.8	4.2	351	it gray brown				vis							Kup D
37	8472.5	4.0	sst	brown											Kup D
38	6481.5	4.0	sst	brown											
39	6492.5	4.0	sst	brown											Kup D Kup D
40	6509.2	4.1	251	brown			<del> </del>								Kup D
41	6521.3	4.5	sst/sitst	brown	_		<u> </u>						en dull orange flu	ior	Kup D
42	6542.5	miss	224 2021	Diomi			1						or suit orange it	~	Kup D
43	6529	5.0	sltst	brown									en dull orange flu	ior	Kup D
44	6514.1	4.7	256	brown			1						mon dull orange		Kup D
45	6500.5	4.3		brown									- Service Service		Kup D
48	6487.5	4.0		brown	İ	1				İ					Kup D
47	6477	1.4/2.3		brown	l	İ				İ					Kup D
48	6488.5		miss												Kup D
49	6427	4.6	111	brown											Milluveach
50	6285.2		miss												Milluveach
				•				Comments							

Per instruction, cores were photographed in plain and UV light. Cores were also evaluated visually for basic observations without disturbing sample integrity. Observed Fluorescence is noted above.

### 3. RSWC Description

RSWC Number	1
Depth (ft MD)	5882.3'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.2

RSWC Photo



<u>Description:</u> Brown, very fine grain size





RSWC Number	2
Depth (ft MD)	5897.3'
Formation	C Sand
Lithology	-
RSWC Size (cm)	4.2

#### RSWC Photo

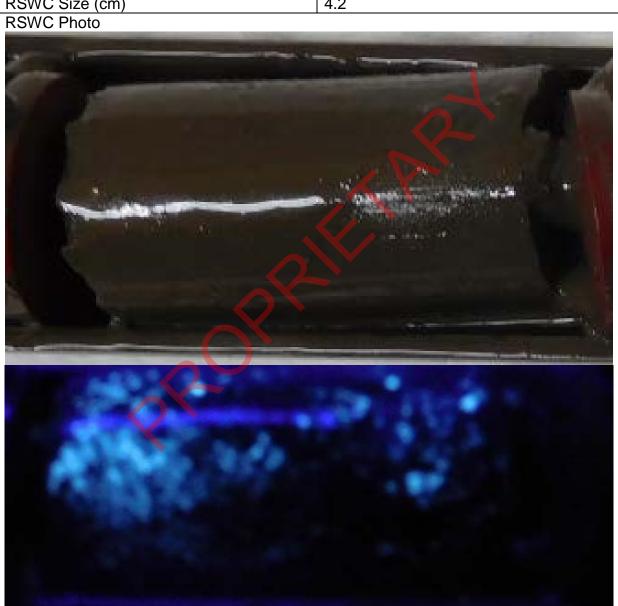


<u>Description:</u> Brown, trace bright yellow fluorescence





RSWC Number	3
Depth (ft MD)	5908.9
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.2



<u>Description:</u> Brown, slight hydrocarbon odor, abundant bright yellow fluorescence





RSWC Number	4
Depth (ft MD)	5924.2'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.0

RSWC Photo







RSWC Number	5
Depth (ft MD)	5934.7'
Formation	C Sand
Lithology	-
RSWC Size (cm)	4.0

#### RSWC Photo



<u>Description:</u> Brown, visible white bedding planes ~5mm in length, trace bright yellow fluoresence





RSWC Number	6
Depth (ft MD)	5941.0'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.7

#### RSWC Photo







RSWC Number	7
Depth (ft MD)	5953.0'
Formation	C Sand
Lithology	-
RSWC Size (cm)	4.2

RSWC Photo



<u>Description:</u> Brown, trace bright yellow fluoresence





RSWC Number	8
Depth (ft MD)	5971.0'
Formation	C Sand
Lithology	Siltstone
RSWC Size (cm)	4.8

RSWC Photo







RSWC Number	9
Depth (ft MD)	5937.7'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	3.0 / 1.0



<u>Description:</u> Light gray, very fine grained, core was fractured





RSWC Number	10
Depth (ft MD)	5877.0'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.5

RSWC Photo



<u>Description:</u> Brown, very fine grained





RSWC Number	11	
Depth (ft MD)	5889.3'	
Formation	C Sand	
Lithology	-	
RSWC Size (cm)	4.0	

RSWC Photo



Description: Light gray





RSWC Number	12
Depth (ft MD)	5912.6'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.5

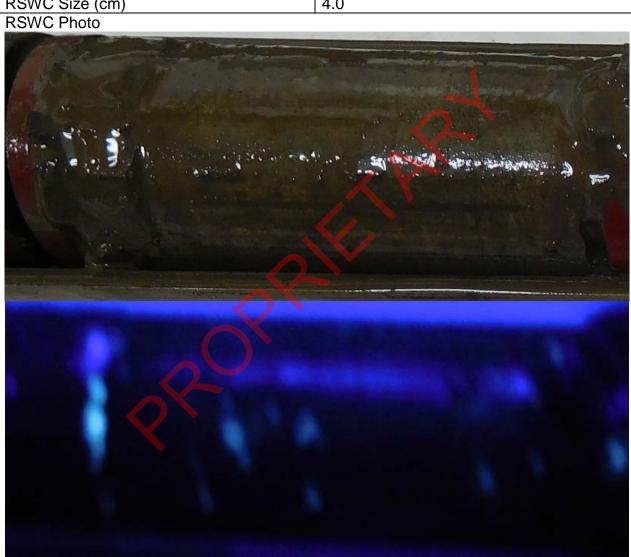
RSWC Photo







RSWC Number	13
Depth (ft MD)	5930.2'
Formation	C Sand
Lithology	Sandstone
RSWC Size (cm)	4.0



<u>Description:</u> Light gray, visible porosity, Increasing bright yellow fluorescence





RSWC Number	14
Depth (ft MD)	5947.0'
Formation	C Sand
Lithology	-
RSWC Size (cm)	3.8

#### RSWC Photo



Description: Dark brown





RSWC Number	15
Depth (ft MD)	5962.0'
Formation	C Sand
Lithology	-
RSWC Size (cm)	4.5

#### RSWC Photo







RSWC Number	16
Depth (ft MD)	5977.0'
Formation	C Sand
Lithology	-
RSWC Size (cm)	4.7

#### RSWC Photo







RSWC Number	17
Depth (ft MD)	5992.7'
Formation	A Sand
Lithology	-
RSWC Size (cm)	5.0









RSWC Number	18
Depth (ft MD)	5968.1'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.5

RSWC Photo







RSWC Number	19
Depth (ft MD)	5955.9'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.5

#### RSWC Photo







RSWC Number	20
Depth (ft MD)	5927.1'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.6



<u>Description:</u> Light gray, scattered light yellow fluorescence





RSWC Number	21
Depth (ft MD)	5906.3'
Formation	A Sand
Lithology	-
RSWC Size (cm)	3.9

RSWC Photo



<u>Description:</u> Brown, visible grains





RSWC Number	22
Depth (ft MD)	5906.3'
Formation	Pebble Shale
Lithology	-
RSWC Size (cm)	SAMPLE MISSED











RSWC Number	23
Depth (ft MD)	5886.3'
Formation	A Sand
Lithology	-
RSWC Size (cm)	3.6

#### RSWC Photo



Description: Light gray, visible grains





RSWC Number	24
Depth (ft MD)	5915.6'
Formation	A Sand
Lithology	-
RSWC Size (cm)	3.6

RSWC Photo



Description: Light gray





RSWC Number	25
Depth (ft MD)	5944.0'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.3

RSWC Photo



Description: Brown to black





RSWC Number	26
Depth (ft MD)	5965.0'
Formation	A Sand
Lithology	-
RSWC Size (cm)	3.6









RSWC Number	27
Depth (ft MD)	5980'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.6

#### RSWC Photo



Description: Dark brown





RSWC Number	28
Depth (ft MD)	5959.0'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.7

#### RSWC Photo







RSWC Number	29
Depth (ft MD)	5918.7'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.6

RSWC Photo



Description: Light gray





RSWC Number	30
Depth (ft MD)	5892.3'
Formation	A Sand
Lithology	Sandstone
RSWC Size (cm)	4.4



Description: Light gray





RSWC Number	31
Depth (ft MD)	5983.0'
Formation	A Sand
Lithology	Siltstone
RSWC Size (cm)	4.5

RSWC Photo







RSWC Number	32
Depth (ft MD)	5974.0'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.0









RSWC Number	33
Depth (ft MD)	5950.0'
Formation	A Sand
Lithology	-
RSWC Size (cm)	4.7





Description: Dark brown to black





RSWC Number	34
Depth (ft MD)	5901.3'
Formation	A Sand
Lithology	Sandstone
RSWC Size (cm)	4.0

### RSWC Photo



Description: Light gray





RSWC Number	35
Depth (ft MD)	5895.3'
Formation	A Sand
Lithology	Sandstone
RSWC Size (cm)	4.0

RSWC Photo

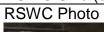


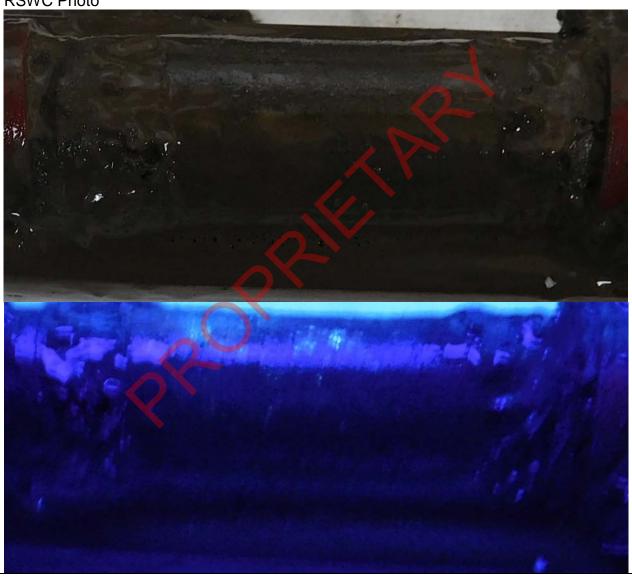
<u>Description:</u> Light gray, visible grain size





RSWC Number	36
Depth (ft MD)	6460.8'
Formation	D Sand
Lithology	-
RSWC Size (cm)	4.2









RSWC Number	37
Depth (ft MD)	6472.5'
Formation	D Sand
Lithology	Sandstone
RSWC Size (cm)	4.0







RSWC Number	38
Depth (ft MD)	6481.5'
Formation	D Sand
Lithology	Sandstone
RSWC Size (cm)	4.0

RSWC Photo







RSWC Number	39
Depth (ft MD)	6492.5'
Formation	D Sand
Lithology	Sandstone
RSWC Size (cm)	4.1









RSWC Number	40
Depth (ft MD)	6509.2'
Formation	D Sand
Lithology	-
RSWC Size (cm)	4.3







RSWC Number	41
Depth (ft MD)	6521.3'
Formation	D Sand
Lithology	Siltstone / Sandstone
RSWC Size (cm)	4.0



Description: Brown, even dull orange fluorescence





RSWC Number	42
Depth (ft MD)	6542.5'
Formation	D Sand
Lithology	-
RSWC Size (cm)	SAMPLE MISSED

RSWC Photo

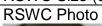


Description: SAMPLE WAS MISSED





RSWC Number	43
Depth (ft MD)	6529.0'
Formation	D Sand
Lithology	Siltstone
RSWC Size (cm)	5.0





<u>Description:</u> Brown, even dull orange fluorescence





RSWC Number	44
Depth (ft MD)	6514.1'
Formation	D Sand
Lithology	-
RSWC Size (cm)	4.7





Description: Brown, common dull orange fluorescence





RSWC Number	45
Depth (ft MD)	6500.5'
Formation	D Sand
Lithology	-
RSWC Size (cm)	4.3







RSWC Number	46
Depth (ft MD)	6487.5'
Formation	D Sand
Lithology	-
RSWC Size (cm)	4.0

RSWC Photo







RSWC Number	47
Depth (ft MD)	6477.0'
Formation	D Sand
Lithology	-
RSWC Size (cm)	1.4 / 2.3





<u>Description:</u> Brown, sample was fractured





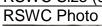
RSWC Number	48
Depth (ft MD)	6466.5'
Formation	D Sand
Lithology	-
RSWC Size (cm)	SAMPLE MISSED
RSWC Photo	

Description: Sample was missed





RSWC Number	49
Depth (ft MD)	6427.0'
Formation	Milluveach
Lithology	-
RSWC Size (cm)	4.6









RSWC Number	50
Depth (ft MD)	6285.2'
Formation	Milluveach
Lithology	-
RSWC Size (cm)	SAMPLE MISSED





Description: Sample was missed





## 4. RSWC Handling and Preservation

Once a brief analysis was conducted, the RSWC were prepared for transport. Flint glass jars were utilized. Jars were labeled and filled with ~1 inch layer of Teflon chips. The core was then wiped gently with a paper towel. The core was placed in the glass jar and remaining space was filled with Teflon chips. The cap was screwed on and electrical tape was wrapped around the cap and glass jar to prevent movement. Jars were then loaded into Pelican cases for transport.





## 5. Original Photographs

5.1 RSWC Number 3, 2, & 1 in Plain Light.







### 5.2 RSWC Number 4, 3, & 2 with Black Light.







#### 5.3 RSWC Number 6, 5, & 4 in Plain Light.







#### 5.4 RSWC Number 10, 9, 8, & 7 in Plain Light.







#### 5.5 RSWC Number 13, 12, & 11 in Plain Light.







### 5.6 RSWC Number 13 with Black Light.







### 5.7 RSWC Number 16, 15, & 14 in Plain Light.







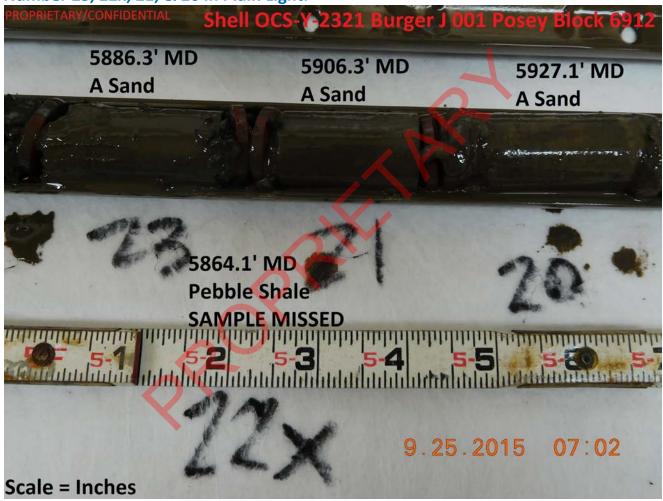
## 5.8 RSWC Number 19, 18, & 17 in Plain Light.







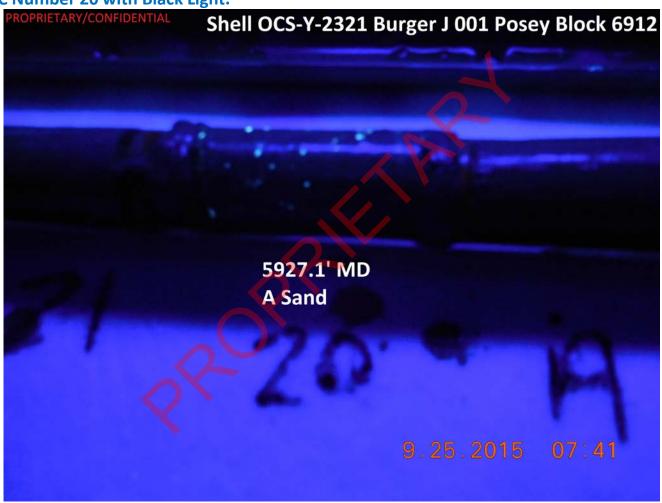
#### 5.9 RSWC Number 23, 22x, 21, & 20 in Plain Light.







## 5.10 RSWC Number 20 with Black Light.







### 5.11 RSWC Number 26, 25, & 24 in Plain Light.







## 5.12 RSWC Number 28 & 27 in Plain Light.







## 5.13 RSWC Number 31, 30, & 29 in Plain Light.







#### 5.14 RSWC Number 34, 33, & 32 in Plain Light.







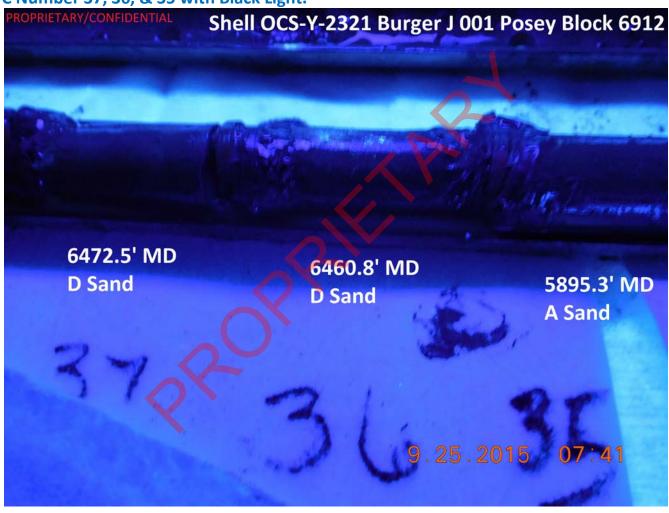
### 5.15 RSWC Number 37, 36, & 35 in Plain Light.







#### 5.16 RSWC Number 37, 36, & 35 with Black Light.







## **5.17 RSWC Number 40, 39, & 38 in Plain Light.**







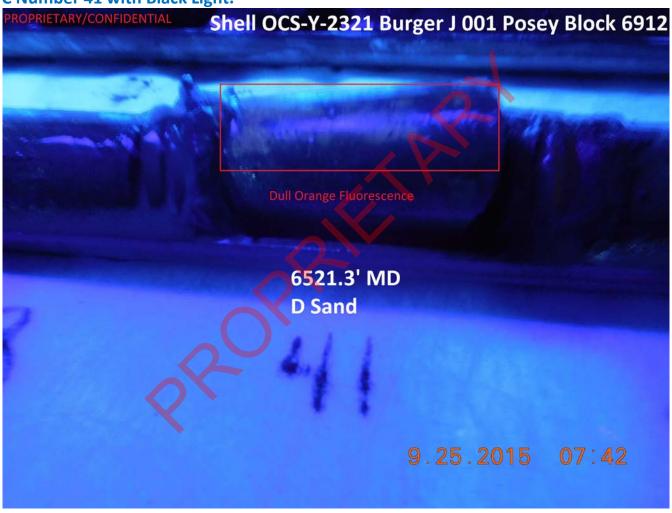
### 5.18 RSWC Number 44, 43, 42x, & 41 in Plain Light.







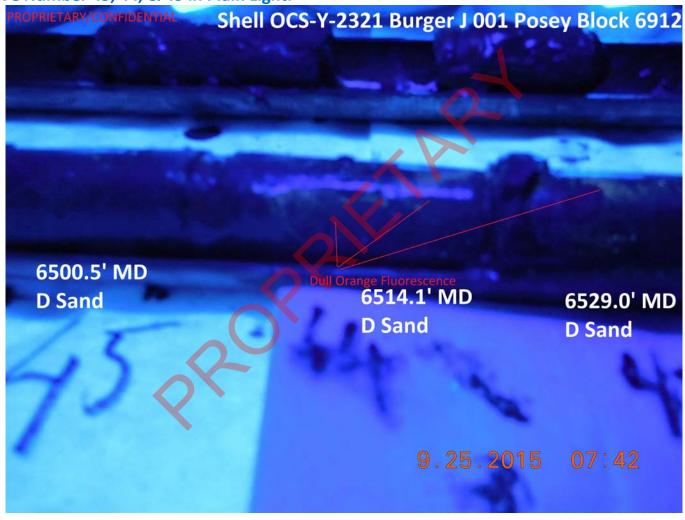
## 5.19 RSWC Number 41 with Black Light.







### 5.20 RSWC Number 45, 44, & 43 in Plain Light.







#### 5.21 RSWC Number 46, 45, & 44 in Plain Light.







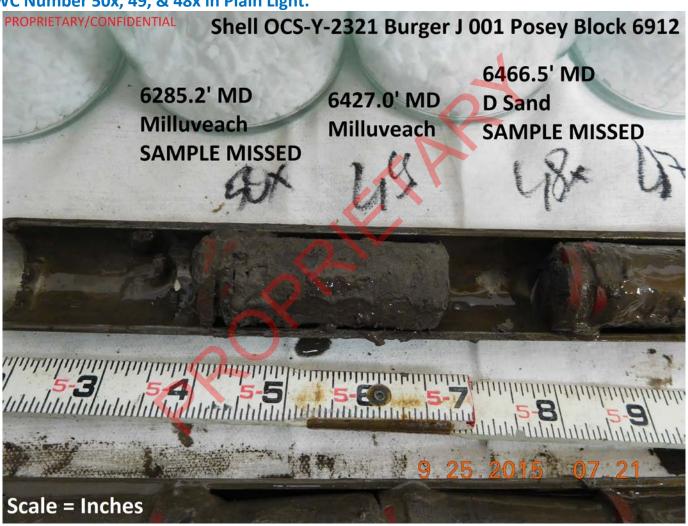
#### 5.22 RSWC Number 47 in Plain Light.







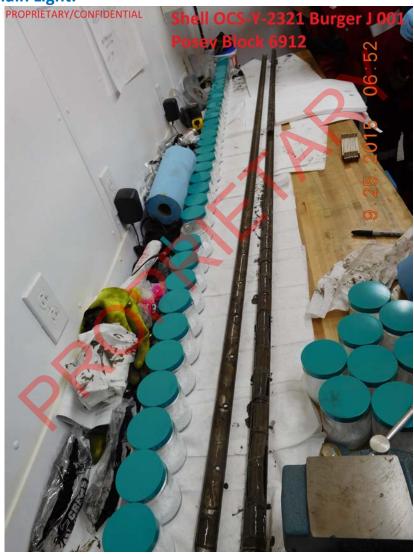
### 5.23 RSWC Number 50x, 49, & 48x in Plain Light.







## 5.24 RSWC Full Barrel in Plain Light. PROPRIETARY/CONFIDENTIAL







## **5.25 RSWC Barrel with Gap between Cores.**







## **5.26 RSWC Barrel with Gap between Cores.**

