

# Investcan Energy Corp

## Final Well Report

For

# Hurricane#2 (Whip#1) Re-entry

At

Permit 03-107

## Western Newfoundland

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# TABLE OF CONTENTS

1	Intro	oduction
	1.1	Original Well "Hurricane#2 (Whip #1)"
	1.2	Re-Entry Well "Hurricane#2 (Whip#1) Re-entry"
2	Gen	eral Information
	2.1	Administrative Data
	2.2	Drilling Unit
	2.3	Elevations
	2.4	Depths
	2.5	Dates10
	2.6	Well Status
	2.7	Time & Cost Analysis10
	2.8	Benefits Tracking10
	2.9	Difficulties & Delays10
3	Drill	ling Operations
	3.1	Hole Size and Depths12
	3.2	Bit Records
	3.3	Casing and Cementing Records
	3.4	Sidetracked Hole13
	3.5	Drilling Fluid
	3.6	Fluid/Waste Disposal
	3.7	Fishing Operations14
	3.8	Well In flux14
	3.9	Formation Leak-Off Tests14
	3.10	Suspension / Abandonment Plugs
	3.11	Well Schematic
	3.12	Fluid Samples16
4	Geo	logical17
	4.1	Coring17

## Bay Saint George 03-107 – Hurricane#2 (Whip#1) Re-Entry – FWR



4.2 H	ydrocarbon Shows17
4.3 G	eologic Tops18
5 Well E	valuation Program
5.1 Lo	ogging Program
5.1	.1 Formation Multi Tester
5.1	.2 Gamma Ray Logging
5.2 D	ill Stem Tests
5.3 Fo	ormation Flow Testing20
5.4 Fo	ormation Stimulation21
APPENDIX	A: Maps & Layouts
APPENDIX	B: Copies Of Government Approvals27
APPENDIX	C: Daily Drilling Reports
APPENDIX	D: Drilling Curve & Time Breakdown109
APPENDIX	E: Well Costs
APPENDIX	F: Benefits Tracking114
APPENDIX	G: Bit Run Summary116
APPENDIX	H: Cementing Reports
APPENDIX	I: Mud Reports
APPENDIX	J: Wellbore & Wellhead Schematics
APPENDIX	K: Geological Reports162
APPENDIX	L: DST Summary
APPENDIX	M: Geological Strip Log198
APPENDIX	N: Final Geological Report219
APPENDIX	O: Well Survey Report
APPENDIX	P: Gas Analysis
APPENDIX	Q: List of Acronyms



# LIST OF TABLES

Table 2-1 - General Information on Hurricane#2 drilling	8
Table 2-2 - General Information on Foragaz Rig#3	9
Table 2-3 - Time and Costs summary table	10
Table 3-1 - Hole sizes and depth table	12
Table 3-2 - Cementing Summary Production Casing	12
Table 3-3 - Drilling Fluids Summary	13
Table 3-4 - Well Survey Projection at TD Hurricane#2 (Whip#1) Re-entry	15
Table 4-1 - Geologic Tops Summary	18
Table 5-1 - Logging Program Summary	19
Table 5-2 - Formation Multi-Tester (FMT) Pressure Test Summary Report	20

# LIST OF FIGURES

Figure 3-1 - LOT Graph Hurricane#2 (Whip#1) Re-entry	ane#2 (Whip#1) Re-entry15
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## **1** INTRODUCTION

Investcan Energy Corporation (IEC, 'The Company') drilled and deepened the Hurricane#2 Whip#1 well from 935m to 1970m MD (1965.30m TVD) in the Bay of St. George Basin, Newfoundland, as a Re-Entry well with the licence number 03-107.

## 1.1 ORIGINAL WELL "HURRICANE#2 (WHIP #1)"

The original well "Hurricane #2 (Whip #1)" was drilled in 2005 by Vulcan Minerals Inc. The purpose of the well was to gather geological and geophysical data as a means to evaluate the economical potential of future field exploration and development for crude oil and/or natural gas production.

The drilling rig used was the Ingersoll Rand RD10, a single-type rig with 210-hp (156-kW) rating and a 70000-lb (31750-kg) hookload. The 935 m from rig floor (RF) vertical well was drilled in accordance with the Drilling Program Approval #DPA2005-116-01 and Authority to Drill Well #ADW2005-116-01-04 under Permit #03-107.

The Hurricane #2 (Whip #1) 340 mm cellar casing was set at 9.1mRF with 4.0 m<sup>3</sup> of cement for a good shoe to hold back the overburden. The 311 mm hole was drilled to 19.36 m then the 244.5 mm casing was set to 19.36 m and cemented into place with cement to surface.

The hole was air drilled with a 219.1 mm BHA to 89 mRF where water zone influx prevented the continuance of air drilling. The drilling fluid was switched to a water base mud and the section was continued with a 215.9 mm BHA to 323 m. The 177.8 mm casing was run to 323 mRF and cemented into place with cement returns to surface. Due to partial lost circulation, cement level in the annulus dropped and a 0.75 m<sup>3</sup> cement top job was executed. Blow out preventers were nippled up and hi-low pressured tested against surface casing.

Formation integrity test was executed at 326 m resulting in a calculated pressure gradient of 25.4 kPa/m. The hole was continued by drilling with air and a 158.75 mm BHA to a total depth of depth of 935 mRF. Open hole logs (High Density Induction, Digital Acoustic Log, Compensated Z-Densilog, Compensated Neutron, Gamma Ray, and Caliper) were run to 935 m. The well was then plugged back with three cement plugs and suspended.

The Spout Falls and Friars Cove Formations were penetrated in Hurricane #2 (Whip #1) and exhibited poor reservoir quality. Only minor hydrocarbon shows were encountered.

#### 1.2 RE-ENTRY WELL "HURRICANE#2 (WHIP#1) RE-ENTRY"

The objective of the re-entry of Hurricane #2 was to deepen the well from the current depth of 935 m to approximately 1970 m to evaluate the hydrocarbon potential of the Snakes Bight Formation as suggested by geophysical data. RedBrook #2, situated at 5.5 km from Hurricane #2, intersected reservoir quality sands in the Snakes Bight Formation at ~ 1300 and ~1550 m meters TVD. Tests from



both intervals flowed hydrocarbons to surface. Seismic interpretation and magnetic data suggest granitic basement is at depth of  $\sim$  1950 m TVD beneath the Hurricane #2 well and hence there is a thick sedimentary package that may encompass the Snakes Bight Formation. Deeping the Hurricane #2 well assisted in evaluating the hydrocarbon potential of the southern extent of the Flat Bay anticline.

Hurricane#2 (Whip#1) Re-entry well was drilled by IEC, using its Foragaz#3 Rig. Management of the Operation was undertaken by IEC Staff with support of contracted drilling supervision.

Two cement plugs in the original wellbore were drilled at the 178mm surface casing shoe and the bottom of 159mm open hole. A cement bond log was acquired by Baker Hughes:

- 1. Cement top at 39 m RKB
- 2. Minimal cement bond to formation from 39m RKB to 218m RKB
- 3. Good cement from 218m to casing shoe (323m RKB)

The well was then drilled and deepened from 935m to 1970 MD (1965.30m TVD) in 159mm (6-1/4") hole section by a directional bottom hole assembly to achieve a better performance while drilling and also to keep the hole as close to verticality as possible.

Two coring sections were planned, however no core was taken from the 6-1/4" hole due to the lack of hydrocarbon bearing reservoir quality intervals encountered.

The Company ran a full suite of wire line evaluation logs run over the potential pay zones, including HDIL, ML ZDL, XMAC, ORIT, DSL, TTRM, STAR, MREX and FMT logging tools.

Four openhole DST tests (dual straddle conventional) were conducted by Holland Testers, amongst which the first one was failed due to missing the production sleeve in the DST assembly.

The 127mm (5 inch) production casing was set and cemented at 1967.35m RKB. Cementing operations went smoothly with good returns.

A 179.4mm-20.7MPa x 228.6mm-20.7MPa tubing head was installed on 228.6mm-20.7MPa casing bowl and then a 179.4mm- 13.8MPa blind flange was installed on tubing head.

The rig was subsequently released on July 23<sup>rd</sup>, 2013 from the well and stacked on location.

Investcan is reviewing the results before issuing a completion design and evaluation program for the Hurricane#2 (Whip#1) Re-entry.

No major problems were experienced during the operations and more particularly:

- No significant mud losses encountered
- No water influx encountered
- No pipe stuck encountered
- No H<sub>2</sub>S / CO<sub>2</sub> gas encountered

The Foragaz Rig#3 performed generally well, other than a contractor limitation for the pump pressure (fixed to 10,000 kPa) to preserve equipment, resulting in:

• Using higher size of jet nozzles for the bits and consequently reducing hydraulic performance at the bit.



- Lower ROPs.
- Higher torque and drag.
- Significant damage to the bits (potentially increasing the number of bits used to reach TD).

Investcan had to use 9 drilling bits (5 Tri-Cone and 4 PDC) to drill 1035m of 159mm hole section (1 bit every 115m in average, refer to Appendix G for detailed bit report). Geology encountered an unexpected 460m conglomerate section which played a significant role in the number of bits used.

Well site drilling supervision was done by Victor Leroux (Day Company Man) and Travis Young (Night Company Man). Well site geology was performed by Pierce Bradley and Jonathan Taylor, with support from Marine Di Matteo (junior geologist). Operations management was supervised by Antoine Forcinal, P.Eng., Technical Manager at IEC.



# **2 GENERAL INFORMATION**

#### 2.1 Administrative Data

Well Name:	Hurricane#2 (Whip#1) Re-entry				
Operator	Investcan Energy Corp.				
Permit	Exploration Permit n° 03-10	7			
DPA	DPA 2012-131-01				
ADW	ARW 2013-131-01-01				
Operator	Investcan Energy Corporation				
Contractor	Foragaz Inc (a division of Junex Inc)				
Drilling Rig:	Rig#3				
Rig Type:	Double Drilling Rig				
Geographic Coordinates	UTM "X" East NAD 27	E 375854.54			
deographic coordinates.	UTM "Y" North NAD 27	N 5347195.57			
Survey Summary	While drilling MWD surveys were used to track				
Survey Summary	wellbore deviation. The final definitive survey list is in				
	Appendix N				

Table 2-1 - General Information on Hurricane#2 drilling

The Hurricane #2 (Whip #1) Well was drilled under ADW # 2005-116-01-04, under Crown Land Permit to Occupy #127434. The Permit is in good standing and will expire on November 22<sup>nd</sup>, 2014. The legal survey conducted by R. Davis Survey's Ltd, dated January 9<sup>th</sup> 2006, remain valid for the purposes of this undertaking. Please refer to Appendix A for details regarding Crown Land License to Occupy #127434 and the legal survey of same. In February 2013, IEC has performed a visual site inspection to evaluate the work required prior to commencing re-entry operation.

A map showing the location of the well and the 2006 legal survey are included in the Appendix A. Included in Appendix B are copies of the various government approvals granted during operations.



#### 2.2 DRILLING UNIT

CoMPany & Rig	Foragaz Inc	#3			
	Division of Junex, inc.				
Construction Completed:	2010	(DOUBLE U-34) with Top Drive			
Specifications:	Substructure Type:	Box-on-Box (8 pieces)			
	Rig Floor level and KB	13,5m (13ft)			
	Mast Type and Height	29.26m (96ft)			
		Guyed Telescopic Double			
	Maximum Drill Depth	2000m			
	Maximum Hook Load	80,000 daN (180,000 lbf)			
	Drawworks (power, engine)	Simple Drum, 450HP Detroit Diesel 560 12.7L			
	Top Drive Torque	597 daN m			
		(4,400 lbf-ft @100RPM)			
	Drilling Line	1 inch – 6 lines			
	Carrier	Lee-C Moore, 3 rear axles			
	Drill Pipe	101mm (4inch) 20,46 daN/m (14lb/ft), S-135 connection 3 ½ IF (NC 38), 2,000M (6,562 ft)			

Table 2-2 summarizes the main characteristics of the drilling rig used.

Table 2-2 - General Information on Foragaz Rig#3

#### 2.3 Elevations

Ground Level Elevation: 145.70 m (ref. MSL) KB Elevation: 149.66 m (ref. MSL) / 3.96 m (ref. MSL)

## 2.4 DEPTHS

Total Depth: 1970.0 meters MD KB/ 1965.30 meters TVD KB Total Depth logged: 1669 meters MD KB

### 2.5 DATES

Spud Date: 24:00 hours, June. 17<sup>th</sup>, 2013 TD Date: 05:15 hours, July. 13<sup>th</sup>, 2013 Rig Release: 19:00 hours, July. 23<sup>rd</sup>, 2013

#### 2.6 Well Status

The 127mm production casing is set and cemented at 1967.35m RKB. A 179.4mm-20.7MPa x 228.6mm-20.7MPa tubing head was installed and a 179.4mm- 13.8MPa blind flange was installed on the tubing head.

## 2.7 TIME & COST ANALYSIS

	Original AFE	Act	ual	
Activity	Days	Cost (CAD \$)	Days	Cost (CAD \$)
Drilling	25	\$2.41M	36	\$2.78M

Table 2-3 - Time and Costs summary table

A daily detailed time breakdown is available from the Investcan morning reports included in Appendix C. The drilling curve and time breakdown are located in Appendix D. A summary of the drilling costs for the well is included in Appendix E. The principal reason for discrepancy is related to drilling time (estimated to 8-9 mph as opposed to 3.66 mph actual) and related operations such as tripping.

#### 2.8 BENEFITS TRACKING

The complete benefits tracking for the well is included in Appendix F.

#### 2.9 DIFFICULTIES & DELAYS

The following provides a summary of the difficulties and delays that occurred during the drilling of Hurricane#2 (Whip#1):

- Overall logistical challenges in Western NL created delays
- 23.25 hours NPT: Mistakenly running a 178mm scraper in the 159mm open hole section caused the scraper to become stuck in the openhole at 597m RKB. Worked and released scraper and pulled same out of hole.



- 5.5 hours NPT: Instead of using a test cup and due to wrong setting of tools, the first pressure test of the BOP's failed.
- 64.75 hours NPT: A TAM packer which was run and set inside 178mm casing to pressure test blind rams dropped to the bottom of hole at 1786m when depressurizing the wellhead after pressure test. A fishing job carried out to retrieve the fish lasted 64.75 hours.
- 8.75 hours NPT: There where several issues on logging runs. Run #1: the density tool ZDL, Run#2: a failure with the tension sensor, Run#3: CPU crash problem.
- 6 hours NPT: drill string pressured up while drilling at 1854m due to mud motor failure, leading to the reset of the blow off valve.
- 21 hours NPT: DST run#1 failed due to missing a production sleeve in the DST assembly.
- 11 hours NPT: the cement head was delayed to be sent to the rig and delayed the 127mm casing cement job.

For detailed analysis of difficulties and delays, the drilling curve and time breakdown are included in Appendix D.



# **3** DRILLING OPERATIONS

## 3.1 HOLE SIZE AND DEPTHS

Conductor / Casing	Hole Size [mm]	Casing Size [mm]	Setting Depth [mRF]
<b>Conductor</b> (Was Already Run & Cemented in Original Well Whip#1)	311	244.5	19.3
<b>Surface Casing</b> (Was Already Run & Cemented in Original Well Whip#1)	216-219	177.8	323
Production Casing	159	127	1967.35

Table 3-1 - Hole sizes and depth table

#### 3.2 BIT RECORDS

There were a total of 9 bits were used during the well. See Appendix G for details.

#### 3.3 CASING AND CEMENTING RECORDS

• <u>Conductor</u>

44.5mm OD, 53.60 kg/m, J-55 Casing, 0 to 19.3m KB The conductor was already run and cemented in the original Hurricane#2 Whip#1 well.

• <u>Surface</u>

177.8mm OD, 25.3 kg/m, H-40 casing, 0 - 323m KB. The surface casing was already run and cemented in the original Hurricane#2 Whip#1 well.

• <u>Production</u>

127mm OD, 26.79 kg/m, L-80 casing, 0 - 1967.35mMD KB Ran and cemented to surface in Hurricane#2 Whip#1 Re-Entry.

Slurry	Tonne	Cement Blend	Density [kg/m3]	Water [m3/t]	Yield [m3/t]	Volume [m3]
LEAD	8.5	Class G + 0.5% Halad 344	1600	0.88	1.17	9.9
TAIL	10.5	Class G + 0.5% Halad 344	1895	0.44	0.76	8

Table 3-2 - Cementing Summary Production Casing



#### Top Up Cement Job:

Cement volume to surface was 2.0 m<sup>3</sup>. A Top up cement job was performed while waiting on cement: Place 1inch pipe down to 39m outside 7" casing, Mixed and pumped 1 tonne, 0.76m<sup>3</sup> slurry @ 1895 kg/m<sup>3</sup> from 39m to surface.

Cement returns at surface: 2m<sup>3</sup>. The cement reports are available in Appendix H.

#### 3.4 SIDETRACKED HOLE

There were no sidetracks during the Hurricane#2 (Whip#1) Re-entry drilling operation.

#### 3.5 DRILLING FLUID

The 159mm hole in the Re-Entry well was drilled with a Clay Free Polymer Water-Based Mud.

A summary table is shown below:

Hole Section	Depth [m]	Diameter [mm]	Fluid Type	Viscosity [sec/L]	Weight [kg/m³]
Original Drilled Hole	0-935	159	Fresh Water	29-32	1010
New Production Hole	935-1970	159	Clay Free Polymer	45-55	1090-1150

Table 3-3 - Drilling Fluids Summary

The mud reports can be found in Appendix I.

#### 3.6 FLUID/WASTE DISPOSAL

The Company managed fluids as originally planned. The drilling fluids were recycled during the entire campaign. The fluids are currently stored on site, pending either transportation by a qualified third party to the next well for re-use, once analysis can confirm that the fluids remain within the normal specification and have not been contaminated. The fluids are water based, and the additives were as environmentally benign as possible, with the exception of salt.

When the decision is made to dispose formally any of the drilling fluids, they will be analyzed and disposed as per environment regulations by a qualified third-party.

No permanent sewer system was built. All sanitary waste was collected regularly by third-party contractor and was disposed of as per the regulations.



#### 3.7 FISHING OPERATIONS

As no test plug for the 9"-3K Casing Bowl was available, a 87.4mm (3-7/16") x 95.25 mm (3-3/4") TE single set TAM packer was run and set inside 178mm casing in order to pressure test the blind rams. After pressure test was completed, TAM packer retrieving tool was run in hole on 60.325 mm (2-3/8") EUE tubing to unset the packer and pull it back at surface. While running in hole with the retrieving assembly found that the packer was released and dropped to the bottom of hole at 1786m. Three unsuccessful fishing attempts were made to retrieve the packer by running TAM overshot on 60.325 mm (2-3/8") tubing. A modified cut lip guide was made for the overshot and RIH on drill pipe. The top of fish was washed down at 1782 mRF before being latched on. Fishing attempt was made to deflate packer, which was set at the bottom of the well due to previous fishing runs. After some circulation over the fish, the latter was re-latched and pull out of hole.

The fishing operations total 64.75 hrs, spent to retrieve the TAM Packer from 1782m in 159mm hole section.

#### 3.8 Well Influx

No water or hydrocarbon influx has been observed in Hurricane#2 (Whip#1) Re-entry well.

#### 3.9 FORMATION LEAK-OFF TESTS

#### • FIT at Hurricane#2 Whip#1: Dec 9th, 2005 – 159mm Hole Section

The test was carried out with a 177.8mm casing at 323mRT TVD and a mud density of 1015kgs/m<sup>3</sup>. Surface Applied Pressure was 5000 kPa giving a 25.4 kPa/m Formation Integrity Strength Gradient.

#### • LOT at Hurricane#2 (Whip#1) Re-entry: Jun 18, 2013 – 159mm Hole Section

A Leak-off Test has been done on Hurricane#2 (Whip#1) Re-entry once the cement plug at shoe was drilled out, in order to cross check the FIT done on Hurricane#2 in 2005. The bottom of second cement plug was located at 836m. The 178mm shoe was set at 323m. The test was carried out with a 177.8mm Casing at 323mRT TVD and a mud density of 1010kgs/m<sup>3</sup>, Surface Applied Pressure was 6064 kPa at leak off, giving a 28.6 kPa/m Formation Leak-off Gradient.





Figure 3-1 - LOT Graph Hurricane#2 (Whip#1) Re-entry

Well Survey and Trajectory

The well Hurricane#2 Whip#1 was already drilled vertically to 935m into Fishell's Brook Conglomerate Formation. The original well deviation was 3.75° at 932.2m measured by a Totco Survey tool. The Hurricane#2 (Whip#1) Re-entry well was deepened and drilled vertically to 1970m by a directional BHA including mud motor, MWD and Gamma Ray tools. The well trajectory is contained within permit boundaries.

The last survey was taken at 1956m showing 1.40° well inclination and 333.80° Azimuth. Extrapolation survey to TD at 1970m with the same inclination and azimuth resulted in 1965.30 m as TVD RKB.

Survey MD (m)	Inc (°)	Azi (°)	TVD Vertical	SSTVD (m)	+N/-S (m)	+E/-W (m)	Vertical Section	D'Leg (°/30m)	Build (°/30m)	Turn (°/30m)
LAST MWD	SURVEY									
1,956.00	1.40	333.80	1,951.30	-1,801.47	5.78	4.39	5.78	0.319	0.25	-8.47
EXTRPOLA	EXTRPOLATION TO TD									
1,970.00	1.40	333.80	1,965.30	-1,815.47	6.09	4.24	6.09	0.000	0.00	0.00

Table 3-4 - Well Survey Projection at TD Hurricane#2 (Whip#1) Re-entry

Please Refer to Appendix N for the directional plan and final well survey program.

#### 3.10 Suspension / Abandonment Plugs

There are no plugs in the main hole as the latter was cased with 127mm OD casing and cemented to surface and the mud in hole was displaced to fresh water. A top up cement job was also done around the 177.8mm casing from 39m to surface. A 179mm - 13,800 kPa blind flange was installed on the tubing head.

#### 3.11 Well Schematic

A schematic showing hole sizes and depths, casing sizes and depths, and cementing tops is included in Appendix J. Wellhead configuration is also included.

#### **3.12** Fluid Samples

Several attempts were made to obtain fluid samples using a Formation Multi Tester (FMT) tool. However, no formation fluid sample was recovered. Two gas samples were recovered from bottom hole sampler in DST assemblies (DST#3 and DST#4). Both samples have been analyzed by Maxxam laboratories. A compositional gas analysis was done on gas from both of these intervals (see Appendix O) as well as a stable carbon isotope analysis on C1 through C4.



# **4 GEOLOGICAL**

The geological summary report and final geological column diagram is included in Appendix K. A description of all cuttings collected is in the detailed report. All bagged and vialed cuttings samples are stored in Investcan Energy storage facility. Samples were collected every 5 meters from 940 m to 1970 m MD. Two sets of drill cuttings were washed and dried on site. One set was submitted to the Department of Natural Resources on August 29<sup>th</sup>, 2013.

#### 4.1 CORING

Baker Hughes's HT10 Conventional Coring System (159 mm\*67mm\*18m) had been planned to take two core samples in following intervals:

Core#1: 1410mRF – 1428mRF

Core#2: 1632mRF – 1650mRF

Core was not taken as hydrocarbon bearing reservoir rocks of sufficient quality were not intersected during drilling.

## 4.2 HYDROCARBON SHOWS

Minor gas shows as measured by the gas detector were encountered down to a depth of approx 1690 m MD. The maximum gas detector value encountered was 513 units at 1685 m, and this level may be affected by the addition of glycol previously. Below that depth, the gas detector response was minimal. Spotted oil shows were encountered at 1000 m and 1475 m. A very slow milky cut came from the 995-1000 m sample. In the 1470-1475 m sample, a yellow/white bright cut was observed. At 1505 m, some "brown oil" was reported on the shaker. A log of "brightness" of fluorescence was reported by wellsite geologist assistant Marine Di Matteo from drill out to the top of the conglomerate at 1510 m and is presented in Appendix M. Only minor discontinuous fluorescence was reported below 1510 m.

A full geological strip log is attached for detailed reference in Appendix M.



## 4.3 GEOLOGIC TOPS

Depth Top	Depth Base	Formation	Predominant Lithology
0	198	Spout Falls Formation- Fischells Brook Member	Frey Pebble Conglomerate
198	790	Spout Falls Formation	Alternating red beds of sandstone, siltstone and conglomerate
790	1415	Friars Cove Formation	Grey sandstone, siltstone and minor shales
1415	1510	Snakes Bight Formation	Chalky limestone, grey Siltstone and minor sandstones
1510	1970 (TD)	Kennels Brook Formation	Pebble Supported conglomerate

Table 4-1 - Geologic Tops Summary



Rev 2

## **5** Well Evaluation Program

### 5.1 LOGGING PROGRAM

A summary of the wireline logs run by Baker Hughes is shown below:

Hole	Logging	g Depth	Run #	Date							
[mm]	Start [m]	Stop [m]									
178 Casing	0	323	SBT "Segment Bond Tools Log"	1	Jun 18, 2013						
159	324	1969	HDIL, ML, ZDL, CN, XMAC, ORIT, DSL, TTRM, GR	2	Jul 14, 2013						
159	324	1965	TTRM, GR,STAR, ORIT, CBIL	3	Jul 14, 2013						
159	340	1962	MREX, GRSL	4	Jul 15, 2013						
159	1104	1476	GR, FMT	GR, FMT 5							

#### Table 5-1 - Logging Program Summary

#### 5.1.1 Formation Multi Tester

Baker Hughes Formation Multi-Test (FMT) was run on July 16<sup>th</sup>, 2013. The purpose of this test was to collect a fluid sample and to measure in-situ permeability. In total, 11 tests were done between the intervals 1104 and 1476 mMD over the course of 2 runs. The pressure test summary report is presented in Table 5-2. Measureable drawdown permeability measurements ranged from 16 to 48 mD. Final buildup pressures range from 3938 kPa at 1104 m to 8932 kPa at 1476 m RKB, which indicates the zones are significantly underpressured. No fluid samples were captured in any of FMT's.



	MEASURED	TVD DEPTH	FILL	SAND	FLOWING	FINAL	HYDRO-	HYDRO-	DRAWDOWN	сн	AMBER USED
ľ	(m)	(m)	(s)	PRESSURE (kPa)	(kPa)	PRESSURE (kPa)	BEFORE (kPa)	AFTER (kPa)	BLITY (mD)		REMARKS
t	1475.9	1475.9	3.0	8930.5	7635.7	8930.5	16738.2	16745.8	21.8	P	TIGHT 21.8 deg
Î	1473.6	1473.6	3.0	8262.7	7406.9	8262.7	16721.9	16716.4	33.0	P	TIGHT 21.9 deg
Ī	1355.1	1355.1	3.2	7178.4	6292.9	7178.4	15376.6	15365.2	30.1	P	GOOD 20.9 deg
I	1351.5	1351.5	3.0	7006.4	6312.8	7006.4	15330.6	15321.2	40.7	P	GOOD 20.4 DEG
Ι	1348.2	1348.2	4.5	6899.9	6047.3	6899.9	15289.9	15284.4	22.1	P	TIGHT 20.4 deg
Ι	1355.1	1355.1	3.0	7323.3	6192.7	7323.3	15370.2	15361.3	25.0	P	REPEAT 20.9
Ι	1322.5	1322.5	3.0	113.1	6002.8	6857.1	15000.0	14904.8	0.0	P	TIGHT 20.0 deg
Ι	1245.8	1245.8	2.9	136.5	3968.6	4571.4	14107.3	14099.3	0.0	P	TIGHT 18.9 deg
Ι	1231.0	1231.0	2.7	104.7	6126.0	6714.3	13940.6	13932.9	0.0	P	TIGHT 18.8
I	1122.0	1122.0	3.0	5289.2	3537.4	5289.2	12693.2	12680.0	16.1	P	TIGHT 18.0 deg
T	1103.9	1103.9	3.0	3979.7	3390.2	3979.7	12484.7	12478.1	47.9	P	TICHT 17.6 deg

Table 5-2 - Formation Multi-Tester (FMT) Pressure Test Summary Report

#### 5.1.2 GAMMA RAY LOGGING

A Gamma Ray tool was run with the directional BHA to measure gamma ray response in the open hole section, from 1329-1970 m RKB. Gamma Ray logging while drilling was continued from 1344 m to TD in order to better pick the coring intervals: unfortunately, no intersected reservoir interval was deemed of sufficient quality to be cored.

#### 5.2 DRILL STEM TESTS

The Holland Tester DST tools and equipment was rigged up and run in 159mm hole at July 17<sup>th</sup>, 2013 to evaluate the productivity of several openhole intervals. Four DST runs were run in the hole among which the first run failed due to missing the production sleeve in the DST assembly.

- DST#1: failed.
- DST#2 [1440-1480.5 m RKB]: mud sample recovered in bottom hole sampler, no gas to surface.
- DST#3 [1316.5-1371 m RKB]: mud sample and gas sample recovered in bottom hole sampler, no gas to surface.
- DST#4 [1090-1125.5 m RKB]: mud sample and gas sample recovered in bottom hole sampler, no gas to surface.

The DSTs reports and results are attached for detailed reference in Appendix L.

#### 5.3 FORMATION FLOW TESTING

No formation flow testing was performed.



#### 5.4 FORMATION STIMULATION

No formation stimulation has been performed during the operations. Review of results and incorporation of the latter in their geological context will dictate whether there is any merit for any stimulation at a later stage.

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End



# **APPENDIX A : Maps & Layouts**

Number of pages : 4

**Summary of the content:** Several maps and layouts.

- Crown land for Flat Bay project
- Site layout
- Rig layout, from Junex / Foragaz



APPENDIX A: Maps & Layouts









APPENDIX A: Maps & Layouts





Bay Saint George 03-107 - Hurricane#2 (Whip#1) Re-Entry - FWR

APPENDIX A: Maps & Layouts



Page 26 of 299



# **APPENDIX B**: Copies Of Government Approvals

Number of pages : 2

**Summary of the content:** This appendix contains the Government Approvals Required for Gobineau#1.



APPENDIX B: Copies Of Government Approvals

Newfoundlan Labrador	AUTHORITY TO RE	-ENTER	Government of N Department of Natu Energy Branch	ewfoun ral Reso ON	Idland and Labrador urces
ursuant to sections 8 and 9 of the Pe	troleum and Natural Gas Act: a	in complia	ance with section 24(1)(b) of t	he Petrole	rum Drilling Regulations:,
INVESTCAN ENERGY CORPORATION	4		as operator,	hereby app	plies for Authority to Re-enter
the Well known as HURRICANE	2 (WHIP #1)		using the equipment	t and proc	edures described in the program
ntitled BAY SAINT-GEORGE - 03-1	107 - HURRICANE #2 (WHIP #1) F	REOA			
dated April 23rd . 20 13	As revised Permit	Licence or L	ease to which this Program	applies:	P 03-107
Area: BAY ST. GEORGE	I may 23, 2017		CO-	ORDIN/	ATES
Field/Pool: FLAT BAY (BAY ST. G	EORGE)	_			UTM (NAD 27)
Rig: FORAGAZ #3		Long:		North	ing: 5347195.57
Rig Type: GUYED TELESCOPIC DO	DUBLE	Lat:		Eastin	ng: 375854.54
Deilling Semising Contrastor	DRAGAZ (Enisian of RDIEN)		ELEVATION		DEPTH
Drining/Servicing Contractor.	JRAGAZ (division of JUNEA)	TRT	KB XRF 149.0	m M.D.:	935.70
Completion or Workover Fluid:		G.L.:	145.70	TVD:	933.76
Purpose of Re-Entry: X Drill	ing Completion Te	sting	Workover Abandonm	ent O	ther.
	CASING A	ND TUBU	LAR SUMMARY		
O.D. (mm)	Weight (kg/m)		Grade		Setting Depth (m)
244.5 (9.5/8)	53.6 ku'm	J-55		19	
177.8(7)	25.3 ke/m	H-40		323	
				=	
				=	
Other Downhole Equipment: (	attach a schematic)		PRESSURES (kps)		ARGET INTERVAL(S): (m)
Other Downhole Equipment: ( ESTIM Re-entry Date: Nay 156, 2013	attach a schematic)	BHSIP	PRESSURES (kpa) (@,MPP): [13300K.Pa@1650	T.	ARGET INTERVAL(S): (m)
Other Downhole Equipment: ( ESTIM Re-entry Date: May 194, 2013 Days on Location: 50	attach a schematic)	BHSIP(	PRESSURES (kpa) @MPP): [13300KPa@1650 : ]0	T.	ARGET INTERVAL(S): (m) 10-1428 mKB 23-1659 mKB
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Cost: [Say 136, 2013 Days on Location: [So Cost: [Say 136, 2013 Days on Location: [So Cost: [Say 2000] Program Overview: Re-Easy of potential of the Stacken Bight Formation University of Say 2000 Suspension or Abandonments: (F cider with be suspeeded or completed distancial the sys-forward Easeled program is true, securits and Suspension or Abandonments: (F cider with be suspeeded or completed distancial the sys-forward Network of Easeled Program is true, securits and Suspension or Abandonments: (F cider with be suspeeded or completed distancial the sys-forward Network of Easeless of Say 2000 Network of Easeless of Say 2000 Network of Easeless of Say 2000 Strekter of Ensemi responsibilitions 1. Dividence of Easeless result unless of S. No chang in the will porgram here 0. This Authonization is conditional 1. This Authonization is conditional 0. This Authonization is conditional 1. This Authonization is conditional 0. This Authonization is conditional 1. This Authonization is co	ATES RE-ENTI RE-ENTI Harricans #2 (Whip #1) and despen Provide details and attach sch A optrate program would be unbuilt ative hereby declares that, to the complete. presentative A ures has jurisdiction under the P tepplations, the operator commending and the present commending operator and the present commending operator the operator commending operator hereby approved may be made unless hereby approved may be made unles	BHSIP( BHSIP) STTP: STTP: RY/TESTI the well from ematic). [E ted to that effer best of the R UTHORI UTHORI UTHORI UTHORI I times durin by the opera- tor, shall be opera- tor, sh	PRESSURES (kps)  (@ MPP): [1300KPail 165  (@ MPP): [1300KPail 165  [0]  (D GUMMARY  935m to approximately 1970m to  Pagending on the results of the fit  cet, once the proper evaluation of  representative's knowledge, the  Date: [April 22rd, 20  (ZATION  g Republics, the Regulations in a authorized to undertake g which operations are being e  to promptly after their aquuit in is authorized to undertake g which operations are being e  provided priot to undertake g which operations are being e  Date: [April 22rd, 20  (ZATION  g Republics, the Regulations in a authorized to undertake beination.  Effective Date: [April 20 dys of the effective Authority to Re-enter a Wei	T. T. Here and the second seco	ARGET INTERVAL(5): (m) 10-1428 mKB 22-1650 mKB he hydrocarbon he hydrocarbon Austion, the well have on contained herein and in the atta and well program described above perificing 116 - 01 2014 ate, and 2015 - 01 2014 ate, and 2015 - 01 2015 - 01



APPENDIX B: Copies Of Government Approvals

in the state of th	Department of Natural Resources Energy Branch
Labrador	спетду Блансн
RE-ENTRY PROGRAM AP	PROVAL - APPLICATION
Pursuant to sections 8 and 9 of the Petroleum and Natural Gas Act(1),	INVESCAN ENERGY CORPORATION
as operator on behalf of INVESTCAN ENERGY CORPORATION	, holding
subsisting licence, permit or lease issued pursuant to the Petroleum Reg	adations (2), namely; EP 03-107
hereby applies for approval to conduct a re-entry program using the rig	(licence, permit, or lease #)
equipment and procedures described in the detailed program entitled	AY SAINT GEORGE - 03-107 - HURRICANE #2 (WHIP #1)-REOA
	Dated April 23 201. As Revised May 23, 2013
The undersigned operator's Representative hereby declares that, to the b	best of the operator's knowledge, the information contained herein at
in the attached detailed program is true, accurate and complete.	
Operator's Representative	Date: 23/04/20/3
APPR	OVAL
Pursuant to sections 8 and 9 of the Petroleum and Natural Gas Act, the	operator named in the Application is hereby authorized to conduct t
proposed program subject to the following conditions:	
1. This Re-entry Program Approval shall, unless otherwise extended or	terminated, expire upon the $04$ day of $J_{une}$ , $20$ 14
2. This Authorization shall be prominently displayed at the well site at a	all times during which operations are being conducted;
<ol> <li>Evidence of financial responsibility, as required pursuant to Section 1 operator to the Minister of Natural Resources;</li> </ol>	14 of the l'etroieum Dritting Regulations (3), shall be provided by th
4. The operator shall use the equipment and procedures described in the	e detailed program dated April 23, 2313
unless a change in the equipment or procedures is approved in writin	g by the Director; and
5. The operator shall comply with such other conditions as are appended	d to this Approval.
Signed:Director	Effective Date:
Re-entry Program Approval No 2013 - 131 - 01	_
(1) - R.S.N.L. 1990, c. P-10	
(2) - CNR 1151/96	
(3) CNR 1150/96	
Revised January, 2007 FRM-65	RPA1150adraft.wpd
-	
-	



# **APPENDIX C : Daily Drilling Reports**

Number of pages :78Summary of the content:Daily Drilling Reports for Hurricane#2

à							<b></b>	•••	4	Date : 1	5/06/2013
		EST	CAN	DAILY	DRILLING	REPOI	KI	N°	1	Well: Hu Rig: F	irricane#2 RE oragaz#3
		Energy	Corp	Spud	date :		Well Licence	ce#EP	03-107		Page 1/2
We	ather @ 8:0	0 <i>Ove</i>	ercast/fog	mKB			Daily MD			Daily Costs	est.
Te	Wind emperature		light 8 degC	mGL 24h Avg ROF	<u>145.7</u> 0		Total MD Expected MD			Cum Costs AFE	
Summa	arv of Daily	Operations	Waited on dav	ight and crews	to arrive Held tool	hox talk with h	oth rig crews (	Continued to	rig un to sni	id with both crews	
Shut d	lown @ 7:00	) pm. Wait	until morning to res	ume operation	is.	box talk with b	othing crews. c	continued to	ing up to spe	au with both crews.	
					SAFE	ETY SUMMA	RY				
Work	ers on site	150	Workers Injuried		Incident	s / Injuries		Hrs since	last Medical	Treatment Case	24
lig	11	Rig	0		None t	to report		Hrs since H <sub>2</sub> S Level		Trip Dril	I
otal	16	 Total	0					Gas Level	0	BOP Dril	II
tig Manag Company	ger Gre Man Vic	eg McKinno tor Leroux	n (905) 371 4614 (780) 678 5108	7:00	Tool box talk prior	r raising the de	Safety Mee rrick.	etings / Tool	Box Talks		
ompany	Man Tra	ivis Young	(709) 721 1994								
			т	IME LOG - 0	0:00 to 24:00 (in	clude Safety	meetings and	d Tool box	talks)		
	FORMATIO	N/TOP : OLOGY :									
rom [Hr]	S To [Hr]	HOWS : Depth [m]	Operation descript	ion							
0:00	7:00	935	Wait on daylight to	continue to ri	g up to spud.						
7.00	10.00		Continue to rig up	to spud. Raise	and pin derrick. Inst	tall guy lines. R	ig up top drive	torque tube	and top driv	e.	
19:00	0:00		Wait on daylight to	continue to ri	g up to spud.	ater and nydra	ulic lines. Shut	down for the	e night @ 19:	.00.	
			Note: Rig guy anch Sean Sparkes (Ope	ors were instal rator) June 14	led and pull tested t /2013 witnessed by	to 19,000 lbs @ Greg Mckinno	9 45 degree ang n (Rig Manager	gle using Spa Foragaz #3)	irkes Trucking	g crane truck.	
			and Victor Leroux (	Wellsite Super	visor for Investcan E	Energy).					
			ТІ	ME LOG - 24	:00 to 6:00am (i	nclude Safety	y meetings an	nd Tool box	talks)		
rom [Hr] 0:00	To [Hr] 6:00	Depth [m] 935	Operation descript Wait on daylight ar	ion nd crew to con	tinue to finish riggin	ig up to spud.					
					RIG TIME (ope	eration durat	ion in hours)				
rilling ig Service	e	We DS	eld Bowl T		Cement WOC		Safety/BOP Reaming		0.25	Rig move Wait on Dayligh	t 12
ripping urvey		Log	gging an to Btm		Nipple U/D Press. Test		Slip and Cut Drill R & M ho	ble			
irc./Conc	d	Ha	ndle Tools n Casing		Repair Rig Up	11.75	Wait on locat	ion		TOTAL DOWNTIMF	<u>24</u> 0
	·										
					24 HC	OURS FOREC	AST				
√ipple do	wn and cut	off casing b	oowl, cut casing and	weld on 9"- 2	1000 kpa casing bov	wl. Nipple up a	nd pressure te	st BOP's. Ma	ake up Drillin	g BHA. Fill mud tar	nks with water (1 tank to
tart with	). Run in ho	le to tag pl	ug #1. Drillout plug	#1.							

Date :	15/06/2	013	Well :	Hurricar	ne#2 R	E	Rig :	F	oragaz#	3						Page 2	/2	
						DRI	LLING MU	D										
Fluid type					Solids	-			-		[kg/m <sup>3</sup>	]		/	ADDIT	IVES ADDE	D	
Time Check					OWR						[ppiii] [%]		N	AME		Quantity	Con	centration
Mud Man	L. Anthor	ıy			MBT Cl-			_			[kg/m <sup>3</sup> [mg/l]	'n						
Density			[kg	′m³]	Calcium	n					[mg/L]							
Viscosity P V			[s/l		Vol hai	iled	Vo	lumes	s Balance	[m <sup>3</sup> ]			-					
Y.P.			[g/:	100cm <sup>2</sup> 1	Vol du	nped				[m <sup>3</sup> ]								
Gels 10"/10' Temperature					Circ los Boiler l	is OSS				[m <sup>3</sup> ]					COI	MMENTS		
Pressure					Daily N	Aud Cost				. ,	_							
рн					Cum IV	BOTTOM	HOLEASS	FMBI	IY									
N° Component										<u> </u>	ID [mm]	0	D [mm]	Length	n [m]	Connect	ion	Weight
										-								
										_								
										_								
										_								
										-								
										È								
	HYDRA	ULICS					SUR	VEY							BOP	STACK		
Pump	1	2	2	Tim	e n	n MD	m TVD	Azim	nuth Inclir	nation I	Deviation	OP	Item	-	Diam	n [mm]	W.P	. [kPa]
Make&Model	Dragon 660	Wilso	n 600									<b>b0</b>	Stack	r	22	28.6	10	)500
SPM	01/2 ×0		-									rilling	Annula	r	22	28.6	21	1000
Litre/Sk 100% Circ Rate	0.012	0.0	152 - [m <sup>3</sup> /mi	-1								Ω	Blind Other		22	28.6 28.6	21	1000
Pump Eff	90	9	0 [%]										Stack					
Drillpipe AV			[KPa] [mm]									ther	Annula	r r				
Drill Collar AV			[mm]									0	Blind					
H Bottom Up			[min]										other		TE	STS		
D Mud Tank	e		[m <sup>3</sup> ]									Las	t BOP		D	ate	Pres	s [kPa]
System Vol.			[m <sup>3</sup> ]									Ne	xt BOP					
	BITS			2	тоск						CASIN	NG /	CEMEN	TING PF	ROGRA	M		
Bit Size		_ <b>N°</b> [mm]	Name	In	Used	Stock 0	Unit sacs	La	ast Casing Pate		Surface 07/12/20	e 005		Last Cas Date	sing			
Mfg		-				0	sacs	gr	rade		H-40	-	1	grade				
Serial		-				0	sacs	aı Liı	iam in Weight		25.3	[m [kg	mj ;/m]	diam Lin Weig	ght		[	[kg/m]
Nozzle WOB		[mm <sup>2</sup> ]				0	sacs	N	lb Joint		323	- [m	1	Nb Joint			-	ml
RPM		[tr/min]				0	sacs	Le	ength		323	[m	]	Length				[m]
Flow Pres		[gal/s] [kPa]	-			0	sacs	Bu	urst ollapse	1	16000 10000	[kF [kF	Pa] Pal	Burst Collapse	<b>`</b>		][	kPa] kPa]
From		[m]	Fuel	4500			liters	5 Te	ensile	5	54000	[da	nN]	Tensile				daN]
Drilled		[m]	Drill Water			0	[m <sup>-</sup> ] [m <sup>3</sup> ]	Da	ate	TE	ST			Date		TEST		
Hours		[hrs]	Dot Wator			0	5gal pa	nils Pr	ressure		Dlug	[kF	Pa]	Pressure	e		[	kPa]
	CENTRIE	UGE	FOL Water		CASI			Da	ate	1	6/12/2005	5	-	Date	nem			_
Make	CENTRAL	1		Make	сноп	Weather	ford	Cl	lass	- 15	A 520 rka	100	4	Class Density			[ka/	m <sup>3</sup> 1
OF density			[kg/m <sup>3</sup> ]	Serial		1211002	2005	Vo	olume	5	50 [m	3]	1	Volume			[m <sup>3</sup> ]	
UF density Flow			[kg/m <sup>3</sup> ] [gal/s]	Size OD Size ID		228.6 177.8	[mm] [mm]	Ti Ad	ime to GL ddittives		[mi	in]		Time to Addittiv	GL es		[min	]
Last Dump			101711	Rating		21,000	[kPa]			-								
Comments:																		
<u> </u>																		

Wea				spua a	ate:			~# FD	02 107		0000 1/2
We							wen Licenc	e# EP	03-107	1	age 1/2
Te	Wind Wind	0	Dvercast light 8 degC	mKB mGL 24h Avg ROP	145.7 0		Daily MD Total MD Expected MD			Daily Costs Cum Costs AFE	e
Summa Rig ins	<b>ary of Daily</b> pection.	Operation	S: Waited on day	light and crews t	o arrive. Finish R/	U, weld and pro	essure test new	casing bowl	nipple up B	OP.	
	•				SAF		RY				
Work	ers on site		Workers Injuried		Incident	ts / Injuries		Hrs since I	ast Medical	Freatment Case	48
ners al	3 11 3 16	IEC Rig Others Total	s 0 0 0 0		None	to report		Hrs since I H <sub>2</sub> S Level CO <sub>2</sub> Level Gas Level	ast Lost Time 0 0 0	e Incident Trip Drill Pit Drill BOP Drill	48
Manag mpany mpany	ger Gre Man Vic Man Tra	eg McKinno tor Leroux ivis Young	on (905) 371 4614 (780) 678 5108 (709) 721 1994	4 3 7:00	Discussed unever Use of handrail of	n lease, rocks o on stairs. Clean	Safety Mee n location. No ru up lease. Weldi	tings / Tool unning to pr ng on bowl a	Box Talks event trippir and nippling	ng injuries. up BOP's	
				19:00	Nipple up BOPs		·			·	
	EOPMATIO	N/TOP ·	Т	IIVIE LOG - 00	:00 to 24:00 (in	nclude Safety	meetings and	lool box	(alks)		
	LITH	OLOGY :									
m (Hr1	S To [Hr]	HOWS : Depth [m]	Operation descript	tion							
0:00	7:00	935	Wait on daylight to	o continue to rig	up to spud.						
0:00 2:00 9:00 9:15 2:00 9:00 9:00 9:15	10:00 12:00 19:00 19:15 0:00 19:15 0:00		S/N 1211022-005 Dave White and cr Complete fit for pu Nipple up BOP's Crew change and t Continue to nipple Nipple up BOP's. Crew change and t Continue to nipple	i Pressure tester ew. Irpose rig inspec oolbox talk up BOP'S (had t oolbox talk. up BOP's (had t	i to 8400kpa for 1 tion, except the so o nipple down spo o nipple down spo	ol minutes. Tesi ection related t ool to casing bo	<ul> <li>a sub in [2], or in</li></ul>	ccommodat	e the diverte	ng bown McKinnon, er line). er line).	
			TI	ME LOG - 24:	00 to 6:00am (	include Safet	y meetings an	d Tool box	talks)		
m [Hr] 0:00	To [Hr]	Depth [m] 935	Operation descript Finish nipple up BC Install kill line valve Install HCR valve. Install Stand Pump Install flow ninnle	tion DP'S. e and kill line.							
			Install propane tan	ik to flare stack.							
4:30	4:30		Wire skip line. Start fuction test B	OP stack. Proble	ems with closing b	land and pipe r	ams due to hos	es incorrectl	y installed.		
5:45	5:30 6:00		Function test BOP Fill BOP stack to st	Blind and Pipe ra art pressure test	ams, HCR valve. BOP stack and m	anifold and line	·S.				
					RIG TIME (op	eration durat	tion in hours)				
lling		W	eld Bowl	2.75	Cement		Safety/BOP Beaming		0.5	Rig move Wait on Davlicht	7
ping		Lo	gging		Nipple U/D	11.75	Slip and Cut			wait on Daylight	/
vey c./Conr		Cle Ha	ean to Btm Indle Tools		Press. Test Repair		Drill R & M ho Wait on locati	le on		TOTAL	24
k up BH	IA	Ru	in Casing		Rig Up	2	LOT/FIT			DOWNTIME	0
		I			24 H	OURS FOREC	AST				

Date :	16/06/2	013	Well :	Hurricar	ne#2 R	E	Rig :	F	Foragaz	#3						Page 2	2/2	
					DRI	LLING MU	D											
Fluid type					Solids	_					[kg/m <sup>3</sup>	]			ADDIT	IVES ADDE	D	
Time Check					OWR						[ppiii] [%]		N	AME	-	Quantity	Con	centration
Mud Man	L. Anthor	ıy			MBT Cl-						[kg/m <sup>3</sup> [mg/l]	1						
Density			[kg/	/m³]	Calcium	n —					[mg/L]							
Viscosity P V			[s/l		Vol hai	iled	Vo	lume	es Balance	[m <sup>3</sup>	3]							
Y.P.			[g/:	100cm <sup>2</sup> 1	Vol du	nped				[m <sup>3</sup> ]	]							
Gels 10"/10' Temperature					Circ los Boiler l	is OSS				[m³] [m³	] ]				CO	MMENTS		
Pressure					Daily N	Aud Cost												
рн					Cum IV	BOTTOM	HOLEASS	FMB	N Y									
N° Component											ID [mm]	0	D [mm]	Length	h [m]	Connect	ion	Weight
										-								
										-								
										-								
	HYDRA	ULICS					SUR	VEY							BOP	<b>STACK</b>		
Pump	1	2		Tim	e n	n MD	m TVD	Azir	muth Incl	ination	Deviation	OP	Item		Diam	n [mm]	W.F	P. [kPa]
Make&Model	Dragon 660	Wilso	n 600										Stack	r	22	28.6	10	0500
SPM	81/2 ×0	01/2	-									-illing	Annula	r	22	28.6	2	1000
Litre/Sk 100%	0.012	0.0	152 -	-1								ā	Blind Other		22	28.6	2	1000
Pump Eff	90	9	D [%]										Stack					
Pump Press Drillpipe AV			[kPa] [mm]									her	Diverte Annula	r r				
Drill Collar AV			[mm]									õ	Blind					
Bottom Up	—		[min] [min]										Other		TE	STS		
D Hole Volum			[m <sup>3</sup> ]									1 20			D	ate	Pre	s [kPa]
System Vol.			[m <sup>3</sup> ]									Ne	xt BOP					
	BITS			:	тоск						CASI	IG /	CEMEN	TING PF	ROGRA	M		
Bit		N° [mm]	Name	In	Used	Stock	Unit	L	L <b>ast Casing</b>		Surface	2		Last Cas	sing			
Mfg		-				0	sacs	g	grade	_	H-40	-		grade				-
Type Serial		-				0	sacs	d	diam in Weight		177.8 25.3	[m	m] /ml	diam Lin Wei	øht			[mm] [kg/m]
Nozzle		[mm <sup>2</sup> ]				0		Ν	Nb Joint			-		Nb Join	t			-
RPM		[daN] [tr/min]				0	sacs	L	Set at Length		323	[m [m	]	Set at Length				[m] [m]
Flow		[gal/s]				0	sacs	E	Burst	_	16000	[kF	Pa]	Burst				[kPa]
From		[m]	Fuel	4500		0	liters	5 T	Collapse Fensile		54000	[da	aj nN]	Tensile	5			[kPa] [daN]
To Drilled		[m]	Drill Water			0	[m <sup>3</sup> ]	-	Data	Т	EST			Data		TEST		
Hours		[hrs]				0	5gal pa	ils P	Pressure			[kF	Pa]	Pressure	e			[kPa]
			Pot Water			0	[m <sup>3</sup> ]		L <b>ast Cemer</b> Date	nt1	Plug 16/12/200	5	-	Last Cer Date	ment			
Mako	CENTRIF	UGE		Make	CASI	West	ford		Class	_	A		-	Class			p	31
OF density			[kg/m <sup>3</sup> ]	Make Serial		1211002	2005	- C V	Density Volume	1	.520 [kg 50 [m	/m <sup>=</sup> 3]	]	Density Volume			_[kg/ [m³]	m"] ]
UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]	Т	Fime to GL		[m	in]		Time to	GL		[mir	ן
Last Dump			[gai/s]	Rating		21,000	[lilli] [kPa]	ŕ	Addittives					Addittiv	es			
Comments:																		

	INV	<b>ES</b>	TC.	<b>AN</b> Corp	D	AILY	DRI date :	ILLIN 17/(	G REI	PORT	• Well Licen	N <sup>o</sup>	EP 03	<b>3</b> 3-107	Da We Ri	te : ell : g :	17/06/ Hurrican Foraga Page	2013 e#2 RE az#3 1/2	
Wea Te Summa	other @ 8:0 Wind mperature <b>ry of Daily</b>	0 <u>Ov</u>	ercast/ lig 7 D	<u>light rain</u> ght eg C Pressure tes	24 st BOPs,	mKB mGL h Avg ROP drill mous	e hole.	149.97 145.7 0		ן ר Exp	Daily MD Fotal MD pected MD		0		Dai Cur	ly Costs m Costs AFE			est.
Worke	ers on site		W	orkers Iniuriec	4			Incide	SAFETY :	ies	KΥ	Hrs s	ince last	Medica	al Treatmer	nt Case		72	
IEC Rig Others Total Rig Manag	3 11 3 16 er Gr	IEC Rig Otl Tot eg McKi	hers tal	0 0 0 0 (905) 371 46	- - - 514			Nor	ne to report		Safety	Hrs s H <sub>2</sub> S L CO <sub>2</sub> L Gas L Meeting	ince last evel evel evel s / Tool	Lost Ti	ime Inciden 0 0 0 Iks	t Trip Dri Pit Drill BOP Dr	ill	72	
Company N Company N	Man Vie Man Tra	tor Lero	oux ng	(780) 678 51	108	7:00	Pressu	re testing	; BOP's. Higl	gh pressure	e lines								
company		1013 100	115	(705)72113	JJ4	17:00	Muste	r area loca	ation, PPE,	smoking p	olicy, High	pressur	e lines v	vhile pre	essure testi	ng BOP's			
					т	IME LOG	- 00:0	0 to 24:0	00 (includ	de Safety	meetings	and To	ol box	talks)					
	FORMATIC	N/TOP : OLOGY ·																	
From fit 2	To fue?	SHOWS :	[m1] c	norati !	diati-														
Prom [H7] 0:00 6:30 7:00 7:15 11:30 12:00 15:00 15:30 16:30 17:15 19:00 22:45	10 [Hr] 6:30 7:00 7:15 11:30 12:00 15:30 15:30 16:30 17:00 17:15 19:00 22:45 0:00	0	[m] OJ CcC Pr M Tr Pr Al Al Cc Te Ri to Cc Tf Ri CC Se	peration descr pontinue to nipp ressure Test BG leetings- Pre-jc rouble shoot N ressure Test BG I tests 15 minu pontinue pressu g g Service. Pick g g Service. Pick g g Service. Pick g g v to pump pontinue Pressu 5 minutes each to continue pressu g up to pump pontinue Pressu 5 minutes each to test 15 minutes re-job safety minish pressure i veel rig prior to et Up & Drill M	ription ple up B PP's (NC Dob safet) IOV press DP's. Tec Utes eact are testin Manifolol a up and a up	OP'S (had W pump p /. isure recoist ist #1 press h (first tes g BOP's: 1 d valves, 1 service to sting. om Mud t ng BOP's: 1 set #5: Ann h. with new o gOP's. mouse ho le.	to nippli ressure rding see sure test t failed Test #2 h 500 kPa p drive, ranks thr Test #4 h nular, In: day crew ole and p	e down sg sensor fai nsor Blind ram due to tra Viddle 3 N low 1125 check NO rough BOF tCR valve, side Manu , bicking up	oool to casii iled). n, Casing Bc upped air in Manifold va 30 KPa high. IV rotary sei P's to get aii ,Pipe Ram, i ual HCR valv b BHA.	ing bowl to owl, Casinų the manif alves, Insid I. All tests ensor, pick ir out of sy & Stabbin, Ive, Inside	g, Back 3 M fold. Had to e kill valve, L5 minutes up one sin stem. g Valve. Ins kill valve, U	anifold v retest a Blind ra each. gle, stab ide BOP pper ke	valves. 1 ind held im. . 1500 k Ily cock.	e divert .500 kPa ) ve and i Pa low : 1500 ki	ter line). a low 1125( inside BOP 11250 kPa l Pa low 112!	) kPa high high. 50 kPa hig	h.		
0:00 1:30 3:30 4:45	1:30 3:30 4:45 6:00	80.6	Imj Ol Ri, Pi 3 RI Dr	geration descr g down mouse ck up and mak H with BHA to rawworks chai	e hole fr ke up BH o 62.67 n in under	illing equi  A. nKB no ce repair.	pment. ment plu	Jg @ 35m	1. Draw wo	orks gear cl	hain broke.								
		<u> </u>					I	RIG TIME	E (operati	ion durat	ion in hou	ırs)							
Drilling Rig Service Tripping Survey Circ./Cond Pick up BH	e  A	·	Weld DST Loggir Clean Handl Run C	Bowl ng to Btm le Tools casing			Cemer WOC Nipple Press. Repair Rig Up	IU/D Test	6.5 6.25 4.25	5 SI 5 SI 5 Le 5 Le	afety/BOP eaming ip and Cut rill R & M h evel Rig DT/FIT	ole		0.5 1.25 3.75	Rig m Rig to TOTA DOW	nove o pump ai NL /NTIME	r out	1 24 4.25	
									24 HOUR	RS FOREC	AST								
Repair Dra	aw works (	hain. Lo	ocate t	rue depth and	l Tag #1	cement p	olug and	l driil out	plug. Locat	ate, tag, dr	ill out #2 pl	lug.							

Date :	17/06/20	013	Well :	Hurricar	e#2 RE		Rig :	Foragaz#3	3				Р	age 2/2	
						D	RILLING N	IUD							
Fluid type	Water				Solids					[kg/m <sup>3</sup>	1		ADDITIVES	S ADDED	
Mud Co	Baroid				Sands	_				[ppm]	1	NAME	Quantit	y Conce	ntration
Time Check					OWR					[%]					
iviud ivian	L. Anthon	у			CI-					[kg/m <sup>3</sup>	1				
Density	1010		[kg/	m <sup>3</sup> 1	Calciur	m				[mg/L]					
Viscosity	29		[Kg/ [s/l]				Volu	imes Balance		l8/ -1					
P.V.	-		[cp]		Vol ha	uled			[m <sup>3</sup>	]					
Y.P.			[g/1	[g/100cm <sup>2</sup> ] Vol dumped [m						<sup>1</sup> ]					
Gels 10"/10'					Circ los	SS			[m <sup>3</sup>	<u>'</u> ]			сомм	IENTS	
Pressure					Daily N				Įm	1					
pH					Cum N	1ud Cost	-								
						вотто	M HOLE A	SSEMBLY							
N° Component										ID [mm]	OD [mm]	Length [r	n] C	Connection	Weight
1 Bit										57	159	0.15	250	3.5 Reg P	
3 114mm 60kgm	DC X1									57	155	8.82	3.5 K	IF B X 3 5IF P	
4 Sprial String State	bilizer									57	155	1	3.5	IF B X 3.5IF P	
5 144mm 60kgm [	DC X 3									57	114	27.02	3.5	IF B X 3.5IF P	
6 Jars (22,500 UP /	/ 19500 DN - 4	42 SEC)								54	121	7	3.5	IF B X 3.5IF P	
7 114mm 60kgm E										57	114	35.64	3.5		
o 124mm 44.5kgm 9 102mm 20.6 kgm	m S-135 DP									<b>0</b> 4	127		3.5	if d a 3.5lf P	+
Depth before ch	ains on Draw	works broke	e									80.63			1
												l			
	HYDRAU	ULICS					SURV	EY					BOP STA	ACK	
Pump	1		2	Tin	ne r	m MD	m TVD	Azimuth Inclina	ation	Deviation	OP Item	D	iam [mm]	W.P. [	kPa]
Make&Model	Dragon 660	WIISO	n 600								Stack Diverte	ar	228.6	105	00
SPM	01/2 /0	01/2	-									ar	228.6	210	00
Litre/Sk 100%	0.012	0.0	152 -								D Blind		228.6	210	00
Circ Rate			[m³/mir	1							Other		228.6	210	00
Pump Eff	90	9	0 [%]								Stack				
Pump Press			[kPa]								Diverte	er	-		
Drill Collar AV			[mm]								Blind	11			
Mud Cycle			[min]								Other				
.북 Bottom Up			[min]										TESTS	5	
D Hole Volume			[m³]								Last DOD	1.	Date	Pres [	kPa]
System Vol			[m <sup>-</sup> ] [m <sup>3</sup> ]								Last BOP	1.	/06/2013	112	50
	BITS		[]		стоск					c	ASING / CE		ROGRAM		
Bit 1		NI <sup>0</sup>	Name	In	Used	Stock	Unit	Last Casina		Surface	-	Last Casin	a		
Size 159		[mm]	Barite	288		288	sacs	Date		07/12/20	05	Date	,		
Mfg Hughes	5	-	Baracarb	250		250	sacs	grade		H-40	-	grade			-
Type SCX-!		-	Baroseal (M)	80		80	sacs	diam		177.8	[mm]	diam			[mm]
Serial 5177714	4	- 2-	Soda Ash	10		10	sacs	Lin Weight		25.3	[Kg/m]	Lin Weight	·		[kg/m]
WOB		imm <sup>-</sup> l [daN]	Cellosize	122		122	sacs	Set at		323	[m]	Set at			[m]
RPM		[tr/min]	Barathin	15	1	15	sacs	Length		323	[m]	Length			[m]
Flow		[gal/s]	Citric Acid	15		15	sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres		[kPa]	Bicarb	30		30	sacs	Collapse		10000	[kPa]	Collapse			[kPa]
-rom		[m]	ruel Drill Wator	10,30	J	21 8	IIters	Tensile	т	54000 FST	[dan]	rensile		TEST	[daw]
Drilled		[m]	Gypsum	21.0		20	sacs	Date		17/06/2	2013	Date		11.91	
Hours		[hrs]	Barabuf	20		20	sacs	Pressure		11250	[kPa]	Pressure			[kPa]
			Defoamer	10		10	pails	Last Cement		Plug		Last Ceme	nt		
	CENTRIFU	JGE			CASIN	IG BOWL		Date		16/12/2005	5	Date			
Make				Make		Weatherf	ord	Density	1	А 1520 ги~	/m <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	
OF density			[kg/m <sup>3</sup> ]	Serial		12110022	005	Volume		50 [m	() ]	Volume		[m <sup>3</sup> ]	
UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]	Time to GL		[mi	in]	Time to GL		[min]	
Flow			[gal/s]	Size ID		177.8	[mm]	Addittives				Addittives			
Comments:				varing		∠1,000	[кра]					1			
connents.															
		<b>/EST</b> Energy	CAN	D	AILY DRILLII	NG REPORT		N°	4	Date : Well : Rig :	18/06/2013 Hurricane#2 RE Foragaz#3				
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				Spud da	te : 17/0	06/2013	Well Licen	ce #	EP 03-107		Page 1/2				
w T	eather @ 8 Wind Temperatur	e <u>Overco</u>	ist/light rain light 7 Deg C	mKB mGL 24h Avg ROP	149.97 145.7 0		Daily MD Total MD Expected MD			Daily Costs Cum Costs AFE		est.			
Summ	nary of Dail	y Operation:	Drill cement plu	ıg#2, LOT. Scraper r	un.										
						SAFETY SUMMAR	Y								
Wor	kers on site		Workers Injuried		Inci	dents / Injuries		Hrs s	ince last Medical	Treatment Case	96				
Rig Others Total	3 11 3 16	Rig Other Total			Ν	lone to report		Hrs s H <sub>2</sub> S L CO <sub>2</sub> L Gas L	evel ( evel ( evel (	10 Incident D Trip Di D Pit Dril D BOP D	96 rill rill				
Kig Mana Company	y Man	ictor Leroux	(780) 678 5108	7:00	Pressure testing BOP's.	High pressure lines	Safety Meetings / 10	OI BOX I	aiks						
Company	y Man T	ravis Young	(709) 721 1994	17:00	Hazards While tripping										
				TI	/IE LOG - 00:00 to 24	1:00 (include Safety	meetings and Tool bo	ox talks)	1						
	FORMAT	ON/TOP :													
	LI	SHOWS :	-												
From [Hr	To [Hr]	Depth [m	Operation descripti	on											
1:30	1:30 3:30		Rig service, rig repa Pick & Make up BH	ur. Set mouse hole. A.											
3:30	4:45		Pick up drill collars	to tag cement plug	#1. NOTE: cement plug	was not at 35m as per l	FWR.								
6:15	7:00		Continue to pick up	Drill Collars & HW	OP to tag cement plug #	2.									
7:00	7:15		Toolbox safety talk.	HWDP to tag com	ent plug #2. NOTE: Taga	ed plug #2 @ 273m									
10:30	12:00		Drill cement plug fr	om 273m to 293m.											
12:00 14:00	14:00 14:15		Continue to drill ce Flow check @ 310n	ment plug from 29: 1 for 15 minutes.	Im to 310m. NOTE: Bott	om of Plug #2 @310m.									
14:15	15:00		Ream and clean cas	sing from 310m to 3	27m.										
15:00 15:15	15:15 15:30		Circulate hole clear Rig to and perform	1. Formation Integrit	test (Leak Off Test). Pr	essure was applied up t	o 6084 kPa then started	to leak o	off and						
15-20	45.45		stabilized at 6041 k	pa. Pressure was th	en bled of the formatio	n.									
15:30	15:45		Trip out of hole to	aydown near bit st	abilizer and pick up 7" ca	asing scraper.									
18:15	20:15		RIH with casing scra	aper. rk un single											
20:30	20.50		Circulate hole clear	l.											
21:00 22:30	22:30 0:00		POOH lay down 1 s Baker on site start	ingle. rigging in to run cer	nent bond log.										
				TIM	E LOG - 24:00 to 6:0	00am (include Safety	meetings and Tool b	ox talks	5)						
From [Hr	] To [Hr]	Depth [m	Operation descripti	on											
0:00	1:30		Baker running CBL. RIH with BHA to dri	ill out 3rd nlug. Ser	per was included in the	BHA by mistake (misur	nderstanding between w	ellsite si	upervisor and rig	crew).					
5:30	5.55		Casing Scaper ran p	ass casing shoe, stu	ick @ 334 mRF.	,			,						
	6:00		unable to rotate th	е вна. Top drive co	muected and circulation	i established.									
		I													
					RIG TIM	E (operation durat	ion in hours)								
Drilling Rig Servi	ce 1	2 W .5 DS	ela Bowl T		Cement WOC		Safety/BOP Reaming		0.25	Rig move					
Tripping	13	.25 Lo	gging	1.5	Nipple U/D	0.25	Slip and Cut					_			
Circ./Cor	nd. 0	25 Ha	ndle Tools	<u> </u>	Repair	1.5	Other	e	2.5	TOTAL	24				
Pick up B	SHA 0	25 Ru	n Casing		Rig Up	0	LOT/FIT			DOWNTIME	1.5	_			
		•				24 HOURS FORECA	st								
РООН Та	ake off scra	per and RIH	to drill plug #3												

Date :	18/06/2013	Well :	Hurricane#2	RE		Rig :	Fo	oragaz#3				Pag	e 2/2	
					DRI	LLING MUD								
Fluid type	Water			Solids					[kg/m <sup>3</sup>	1	A	DDITIVES A	DDED	
Mud Co	Baroid			Sands					[ppm]	1	NAME	Quantity	Concen	tration
Time Check				OWR	_			-	[%]					
Mud Man	L. Anthony			MBT	_				[kg/m	1				
Density	1010		3.	Calcium	-				[mg/L]					
Viscosity	29	[kg/ [s/l]	m²]	Calcium		Volume	s Balance		[IIIg/L]					
P.V.		[5/1] [CD]		Vol hauled		Volume	bulance		(m <sup>3</sup> )					
Y.P.		[g/1	00cm <sup>2</sup> 1	Vol dumpe	d				(m <sup>3</sup> )					
Gels 10"/10'				Circ loss					[m <sup>3</sup> ]			COMMEN	TS	
Temperature				Boiler loss					[m <sup>3</sup> ]					
Pressure				Daily Mud	Cost	-								
рн				Cum Mud C	BOTTOM		RI V							
N° Component					BOTTOM	HOLE ASSEMI	201		ID [mm]	OD [mm]	Length [m]	Con	nection	Weight
1 Bit										159	0.15	3.5	Reg P	
2 Casing Scaper									38	168	1.21	3.5 Reg	BX3.5Reg P	
3 Near Bit Reame	r								57	155	1	3.5 Reg	BX3.5IF P	
4 114mm 60kgm	DC X1								57	114	8.82	3.5IF E	X 3.5IF P	
5 Sprial String Sta									57	155	27.02	3.5IF E	X 3.5IF P	
7 Jars (22,500 LIP	/ 19500 DN - 42 SEC)								54	121	7	3.5IF F	X 3.5IF P	1
8 114mm 60kgm	DC X 6								57	114	53.06	3.5IF E	X 3.5IF P	
9 124mm 44.5kgn	n HWDP X 24								64	127	222.12	3.5IF E	X 3.5IF P	
10 102mm 20.6 kg	n S-135 DP								57	121	18.78	3.5IF E	X 3.5IF P	
														i
			1											
	HYDRAULICS					SURVEY						BOP STACK		
Pump	1	2	Time		m MD	m TVD	Azimuti	h Inclinat	ion Deviation	OP Item	Diar	m [mm]	W.P. [k	:Pa]
Make&Model	Dragon 660 V	/ilson 600								Stack	2	28.6	1050	0
Liner x Stack	8 1/2" X 6 6	1/2" X 14 -								Divert	er			
SPM	0.012	-								E Annula	ar 2	28.6	2100	0
Circ Bate	0.012	0.0132 -								Other	2	28.6	2100	0
Pump Eff	90	[m <sup>-</sup> /mir 90 [%]	1							Stack		20.0	2100	
Pump Press		[kPa]								_ Divert	er			
Drillpipe AV		[mm]								음 Annula	ar			
Drill Collar AV		[mm]								O Blind				
Mud Cycle		[min]								Other				
Bottom Up		[min]										TESTS		0.1
O Hole Volume		[m]								Last BOP	17/0	Date 06/2013	Pres [k	Paj 0
System Vol.		[m]								Next BOP	17,5	50/2015	1123	
	DITC			5700	V		1	•			MENTING DR	CRAM		
ali 4	BIIS			5100		· · · ·				SING / CEI				
Size 150	N°	Name	299	Used	Stock	U		ist Casing	Surface	05	Last Casing			
Mfg Hughes		Baracarb	250		288	50	LS Da	ate .	H-40	-	Date			
Type SCX-!		Baroseal (M)	80		80	sa	cs dia	am -	177.8	[mm]	diam			[mm]
Serial 517771	4 -	Soda Ash	10		10	sa	ICS Lir	n Weight	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	[mm <sup>2</sup> ]	N-Vis Plus	27		27	sa	ICS NE	b Joint		-	Nb Joint			-
WOB	[daN]	Cellosize	122		122	sa	ics Se	et at	323	[m]	Set at			[m]
RPM	[tr/min	] Barathin	15		15	sa	ics Le	ength	323	[m]	Length			[m]
Flow	[gal/s]	Citric Acid	15		15	sa	ics Bu	urst .	16000	[kPa]	Burst			[kPa]
From	[KPa]	Bicarb	3U 10 200		30	Sa II+	ers Co	onapse _	54000	[daN]	Collapse			[daN]
то	[m]	Drill Water	21.8		21.8	III.		ensile	TEST	[aun]	rensile	те	ST	[aun]
Drilled	[m]	Gynsum	20		20	[ii ca	- J (S D2	ate	17/06/	2013	Date	16		
Hours	[hrs]	Barabuf	20		20	sa	ics Pr	essure	11250	[kPa]	Pressure			[kPa]
		Defoamer	10		10	pa	ils La	ast Cement	Plug	_	Last Cement			
	CENTRIFUGE			c	ASING BOWL		Da	ate	16/12/200	5	Date			_
Mako			Make		Weatherford		Cli	ass	A		Class		(lug / ag 3)	
OF density		. , 3.	Serial		12110022005		De	cusity _	[kg	/m1]	Volume		[Kg/IN]	
UF density		[kg/m <sup>3</sup> ]	Size OD		228.6	(mm)	Ti	me to Gl	[m	ו inl	Time to GI		[min]	
Flow	1	[gal/s]	Size ID		177.8	[mm]	Ar	dittives	Į III		Addittives		- ()	
Last Dump			Rating		21,000	[kPa]								
Comments:														

	INV	EST Energy	Corp	D	AILY DRILLING	REPORT		N°	5	Date : Well : Rig :	19/06/2013 Hurricane#2 RE Foragaz#3	
				Spud da	te : 17/06/201	3	Well Licen	ce #	EP 03-107		Page 1/2	
Wea Te	ather @ 8:0 Wind mperature	00 Lig	ht cloud light ) Deg C	mKB mGL 24h Avg ROP	149.97 145.7 0		Daily MD Total MD Expected MD			Daily Costs Cum Costs AFE	\$190,400 \$484,700 \$2,410,000	est.
Summa POOH	ry of Daily . decision t	Operations	CBL run. Scrape with motor BHA wit	r run in BHA by mis nout stabilizers.	take. POOH and RIH with slick	BHA w/ stabilizers to	597 mRF with no fu	irther pr	ogress (tight hol	e).		
-												
Worke	ers on site		Workers Injuried		Incidents /			Hrs si	ince last Medica	Treatment Case	120	
IEC Rig Others Total Rig Manag	3 11 3 16 er Gro	IEC Rig Others Total eg McKinno	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		None to r	eport S	afety Meetings / To	Hrs si H <sub>2</sub> S L CO <sub>2</sub> L Gas L ol Box Ta	ince last Lost Tir evel evel evel alks	ne Incident 0 Trip Di 0 Pit Dril 0 BOP D	rill II rill	
Company N Company N	Man Vic Man Tra	tor Leroux avis Young	(780) 678 5108 (709) 721 1994	7:00	Environmental concerns. Repa	ir any oil leks, clean i	up spills.					
				17:00	Communication between supe	rvisors and crews.	tings and Tool ho	v talka)	1			
-	FORMATIO	N/TOP :		10	NE LOG - 00:00 10 24:00 (I	nclude salety mee	etings and Tool bo	ix taiksj				
	LITH	OLOGY : SHOWS :										
From [Hr]	To [Hr]	Depth [m]	Operation descripti	on								
5:30 6:00 9:15 10:15 11:00 12:30 14:15 15:45 20:45 23:15 23:15	6:00 9:15 10:15 11:00 12:30 14:15 15:45 20:45 20:45 23:00 23:15 0:00		Casing Scaper ran p Unable to rotate the Work out pite, activ Trip out of hole to 1 Make up BHA. Trip in hole to 330 UPK Pick up top drive a Downtime-Replace RH with top drive. Stuck in hole @597 Lay down drill pipe POOH. Discussion w	ass casing shoe, stu e BHA. Top drive co e BHA. Top drive co ate jars, scaper ur ay down casing scr n. d ream & clean tig hydraulic drive m pick up drill pipe and j single + Top drive ith IEC office, deci	ick @ 334 mRF. mnected and circulation estables stuck. aper. ht spots from 330m to 363m. tor on top drive. tor on top drive. di ream to 587m from 330m ars to pull free. sion to run motor BHA without	ished. MWD or stabilizer.						
Constant (11a)	T- (11-)	Death [as]	On entries of energiati	TIM	ELOG - 24:00 to 6:00am	(include Safety me	etings and Tool b	ox talks	5)			
0:00 0:45 1:45 3:15 4:00	0:45 1:45 3:15 4:00 6:00	935	POOH lay down nee Prepare mud motor RIH motor BHA. Rig service and pick Ream and clean 700	to the stabilizer, spr for CHOICE. up top drive m. Note: well is re	al string stabilizer. leasing trap gas. Flow checks co	onducted and flow m	ionitored.					
	I				RIG TIME (o	peration duration	in hours)					
Drilling Big Service		We	ld Bowl		Cement		Safety/BOP Reaming		6.75	Rig move		
Tripping	6.7	5 Log	ging an to Btm	3	Nipple U/D Press Test		Slip and Cut	le	0.75			
Circ./Cond. Pick up BH		Hai	ndle Tools n Casing		Repair Rig Up	1.5	Other LOT/FIT		6		24	5
								_				
					24 F	IOURS FORECAST						
RIH with M POOH, con	lud Motor inect MWD	and drill do ) and	wn to cement plug#	3 and approximati	vely 10m of new formation.							

Date :	19/06/201	3	Well :	Hurric	ane#2 RE		Rig :		Foraga	az#3			Pa	ge 2/2	
						DR									
Fluid type	Water				Solids					[kg/m	31		ADDITIVES	ADDED	
Mud Co	Halliburton				Sands				·	[ppm]		IAME	Quantity	Concer	ntration
Time Check	21:00				OWR					[%]					
Mud Man	L Anthony				MBT					[kg/m	1				
Donsity	1010				CI- Colcium					[mg/L]					
Viscosity	32		[kg	r/m³]	Calcium		Volum	es Balance		[IIIg/L					
P.V.			[cr	0	Vol hauled		Volum	co balance	-	(m <sup>3</sup> )					
Y.P.			[e]	- 100cm <sup>2</sup> 1	Vol dumpe	d				(m <sup>3</sup> )					
Gels 10"/10'					Circ loss					(m <sup>3</sup> )			COMME	NTS	
Temperature	-				Boiler loss					(m <sup>3</sup> )					
Pressure	12				Daily Mud	Cost									
рн	12					POTTON		ADIV							
N° Component						BOTTON	N HOLE ASSEN	ABLT		ID [mm]	OD [mm]	l ength [	ml Co	nnection	Weight
1 Bit										19 [1111]	159	0.19	3.	5 Reg P	Weight
2 Motor										57	155	9.1	3.5 Re	g BX3.5IF P	
3 114mm 60kgm	DC X 4									57	114	35.84	3.5IF	B X 3.5IF P	
4 Jars (22,500 UP	/ 19500 DN - 42	SEC)								57	155	6.56	3.5IF	B X 3.5IF P	
5 144mm 60kgm	DCX6 mHW/DPX24									57	114	222.12	3.51F	B X 3.5IF P	
7 102mm 20.6 kg	m S-135 DP									57	121	628.25	3.51F	B X 3.5IF P	
8	,									5.		520.23	5.51		
9															
10															
				1			01101/01/								
	HTURAULI	6			-		SURVET			10.10			BUP STAC	N	
Pump Make&Model	Dragon 660	Wilso	0.600	Time		m MD	m TVD	Azim	uth Inclinati	on Deviation	OP Item Stack	D	iam [mm]	W.P. [F	kPa] NO
Liner x Stack	8 1/2" X 6	6 1/2'	X 14 -								no Diverte	er	220.0	1030	10
SPM	01/2 ×0	0 1/2	-									ar	228.6	2100	00
Litre/Sk 100%	0.012	0.01	- 152								Blind		228.6	2100	00
Circ Rate		-	(m³/m	inl							Other		228.6	2100	00
Pump Eff	90	9	D [%]								Stack				
Pump Press			[kPa]								Diverte	er			
Drillpipe AV			[mm]								E Annula	ar			
Mud Cycle			[min]	-							Other				
😖 Bottom Up			[min]										TESTS		
D Mud Tank			[m <sup>3</sup> ]										Date	Pres [k	(Pa]
O Hole Volum	ne		[m <sup>3</sup> ]								Last BOP	1	7/06/2013	1125	50
System Vol.			[m <sup>-</sup> ]					I			Next BOP				
	BITS				STOC	:к				6	ASING / CEI	MENTING P	ROGRAM		
Size 150	N°	uml	Name	1n 299	Used	Stock		Unit	Last Casing	Surface 07/12/20	2	Last Casin	g		
Mfg Hughe			Baracarb	250		250		sacs	grade	H-40	-	grade			
Type STX-1			Baroseal (M)	80		80		sacs	diam	177.8	[mm]	diam			[mm]
Serial 51777	- 14		Soda Ash	10		10		sacs	Lin Weight	25.3	[kg/m]	Lin Weigh	t		[kg/m]
Nozzle 3 x 20/3	32" (m	nm²]	N-Vis Plus	27		27		sacs	Nb Joint			Nb Joint			
WOB 4	[di	aN]	Cellosize	122		122	:	sacs	Set at	323	[m]	Set at			[m]
RPIM Elow	[tr	/minj	Barathin Citric Acid	15		15		sacs	Length	323	[m] [kpa]	Length			[m] [kpa]
Pres	[ki	Pal	Bicarb	30		30	-	sacs	Collanse	10000	[kPa]	Collanse			[kPa]
From	[m	1	Fuel	10,300		10300	1	iters	Tensile	54000	[daN]	Tensile			[daN]
То	[m	1	Drill Water	21.8		21.8		[m <sup>3</sup> ]		TEST			т	EST	
Drilled used b	it (m	1]	Gypsum	20		20		sacs	Date	17/06/	2013	Date			
Hours	[hi	rs]	Barabuf	20		20		sacs	Pressure	11250	[kPa]	Pressure			[kPa]
			Sodium	576		5/6	Sac	5 poile	Last Coment	Dlug	_	Last Come			
	AR4/		Scroamer	10		10		20113	Date	16/12/200	5	Date			—
	CENTRIFUGE				c	ASING BOWL			Class	A		Class			
Make			_	Make		Weatherford			Density	1520 [kg	(/m³)	Density		[kg/m <sup>3</sup> ]	
UF density			[kg/m <sup>3</sup> ]	Serial Size OD		12110022005	[mm]		Volume	50 [m	1	Volume		_[m']	
Flow			[kg/m <sup>3</sup> ]	Size ID		228.b	[mm]		Time to GL	[m	inj	Time to G	<u> </u>	[min]	
Last Dump			19/11/3]	Rating		21,000	[kPa]		- Juillives			, wantuves			
Comments:	Due to serveral fa	actors, co	mmunication is	ssues, etc. the ca	sing scraper	got tripped into	the well after	the bond	log was complete	d. Due to the	casing scra	per having	a larger	-	
	diameter than th	e drillbit,	the scraper go	t stuck in the hole	e. After serv	eral attempts the	e jars fired an	d the pipe	got free. The sca	per was the t	ripped out	of the hole	-		
	The BHAa was th	en run ba	ck in the hole.	Due to the lengt	h of time thi	s well has been o	open below th	e shoe we	had to ream and	clean the hol	e from belo	ow the shoe	to the top o	f	
1	the next plug.														

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		STC.	AN	D/	AILY DRILLING	g report		N° 6	Date : Well : Rig :	20/06/2013 Hurricane#2 RE Foragaz#3	
				Spud dat	e: 17/06/	2013	Well Licence	# EP 03-107		Page 1/2	
We Te	ather @ 8:00 Wind emperature	Ligh 10	nt cloud light Deg C	mKB mGL 24h Avg ROP	149.97 145.7 2		Daily MD Total MD Expected MD	4 940 1970	Daily Costs Cum Costs AFE	\$27,300 \$512,100 \$2,410,000	est.
Sumr	nary of Daily	Operations:	RIH and drill 3r	d cement plug, well d	isplaced with drilling mud b	efore drilling 4m of ne	w formation				
POOH	and RIH with	directional B	3HA (PDC, mud mot	or and MWD).							
					2	AFETY SUMMARY					
Work	ers on site	N N	Vorkers Injuried		Incider	nts / Injuries		Hrs since last Medi	cal Treatment Case	144	
IEC Rig Others Total	3 12 5 20	IEC Rig Others Total	0 0 0 0		None	e to report		Hrs since last Lost 1 H <sub>2</sub> S Level CO <sub>2</sub> Level Gas Level	O         Trip Dr           0         Pit Dril           0         BOP D	144 rill ll	
Rig Manag Company	ger Greg	McKinnon Leroux	(905) 371 4614 (780) 678 510	4 3 7:00	Loader operation/High PH	mud/wash off. can irria	Safety Meetings / Tool Ite the skin or burn you if	Box Talks left long enough			
Company	Man Travis	Young	(709) 721 1994	17.00			,				
				17:00 TIM	ELOG - 00:00 to 24:00	(include Safety me	etings and Tool boy ta	lks)			
	FORMATION	TOP : Snout	Falls	1101				)			
	LITHOL	OGY : Silty si	andstone 70%								
From [Hr]	SHO To [Hr] D	ows : None epth [m]	Operation descript	tion							
0:00	0:45	935	POOH lay down ne	ar bit stabilizer, sprir	I string stabilizer.						
0:45 1:45	1:45 3:15		Prepare lower spe RIH with lower spe	ed mud motor (78-2.9 ed motor BHA.	) for CHOICE.						
3:15	4:00		Rig service and pic	k up top drive.							
4:00	7:00		Tool box safety tal	n 597m to 820m. k.							
7:15	8:45		Ream & clean from	n 597m to 830m with	Choice mud motor.						
8:45 12:00	12:00 14:45		Drill cement from Drill cement / Drill	830 to 874m. out cement 874-936	m.						
14:45	15:00	0.40	Flow check displace	e well to drilling mud							
15:00	17:15	940	Flow check @ 940	mRF.							
17:30	21:00		Trip out of hole flo	w check at 748m, 47	)m, 105m.						
21:00 23:00	23:00 23:45		Rig service, fix pro	blem with pipe tally.							
23:45	0:00		RIH with direction	al BHA (78-3.8 mud m	otor and MWD).						
				TIME	LOG - 24:00 to 6:00an	n (include Safety m	etings and Tool box t	alks)			
From [Hr]	To [Hr] D	epth [m]	Operation descript	tion	200 2000 10 0000	in (include survey in					
0:00	2:00	940	RIH with direction	al BHA. Directional Su	rvey.						
2:00	2:30		Lay down singles p Rig Repair fix Hude	ick up Top Drive. aulic leaks							
2:45	6:00		Drill forward with	Directional tools.							
					RIGTIME	operation duration	in hours)				
Drilling	9.25	Wold	Rowl		Coment		Safety/ROP	0.5	Pig move		
Rig Service	2 1.5	DST			WOC		Reaming	4.5	DIR Work	2	
Tripping Survey	5.75	Loggir	ig to Btm		Nipple U/D Press Test		Slip and Cut Drill B & M hole		-		
Circ./Cond	1.	Handl	e Tools		Repair		Other	1.5	TOTAL	24	
Pick up BH	IA	Run C	asing		Rig Up		LOT/FIT		DOWNTIME		
					24	HOURS FORECAST					
					_						_
	N										
KIH WITH L	mectional BF	na ariil ahea	u.								

Date :	20/06/20	13	Well: ⊦	urricane#2	RE		Rig :		Forag	gaz#3				Pag	e 2/2	
						DRIL	LING MUD									
Fluid type	Water				Solids						[kg/m <sup>3</sup>	1	A	DDITIVES A	DDED	
Mud Co	Halliburton	1			Sands						[ppm]		NAME	Quantity	Concer	tration
Time Check	19:00				OWR						[%]					
Mud Man	L. Anthony				MBT						[kg/m <sup>3</sup>	1				
Density	4075				CI-						[mg/L]					
Density	1075		[kg/n	1 <sup>3</sup> ]	Calcium		Volum	os Polons			[mg/L]					
VISCOSITY D V	37		[5/1]		Vol bauled		volum	les Balanc	æ	l en	3,	_				
Y.P.			[CP]	a 21	Vol dumper	d				[m	3 <sub>1</sub>					
Gels 10"/10'			]g/10	Ucm I	Circ loss	-				[m	3			COMMEN	TS	
Temperature					Boiler loss					[m	3				-	
Pressure					Daily Mud	Cost			\$995	.00						
pH	12				Cum Mud C	Cost			\$7,96	0.00						
						BOTTOM	HOLE ASSEMI	BLY								
N° Component											ID [mm]	OD [mm	Length [m]	Con	nection	Weight
1 Bit QD406FX											-	159	0.24	3.5	Reg P	
2 78-3.8 Choice	Mud Motor										61	121	7.49	3.5 Reg	BX3.5IF P	
3 UBHU	DIED										60	120	0.87	3.51F E	X 3.5IF P	
E GAD SLID	NIEN										69	120	3.46	2 515 5	V 2 SIE D	
6 NM BATTERY	ARRIER										70	126	3.96	3.51F F	X 3.5IF P	
7 FLEX NM											69	116	9.35	3.5IF F	X 3.5IF P	
8 JARS											54	121	6.56	3.5IF E	X 3.5IF P	
9 10 DC'S											58	115	88.99	3.5IF E	X 3.5IF P	
10 24 HWDP											64	127	222.14	3.5IF E	X 3.5IF P	
-																
	HYDRAU	LICS					SURVEY							BOP STACK		
Pump	1		2	Time		m MD	m TVD	Azin	nuth	Inclination	Deviation	OPItem	Diar	n [mm]	W.P. [k	Pal
Make&Model	Dragon 660	Wilso	in 600	-								Stack	2	28.6	1050	0
Liner x Stack	8 1/2" X 6	6 1/2	"X14 -									≌ Diver	er			
SPM			-									i≣ Annul	ar 2	28.6	2100	0
Litre/Sk 100%	0.012	0.0	152 -									ਠ Blind	2	28.6	2100	0
Circ Rate			[m <sup>3</sup> /min]									Other	2	28.6	2100	0
Pump Eff	90	9	0 [%]									Stack				
Pump Press			[kPa]									Diver	er			
Drillpipe AV			[mm]									Annu	ar			
Drill Collar AV			[mm]	-								Blind				
Rottom Lin			[min]									Other		TESTS		
Mud Tank			[11111]											1E313	Pros [k	Pal
U Hole Volun	10		[111 ] [m <sup>3</sup> ]									Last BOP	17/0	6/2013	1125	0
System Vo	·		[m <sup>3</sup> ]									Next BOP				
	BITS		1		STOC	к					C/	SING / CE	MENTING PRO	GRAM		
Bit 1	2	NIQ	Name	l in	Used	Stock		Unit	Last Ca	sina	Surface		Last Casina			
Size 159	159	[mm]	Barite	288		288		sacs	Date	5mg	07/12/20	05	Date			
Mfg Hughe	s Hughes		Baracarb	250		250		sacs	grade		H-40		grade	-		-
Type STX-1	QD406FX		Baroseal (M)	80		80		sacs	diam		177.8	[mm]	diam	-		[mm]
Serial 517771	4 7032271	-	Soda Ash	10		10		sacs	Lin Wei	ght	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle 3 X 15.	9 4x12.7 2x8.7	[mm <sup>2</sup> ]	N-Vis Plus	27		27		sacs	Nb Join	t		-	Nb Joint			-
WOB 4		[daN]	Cellosize	122		122		sacs	Set at		323	[m]	Set at			[m]
RPM 50		[tr/min]	Barathin	15		15		sacs	Length	_	323	[m]	Length			[m]
Flow		[gal/s]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres 7565		[KPa]	Bicarb	30		30		sacs	Collaps	e	10000	[KPa]	Collapse			[KPa]
To 936	1	[m]	Drill Wator	21.0		20300		mers [m <sup>3</sup> ]	rensile		JHUUU	ניימוא]	rensilê	70	ст.	lnginî
Drilled 4 54		[m]	Gyngum	21.0		21.0	-	[11] ] [11] ]	Date		17/04/1	012	Date	IE		
Hours 2.25		[hrs]	Barabuf	20	-	20		sacs	Pressure	e	11250	[kPa]	Pressure			[kPa]
2.23		(	Sodium	576		576	Sac	5	ressur	-	112.30	[sr a]				[ma]
I —		-	Defoamer	10		10	540.	pails	Last Ce	ment	Plug	_	Last Cement			
Ē.	CENTRIFIL	GE				ASING BOW			Date		16/12/2005	5	Date			- 1
	CENTRIFU					Sind BOWL			Class	_	Α	_	Class			
Make			N	lake		Weatherford			Density		1520 [kg	/m³]	Density		[kg/m <sup>3</sup> ]	
OF density			[kg/m <sup>3</sup> ]	erial		12110022005			Volume	· _	50 [m	1	Volume		[m³]	
UF density			[kg/m <sup>3</sup> ] S	ze UD		228.6	[mm]		Time to	GL	[mi	n]	Time to GL		[min]	
Last Duran			[gai/s] S	ze ID ating		1//.8	[mm]		Addittiv	/es			Addittives			
Commenter			R	aung		21,000	[кма]		I				1			
comments:																
I																
1																
1																
1																
1																

	INV	ESTC.	AN	DAILY	DRILLING REPO	)RT	N° 7	Date : Well : Rig :	21/06/2013 Hurricane#2 RE Foragaz#3
				Spud date :	17/06/2013	Well Licen	ice # EP 03-1	07	Page 1/2
We Te	ather @ 8:00 Wind emperature	0	light Deg C	mKB mGL 24h Avg ROP	149.97 145.7 5.3	Daily MD Total MD Expected MD	940.5 1049 1970	Daily Costs Cum Costs AFE	\$45,000 est. \$629,800 \$2,410,000
Sumr	mary of Daily	y Operations:	Run in hole with d	rectional assembly (PDC	, 78-3.8 mud motor, MWD). Rotate	and slide from 940.54m to 10	)49m.		
Tidy u	ıp drill pipe a	ind site. BOP I	Drill.						
					SAFETY SUMM	MARY			
Work	ers on site		Workers Injured		Incidents / Injuries		Hrs since last M	edical Treatment Case	168
IEC Rig Others Total	3 12 8 23	IEC Rig Others Total			None to report		Hrs since last Lo H <sub>2</sub> S Level CO <sub>2</sub> Level Gas Level	ot Time Incident 0 Trip Dr 0 Pit Dril 10000 BOP Di	rill 168 rill 100 rill 21/06/2013
Company	Man Victo	or Leroux	(780) 678 5108	7:00 Talked	about mixing of mud chemicals. W	ear the proper PPE. Location of	of MSDS sheets. Hel	d BOP Drill with Crew	
Company	Man Trav	is Young	(709) 721 1994	19:00 Held B	OP Drill with crew.				
				TIME LOG	- 00:00 to 24:00 (include Saf	ety meetings and Tool box	talks)		
	FORMATION	N/TOP : Friars	Cove						
<u> </u>	LITHO	HOWS : Minin	andstone interbedded nal	w/shales					
From [Hr]	To [Hr]	Depth [m]	Operation description	14					
0:00 2:00	2:00 2:30	940.54	KIH with directional B Lay down singles pick	1A. up Top Drive.					
2:30	3:00	940	Rig Repair fix Hydrauli Drill forward with Dis	c leaks. ctional BHA from 940 E-	n to 949mBF				
7:00	7:15	545	Safety Meeting.	Condi BRA ILUIT 940.51	n to sastine.				
7:15 12:00	12:00 16:00	970 997	Drill forward with Dire	ctional BHA from 949m	to 970mRF. to 997m				
16:00	16:15	997	BOP Drill w/crew. We	I secure in 95 sec., Funct	ion motor kills, HCR, Pipe Rams.				
16:15 19:00	19:00 0:00	1017 1049	Drill forward with Dire Drill forward with Dire	ctional tools from 997-1 ctional tools from 1017-	017m. 1049m.				
				TIME LOG	- 24:00 to 6:00am (include Sa	fety meetings and Tool bo	x talks)		
From [Hr] 0:00	10 [Hr] 6:00	1087 Depth [m]	Drill forward with Dire	ctional BHA from 1049-1	1088m.				
		l				unation in house)			
Dellera	20.24	B47-2-2	Pour	12-	RIG TIME (operation du	aration in nours)	A	25  0/	
Rig Service	e20.75	DST	buWI	WOC		Satety/BOP Reaming	0.	DIR Work	
Tripping	2	Loggi	ng	Nipple	U/D	Slip and Cut			
Circ./Cond	d	Hand	le Tools	Repair	0.5	5 Other	0	0.5 TOTAL	24
Pick up BH	A	Run C	asing	Rig Up		LOT/FIT		DOWNTIME	0.5
				<u> </u>	24 HOURS FOR	ECAST		· · · · · · · · · · · · · · · · · · ·	
<u> </u>									
Continue	drilling ab	ad with disc -	ional RUA Dessible	iner trip as hele can del	ons dictate				
continue	urilling ahea	au with direct	uonai Bria. Possible wh	ipei trip as nole conditio	uns ulctate.				

Date :	21/06/20	13	Well :	Hurricane#2	RE		Rig	:	Forag	gaz#3				Pa	ge 2/2	
						DRILL	ING MUD									
Fluid type	Polymer bas	ie.			Solids						[kg/m <sup>3</sup>	1		ADDITIVES /	ADDED	
Mud Co	Halliburtor	1			Sands	-					[kg/m]	N	IAME	Quantity	Concen	tration
Time Check	21:00	<u> </u>			OWR	-					[%]	Cellocia		Quantity	Concer	
Mud Man					MBT	-					- ()3	Daraca	rb.	16	Do	163
	L. Anthony	/			CI-	-					[kg/m <sup>-</sup> ]	j Baraca	ro	10	Ba	igs
Density	1100			, 3,	Calcium	-					[mg/l]	Deroan	ner	2	Pa	IIIS
Viscosity	39		[Kg	/m   1			Volu	mes Balano	ce		[8/-]					
P.V.	11		[cn	1	Vol hauled					ĺm	31					
Y P	3			21	Vol dumner					[m	3					
Gels 10"/10'	1		IR/	100cm I	Circ loss	-				[m	3	-		COMME	NTS	
Temperature					Boiler loss					[m	3			comme		
Pressure	9913				Daily Mud	ost			\$4.71	8.00	1					
nH	12				Cum Mud C	ost			\$13.67	73.00						
						воттом н	IOLE ASSEN	1BLY	1 .7.							
N° Component											ID [mm]	OD [mm]	Length [r	n] Co	nnection	Weight
1 Bit												159	0.24	3.	5 Reg P	
2 78-3.8 Choice	Mud Motor											121	7.49	3.5 Re	g BX3.5IF P	
3 UBHO											61	120	0.87	3.5IF	B X 3.5IF P	
4 NM TOOL CAP	RIER										69	120	5.48	3.5IF	B X 3.5IF P	
5 GAP SUB											68	117	1.16	3.5IF	B X 3.5IF P	
6 NM BATTERY	ARRIER										70	126	3.96	3.5IF	B X 3.5IF P	
7 FLEX NM											69	116	9.35	3.5IF	B X 3.5IF P	
8 JARS											54	121	6.56	3.5IF	B X 3.5IF P	
9 10 DC'S											58	115	88.99	3.5IF	B X 3.5IF P	
10 24 HWDP											64.00	127.00	222.14	3.5IF	B X 3.5IF P	
	HYDRAL	JLICS					SURVEY							BOP STAC	к	
Pump	1		,	Time	-	m MD	m TVD	Azir	nuth	Inclination	Deviation	OP Item	D	iam [mm]	W.P. [k	:Pal
Make&Model	Dragon 660	Wilso	n 600	10:00		956	954.54	34	9.5	4 7	5.45	Stack		228.6	1050	0
Liner x Stack	8 1/2" X 6	6 1/2	"X14 -	11:10		965.39	963.89	35	3.1	5.4	2.45	Diverte     Diverte	r			
SPM			-	12:35		974.78	973.24	35	8.9	5.9	2.42	.⊑ Annula	r	228.6	2100	0
Litre/Sk 100%	0.012	0.0	152 -	14:15		984.24	982.65	35	9.2	6	0.33	Blind		228.6	2100	0
Circ Rate			[m <sup>3</sup> /m	15:32		993.71	992.06	35	6.4	6.4	1.59	Other		228.6	2100	10
Pump Eff	90	9	0 [%]	17:00		1003.18	1001.47	35	1.8	6.9	2.31	Stack				-
Pump Press			[kPa]	18:14		1012.6	1010.81	35	7.3	7.4	2.7	, Diverte	r			
Drillpipe AV			[mm]	19:52		1022.02	1020.15	35	9.8	8.3	3.06	Annula	r			
Drill Collar AV			[mm]	21:10		1031.48	1029.49	1	13	9.8	8.09	⊖ Blind				
Mud Cycle			[min]	22:29		1040.94	1038.8	20	0.1	10.5	4.54	Other				
🛫 Bottom Up	,		[min]	0:00		1050.36	1048.07	25	5.8	10	3.6			TESTS		
5 Mud Tank			(m <sup>3</sup> )											Date	Pres [k	Pa]
😇 Hole Volur	ne		[m <sup>3</sup> ]									Last BOP	17	7/06/2013	1125	0
System Vo	l		[m <sup>3</sup> ]									Next BOP				
	BITS				STOC	к					CA	SING / CEN	MENTING P	ROGRAM		
Bit 1	2	N°	Name	In	Used	Stock	1	Unit	Last Ca	sing	Surface		Last Casin	g		
Size 159	159	[mm]	Barite	288		288		sacs	Date		07/12/20	05	Date	-		
Mfg Hughe	s Hughes	-	Baracarb	250	16	234		sacs	grade		H-40	-	grade			-
Type STX-1	QD406FX	-	Baroseal (M)	80		80		sacs	diam		177.8	[mm]	diam			[mm]
Serial 51777	4 7032271	-	Soda Ash	10		10		sacs	Lin Weig	ght	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle 3 X 15	9 4x12.7 2x8.7	[mm <sup>2</sup> ]	N-Vis Plus	27		27		sacs	Nb Joint	t		-	Nb Joint			-
WOB 4	10	[daN]	Cellosize	122	8	114		sacs	Set at		323	[m]	Set at			[m]
RPM 50	40/140	[tr/min]	Barathin	15		15		sacs	Length		323	[m]	Length			[m]
Flow		[gal/s]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres 7565		[kPa]	Bicarb	30		30		sacs	Collapse	e	10000	[kPa]	Collapse			[kPa]
From 936	940.54	[m]	Fuel	20,708	5143	15565		liters	Tensile		54000	[daN]	Tensile			[daN]
To 940.5	1	[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]		T	EST			Т	EST	
Drilled 4.54		[m]	Gypsum	20		20		sacs	Date		17/06/2	2013	Date			
Hours 2.25		[hrs]	Barabuf	20		20		sacs	Pressure	e	11250	[kPa]	Pressure			[kPa]
		_	Sodium	576	5	571		Sacs								
			Defoamer	10	2	8		pails	Last Cer	ment	Plug	_	Last Ceme	nt		_
	CENTRIFU	GE			C/	ASING BOWL			Date		16/12/2005 A	5	Date Class			
Make		1		Make		Weatherford			Density		1520 n	/m <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	-
OF density		1	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	. —	50 [m <sup>3</sup>	h	Volume		[m <sup>3</sup> ]	
UF density		1	[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	n]	Time to GI		[min]	
Flow		1	[gal/s]	Size ID		177.8	[mm]		Additive		(IIII		Additives	·	i	
Last Dump		1		Rating		21,000	[kPa]									
Comments:																
Fuel Delivery plan	ied.															

Mud weight is increasing rapidly due to dilling very fine sands. Working closely on mud weight until centrifuge arrives onsite. Gas detector showing high BG. Decision not to change the gas detection for consistancy throughough drilling.

	INV	ESTC	<b>AN</b> Torp	DAIL	Y DRILLING REPO	RT	N°	8	Date : Well : Rig :	22/06/2013 Hurricane#2 RE Foragaz#3	
				Spud date :	17/06/2013	Well Licen	ce #	EP 03-107		Page 1/2	
We Te	ather @ 8:0 Wind emperature	10	light Deg C	mKB mGL 24h Avg ROP	149.97 145.7 6.7	Daily MD Total MD Expected MD		71 1190 1970	Daily Costs Cum Costs AFE	\$35,300 \$665,100 \$2,410,000	est.
Sum	mary of Dai	y Operations	Rotate and slide	from 1049m to 1190 ml	F						
IIIStali	r cutting no	ung pit.									
					SAFETY SUM	MARY					
Work IEC	ers on site 3	IEC	Workers Injured 0		Incidents / Injuries		Hrs s Hrs s	ince last Medical 1 ince last Lost Time	Freatment Case Incident	192	
Rig Others Total	12 8 23	Rig Others Total	0 0 0 0 0		None to report		H <sub>2</sub> S L CO <sub>2</sub> L Gas L	evel 0 Level 0 Level 60	Trip Dri Trip Dri Pit Drill OO BOP Dri		
Kig Manag Company	Man Vic	g McKinnon or Leroux	(905) 371 4614 (780) 678 5108	7:00 Hydra	ulics and high pressure lines	Satety Meetings / 10	OOI BOX I	alks			
Company	Man Tra	vis Young	(709) 721 1994	19:00 Hous	ekeeping						
				TIME LC	G - 00:00 to 24:00 (include Saf	ety meetings and Tool box	( talks)				
	FORMATIC	N/TOP : Friars	Cove	shales							
Fac. 11 - 1		HOWS : Faint	dull brown fluorescen	ce from 1175 to 1185m.	No gas response.						
+rom [Hr] 0:00	10 [Hr] 7:00	ueptn [m] 1119	Drill forward with Di	m irectional BHA from 1049	-1094m.						
7:00	7:15	1094	Safety meeting.	instignal RHA to 1100m							
7:15	0:00	1190	Drill forward with Di	rectional BHA to 1190m.							
				TIME LOO	6 - 24:00 to 6:00am (include Sa	fety meetings and Tool bo	ox talks)	1			
From [Hr]	To [Hr]	Depth [m]	Operation description	on	1005						
0:00	6:00	1225	Drill forward with Di	rectional BHA from 1190	-1225m.						
					RIG TIME (operation du	ration in hours)					
Drilling	24	Weld	Bowl	Ceme	nt	Safety/BOP			Rig move		
кıg Servici Tripping	e	Loggi	ng	Nippl	e U/D	Slip and Cut			DIK WORK		
Survey		Clean	to Btm	Press	Test	Drill R & M ho	ole		TOTA		
Pick up BH	HA	Run C	asing	Rig U		LOT/FIT			DOWNTIME	24	
					24 HOURS FOR	ECAST					
Continue	drilling ahe	ad with direc	ional BHA. Possible v	vhiper trip as hole condit	ions dictate.						

D	Date :	22/06/20	13	Well: Hu	urricane#2	RE		Rig :		Fora	gaz#3					Pag	e 2/2	
							DRI	LLING MUD										
Fluid type	2	polymer bas	ie			Solids					3	[ka/m <sup>3</sup>	1		A	DDITIVES AD	DED	
Mud Co		Baroid	<u> </u>			Sands					0.5	[%]	·	NAME		Quantity	Concer	ntration
Time Che	ck	7:00				OWR						[%]	Cello	size		7	Ba	ags
Mud Man	1	I Anthony				MBT						[kg/m <sup>3</sup>	1 Bara	carb		5	Ba	ags
		L. Anthony				CI-						[mg/L]						-
Density		1120		[kg/m <sup>3</sup>	1	Calcium					840	[mg/L]						
Viscosity		45		[s/I]				Volum	nes Balano	ce								
P.V.		10		[cp]		Vol hauled				5	[m	3]						
Y.P.		4		[g/100	cm²]	Vol dumper	d				[m	°]						
Gels 10"/:	10'	1				Circ loss					[m	°]				COMMENT	S	
Temperat	ure	004.0				Boiler loss				40.00	[m	1						
Pressure		9913				Daily Mud	Cost			\$2,67	1.00							
рн		12					POTTOM		IDI V	\$10,5	44.00							
N° Com	onent						Borrow	HOLE ASSEN				ID [mm]	OD (mm	1 Leng	th [m]	Conn	ection	Weight
1 Bit													159	0.	.24	3.5	Reg P	
2 78-3.	8 Choice M	ud Motor											121	7.	.49	3.5 Reg	BX3.5IF P	
3 UBHC	)											61	120	0.	.87	3.5IF B	X 3.5IF P	
4 NM T	OOL CARRI	ER										69	120	5.	.48	3.5IF B	X 3.5IF P	
5 GAP S	SUB											68	117	1.	.16	3.5IF B	X 3.5IF P	
6 NM B	ATTERY CA	RRIER										70	126	3.	.96	3.5IF B	X 3.5IF P	
7 FLEX	NM											69	116	9.	.35	3.5IF B	X 3.5IF P	
8 JARS												54	121	6.	.56	3.5IF B	X 3.5IF P	
9 10 DC	2°S											58	115	88	3.99	3.5IF B	X 3.5IF P	
10 24 HV	NDP											64	127	222	2.14	3.5IF B	X 3.5IF P	
1														1				
					-					_								
		HYDRAU	LICS					SURVEY								BOP STACK		
Pumn		1		>	Time	1	m MD	m TVD	Δzir	muth	Inclination	Deviation	OPlitem		Diam	n [mm]	W P Ik	Pal
Make&M	odel	Dragon 660	Wilso	n 600	0:00		1050 36	1048.07	2	5.8	10	3.6	Stack	1	2	28.6	1050	0
Liner x Sta	ack	8 1/2" X 6	6 1/2	"X 14 -	2:55		1069.36	1066.78	2	7.2	10.2	0.64		ter	-			
SPM		70			6:00		1088.45	1085.55	2	6.5	11.2	2.49	≦ Annu	lar	23	28.6	2100	00
Litre/Sk 1	00%	0.012	0.0	152 -	9:20		1107.48	1104.25	3	3.9	9.9	3.25	Blind		22	28.6	2100	00
Circ Rate		0.84		[m <sup>3</sup> /min]	13:45		1126.55	1123.1	4	5.6	7.2	6.31	Othe	r	22	28.6	2100	00
Pump Eff		90	9	0 [%]	15:00		1135.97	1132.46	5	3.1	5.4	6.29	Stack					
Pump Pre	ss	8500		[kPa]	16.:51		1145.06	1141.52	6	5.2	4.4	4.73	_ Diver	ter			-	
Drillpipe A	AV	8400		[mm]	18:00		115498	1151.42	5	76	3.8	2.95	음 Annu	ılar			-	
Drill Colla	r AV	38.9		[mm]	19:45		1164.35	1160.77	7	5.7	3.5	0.96	O Blind					
N	1ud Cycle		70	[min]	22:50		1183.41	1179.79	6	9.3	3.3	0.67	Othe	r				
t≝ Be	ottom Up		28	[min]	2:10		1202.43	1198.78	6	1.4	3.4	0.74				TESTS		
N IC	1ud Tank		33.78	[m <sup>3</sup> ]											D	ate	Pres [k	:Pa]
οн	ole Volume		23.75	[m³]									Last BOP		17/0	6/2013	1125	50
Sj	ystem Vol.		58.75	[m²]						-			Next BO	>				
_		BITS				STOC	ж					c	ASING / O	EMENTI	NG PRO	GRAM		
Bit	1	2	N° .	Name	In	Used	Stock		Unit	Last Co	ising	Surface	2	Last Co	asing			
Size	159	159	[mm]	Barite	288		288		sacs	Date		07/12/20	05	Date				
Mitg	Hugnes	Hughes	-	Baracarb	250	11	239		sacs	grade		H-40	- [	grade				- [1
Type	517-1	QD406FX	-	Baroseal (IVI)	80		80		sacs	diam		25.2	[mm]	diam				[mm]
Nozzle	2 1 15 0	10322/1	- ,.	N-Vic Dluc	27		10		5905	Lin We	igní	23.5	[^B/111]	Lin We	eight			[rg/11]
WOR	4	10	[mm <sup>-</sup> ]	Cellosize	122	20	102		sacs	Set at		323	[m]	Set at				[m]
RPM	50	40/140	[tr/min]	Barathin	15	20	15		sacs	Length		323	[m]	Length				[m]
Flow			[gal/s]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst				[kPa]
Pres	7565		[kPa]	Bicarb	30	10	20		sacs	Collans		10000	[kPa]	Colland	se			[kPa]
From	936	940.54	[m]	Fuel	20,708	7331	13377		liters	Tensile		54000	[daN]	Tensile	2		-	[daN]
То	940.54		[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]	1	1	EST				TES	т	
Drilled	4.54		[m]	Gypsum	20		20		sacs	Date		17/06/	2013	Date				
Hours	2.25		[hrs]	Barabuf	20		20		sacs	Pressu	re	11250	[kPa]	Pressu	ire			[kPa]
			_	Sodium	576	5	571		Sacs		-							
				Defoamer	10	2	8		pails	Last Ce	ement	Plug	_	Last Ce	ement			_
		CENTRIFU	GE			C.	ASING BOWL			Date		16/12/200	5	Date				
Maka					ko		Weathorford			class		A		Class			n / 31	_
			I	Ma	ial		12110022005			Density		1320 [kg	/m³]	Densit	Ŷ		[Kg/m <sup>-</sup> ]	
LIE density			1	[kg/m <sup>3</sup> ]Sel	e OD		2220022005	[mm]		Volume		[m	1 Inl	Volum	e Cl		_ [m]	
Flow	'			[gal/s] 512	eID		177.8	[mm]		Addition		Įm		Additio	U GL		- <sup>[11111]</sup>	
Last Dum	n		1	(50,75) Siz	ting		21,000	[kPa]		Auditiv				Auuitiv	162			
Comment	ts:			10	v		000	[										
connen																		
1																		
1																		
1																		
1																		

	INV	ESTC.	AN		DRILLING REPOI	RT	N°	9	Date : Well : Rig :	23/06/2013 Hurricane#2 RE Foragaz#3	
				spud date .	17/00/2013	weir Licenc	.e # 1	LF 03-107		Fage 1/2	
We	eather @ 8:0 Wind	0	light	mKB mGL 24b Avg ROP	149.97 145.7 5.8	Daily MD Total MD Expected MD	1	85 317 970	Daily Costs Cum Costs	\$35,000 \$700,700 \$2,410,000	est.
	cinperuture (5.1		5656		5.0	Expected inb	-	570		\$2,410,000	-
Sumr	mary of Dail	y Operations:	Rotate and slide	from 1190 to 1317 mKB.							
					SAFETY SUMN	IARY					
Work IEC	kers on site 3	IEC	0 0		Incidents / Injuries		Hrs sinc Hrs sinc	e last Medical e last Lost Tim	Freatment Case e Incident	216	
Rig	12	Rig	0		None to report		H <sub>2</sub> S Lev	el (	) Trip Dri		
Total	23	Total	0				Gas Lev	el 35	00 BOP Dr	21/06/201	.3
Rig Manag Company	ger Gre Man Vict	g McKinnon or Leroux	(905) 371 4614 (780) 678 5108	7:00 Safety I	Ageting: shub line condition/ Trappe	Safety Meetings / To ed torque in top drive/ Person	ol Box Tall	ks n			
Company	Man Tra	vis Young	(709) 721 1994	Weekly	Rig Inspection conducted by Vic Ler	oux/ Dave White HSE/ Greg N	/acKinnon				
				19:00 Stabbin	e Valve	the montings and Teal have	talks)				
	FORMATIO		Coup	TIVIE LOG	- 00:00 to 24:00 (include Safe	rry meetings and 1001 box	udiks)				
	LITH	DLOGY : Intert	edded sandstone, silts	tone.							
From [Hr]	S To [Hr]	HOWS : No sh Depth [m]	ows. Operation description	n							
0:00	7:00	1232	Drill f/ 1190m to 123	2m.							
7:00 7:15	7:15 9:15	1232 1245	Safety Meeting : Snu Drill f/1232m to 124	b line condition/ Trapped t 5m.	orque in top drive/ Personal hydrati	on.					
9:15	9:30	1245	Rig Service: Function	Annular Preventer 10 seco	nds to close.						
9:30 12:00	12:00 19:00	1256 1290	Drill f/1245m to 125 Drill f/ 1256m to 129	6m. I0m.							
19:00	19:15		Safety Meeting stab	bing valve.							
19:15	0:00	1317	Drill f/ 1290m to 131	.7m.							
				TIME LOG	- 24:00 to 6:00am (include Saf	ety meetings and Tool bo	k talks)				
From [Hr]	To [Hr]	Depth [m]	Operation description	n			,				
0:00	6:00	1341	Drill f/ 1317m to 13	41m.							
					RIG TIME (operation dur	ration in hours)					
Drilling	23.2	5 Weld	Bowl	Cemen		Safety/BOP	_	0.5	Rig move		_
Rig Service	e 0.25	DST	-	woc		Reaming			DIR Work		
Survey		Clean	to Btm	Press. T	est	Drill R & M hol	ē				
Circ./Cond	d.	Hand	e Tools	Repair		Other			TOTAL	24	
CICK UP BE		Kun C	aon 18	Kig Up		LUI/FII			DOWNTIVIE		
					24 HOURS FOR	ECAST					
POOH for	r bit inspecti	on since ROP	has dropped significa	ntly.							
				-							

	Date :	23/06/20	13	Well :	Hurricane#2	RE		F	Rig :	F	oragaz#3						Pag	e 2/2	
							DR	ILLING N	UUD										
Fluid ty	oe	polymer bas	e			Solids					6		[kg/m <sup>3</sup>	1		A	DITIVES AD	DED	
Mud Co		Baroid				Sands		-		-	0.5		[%]		NAME		Quantity	Concer	tration
Time Ch	eck	7:00				OWR				-			[%]	Cellos	ize		3	Ba	igs
Mud Ma	in	L Anthony				MBT				-			[kg/m <sup>3</sup>	Barac	arb			Ba	igs
		L. Anthony				CI-				-			[mg/L]	Defoa	mer			Pa	ils
Density		1130		[kg	/m <sup>3</sup> 1	Calcium				-	400		[mg/L]						
Viscosity	/	46		[s/i					Volumes Bala	nce									
P.V.		15		[cp		Vol hauled				6		[m <sup>3</sup> ]							
Y.P.		5		[g/	100cm <sup>2</sup> 1	Vol dumpe	d					[m <sup>3</sup> ]							
Gels 10"	/10'	2				Circ loss						[m <sup>3</sup> ]					COMMENT	s	
Temper	ature					Boiler loss						[m <sup>3</sup> ]							
Pressure		9913				Daily Mud	Cost				\$1,631.00								
pH		10				Cum Mud	Cost				\$17,975.00								
							BOTTON	1 HOLE A	SSEMBLY										
N° Con	nponent												ID [mm]	0D [mm	] Lengt	th [m]	Conr 2 5	ection Peg P	Weight
2 78-3	8 Choice M	id Motor										-		133	7.	49	3 5 Reg	RX3 SIF P	
3 UBH	10											-	61	120	0.	87	3.5IF B	X 3.5IF P	
4 NM	TOOL CARRI	ER										-	69	120	5.	48	3.5IF B	X 3.5IF P	
5 GAF	SUB											- F	68	117	1.	16	3.5IF B	X 3.5IF P	
6 NM	BATTERY CA	RRIER										H	70	126	3.	96	3.5IF B	X 3.5IF P	
7 FLE	(NM											F	69	116	9.	35	3.5IF B	X 3.5IF P	
8 JAR	5											F	54	121	6.	56	3.5IF B	X 3.5IF P	
9 100	C'S											F	58	115	88	.99	3.5IF B	X 3.5IF P	
10 24 1	IWDP											F	64	127	222	2.14	3.5IF B	X 3.5IF P	
1												F			1				
					-														
		HYDRAU	LICS					SUR\	VEY								BOP STACK		
Pump		1		2	Time		m MD	m T\	VD Az	imu	th Inclin	ation	Deviation	OP Item		Diam	ı [mm]	W.P. [k	:Pa]
Make&f	Aodel	Dragon 660	Wilso	n 600	2:10		1202.43	1198	3.78	61.4	3.	4	0.74	Stack		22	28.6	1050	0
Liner x S	tack	8 1/2" X 6	6 1/2	'X 14 -	5:31		1221.72	121	18	50.5	3.	4	1	말 Diver	ter				
SPM		70		-	8:29		1240.6	1236	5.88	44.9	3.	7	0.73	≣ Annul	ar	22	28.6	2100	0
Litre/Sk	100%	0.012	0.0	152 -	10:10		1250.42	1246	5.68	49.9	3.	6	1.02	□ Blind		22	28.6	2100	0
Circ Rat		0.84		[m³/m	n] 12:13		1259.81	1256	5.05	59.8	3.	7	1.11	Other		22	28.6	2100	0
Pump Ef	f	90	9	0 [%]	12:35		1269.27	1265	5.49	69.2	3.	2	1.36	Stack					
Pump Pi	ess	8500		[kPa]	17:05		1278.68	1274	1.89	77.5	3.	4	1.51	Diver	ter				
Drillpipe	AV	8400		[mm]	18:40		1288.1	1284	.29	87.5	3.	3	1.59	등 Annul	ar				
Drill Col	ar AV	38.9	70	[mm]	20:25		1297.53	1293	3./1 1	.11.1	L 2.	7	1.52	Blind					
	Nud Cycle		70	[min]	23:45		1316.43	1314	2.0 1	50.9	9 1.	6	1.13	Other			TECTO		
ni	Mud Tank		20	(1111)												D	IESIS	Droc fly	Dol
ci	Hole Volume		23 75	[m]										Last BOP		17/0	5/2013	1125	0
-	System Vol.		58.75	[m <sup>3</sup> ]										Next BOP		1770	0/2015	1123	
		BITS				STO	ж						с	ASING / C	EMENTIN	IG PRO	GRAM		
Bit	1	2	N°	Name	In	Used	Stock		Unit	L	ast Casina		Surface		Last Co	isina	-		
Size	159	159	[mm]	Barite	288		288		sacs	D	ate		07/12/20	05	Date				
Mfg	Hughes	Hughes	-	Baracarb	250	16	234		sacs	g	rade		H-40	-	grade				-
Туре	STX-1	QD406FX		Baroseal (M)	80		80		sacs	d	liam		177.8	[mm]	diam				[mm]
Serial	5177714	7032271	-	Soda Ash	10		10		sacs	L	in Weight		25.3	[kg/m]	Lin We	ight			[kg/m]
Nozzle	3 X 15.9	4x12.7 2x8.7	[mm <sup>2</sup> ]	N-Vis Plus	27		27		sacs	N	lb Joint			-	Nb Join	nt			-
WOB	4	10	[daN]	Cellosize	122	27	95		sacs	S	et at		323	[m]	Set at				[m]
RPM	50	40/140	[tr/min]	Barathin	15		15		sacs	L	ength		323	[m]	Length				[m]
Flow			[gal/s]	Citric Acid	15		15		sacs	В	urst		16000	[kPa]	Burst				[kPa]
Pres	7565		[kPa]	Bicarb	30	10	20		sacs	C	ollapse	_	10000	[kPa]	Collaps	ie .			[kPa]
From	936	940.54	[m]	Fuel	20,708	8062	16646		liters	Т	ensile		54000	[dan]	Tensile			_	[dan]
10 Dellled	940.54	1344	[m]	Drill Water	21.8		21.8		[m²]			TE	ST				TES	Т	
Drilled	4.54	404	[m]	Gypsum	20		20		sacs	- 5	ate		1//06/2	(013	Date				[1-0-1
nours	2.23	05	[[[]]]	Sodium	576	5	571		Sars	- r	ressure		11230	[KPd]	Fressur	e			[KPd]
			-	Defoamer	10	4	6		pails	L	ast Cement		Plug	_	Last Ce	ment			
		CENTRIEU	GF			ſ	ASING BOWI			D	ate	1	6/12/2005	5	Date				
										C	lass		A		Class				
Make	. —				Make		Weatherford			D	ensity	1	520 [kg	/m³]	Density	′ .		[kg/m <sup>3</sup> ]	
UF dens				[kg/m <sup>3</sup> ]	Serial		12110022005			- V	olume	_	50 [m	1	Volume	e .		_[m*]	
UF dens				[kg/m <sup>3</sup> ]	Size UD		228.0		mmj	T	ime to GL		Įmi	nj	Time to	GL		[min]	
Last Dur				[gai/3]	Rating		21 000		kPal	A	dditives				Additiv	es .			
Comme	nts:				b		21,000	Į	9]	-									
comme	11.3.																		
1																			
1																			
1																			
1																			
1																			
II																			

		TCAI	N	DAILY	DRILLING REPO	ORT	N°	10	Date : Well : Rig :	24/06/2013 Hurricane#2 RE Foragaz#3
				Spud date :	17/06/2013	Well	Licence #	EP 03-107		Page 1/2
Ň	Weather @ 8:00 Wind	c	loudy light	mKB mGL	149.97 145.7	Daily MD Total MD		17 1355	Daily Costs Cum Costs	\$43,800 est. \$745,300
	Temperature	15	Deg C	24h Avg ROP	4.2	Expected N	лD	1980	AFE	\$2,410,000
Su	mmary of Daily C	perations:	Drill from 1137m to	1356 mRF. POOH, chec	k PDC bit and install Gamma tool	. Run Gamma from 1339	to 1344 mRF.			
					SAFETY SUMM	//ARY				
Wo	orkers on site	IEC	Workers Injured		Incidents / Injuries		Hrs	since last Medical T	reatment Case	240
Rig Others	12 10	Rig Others	0		None to report		H <sub>2</sub> S CO <sub>2</sub>	Level 0 Level 0	Trip Dril Pit Drill	
Total	25	Total	0			C-6	Gas	Level 100	00 BOP Dril	24/06/2013
Rig Manaj Company	ger Greg Man Victo	McKinnon or Leroux	(780) 678 5108	7:00 Trippin	g proceedures/Work short hande	Safety Meetin ed.	igs / Tool Box	Talks		
Company	Man Trav	is Young	(709) 721 1994	19:00 Elow ch	eck security					
_				TIME LOG	00:00 to 24:00 (include Safe	ety meetings and Tool	box talks)			
	FORMATION	/TOP: Friars	Cove.							
	LITHO	LOGY : Medi IOWS : No sh	um to course grained pet	bly sandstone, quartz a	nd chert rich, poorly sorted.					
From [Hr]	To [Hr]	Depth [m]	Operation description							
0:00	5:00 5:15	1338 1338	Drill f/1317m to 1338m Big service, Function pi	ne ram (4 sec. to close).						
5:15	7:00	1345	Drill f/ 1338m to 1344.	51m.						
7:00 7:15	7:15 7:30	1345 1345	Lay down 2 drill pipe. S Flow check @1335m.	atety Meeting (tripping	proceedures/work short handed	l.				
7:30	8:15	1345	Trip out of hole f/ 1328	m to 1263m.						
8:30	9:45	1345	Trip out of hole f/ 1263	m to 664m.						
9:45 10:00	10:00 11:15	1345 1345	Flow check @ 664m. Trip out of hole f/ 664m	n to 144.57m						
11:15	11:30	1345	Flow check @ 144.57m							
11:30 11:45	11:45 12:00	1345 1345	Function pipe ram (4 se Safety meeting: BOP tr	ec. το close). p drill. Install stabbing v	alve & function.					
12:00 13:00	13:00	1345 1345	Trip out of hole f/144m	to 0m.	ims)					
13:15	14:00	1345	Pick up 3rd party tools.	Switch MWD battery pa	ack, pick up Gamma Tool & run in	hole with Choice Direction	onal assembly	(re-run Bit #2).		
14:00 16:00	16:00 16:15	1345 1345	I rip in hole f/ 73.25m t BOP drill with new crew	o 643m. v. Well secured 1min. 40	) sec.					
16:15	18:00	1345	Downtime: set up brak	es, tighten draw works o	hain. Change oil in torque conve	rter.				
19:15	20;15	1345	Pick up top drive, and r	un Gamma from 1329.4	5 to 1338.91 mRF.					
20:15 21:30	21:30 21:45	1345	Down time - Mud pum Pick up top drive, and r	o replace valve. un Gamma from 1329.4	5 to 1344.51m.					
21:45	0:00	1355	Drill from 1344.51m - 1	355m.						
				TIMELOC	24.00 to C.00om (include Co	(	l hau tallus)			
From [Hr]	To [Hr]	Depth [m]	Operation description	TIME LOG -	24:00 to 6:00am (include Sa	rety meetings and 100	ii box taiks)			
0:00	6:00	1355	Drill from 1355m - 1379	əm.						
					RIG TIME (operation du	ration in hours)				
Drilling	9	Weld	Bowl	Cemen		Safety/	BOP	0.75	Rig move	
Rig Servic Tripping	e 0.25 8.5	DST Logei	ng	WOC Nipple	U/D	Reamin Slip and	ig i Cut		Flow Check	1.25
Survey	d	Clean	to Btm	Press. 1	est	Drill R 8	& M hole	1.25	τοτοι	
Pick up Bł	HA	Run C	Casing	Rig Up		LOT/FI	r	1.25	DOWNTIME	24 3
				<u> </u>	24 HOURS FOR	ECAST				
RIH with	gamma tools in d	rill string. Co	ntinue drilling ahead wit	directional tools to co	re point. Pull out of hole to pick (	up core bbls.				

	Date :	24/06/20	13	Well :	Hurricane#2	RE		Rig :		Fora	gaz#3				Pag	e 2/2	
							DRILL	ING MUD									
Fluid typ	e	Polymer Bas	e			Solids					6	[ka/m <sup>3</sup> 1			ADDITIVES AD	DED	
Mud Co		Baroid				Sands					0.5	[%]	N	IAME	Quantity	Concer	tration
Time Ch	eck	7:00				OWR						[%]	Cellosia	ze .		Ba	igs
Mud Ma	n	L Anthony				MBT						[kg/m <sup>3</sup> ]	Baraca	rb		Ba	igs
		L. Anthony				CI-					45000	[mg/L]	Defoar	ner		Pa	ils
Density		1120		ĺke	/m <sup>3</sup> 1	Calcium					320	[mg/L]					
Viscosity		47		[s/	]			Volun	nes Balan	ce							
P.V.		14		[cp	]	Vol hauled			1	.1	[m	3]					
Y.P.		5		[g/	100cm <sup>2</sup> ]	Vol dumper	d				[m	3]					
Gels 10"	/10'	2				Circ loss					[m	3]			COMMENT	S	
Tempera	ature					Boiler loss					[m	1	Mainta	ain viscosity to	45-50 s/L with r	-drill (cello size	e). Maintain
Pressure		9913				Daily Mud	Cost			\$995	5.00		wt. /	As low as possi	ble by using scr	ens as fine as	possible.
рН		10				Cum Mud C	Cost			\$18,9	70.00						
							BOTTOM H	IOLE ASSEMB	LY								
N° Corr 1 Bit	ponent											ID [mm]	OD [mm] 159	Length [m] 0.24	Conr 3.5	ection Reg P	Weight
2 78-3	.8 Choice Mud N	lotor											121	7.49	3.5 Reg	BX3.5IF P	
3 UBH	0											61	120	0.87	3.5IF B	X 3.5IF P	
4 NM	TOOL CARRIER											69	120	5.48	3.5IF B	X 3.5IF P	
5 GAP	SUB											68	117	1.16	3.5IF B	X 3.5IF P	
6 NM	BATTERY CARRIE	R										70	126	3.96	3.5IF B	X 3.5IF P	
7 FLE)	NM											69	116	9.35	3.5IF B	X 3.5IF P	
8 JAR												54	121	6.56	3.5IF B	X 3.5IF P	
9 10 0	iC'S											58	115	88.99	3.5IF B	X 3.5IF P	
10 24 H	WDP											64	127	222.14	3.5IF B	X 3.5IF P	
		HYDRAULI	cs					SURVEY							BOP STACK		
Pump		1		2	Time		m MD	m TVD	Azir	nuth	Inclination	Deviation	OP Item	Dia	am [mm]	W.P. [k	:Pa]
Make&M	Aodel	Dragon 660	Wilso	on 600	23:45		1316.43	1312.6	15	50.9	1.6	1.13	Stack		228.6	1050	0
Liner x S	tack	8 1/2" X 6	6 1/2	"X 14 -	21:35		1325.83	1322	14	17.2	1.2	0.93	Diverte	er.			
SPM		70		-	23:40		1335.24	1331.4	14	0.8	1	0.78	E Annula	r	228.6	2100	0
Litre/Sk	100%	0.012	0.0	152 -			1354.13	1350.29	12	24.1	0.9	0.57	Blind		228.6	2100	0
Circ Rate	·	0.84		[m³/m	n]								Other		228.6	2100	0
Pump Ef	f	90		90 [%]									Stack				
Pump Pi	ess	8500		[kPa]									Diverte	er			
Drillpipe	AV	8400		[mm]										r			
Drill Coll	ar AV	38.9	80	[mm]									Blind				
	Viud Cycle		70	[min]									Other		TECTO		
Ë	Sottom Op		20	, 3											TE313	Droc (k	Dol
ä	Jole Volume		22 75	[m]									act BOD	17	06/2012	1125	n aj
-	System Vol.		58.75	[m ] [m <sup>3</sup> ]									Next BOP	1//	00/2013	1125	0
	1	BITS				STOC	ĸ	•		I	•	C4	SING / CE	MENTING PR	OGRAM		
Bit	2	2RR	N <sup>o</sup>	Name	In	Used	Stock	-	Unit	Last Ca	sina	Surface		Last Casina			
Size	159	159	[mm]	Barite	288		288		sacs	Date	sing	07/12/200	5	Date			
Mfg	Hughes	Hughes	- · · ·	Baracarb	250	16	234		sacs	grade		H-40	_	grade			-
Type	QD406FX	QD406FX	-	Baroseal (M)	80		80		sacs	diam		177.8	[mm]	diam	-		[mm]
Serial	7032271	7032271	-	Soda Ash	10		10	1	sacs	Lin Wei	ight	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	4x12.7 2x8.7	4x12.7 2x8.7	[mm <sup>2</sup> ]	N-Vis Plus	27	1	27		sacs	Nb Join	t			Nb Joint	-		-
WOB	7	7	[daN]	Cellosize	122	27	95		sacs	Set at		323	[m]	Set at			[m]
RPM	40/140	40/140	[tr/min]	Barathin	15		15		sacs	Length		323	[m]	Length			[m]
Flow		97	[l/min]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres	9500	10600	[kPa]	Bicarb	30	10	20		sacs	Collaps	e	10000	kPa]	Collapse			[kPa]
From	940.54	1344.51	[m]	Fuel	28,372	12316	16056		liters	Tensile		54000	daN]	Tensile			[daN]
To	1344.51	1355	[m]	Drill Water	21.8		21.8		[m³]	L	1	EST			TES	Т	
Drilled	403.97	10.49	[m]	Gypsum	20		20		sacs	Date	_	17/06/2	013	Date			
Hours	65	2	Inrs	Barabuf	20	_	20		sacs	Pressur	'e	11250	kPa]	Pressure			[kPa]
			-	Sodium Defoamer	5/6	5 4	5/1	Sac	s nails	Last Co	ment	Plug	_	Last Coment			
				Scioaniei	10				Pulla	Date		16/12/2005		Date			
		CENTRIFUGE				c	ASING BOWL			Class		A	_	Class			_
Make					Make		Weatherford			Density		1520 [kø/	m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	_
OF dens	ity			[kg/m <sup>3</sup> ]	Serial		12110022005			Volume		50 [m <sup>3</sup>	· ·	Volume		[m <sup>3</sup> ]	
UF dens	ty			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mir	1]	Time to GL		[min]	
Flow				[gal/s]	Size ID		177.8	[mm]		Additiv	es			Additives			
Last Dur	np				Rating		21,000	[kPa]		I							
Comme	nts:																
I																	
I																	
1																	

ð									Date :	25/06/2013
À	INVES	<u> </u>	V	DAI	LY DRILLING REPO	ORT	N°	11	Well :	Hurricane#2 RE
	En	ergy Corț	D	Spud date :	17/06/2013		Well Licence #	EP 03-107	KIg :	Page 1/2
\ \	Weather @ 8:00	c	loudy	mKB	149.97		Daily MD	50	Daily Costs	\$36.400 est
	Wind Temperature	15	light Deg C	mGL 24h Avg ROP	145.7 145.7 3.3	Ex	Total MD spected MD	1426 1970	Cum Costs AFE	\$780,300 \$2,410,000
Su	mmary of Daily	Operations:	Drill and slide from	1376.3 m to 1426 m	nRF.					
We	orkers on site		Workers Injured	T	SAFETY SUM	MARY	Hrs	since last Medical 1	Freatment Case	264
IEC	2	IEC	0		incidents/ injunes		Hrs	since last Lost Time	Incident	264
Others	8	Others	0		None to report		CO2	Level 0	Pit Drill	
Total Rig Manar	21 ger Gre	Total g McKinnon	0 (905) 371 4614			Safe	Gas ty Meetings / Tool Box	Level 100 Talks	00 BOP Dri	1
Company	Man Vict	tor Leroux	(780) 678 5108	7:00 Loc	k outs when working on equipment	& electricity	<i>y</i> <u>o</u> .,			
Company	ivian Trav	vis roung	(709) 721 1994	19:00 Trij	pping operations pay attention to pre	event iniurv				
				TIME LO	G - 00:00 to 24:00 (include Saf	ety meetings a	nd Tool box talks)			
	FORMATIO	N/TOP : Snake	s Bight							
	S	HOWS : no sho	ows							
From [Hr] 0:00	10 [Hr] 6:45	Uepth [m] 1376	Uperation description Drill f/1355 m to 1376	30 mRF						
6:45	7:00	1376	Safety meeting: lock of	uts when working or	equipment & electricity					
7:00 7:30	7:30 8:15	1376 1384	Downtime: mud syster Drill from 1376.3 to 13	п worк on lubricator 84.2 mRF	rpump					
8:15	9:30	1384	Downtime- Mud system	m Work on valve sea	ls on mud pump					
12:00	15:00	1405	Drill f/1392.7 to 1405 r	nRF						
15:00 16:45	16:45 19:00	1411 1417	Slide f/1405 to 1411.3 Drill f/1411.32 to 1417	mRF mRF						
19:00	19:15	1417	Safety meeting							
19:15 21:30	21:30 21:45	1423 1423	Drill f/1417 to 1423 mF Rig Service	ξF.						
21:45	23:45	1426	Drill f/1423 to 1426 mF	RF						
23.45	0.00	1420	condition mad and cire	culate						
				TIME LOO	G - 24:00 to 6:00am (include Sa	fety meetings	and Tool box talks)			
From [Hr]	To [Hr]	Depth [m]	Operation description							
0.00	0.00	1438	5							
					RIG TIME (operation du	ration in hours	5)			
Drilling	21.2	5 Weld	Bowl	Cer	ment		Safety/BOP Beaming	0.5	Rig move	
rig Servic Tripping	.e 0.25	Loggir	ng	Nip	pple U/D		Slip and Cut		FIOW Check	
Survey	d. 0.25	Clean Handl	to Btm	Pre	ess. Test	75	Drill R & M hole Other		TOTAL	
Pick up Bł	HA 0.23	Run C	asing	Rig	Up		LOT/FIT		DOWNTIME	1.25
					24 HOURS FOR	ECAST	L			
Continue	drilling/sliding a	ahead with dir	ectional tools to core po	int. Pull out of hole	to pick up core bbls/ core					

	Date :	25/06/20	13	Well: H	urricane#2 R	E		Rig	:	Forag	gaz#3				Pag	e 2/2	
							DRILL	ING MUD									
Fluid typ	e	Polymer Bas	ie		1	Solids					7	[ka/m <sup>3</sup> 1	1	F	DDITIVES AD	DED	
Mud Co		Baroid				Sands		-			0.5	[%]	N	IAME .	Quantity	Concer	tration
Time Ch	eck	7:00				OWR						[%]	Celloci	70	4	concer Br	
Mud Ma	n					MRT					0		Daraca	ze sb	4	De	igs
inida inid		L. Anthony				cl.					45000	lkg/m <sup>-</sup> l	Dafaca	10		De	igs
Denether		1120				Calabum					43000	[111g/L]	Defoar	ner		Pa	ails
Density		1120		[kg/m	ำ -	Calcium					320	[mg/L]					
Viscosity		46		[s/I]				Volu	mes Balanc	e							
P.V.		14		[cp]		Vol hauled			1	3	[m	ʻ]					
Y.P.		5		[g/10]	0cm <sup>2</sup> 1	Vol dumped	ł		4	1	[m	3]					
Gels 10"	'10'	2				Circ loss			C	)	[m	<sup>3</sup> i			COMMENT	S	
Tempera	ture	-				Boiler loss			0	)	(m	'n					
Pressure		9913				Daily Mud	Cost			\$1.84	2.84	1					
nH		9.5				Cum Mud C	ort			\$20.8	12.84						
pri		5.5				cummud c	BOTTOM H	IOLE ASSEM	BLY	<i>Ş</i> 20,0.	12.04		-				
N° Com	ponent											ID [mm]	OD [mm]	Length [m]	Conr	ection	Weight
1 Bit													159	0.24	3.5	Reg P	
2 78-3	8 Choice Mud M	otor											121	7.49	3.5 Reg	BX3.5IF P	
3 UBH	0											61	120	0.87	3.5IF B	X 3.5IE P	
4 NIA4												60	120	5.49	2 CIE D	X 3 5IF P	
4 INIVI	SOL CANNER											69	117	J.40 1.16	3.5IF B	V 2 5IE D	
5 GAP												00	11/	1.10	5.5IF B	A J.JIF P	
6 NM	BATTERY CARRIEL	к										/0	126	3.96	3.5IF B	x 3.5IF P	
7 FLEX	NM											69	116	9.35	3.5IF B	X 3.5IF P	
8 JARS												54	121	6.56	3.5IF B	X 3.5IF P	
9 10 D	C'S											58	115	88.99	3.5IF B	X 3.5IF P	
10 24 H	WDP											64	127	222.14	3.5IF B	X 3.5IF P	
		HYDRAULI	cs					SURVEY							BOP STACK		
Pump		1		2	Time		m MD	m TVD	Azin	nuth	Inclination	Deviation	OP Item	Dia	m [mm]	W.P. [I	(Paj
Make&N	lodel	Dragon 660	Wilso	n 600	4:05		1373.13	1369.29	15	2.5	0.4	0.43	Stack		228.6	1050	10
Liner x S	ack	8 1/2" X 6	6 1/2	"X14 -	7:45		1382.56	1378.72	33	0.3	0.5	0.43	Diverte	er			
SPM		70		-	11:55		1392.01	1388.17	32	9.7	1.5	0.58	Annula	ır :	228.6	2100	10
Litre/Sk	100%	0.012	0.0	152 -	13:55		1401.41	1397.56	33	36	2.7	0.89	ם Blind		228.6	2100	10
Circ Bate		0.84		. 3/	16:25		1410 79	1406.92	337	7.05	2.6	1.36	Other		228.6	2100	0
Dump Ef	. —	90		Im <sup>*</sup> /min1	20:05		1410.78	1416.32	24	15	3.0	1.90	Stack		220.0	2100	
Pump Er		90	3	0 [/0]	20.05		1420.25	1410.57	54	1.5	3.2	1.00	Discott				
Pump Pr	ess	8500		[kPa]									Diverte	er			
Drillpipe	AV	8400		[mm]									£ Annula	ir'			
Drill Coll	ar AV	38.9		[mm]									Blind				
	Aud Cycle		70	[min]	1								Other				
. <u></u> 1	lottom Up	-	28	[min]											TESTS		
5	Aud Tank		33.78	[m <sup>3</sup> ]								7			Date	Pres [k	:Pa]
τÖ	lole Volume		23.75	[m <sup>3</sup> ]								l l	ast BOP	17/	06/2013	1125	0
	vstem Vol.		58.75	[m <sup>3</sup> ]								Ī	Next BOP				
	,	BITS		[]	<u>н</u>	STOC	к	•		1	•	CA	SING / CE	MENTING PRO	OGRAM		
Bit	2	2RR	N <sup>o</sup>	Name	In I	Used	Stock	_	Unit	Last Ca	sina	Surface	_	Last Casina			
Size	159	159	[mm]	Barite	288		288		sars	Date		07/12/200	5	Date			
Mfg	Hughes	Hughos		Baracarb	250	16	200		5365	Date		H-40		Date			-
T	nugries	nuglies	-	Baracard (AA)	230	10	254		Salls	grade		177.0		grade			-
Type	QD406FX	QD406FX	-	Baroseal (IVI)	80		80		Sacs	diam		1//.8	mmj	diam			[mm]
Serial	/0322/1	/0322/1	-	Soda Ash	10		10		sacs	Lin Wei	ight	25.3 [	kg/mj	Lin Weight			[kg/m]
Nozzle	4x12.7 2x8.7	4x12.7 2x8.7	[mm <sup>2</sup> ]	N-Vis Plus	27		27		sacs	Nb Join	t			Nb Joint			-
WOB	7	7	[daN]	Cellosize	122	31	91		sacs	Set at		323 [	m]	Set at			[m]
RPM	40/140	40/140	[tr/min]	Barathin	15		15		sacs	Length		323 [	m]	Length			[m]
Flow	-	97	[l/min]	Citric Acid	15	-	15		sacs	Burst		16000 [	kPa]	Burst	-	-	[kPa]
Pres	9500		[kPa]	Bicarb	30	10	20	1	sacs	Collaps	e	10000	kPa]	Collapse	-		[kPa]
From	940.54	1344.51	[m]	Fuel	28,372	12316	16056		liters	Tensile		54000 I	daN]	Tensile	-		[daN]
То	1344.51		[m]	Drill Water	21.8		21.8	1	[m <sup>3</sup> ]	. crisile	-	FST		· endine	Tre	т	
Drilled	403.97		[m]	Guncum	20		21.0		[111]	Data	-	17/06/24	112	Date	TES		
Hours	-03.37		[hre]	Gypsuii Darahari			20		Sans	Date		11/00/20	10-1	Date			(1-0-1
nours	60		[115]	Barabut	20	-	20		adus	Pressur	е	11250	кгај	Pressure			[кРа]
1			-	Defoamer	5/6 10	4	5/1	Sa	pails	Last Ce	ment	Plue	-	Last Cement			I
		CENTRIEUCO				-	ASING BOWL		2.3115	Date		16/12/2005	_	Date			_
		CENTRIFUGE				C	ASING BOWL			Class	_	A	_	Class			_
Make				M	ake		Weatherford			Density		1520 [kg/i	m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	
OF densi	ty		1	[kg/m <sup>3</sup> ] Se	rial		12110022005			Volume	;	50 [m <sup>3</sup> ]		Volume		[m <sup>3</sup> ]	
UF densi	ty		1	[kg/m <sup>3</sup> ] Si	e OD		228.6	[mm		Time to	GL	[min	1	Time to GL	-	[min]	
Flow	·		1	[gal/s] Si	te ID		177.8	(mm	1	Additiv	es	Carmo	<u> </u>	Additives		- · ····	
Last Dun			1	R:	ting		21.000	[kPa]		, aantiv							
Comm	te:		•	ite	0		£1,000	[ist d]									
Commer	ts:																
1																	
1																	
I																	
1																	

L

	INVES	STCAI	V	DAIL	Y DRILLING REP	ORT	N° 12	Date : 26/06/2013 Well : Hurricane#2 RE Rig : Foragaz#3
				Spud date :	17/06/2013	well Licer	1CE # EP 03-107	Page 1/2
v	Veather @ 8:00 Wind	C	loudy	mKB	149.97 145.7	Daily MD Total MD	58 1484	Daily Costs \$40,600 es Cum Costs \$831,500
	Temperature	15	Deg C	24h Avg ROP	2.3	Expected MD	1970	AFE \$2,410,000
Su	mmary of Daily C	Operations:	Drill and slide to 14	184m				
					SAFETY SUMI	MARY		
Wc IEC	orkers on site 2	IFC	Norkers Injured		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Time	Treatment Case 288
Rig	11	Rig	0		None to report		H <sub>2</sub> S Level (	D Trip Drill
Otners Total	21	Total	0				Gas Level 100	000 BOP Drill
Rig Manag	ger Grej	g McKinnon	(905) 371 4614	7.00 005	A sector content with the also the second	Safety Meetings / 1	Fool Box Talks	
Company	Man Trav	vis Young	(709) 721 1994	7:00 PPE, :	point contact with handrails and	steps when using stairs. No run	ning on location	
_				22:45 High	oltage line on mud tank			
	EOPMATIO		- Diska	TIME LOG	- 00:00 to 24:00 (include Saf	ety meetings and Tool box t	taiks)	
	LITHO	DLOGY : Limes	s вight. tone, with interbeds san	dstone.				
From [Hr]	To [Hr]	HOWS : No sh Depth [m]	ows. Operation description					
0:00	0:15	1426	Flow check Function a	nnular 11 sec to close				
0:15 0:45	0:45 6:00	1428 1438	Rotate 2 meters 1426 t Drill 1428 to 1438m (SI	to 1428m liding)				
6:00	6:30	1438	Downtime - Mud Pum	p				
6:30 9:00	9:00 9:15	1442 1442	Drill 1438 to 1442m (SI Rig Service: Function n	liding). Safety Meeting ine ram 4 sec. to close				
9:15	9:45	1442	Downtime - Mud Pump	p				
9:45 12:00	12:00 19:00	1452 1471	Drill 1442 to 1451.6m ( Drill 1451.6 to 1471.3n	(Rotating)				
19:00	22:45	1481	Drill 1471.3 -1481m					
22:45 23:00	23:00 0:00	1481 1484	Safety meeting and rig Drill f/ 1481 -1484m F	service. unction test Annular of	sec to close.			
				TIME LOG	- 24:00 to 6:00am (include Sa	fety meetings and Tool box	talks)	
From [Hr]	To [Hr]	Depth [m]	Operation description	Transford 1				
0:00 4:45	4:45 5:00	1490 1490	Condition Mud & Circu	i est GAS Logger all of ilate				
5:00	5:15	1490	Flow Check 1484					
5:15	6:00	1497	Drm 1/ 1489.5 - 1496./					
					RIG TIME (operation du	ration in hours)		
Drilling Rig Service	e 0.25	5 Weld	Bowl	Ceme	nt	Safety/BOP Reaming	0.5	Rig move Flow check
Tripping		Loggir	ng	Nippl	e U/D	Slip and Cut		
Survey Circ./Conr	d	Clean Handl	to Btm e Tools	Press Renai	. Test	Drill R & M h Other	ole	TOTAL 24
Pick up Bł	HA	Run C	asing	Rig U	0	LOT/FIT		DOWNTIME 1
					24 HOURS FOR	ECAST		
					24110083 FOR	20101		
Continue	drilling/sliding a	head with dir	ectional tools to core po	oint. Pull out of hole to	pick up core bbls/ core			

D	ate :	26/06/20	13	Well :	Hurricane#2 R	.E		Rig	:	Forag	;az#3				Pa	ige 2/2	
							DRILL	ING MUD									
Fluid type	-	Polymer Bas	se			Solids					7	[kg/m <sup>3</sup>			ADDITIVES	ADDED	
Mud Co		Baroid			ş	Sands	-			·	0.5	[%]	N	AME	Quantity	Concer	ntration
Time Chec	ck	7:00			c	JWR						[%]	Cellosiz	ze	T	B;	ags
Mud Man		L. Anthony	/		٩	MBT					0	[ke/m <sup>3</sup>	Baraca	rb		Ba	ags
·					C	čl-					45000	[mg/L]	Defoan	ner		Pa	ails
Density		1130		[kg/	(m <sup>3</sup> ]	Calcium		Valu	···· as Balans	-	360	[mg/L]	_				
Viscosity		47		[5/1]	: k	Valhaulad		Voiu	imes Balanc	e		1	_				
P.v.		5		[LP]	2.	Vol dumne	a	_		3	[m	n"] 3.					1
1.r. Gols 10"/1	10'	2		lg/1	.00cm*1	Circ loss	'	-			[m	∩"] 31			COMME	MTS	
Temperat	10	£			ĩ	Poiler loss					0 [11	31			COMINE	113	
Dressure	ule	9913			i,	Doily Mud	Cost			\$995	00 [11	a j					
nH		9.5			le l	Cum Mud (	ost			\$21,80	17 84						
p.,							воттом н	OLE ASSEM	IBLY	** /							
N° Comp	onent											ID [mm]	OD [mm]	Length	[m] Co	nnection	Weight
1 Bit													159	0.24	3	.5 Reg P	
2 78-3.8	3 Choice Mud I	Votor											121	7.49	3.5 Re	eg BX3.5IF P	
3 UBHO	)											61	120	0.87	3.5IF	B X 3.5IF P	
4 NM T0	OOL CARRIER											69	120	5.48	3.5IF	B X 3.5IF P	
5 GAP S	iUB											68	117	1.16	3.5IF	B X 3.5IF P	
6 NM B	ATTERY CARKI	ER										70	126	3.96	3.511	B X 3.5IF P	
7 FLEX	NM											69	116	9.35	3.5IF	B X 3.5IF P	'
8 JARS												54	121	6.56	3.5IF	B X 3.5IF P	'
9 10 DC	.'S											58	115	88.99	3.511	B X 3.5IF P	'
10 24 mv	VDP											64	127	222.14	4 3.5IF	B X 3.5⊪ P	
													1				
													, I				
		HYDRAULI	ics					SURVEY							BOP STAC	ск	<u> </u>
Pump		1			Time	<u> </u>	m MD	m TVD	Azin	nuth	Inclination	n Deviation	OP Item		Diam [mm]	W.P. [F	kPaj
Make&Mo	odel	Dragon 660	Wilso	n 600	0:00		1410	1406	33	7.5	3.6	1.36	Stack		228.6	1050	00
Liner x Sta	ack	8 1/2" X 6	6 1/2'	'X 14 -	3:30		1420	1416	34	1.5	3.2	1.88	<u></u> ⊡ Diverte	ar			
SPM	_	70		-	9:45		1429	1426	34	5.1	2.2	2.32	i≣ Annula	ır	228.6	2100	30
Litre/Sk 10	00%	0.012	0.01	152 -	1:25		1439	1435	0.	.6	1.7	2.64	ے Blind		228.6	2100	J0
Circ Rate	_	0.84		[m³/mi	n] 11:05		1448.81	1444.91	4.	.8	2	2.94	Other		228.6	2100	J0
Pump Eff	_	90	9	.0 [%]	14:15		1458.3	1454.39	35	5.7	2.8	2.79	Stack				
Pump Pres	ss	8500		[kPa]	17:15		1467.84	1463.92	34	3.5	3.4	2.79	biverte	er.			
Drillpipe A	٩V	8400		[mm]									Annula	ır			
Drill Collar	r AV	38.9	<u> </u>	[mm]			, i						Blind				
M	ud Cycle		70	[min]			,						Other				
별 명이	ottom Up		28	[min]			, i						L		TESTS		
M GL	ud Tank		33.78	[m³]			,								Date	Pres [k	kPa]
Оно	ole Volume		23.75	[m <sup>3</sup> ]			,						Last BOP		17/06/2013	1125	0ز
зу	stem voi.		58.75										Next BUP				
Rit	2	2RR		Name		lised	K Stock		Unit	Last Car	-1	Surface	SING / CE	MENTING	PROGRAM		
Size	159	159	[mm]	Barite	288	0.02	288		sacs	Date	illiy	07/12/20	05	Date			
Mfg	Hughes	Hughes	1	Baracarb	250	16	234		sacs	grade		H-40	-	grade	-	•	
Туре	QD406FX	QD406FX	-, P	Baroseal (M)	80		80		sacs	diam	-	177.8	[mm]	diam	-	-	[mm]
Serial	7032271	7032271	°. I	Soda Ash	10		10		sacs	Lin Weig	eht	25.3	[kg/m]	Lin Weigh	1t		[kg/m]
Nozzle	4x12.7 2x8.7	4x12.7 2x8.7	[mm <sup>2</sup> ]	N-Vis Plus	27		27		sacs	Nb Joint	t		-	Nb Joint	-		
WOB	7	7	[daN]	Cellosize	122	31	91		sacs	Set at	· –	323	[m]	Set at	-		[m]
RPM	40/140	40/140	[tr/min]	Barathin	15		15		sacs	Length		323	[m]	Length			[m]
Flow		97	[l/min]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres	9500	9200	[kPa]	Bicarb	30	10	20		sacs	Collapse	2	10000	[kPa]	Collapse			[kPa]
From	940.54	1344.51	[m]	Fuel	28,372	14226	14146		liters	Tensile		54000	[daN]	Tensile			[daN]
То	1344.51		[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]	<u> </u>		TEST	_			EST	
Drilled	403.97		[m]	Gypsum	20		20		sacs	Date	_	17/06/2	.013	Date			_
Hours	65	46.5	[hrs]	Barabuf	20		20		sacs	Pressure	e	11250	[kPa]	Pressure			[kPa]
			- '	Sodium	576	5	571	Sa	acs nails	ast Cer	ment	Plug		last Cem	t		
		CENTRIFUG	F	Deloaniei		C	ASING BOWL		pans	Date	<i>nem</i>	16/12/2005	_	Date			_
11240			Trache d		Make		Waatherford			Class		A		Class		flue / <sup>3</sup> 1	
OF density	_		United	—	Viake		12110022005			Density	_	kg	/m³]	Density		[Kg/m]	
IE density	. –		──	[kg/m1]	Size OD		228.6	ĺmm	.1	Volume Time to	<u> </u>	U	4	Voiume		[m]	
Ur density	/ _		<u> </u>	[kg/m³]	Size UD		177.9	[[]]	d a	Time to	GL	Įmi	nj	Time to G	L	[min]	
Last Dumr					Dating		21 000	[kPa]	1	Additive	25			Additives			
Comment	2		<u> </u>	<b>!</b>	Adung		21,000	[N: 4]									
RC	<ol> <li>OP decreasing</li> </ol>	to 1.88-2.05 m/ł	ar,														
Ce	entrifuge arrive	onsite need bo	om truck to s	et up. Sparks wi <sup>j</sup>	l arrive onsite June	e 27 2013 ir	n the a.m										

	INVES Ene	TCA ergy Cor	N p	DAIL	Y DRILLING REPO	RT	N° 13	Date : 27/06/2013 Well : Hurricane#2 RE Rig : Foragaz#3
				Spud date :	17/06/2013	well Licen	Ce # EP 03-107	Page 1/2
v	Weather @ 8:00 Wind Temperature	15	lloudy light 5 Deg C	mKB mGL 24h Avg ROP	149.97 145.7 2.1	Daily MD Total MD Expected MD	20 1510 1970	Daily Costs         \$40,200         et           Cum Costs         \$875,900            AFE         \$2,410,000
Su	mmary of Daily C	Operations:	Drill ahead to 1510	m. POOH, pick up nev	v PDC bit, mud motor and RIH with ga	mma tool.		
					SAFETY SUMM	ARY		
Wo	orkers on site		Workers Injured	ļ	Incidents / Injuries		Hrs since last Medical	Treatment Case 312
IEC Rig Others Total	4 11 7 21	IEC Rig Others Total			None to report		Hrs since last Lost Time H <sub>2</sub> S Level 0 CO <sub>2</sub> Level 0 Gas Level 5	e Incident 312 D Trip Drill D Pit Drill 0 BOP Drill
Rig Manag Company	ger Greg Man Victo	g McKinnon	(905) 371 4614 (780) 678 5108	7:00 Eall I	protection/Safety harness	Safety Meetings / To	ool Box Talks	
Company	Man Trav	is Young	(709) 721 1994					
				0:15 Wor	king around moving objects 5 - 00:00 to 24:00 (include Safet	v meetings and Tool box ta	alks)	
	FORMATION	I/TOP : Snake	es Bight			,		
	LITHO	LOGY : Intert	beds of sandstone and sil	tstone.	a faint sacidual white such			
From [Hr]	To [Hr]	Depth [m]	Operation description	ect nuorescence, with	h a raint résidual white cut.			
0:00	4:45	1490	Drill f/ 1484-1489.5m.	Test gas logger: all ok				
4:45 5:00	5:00	1490 1498	Drill f/ 1489.75m to 14	98.17m				
7:00	10:30	1507	Drill f/ 1498.17 to 1506	i.64m ine ram 4 sec. to close	Pig in power to centrifuge			
10:45	12:00	1510	Drill f/ 1506.64 to 1509	).5m	. Ng in power to tentinuge.			
12:00 13:00	13:00 17:30	1510 1510	Down time: check elect Trip out of hole. Flow of	tronics on pump engi heck @ 1509m.752m	ne with electrician .114.5m. Out of Hole			
17:30	17:45	1510	Rig service. Function bl	lind ram 4 sec. to clos	e			
17:45 19:00	19:00 19:45	1510 1510	Pick up third party tool Trip in hole with direct	Is. Handle Choice dire ional assembly & garr	ctional tools Ima tool. Flow check @132m			
19:45	20:30	1510	Slip & cut drilling line.					
20:30	0:00	1510	I rip in noie Flow check	:@742m				
				7945100				
From High	Tolla	Dooth Insi	Operation description	TIME LOG	- 24:00 to 6:00am (include Safe	ty meetings and Tool box	talks)	
0:00	0:15	1509.5	Safety meeting					
0:15	4:00	1509.5	Mud pump down foam	n into mud + shear pin	detected sheared in POP Valve after	all system was checked.		
4:00	6:00	1517.5	Drill 1/ 1509.5 - 1517.5	m				
			<u> </u>		RIG TIME (operation dura	ition in hours)		
Drilling	9.5	Weld	Bowl	Cem	ent	Safety/BOP	0.5	Rig move
Rig Service	e 0.75	DST		WOO		Reaming Slip and Cut	0.75	Flow check 1
Survey	9.75	Clean	to Btm	Pres	s. Test	Drill R & M ho	le 0.75	·
Circ./Conc Pick up BH	d. 0.25 HA	Hand Run C	le Tools Casing	1.25 Repa	air 1	Other LOT/FIT		TOTAL 24 DOWNTIME 1
		_						
					24 HOURS FORE	CAST		
Continue	drilling/sliding a	head with di	rectional tools to core po	int. Pull out of hole t	o pick up core bbls/ core			

0	)ate :	27/06/20	13	Well :	Hurricane#2 R	E		Rig	:	Forag	az#3				Pa	ge 2/2	
							DRILL	ING MUD		_							
Fluid type		polymer bas	e			Solids					7	[kg/m3]			ADDITIVES A	DDED	
Mud Co		Baroid				Sands					0.5	[%]		JAME	Quantity	Conce	ntration
Time Che	ck	7:00				OWR						[%]	Celloci	70	Quantity	Concer	200
Mud Mar		7.00				MRT					0		Cellosi	ze		в	ags
IVIGG IVIGI		L Anthony	1			CL					44000	_ [kg/m <sup>-1</sup> ]	Baraca	irb		в	ags
Develo		1120				Calabum					44000	- [IIIg/L]	Defoar	ner	2	P	ails
Viscositu		1120		[kg	/m1	Calcium		Velu	mas Balans		400	[IIIg/L]					
viscosity		4/		[5/1	4			voiu	nes Balanc	e		3					
P.V.		15		lcb	1	vol hauled					[m	1]					
Y.P.		5		[g/	100cm <sup>2</sup> ]	Vol dumped	Ł	_			[m	1 <sup>3</sup> ]					
Gels 10"/	10'	2				Circ loss			0		[m	1 <sup>3</sup> ]			COMMEN	ITS	
Temperat	ure					Boiler loss			0	)	[n	1 <sup>3</sup> ]	Cum	n mud costs in	nclude Mud eng	neer day rate. (	\$995/day)
Pressure		11900				Daily Mud (	Cost			\$1,60	8.10						
рН		9				Cum Mud C	ost			\$23,41	.6.00						
							BOTTOM H	OLE ASSEMI	BLY								
N° Comp	onent											ID [mm]	OD [mm]	Length [n	n] Cor	nection	Weight
1 Bit													159	0.24	3.	i Reg P	
2 78-3.	8 Choice Mud M	lotor											121	9.14	3.5 Re	g BX3.5IF P	
3 UBHC	2											61	120	0.89	3.5IF	3 X 3.5IF P	1
4 NM T	OOL CARRIER											69	120	5.48	3.5IF	3 X 3.5IF P	
5 GAPS	SUB											68	117	1.16	3.5IF	3 X 3.5IF P	
6 NM B	ATTERY CARRIE	R										70	126	3.96	3.5IF	3 X 3.5IF P	1
7 FLFX	NIM .	N .										69	116	9.35	3.5IF	2 V 3 5IF P	
0 IADS	INIVI											54	121	5.55	2 515	5 X 3.5II F	
8 JANG	-10											50	115	99.00	2 515	3 X 5.5IF F	<u> </u>
9 10 00												50	110	50.3J	3.31	3 X 3.5Ir r	
10 24 m	VDP											64	127	222.14	3.511	3 X 3.51F P	
												1 1					
												1 1					
		HYDRAULI	cs					SURVEY							BOP STAC	(	
Pump		1		,	Time	_	m MD	m TVD	Azim	nuth	Inclination	Deviation	OP Item		Diam (mm)	W.P. I	kPal
Make&M	odel	Dragon 660	Wilso	n 600	17:15		1467.94	1463.92	34	25	2.4	2.79	Stack		228.6	1050	00
Linor v Ct		0 1/2" V 6	6 1/2	11000	0.45		1467.84	1/02/02	24	5.5	3.4	2.75	Divorte	~ ×	220.0	2004	10
COM	JCK	81/2 AU		X 14 -	5.45		1486.8	1402.05	24	5.7	4.9	1.33	L Annula	er	228.6	210	
SPIVI		/0	0.0		5:45		1496.91	1492.9	24	7.8	5.3	1.51	E Annua	ar	228.0	210	00
Litre/SK 1	00%	0.012	U.u.	152 -	1								Bino		228.6	210	J0
Circ Rate		0.84		[m <sup>3</sup> /mi	in1								Other		228.6	210	00
Pump Err		90	9	0 [%]	1								Stack				
Pump Pre	:SS	8500		[kPa]									Diverte	er			
Drillpipe /	AV	8400		[mm]	1								∯ Annula	ar			
Drill Colla	r AV	38.9	-	[mm]								1 1	Blind				
N	lud Cycle		70	[min]									Other				
te: B	ottom Up	_	28	[min]											TESTS		
3 N	lud Tank		33.78	[m <sup>3</sup> ]											Date	Pres [	kPa]
÷Бн	ole Volume		23.75	[m <sup>3</sup> ]									Last BOP	1	7/06/2013	112	50
S	ystem Vol.		58.75	[m <sup>3</sup> ]									Next BOP				
	r	BITS				STOC	ж	-			-	c	ASING / CE	MENTING P	ROGRAM		
Bit	2	3	N°	Name	In	Used	Stock		Unit	Last Ca	sing	Surface		Last Casing	7		
Size	159	159	[mm]	Barite	288		288		sacs	Date		07/12/20	05	Date			
Mfg	Hughes	Hughes		Baracarb	250	16	234		sacs	grade		H-40	-	grade			-
Type	QD406FX	QD406FX		Baroseal (M)	80		80		sacs	diam		177.8	[mm]	diam			[mm]
Serial	7032271	7029738		Soda Ash	10		10		sacs	Lin Wei	aht	25.3	[kg/m]	Lin Weight	-		[kg/m]
Nozzle	4x12.7.2x8.7	4x12.7 2x8.7	- 21	N-Vis Plus	27		27		sacs	Nh loint			-	Nh loint	-		
WOR	7	7	[mm <sup>-</sup> ]	Cellosize	122	24	01		5005	Cost at	· _	272	[m]				- [m]
DDAA	40/140	40/140	[tr/min]	Barathin	15	51	15		5005	Secal		323	[m]	Secal			- [m]
EL	40/140	40/140	-[1/min]	Ddi duilli	13		15		SdLS	Length	_	323	[11]	Length	-		- [11]
FIOW	0500	97	[i/min]	Citric Acid	15	10	15		sacs	Burst		10000	[KPa]	Burst			[KPa]
Pres	9500	9200	[кра]	Bicarb	30	10	20		sacs	Collaps	e	10000	[кРа]	Collapse			[крај
From	940.54	1509.5	[m]	Fuel	28,372	15952	1242U		liters	Tensile		54000	[daN]	Tensile			[daN]
То	1509.5		[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]			TEST			TI	ST	
Drilled	586.96		[m]	Gypsum	20		20		sacs	Date	_	17/06/2	013	Date			_
Hours	122.5	2	[hrs]	Barabuf	20		20		sacs	Pressur	e	11250	[kPa]	Pressure			[kPa]
			-	Sodium	576	5	571		Sacs								-
			-	Defoamer	10	6	4		pails	Last Ce	ment	Plug	_	Last Cemer	nt		
		CENTRIFUGE				C	ASING BOWL			Date	_	16/12/2005		Date			
										Class		A		Class			
Make	_		United		Make		Weatherford			Density	_	1520 [kg	/m³]	Density		[kg/m <sup>3</sup> ]	
OF densit	¥			[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	_	50 [m <sup>3</sup>	]	Volume		[m³]	
UF densit	У			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	n]	Time to GL		[min]	
Flow			I	[gal/s]	Size ID		177.8	[mm]		Additive	25			Additives			
Last Dum	p				Rating		21,000	[kPa]									
Comment	is:																
Occupatio	onal Health & Sa	fety were on lo	cation for an	inspection on th	he 27/06.												
Mud pum	p down checker	d all system for	possible leak	s and washouts	, shear pin detecte	d sheared in	n Mud Pump Po	p Valve on fi	nal check.								

	INVES Ene	<b>TCA</b>	<b>V</b>		Y DRILLING REP		N°	14	Date : Well : Rig :	28/06/2013 Hurricane#2 RE Foragaz#3
				Spuu uate .	17/06/2013	Well Lic	ence # EF	03-107		Page 1/2
v	Veather @ 8:00 Wind Temperature		rain light 12	mKB mGL 24h Avg ROP	149.97 145.7 3.5	Daily MD Total MD Expected MD	63.5 1573 1970	3 )	Daily Costs Cum Costs AFE	\$38,600 est. \$914,500.00 \$2,410,000
Sui	mmary of Daily C	perations:	Drill and slide from	1509.5 to 1573m. Tro	uble shot mud pump and fix leak.	-				
					·····					
					SAFETY SUM	MARY				
Wo	rkers on site	IEC	Workers Injured		Incidents / Injuries		Hrs since la	st Medical Tr	reatment Case	312
Rig Others Total	11 7 21	Rig Others Total	0		None to report		H <sub>2</sub> S Level CO <sub>2</sub> Level Gas Level	0	Trip Drill Pit Drill BOP Drill	
Rig Manag	ger Greg	McKinnon	(905) 371 4614	7:00 Worl	ing around moving aquipment (ou	Safety Meetings	/ Tool Box Talks			
Company	Man Trav	is Young	(709) 721 1994	7:00 Work	ing around moving equipment/pu	mp lockouts				
				19:30 Stabl	- 00:00 to 24:00 (include Saf	ety meetings and Tool bo	x talks)			
	FORMATION	/TOP: Snake	es Bight (?)			,	,			
	LITHO	LOGY : Congl IOWS : No sh	omerate							
From [Hr]	To [Hr]	Depth [m]	Operation description							
0:15 4:00 7:30 8:00 8:40 15:45 19:30 19:45 19:30 19:45	4:00 7:30 8:05 9:00 12:0	1510 1527 1527 1531 1543 1558 1567 1567 1567 1573 Depth [m] 1586	Mud pump down foam Drill /f J059 to 1517. Circulate up sample Drill /f J056 to 1530 Rig service: function H Drill /f J050 3 to 1542 Drill /f J150 3 to 1542 Drill /f J157.38 to 1567 Rig service/Safety mee Drill /f J157.33 to 1573	Into mud + shear pin 5m 73m 77m 778 73m 73m 73m 73m 73m 73m 73m 73m 73m 73m	detected sheared in POP Valve aff ills & stabbing valve - 24:00 to 6:00am (include Sa	ifety meetings and Tool b	ox talks)			
Drilling Rig Service Tripping Survey Circ./Conc Pick up BH	e 18 0.5 	Weld DST Loggi Clean Hand Run C	Bowl ng to Btm le Tools asing	Cem WCC Press Repa Rig U	RIG TIME (operation dues the second s	Aration in hours) Safety/BO Reaming Silp and C. Drill R & M Other LOT/FiT	P It hole	0.25	Rig move DIR Work TOTAL DOWNTIME	 
					24 HOURS FOR	RECAST				
Continue	drilling/sliding a	head with di	rectional tools to core po	int. Pull out of hole to	pick up core bbls/ core					

	Date :	28/06/20	)13	Well :	Hurricane#2 R	E		Rig	:	Forag	gaz#3				Ра	ge 2/2	
							DRILL	ING MUD									
Fluid typ	P	Polymer Ba	se			Solids					5	[ka/m <sup>3</sup>			ADDITIVES /	ADDED	
Mud Co	2	Baroid				Sands	-				0.5	[%]	I N	AME	Quantity	Concer	otration
Time Che	≥ck	7:00				OWR	-					[%]	Cellosi	PAIVIL 10	Quantity	Bi	200
Mud Ma	n				ŀ	MBT	-				0	- [ka/m <sup>3</sup>	Baraca	ze arh	2	Br	3g5 205
		L. Anthony	y .			CI-	-				454000	[Kg/h] [mg/L]	Defoar	mer	2	Pr	aile
Density		1095		[kg/	<sup>3</sup> 1	Calcium	-				440	[mg/L]	001000	liei	-		1115
Viscosity		47		[s/i]	01			Volu	mes Balanc	ce							
P.V.		15		[cp]	Ī	Vol hauled					[r	n <sup>3</sup> ]					
Y.P.		4.5		[e/1	00cm <sup>2</sup> ]	Vol dumper	4				 [r	n <sup>3</sup> 1					
Gels 10"/	10'	2		hes =-	Joen, j	Circ loss			C	ċ	[n	n <sup>3</sup> ]		-	COMME	NTS	-
Tempera	ture			·	r	Boiler loss					0 [n	n <sup>3</sup> 1		-			
Pressure		11900		·	r	Daily Mud	Cost			\$1,6	94						
pН		9				Cum Mud C	ost			\$25,1	110						
							воттом н	OLE ASSEME	ILY								
N° Com	ponent									_		ID [mm]	OD [mm]	Length (r	m] Coi	nnection	Weight
2 78-3	Choice Mud N	Actor											122	9.14	3.5.84	~ DV2 SIE P	I
2 70°5	.8 LIIUILE IVIUL IV	lotoi										61	121	0.89	3.5	B PV2'DILL	<b> </b>
3 051												60	120	5.49	2.510	B X 3.3IF F	
4 INIVI E GΔP	CLID											68	120	3.40	3.5IF	B X 3.5IF P	
6 NM	DATTERY CARRI	CD										70	126	3.96	3.5IF	D V 3 5IF P	
7 FLFX	NM	- 1										69	116	9.35	3.5IF	D V 3 5IF P	
9 IARS	INIVI											54	121	6.56	3.5IF	B X 3 5 F P	
a 10 D	ris											58	115	88.99	3.5IF	R X 3.5IF P	
10 24 H	WDP											64	127	222.14	3.5IE	R X 3.5IF P	
10	WDr											64	12.	4 <b>44</b> -4-4		DA 3.3% .	
													1				
										_							
		HYDRAULI	ICS		T			SURVEY							BOP STAC	к	
Pump		1			Time	1	m MD	m TVD	Azin	nuth	Inclination	n Deviation	OP Item		Diam [mm]	W.P. [#	kPaj
Make&N	lodel	Dragon 660	Wilso	n 600	4:45		1497	1493	34	7.9	5.4	1.31	Stack		228.6	1050	00
Liner x St	ack	8 1/2" X 6	6 1/2	"X 14 -	7:00		1507	1502.3	34	6.2	5.8	1.66	∞ Divert∉	er			
SPM		70		<u> </u>	9:35		1534	1548	49	9.4	2.7	1.85	- Annula	ar	228.6	2100	00
Litre/Sk :	100%	0.012	0.0	152 -	12:05		1543.58	1539.44	82	2.5	3.8	6.81	Blind	-	228.6	2100	00
Circ Rate		0.84		[m <sup>3</sup> /mir	.1 14:15		1553.17	1549.01	10	19.5	4.1	5.84	Other		228.6	2100	00
Pump Eff	i —	90	- 9	0 [%]	'							1 1	Stack				
Pump Pr	ess	8500		[kPa]								1 1	Diverte	er			
Drillpipe	AV	8400		[mm]								1 1	Annula	ar			
Drill Colla	ar AV	38.9		[mm]								1 1	O Blind				
N	Aud Cycle	,	70	[min]								1 1	Other				
. <u></u>	lottom Up		28	[min]								1 1			TESTS		
5 🛛	Лud Tank		33.78	[m <sup>3</sup> ]								1 1			Date	Pres [k	«Pa]
σŀ	Iole Volume		23.75	[m <sup>3</sup> ]								1 1	Last BOP	1	17/06/2013	1125	50
S	ystem Vol.		58.75	[m <sup>3</sup> ]									Next BOP				
		BITS				STOC	к					c	ASING / CE	MENTING	PROGRAM		
Bit	2	3	N° ,	Name	In	Used	Stock		Unit	Last Ca	sing	Surface		Last Casin	g		
Size	159	159	[mm]	Barite	288		288		sacs	Date	_	07/12/20	05	Date			
Mig	Hughes	Hughes	_	Baracarb	250	18	232		sacs	grade		H-40	÷.,	grade			÷.,
Type	QD406Fx	QD406FX		Baroseal (M)	80		80		sacs	diam		1//.8	[mm]	diam			[mm]
Serial	/0322/1	/029/38	÷ .	Soda Ash	10		10		sacs	Lin Wei	ght	25.3	[kg/m]	Lin Weignt	۱ <u> </u>		[kg/m]
Nozzie	4x12./ 2xo./	4x12./ 2xo./	_[mm <sup>4</sup> ]	N-VIS Plus	122		2/		Sacs	Nb Joint	۱ <u>–</u>	222	-	Nb Joint			- 1
WUB CDA4	/	/	_ [0aiN]	Cellosize	122	31	91		Sacs	Set at	-	323	[m]	Set at		-	[m] - [m]
RPIVI	40/140	40/140	- [tr/min]	Baratnin	15		15		Sacs	Lengtn	-	323	[m]	Length		-	[m]
Proc	9500	9200	- [l/1001]	Litric Aciu Disarb	13	10	20		Saus	Burst	-	10000	[KPa]	Burst		-	[Kraj [Lpa]
From	9300	1509.5	- [Krd] - [m]	Blcaru	26 156	15952	12420		Saus	Collapse	e	24000	[krd] [doM]	Collapse			[krd] [doM]
To	1509.5	1505.5	- [m]	Puer Desill Mator	21.8	13332	21.8		r-a <sup>3</sup> 1	Tenstie		34000	[Uaivj	Tensile			[Uaivj
Drilled	586.96		- [m]	Drili water	21.0		20		[m]	Date		17/06/	1012	Date		251	
Hours	122.5	20	[hrs]	Barabuf	20		20		saus	Dressur		11250	[UI5 [LPa]	Dressure			[LPa]
			- []	Sodium	576	5	571		Sacs	Picasa.	e	112.50	[KF aj	Plessure			[Kr aj
			-	Defoamer	10	8	2		pails	Last Cer	ment	Plug		Last Ceme	nt		
		CENTRIFUG	E			C	ASING BOWL			Date	_	16/12/2005	,	Date			_
Make		United	T	i	Make		Weatherford			Density	. –	1520 fkg	·	Density		[ka/m <sup>3</sup> ]	
OF densi	tv	1075	+		Sorial		12110022005			Volume	. –	50 [m]	/m`i	Volume		[NB/111 ]	
UE densi	tv	1075	-	[kg/m <sup>-</sup> ]	Size OD		228.6	[mm]		Time to		[mi	J	Time to GI		[111 ]	
Flow	.y	1/30		[kg/m <sup>-1</sup> ]	Size ID		177.8	[mm]		Time to	- GL	Įuu	.nj	1 ime to Gu	·	[min]	
Last Dur		/50	+		Rating		21.000	[kPa]		Additive	25			Additives			
Commer	ip ster		-	<u> </u>	dling			رت س									
Drilling is	slow due to dri	lling conglomera	ate formation														

		STCAI	<b>V</b>	DAILY	DRILLING REPO		N° 15	Date : 29/06/2013 Well : Hurricane#2 RE Rig : Foragaz#3 Page 1/2	
								1050 1/2	
v	Veather @ 8:00 Wind Temperature		rain light 12	mKB mGL 24h Avg ROP	149.97 145.7 1.9	Daily MD Total MD Expected MD	-1586 1604 1970	Daily Costs         \$50,300           Cum Costs         \$974,700           AFE         \$2,410,000	est.
Sui	mmary of Daily (	Operations:	Trip out of hole to	change bit. RIH with inser	t bit and continue drilling ahead	to 1604m.			
					SAFETY SUMN	IARY	-		
Wo IEC	orkers on site 4	IEC	Workers Injured 0		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Time	ireatment Case 360 a Incident 360	
Rig Others	11 7	Rig Others	0		None to report		H <sub>2</sub> S Level C CO <sub>2</sub> Level C	Trip Drill Pit Drill	
Total Rig Manae	21 zer Grei	Total McKinnon	0 (905) 371 4614			Safety Meetings / T	Gas Level 25p pol Box Talks	pm BOP Drill	
Company	Man Victo Man Tray	or Leroux	(780) 678 5108	7:00 Working	in the rain, Watch footing/Slipp	ery surfaces			
company		is roung	(/03//111354	19:00 Keep a l	ook out for falling obiects from d	errick when tripping			
	FORMAT		- Di-h+ (2)	TIME LOG -	00:00 to 24:00 (include Safe	ety meetings and Tool box t	alks)		
	LITHO	LOGY: Congl	es Bight (?) omerate						
From [Hr]	S To [Hr]	HOWS: No sh Depth [m]	ows Operation description						
0:00 7:00	7:00 7:15	1586	Drill from 1573.62 to 1 Safety Meeting	596m					
7:15	10:45	1596	Drill from 1586 to 159	6m anular 11 sec to class					
11:00	12:00	1597	Drill from 1596 to 1597	7.2m					
12:00	12:30	1598	Trip out of hole Flow C	97.6m heck @1590m, 772m, 18	8m, Out of hole. Rig function blin	d ram. 4 sec. to close			
16:00 19:15	19:15 19:30	1598	Trip in hole with bit #4 Flow check before circ	(547) and same mud mo ulation	tor.				
19:30 20:00	20:00 0:00	1604	Condition mud and cire Drill from 1597 to 1604	culate. Safety meeting Im					
				TIME LOG - 2	24:00 to 6:00am (include Saf	ety meetings and Tool box	talks)		
From [Hr]	To [Hr]	Depth [m]	Operation description	m					
0.00	8.00	1015	Dim nom 1604 to 161	5111					
	· · · · · ·				RIG TIME (operation du	ration in hours)			
Drilling	16.25	Weld	Bowl	Cement		Safety/BOP	0.25	Rig move	
кıg Service Tripping	e 0.25	Loggi	ng	WOC Nipple U	I/D	Reaming Slip and Cut		ни спеск 0.75	5
Survey Circ./Cond	1. 0.5	Clean Hand	to Btm le Tools	Press. To Repair	est	Drill R & M ho Other	le	TOTAL 24	
Pick up BH	A	Run C	Casing	Rig Up		LOT/FIT		DOWNTIME	
					24 HOURS FOR	ECAST			
Continue	drilling/sliding a	head with di	rectional tools to core po	int. Pull out of hole to pi	ck up core bbls.				

D	ate :	29/06/20	13	Well :	Hurricane#2	RE		Rig	:	Forag	gaz#3				Pag	je 2/2	
							DRILL	ING MUD									
Fluid type		Polymer Ba	se			Solids					5	11			ADDITIVES A	DDFD	
Mud Co		Baroid				Sands					0.5	[Kg/m*	·	IANAE	Quantity	Concor	atration
Time Cher	ch	7:00				OWR					0.3	[%]	Caller	ANIE	Quantity	COncer	tration
Mud Man		7.00				MADT					7	[/0]	Cellosia	ze	2	В	ags
Mud man		L. Anthony	y			MBI					12000	[kg/m]	BI-acar	b	2	ы	ags
		1000				CI-					42000	[mg/ L]	Detoan	ner	1	Pa	ails
Density		1090		[kg	./m³]	Calcium		Malu	Delen		40u	[mg/Lj	N-Vis	1	1	Bi	ags
Viscosity		47		[5/1	d.			Volur	nes Balanc	če		-		1			
P.V.		14		lcb	1	Vol hauled		_			[n	n <sup>4</sup> ]		1			
Y.P.		5		[g/	100cm <sup>2</sup> ]	Vol dumpe	d	_			[n	n <sup>3</sup> ]					
Gels 10"/1	10'	2				Circ loss		_			[n	n³]			COMMEN	TS	
Temperat	.ure					Boiler loss		_			[n	n³]	Cum	n mud costs ind	clude Mud engi	neer day rate. (	\$995/day)
Pressure		11700				Daily Mud	Cost	-		\$2,0	152						
рН		8				Cum Mud O	Cost			\$27,1	162						
							воттом н	IOLE ASSEMB	iLY								
N° Comp	onent											ID [mm]	OD [mm]	Length [m	] Con	nection	Weight
1 Bit													159	0.24	3.5	Reg P	
2 /8-3.8	3 Choice Mua iv	Aotor											121	9.14	3.5 Keg	, BX3.5IF P	
3 UBHU	J											61	120	0.89	3.5I⊦ t	i X 3.5IF P	
4 NM T0	OOL CARRIER											69	120	5.48	3.5IF E	X 3.5IF P	Γ
5 GAP S	JUB											68	117	1.16	3.5IF E	X 3.5IF P	Γ
6 NM B	ATTERY CARRIE	ER										70	126	3.96	3.5IF E	X 3.5IF P	
7 FLEX M	NM											69	116	9.35	3.5IF F	X 3.5IF P	1
8 JARS												54	121	6.56	3.5IF F	X 3.5IF P	
9 10 DC	2'S											58	115	88.99	3.5IF F	X 3.5IF P	1
10 24 HV	NDP											64	127	222.14	3.5IF (	X 3.5IF P	1
10	101														J.J.	X 3.50 1	ł
<u> </u>						_			_	_	_			L			
-		HYDRAUL	ICS		Time			SURVEY	- A 11		Collection	- Doviation	- alltom		BOP STACK	WBI	UP al
Pump		1	Wilco	2	14:15	_	m MiD	m I VD	A211	nuth	Inclination	n Deviation	OPItem		.am (mm)	W.F. (I	кРај
Makeorivit	odei	Dragon bbu	WIISU	n 600	14:15		1553.17	1549.01	10	J9.5	4.1	5.84	Stack		228.6	1030	00
Liner x Sta	ick	81/2°X6	61/2	X 14 -	21:55		1571.97	156/./0	1	31	4.5	2.63	Diverte	ər			
SPM		70			8:25		1581.36	1577.12	1	37	4.8	1.82	E Annula	ar 🛛	228.6	2100	00
Litre/Sk 10	J0%	0.012	0.0	152 -	22:15		1600	1596.21	13	i9.2	5.5	1.14	☐ Blind		228.6	2100	30
Circ Rate	_	0.84		[m³/m	in1							1 1	Other		228.6	2100	00
Pump Ett	_	90	9	0 [%]								1 1	Stack				
Pump Pres	:55	8500		[kPa]									Diverte	er			
Drillpipe A	4V	8400		[mm]			I					1 1	∯ Annula	ar			
Drill Collar	r AV	38.9		[mm]									O Blind			-	
M	iud Cycle		70	[min]									Other				
.≝ Bo	ottom Up		28	[min]											TESTS	-	-
ъм	iud Tank		33.78	[m <sup>3</sup> ]			ļ								Date	Pres [	kPa]
ЭHO	ole Volume	-	23.75	[m <sup>3</sup> ]			I					1 1	Last BOP	17	//06/2013	1125	50
Sy	/stem Vol.		58.75	[m <sup>3</sup> ]									Next BOP				
		BITS				STOC	ск					C.	ASING / CE	MENTING P	ROGRAM		
Bit	3	4	N°	Name	In	Used	Stock		Unit	Last Cas	sing	Surface		Last Casing			
Size	159	159	[mm]	Barite	288		288		sacs	Date	· _	07/12/20	05	Date			
Mfg	Hughes	Hughes		Baracarb	250	18	232	-	sacs	grade		H-40	-	grade			-
Туре	QD406FX	STX-35DX		Baroseal (M)	80		80	-	sacs	diam		177.8	[mm]	diam			[mm]
Serial	7029738	5217719		Soda Ash	10	1	10		sacs	Lin Weir	eht	25.3	[kg/m]	I in Weight	-		[kg/m]
Nozzle	4x12.7 2x8.7	3 x 15.9		N-Vis Plus	27	1	26		sacs	Nb Joint	t			Nb Joint	-		
WOB	8	7	[daN]	Cellosize	122	31	91		sacs	Set at	• -	323	[m]	Set at			[m]
RPM	40/140	40/140	- [tr/min]	Barathin	15		15		sacs	length		323	[m]	Longth			[m]
Flow	94	97	- [l/min]	Citric Acid	15		15		sacs	Burct		16000	[kPa]	Durct			[kPa]
Pres	11400	9200	[kPa]	Bicarh	30	10	20		sars	Collong	. –	10000	[kPa]	Collance			[kPa]
From	1509.5	1507.6	-[m]	Eugl	26156	20027	15220		liters	Tanalla		54000	[daN]	Conapse			-[daN]
To	1503.5	1557.0	- [m]		21.0	20527	21.0		r 31	Tensile		54000	[duit]	Tensile			[duit]
Drilled	99.1		-[m]	Drill water	21.0		21.0		[m]	Data		1251	012	Dete	IE	51	
Hours	20.25	1	_[11]	Gypsum	20		20		sacs	Date		1//06/2	.013	Date			
Hours -	50.25	1	_[1115]	Barabut	20	-	20		Salls	Pressure	e	11250	[kPa]	Pressure			[kPa]
			-	Defoamer	10	9	1		pails	Last Cer	ment	Plug		Last Cemen			
		CENTRIFUG	E			c	ASING BOWL			Date	_	16/12/2005	;	Date			
A dalla					A set of		Weath as fead			Class		A	'	class			
Make	_		United	/	iviake		weatherford			Density		1520 [kg	/m³]	Density		_[kg/m <sup>-</sup> ]	
OF density	¥		1080	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	· _	50 [m <sup>3</sup>	]	Volume		[m³]	
UF density	¥		1750	[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	n]	Time to GL		[min]	
Flow	_		750	[L/min]	Size ID		177.8	[mm]		Additive	es			Additives			
Last Dump	ρ				Rating		21,000	[kPa]									
Comment	:S:			-													
Drilling is s	slow due to dril	lling conglomer	ate formation	r. Pulled bit #3 N	ose cutters & sho	oulder cutte	rs worn flat due	to formation.									
Stop centr	rifuge @ 00:00	restart @ 04:00	) 75 2 25m/hr														
VV()D 1/																	

Weather @ 8.00 Wind Temperature Summary of Dally Op Workers on site IEC 4 Rig 11 Others 7 Total 22 Big Manager Greg B Big Manager Greg A Company Man Victor Company Man Travis FORMANION//	rain           light         10           10         Drill ahead from	spb0 date           mKB           mGL           24h Avg ROP           1604m to 1662m.	1/100/2013 149.97 145.7 2.4 SAFETY SUMMAR Incidents / Injuries None to report	Daily MD Total MD Expected MD	45.5 1661.5 1970 Hrs since last Medical T Hrs since last Lost Time Hrs Since last Lost Time	Daily Costs Cum Costs AFE	Page 1/2 \$39,400 est. \$1,017,000 \$2,410,000 384
Weather @ 8:00 Temperature Summary of Daily Op Workers on site FEC 4 Rig 11 Others 7 Total 21 Rig Manager Greg B Rig Manager Greg N Company Man Travis FORMATION//	orini           light           10           workers injured           IEC         0           Rig         0           Others         0           Total         0           McKinon         (905) 371 4614           Leroux         (709) 721 1994	mKB	149.97 145.7 2.4 SAFETY SUMMAR Incidents / Injuries None to report	Daily MD Total MD Expected MD	45.5 1661.5 1970 Hrs since last Medical T Hrs since last Lost Time Hrs Level 0	Daily Costs Cum Costs AFE reatment Case	\$39,400         est.           \$1,017,000         \$2,410,000
Summary of Daily Op Workers on site IEC 4 Rig 11 Others 7 Total 21 Rig Manager Greg h. Company Man Victor Company Man Travis FORMATIOR// LITHOLC	Drill ahead from           Drill ahead from           IEC         0           Rig         0           Others         0           Total         0           McKinnon         (1905) 372 A614           Leroux         (780) 678 5108           Young         (709) 721 1994	1604m to 1662m.	SAFETY SUMMAR Incidents / Injuries None to report	Ŷ	Hrs since last Medical T Hrs since last Lost Time H <sub>2</sub> S Level 0	reatment Case	384
Workers on site IEC 4 Rig 11 Others 7 Total 21 Company Man Victor Company Man Travis FORMATION// LITHOL	Workers Injured           IEC         0           Rig         0           Others         0           Total         0           McKinnon         (905) 371 4614           Leroux         (780) 678 5108           Young         (709) 721 1994	7:00 No loose	SAFETY SUMMAR Incidents / Injuries None to report	Υ	Hrs since last Medical T Hrs since last Lost Time H <sub>2</sub> S Level 0	reatment Case	384
Workers on site           EC         4           Rig         11           Others         7           Total         21           Kig Manager         Greg N           Company Man         Victor           Company Man         Travis           FORMATION//         LITHOL	Workers injured           IEC         0           Rig         0           Others         0           Total         0           McKinnon         (1905) 371 4614           Leroux         (780) 678 5106           Young         (709) 721 1994	7:00 No loose	SAFETY SUMMAR Incidents / Injuries None to report	Y	Hrs since last Medical T Hrs since last Lost Time H <sub>2</sub> S Level 0	reatment Case	384
Workers on site           EC         4           Ng         11           Others         7           Total         21           Ng Manager         Greg N           Ompany Man         Victor           FORMATION/T         THOL	Workers Injured           IEC         0           Rig         0           Others         0           Total         0           WcKinnon         (905) 371.4614           Leroux         (708) 678.5108           Young         (709) 721.1994	7:00 No loose	Incidents / Injuries None to report		Hrs since last Medical T Hrs since last Lost Time H <sub>2</sub> S Level 0	reatment Case Incident	384
ILC 4 Ng 11 Others 7 Total 21 Rig Manager Greg N Company Man Victor Company Man Travis FORMATION// ITHOLC	IEC         U           Rig         0           Others         0           Total         0           McKinnon         (905) 371 4614           Leroux         (780) 678 5108           Young         (709) 721 1994	7:00 No loose	None to report		Hrs since last Lost Time H <sub>2</sub> S Level 0	Incident	
Rig Manager Greg M Company Man Victor Company Man Travis FORMATION/1 LITHOLC	McKinnon (905) 371 4614 Leroux (780) 678 5108 Young (709) 721 1994	7:00 No loose	or torn clothing while working arou		CO <sub>2</sub> Level 0 Gas Level 25p	Pit Drill Pit Drill Drill BOP Drill	
FORMATION/1 LITHOLC	Young (709) 721 1994			Safety Meetings / Tool ind moving equipment	Box Talks		
FORMATION/1		19:00 Safety M	leating (MSDS sheet review proper	PPF when handling mud prod	ucts)		
FORMATION/1 LITHOLO		TIME LOG -	00:00 to 24:00 (include Safety i	meetings and Tool box talk	s)		
LITHOLO	TOP : Snakes Bight (?)						
SHO	OUT : Conglomerate OUS : No shows						
rom [Hr] To [Hr] De	epth [m] Operation descripti	on 516m					
5:30 5:45	1616 Rig service: tighten	drawworks chains. Function	Annular BOP: 12 sec to close				
5:45 7:00 7:00 7:15	1618 Drill from 1616m to 1618 Safety Meeting (No	1618m loose or torn clothing to be	worn while working around moving	equipment)			
7:15 12:00	1635 Drill from 1618m to 1652 Drill from 1624 56m	1634.56m					
19:00 19:15	Safety Meeting (MS	DS sheet review, proper PPE	when handling mud products)				
19:15 19:30 19:30 0:00	Rig service grease a 1662 Drill from 1652.15m	nd inspect top drive to 1661.5m					
rom HighTo High	onth Im I Deparation descripti	TIME LOG - 2	4:00 to 6:00am (include Safety	meetings and Tool box tal	ks)		
0:00 6:00	1672 Drilled from 1661.5	to 1672.09m					
			RIG TIME (operation durati	on in hours)			
Drilling 23 Rig Service 0.5	Weld Bowl DST	Cement		Safety/BOP Reaming	0.5	Rig move Flow check	
Tripping	Logging	Nipple U	/D	Slip and Cut			
Circ./Cond.	Clean to Btm Handle Tools	Press. Te Repair		Drill R & M hole Other		TOTAL	24
Pick up BHA	Run Casing	Rig Up		LOT/FIT		DOWNTIME	
			24 HOURS FORECA	ST			
Continue drilling (elidin	and with directional tools to	point Bull out of hole to all	thun core bbls/ core				
condinue arilling/sliding ahe	eau with directional tools to core	point. Puil out of hole to pic	un up core obis/ core				

Da	ite :	30/06/20	13	Well: H	lurricane#2	RE		Rig	:	Forag	gaz#3				Pag	e 2/2	
							DRILL	ING MUD									
Eluid type		Polymer Bas	e			Solids		5	5			the t 3		-		DDFD	
Mud Co		Baroid				Sands		0	5			IKg/m <sup>-1</sup>		AME	Quantity	Concor	tration
Time Check		7:00				OWR			-			[%]	Colloci	AIVIE	Quantity	Concer	
Mud Man		7.00				MRT							Cellosi	ze	2	Bi	ags
Ividu Ivian		L. Anthony				CL.		420	00			[kg/m <sup>-</sup> ]	BI-acar	D	2	Bi	ags
Donsity		1100			,	Caloium		420	100			[mg/L]	Deroar	ner	2	Pi	alis
Viscosity		47		[kg/n	า1	Calcium		Volue	nos Balany			[IIIg/L]	N-VIS		1	Bi	ags
DIV		47		[5/1]		Vol boulod		Volu	Tiles Dalatio	ue		3,					
r.v.		- 15		[cb]		Vol dumpor					[m	3,					
T.P.				[g/10	0cm*]	Circlass	1				[m	3	-				
Gels 10 /10		- 2				CIFC IOSS					[m	-] 3-	-		CONIMEN	15	
Temperatur	re					Boller loss				60.0	[m	1					
Pressure		11000				Daily Mud	Lost			\$2,2	72						
рн		7.5				Cum Mud C	ost			\$29,	435						
No. Compo	nent						BOTTOM H	IOLE ASSEIVIE	SLT			ID [mm]	OD [mm]	Length [m]	Con	pection	Weight
1 Bit	iiciii											io (iiiii)	159	0.24	3.5	Reg P	Weight
2 78-3.8 (	hoice Mud M	lator											121	9.14	3.5 Res	RX3 SIE P	
2 10-3.00	choice ividu ivi	10101										61	120	0.80	3.5 Keg	V 2 EIE D	
5 00110												60	120	0.83 E.49	3.511 0	X 3.5IF P	
4 NIVI 10	UL CARRIER											69	117	3.40	3.5IF E	X 3.5IF P	
5 GAPSU		D										08	120	1.10	3.511 8	A D.DIF P	
6 NM BA	I I EKT CARRIE	n										/0	126	3.96	3.5IF B	A 3.51F P	
7 FLEX N	vi											69	116	9.35	3.5IF E	x 3.5IF P	
8 JARS												54	121	6.56	3.5IF B	x 3.5IF P	
9 10 DC'S												58	115	88.99	3.5IF E	x 3.5IF P	
10 24 HWE	DP											64	127	222.14	3.5IF E	X 3.5IF P	
		HYDRALILI	~					SURVEY							BOP STACK		
		mbhaoth						5011721							BOI SIACK		
Pump		1	2	2	Time		m MD	m TVD	Azir	muth	Inclination	Deviation	OP Item	Dia	am [mm]	W.P. [I	kPa]
Make&Mod	iel	Dragon 660	Wilso	n 600	7:20		1619.39	1614.99	5	5.3	136.7	0.49	Stack		228.6	1050	00
Liner x Stac	k	8 1/2" X 6	6 1/2	'X14 -	13:25		1638.15	1633.67	4	1.9	136.9	0.64	po Diverte	er			
SPM		70		-	21:20		1656.98	1652.44	4	1.6	138.2	0.51	Annula 🗄	ır	228.6	2100	00
Litre/Sk 100	)%	0.012	0.0	152 -									Blind		228.6	2100	00
Circ Rate		0.84		[m <sup>3</sup> /min									Other		228.6	2100	00
Pump Eff		90	9	0 [%]									Stack				
Pump Press		8500		[kPa]									Diverte	er			
Drillpipe AV	·	8400		[mm]									Annula	ir			
Drill Collar A	AV .	38.9		[mm]									O Blind				
Mu	d Cycle		70	[min]	-								Other				
+ Bot	tom Up		28	[min]											TESTS		
3 Mu	d Tank		33.78	[m <sup>3</sup> ]											Date	Pres [	Pal
U Hole	e Volume		23.75	[m <sup>3</sup> ]									Last BOP	17	/06/2013	1129	50
Syst	tem Vol.		58.75	[m <sup>3</sup> ]									Next BOP				
	_									1							
0.14		5115		<b>N</b> 1	1 1-	SIUC	K. Ctash		1114			u	ASING / CE	MENTING PR	UGRAIN		
Bit	4		N	Name	IN 200	Used	Stock		Unit	Last Ca	sing	Surface	0.5	Last Casing	-		
Size	159		[mm]	Barite	288		288		sacs	Date		0//12/20	15	Date			
Mitg	Hughes		-	Baracarb	250	8	242		sacs	grade		H-40		grade			
Туре	STX-35DX		-	Baroseal (M)	80		80		sacs	diam		177.8	[mm]	diam			[mm]
Serial	5217719		-	Soad ash	10		10		sacs	Lin Wei	ght	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	3 x 15.9		[mm <sup>2</sup> ]	N-Vis Plus	27	3	24		sacs	Nb Join	t		-	Nb Joint			-
WOB	12		[daN]	Cellosize	122	27	95		sacs	Set at		323	[m]	Set at			[m]
RPM	40/140		[tr/min]	Barathin	15		15		sacs	Length		323	[m]	Length			[m]
Flow	830		[l/min]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres	11000		[kPa]	Bicarb	30	17	13		sacs	Collaps	e	10000	[kPa]	Collapse			[kPa]
From	1597.6		[m]	Fuel	36156	22836	13320		liters	Tensile		54000	[daN]	Tensile			[daN]
То	1661.5		[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]		1	TEST			TE	ST	
Drilled	121.4		[m]	Gypsum	20		20		sacs	Date		17/06/2	013	Date			
Hours	24		[hrs]	Barabuf	20		20		sacs	Pressur	e	11250	[kPa]	Pressure			[kPa]
_			-	Sodium	576	5	571		sacs								
L				Defoamer	15	11	4		pails	Last Ce	ment	Plug		Last Cement	-		
		CENTRIFUCE					SINC ROWI			Date		16/12/2005		Date	_		
		CENTRIFUGE					ASING BOWL			Class		A	_	Class			
Make			United	N	1ake		Weatherford			Density		1520 [kg	(m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	
OF density			1085	[ka/m <sup>3</sup> ] S	erial		12110022005			Volume		50 [m <sup>3</sup>	1	Volume		[m <sup>3</sup> ]	
UF density			1720	fkg/m <sup>3</sup> 1 S	ize OD		228.6	[mm]		Time to	GI	 [mi	nl	Time to GI		[min]	
Flow			750	[L/min] S	ize ID		177.8	[mm]		Additiv		L		Additives	-	_ []	
Last Dump					ating		21,000	[kPa]		. to one live					-		
Commente					- 0		,500	(al u)		•							
connents.																	
1																	
1																	
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1																	
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	INVES	STCAI		DAILY	DRILLING REPO	IRT	N° 17	Date : 0 Well : H Rig :	01/07/2013 urricane#2 RE Foragaz#3
				Spud date :	17/06/2013	Well Licent	e # EP 03-107		Page 1/2
v	Veather @ 8:00		rain	mKB	149.97	Daily MD	34	Daily Costs	\$40,300 est.
	Wind Temperature		10	24h Avg ROP	2	Expected MD	1708 1970	AFE	\$1,062,800 \$2,410,000
Su	mmary of Daily C	perations:	Drill ahead from 1	662 to 1708m.					
					SAFETY SUMM	ARY	•		
WC EC	rkers on site 4	IEC	Workers Injured 0		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Time	Treatment Case e Incident	408 408
ig thers	11 7	Rig Others	0		None to report		H <sub>2</sub> S Level 0 CO <sub>2</sub> Level 0	D Trip Drill D Pit Drill	
otal	21	Total	0	-		Cofety Meetings / To	Gas Level 25p	pm BOP Drill	
ompany	Man Victo	or Leroux	(780) 678 5108	7:00 Caution	to be used when working around	hydraulic and high pressure lin	es. Smoke in designated	areas only.	
ompany	Man Trav	is Young	(709) 721 1994	19:00 Short cl	ange hrs possible lack of sleep dr	ive with caution and working			
				TIME LOG -	00:00 to 24:00 (include Safe	ty meetings and Tool box ta	iks)		
	FORMATION	I/TOP: Snake	s Bight (?)	ad conditions					
	SF	HOWS : No sh	euded conglomerate a ows	ia sandstone					
om [Hr]	To [Hr] 6:45	Depth [m]	Operation description	1673.95m					
6:45	7:00	1674	Rig Service. Function	Annular BOP: 12 sec. to cl	ose				
/:00 7:15	7:15 12:00	1674 1684	Safety Meeting: caution Drill from 1673.95m to	on around hydraulic and h o 1684.31m	ign pressure lines / smoke in desi	gnated areas only			
12:00	13:45	1687	Drill from 1684.31 to	1687.48m	server connection. Trouble	t with NOV Helpdock			
13:45 14:30	14:30	1696	Drill from 1687.48 to 3	1696m	i server connection. Trouble \$800	t with NOV Helpdesk			
19:00 19:15	19:15	1708	Safety Meeting : short Drill from 1696 to 170	change hours					
15.15	0.00	1700	51111011105010170	011.					
om [Hr]	To IHri	Depth Imi	Operation description	TIME LOG - 1	24:00 to 6:00am (include Safe	ety meetings and Tool box t	alks)		
0:00	3:00	1715	Drill and slide from 17	08 to 1715.08m					
3:15	6:00		Drill and slide from 1	718.08 to 1727m					
			L		DIC TIME (another state				
rilling	33 5	Mold	Bowl	Corrort	RIG HIVE (operation dur	auon in nours)	0.5	Rig move	
g Service	e 0.25	DST		WOC		Reaming	0.5	Flow check	
ipping rvev		Loggin	ng to Btm	Nipple I Press. T	J/D est	Slip and Cut Drill R & M ho	e		
irc./Cond	i.	Hand	e Tools	Repair		Other	0.75	TOTAL	24
ск up BH	1A	Kun C	asing	Kig Up		LOT/FIT		DOWNTIME	0.75
					24 HOURS FORE	CAST			
ontinue	drilling/sliding a	head with dir	ectional tools to core p	oint. Pull out of hole to p	ck up core bbls/ core				

Date :	01/07/201	13	Well :	Hurricane#2 F	E		Rig	:	Forag	az#3				Pag	ge 2/2	
						DRILL	ING MUD									
Fluid type	Polymer Base	2			Solids			5			[ka/m31			ADDITIVES A	DDED	
Mud Co	Baroid				Sands		0	.5			. [Kg/m*] [%]	N	AME	Quantity	Concer	tration
Time Check	7:00				OWR						[%]	Collectio		Quantity	concer	
Mud Man	7.00				MRT			7				Cellosiz Ri acar	e h	2	Ba	igs
	L Anthony				ci .		40	,			. [kg/m <sup>-1</sup> ]	BI-acar	D		Ва	igs
Density	1005				Calcium		40	600			[IIIg/L]	Defoan	ner	1	Pa	ails
Viscosity	1095		[kg	/m³]	Calcium		Velu	ou mes Belen			[IIIg/L]	N-Vis		3	Ba	ags
VISCUSILY	47		[5/1	1	Vallessiad		Voiu	mes balan	Le		2	Barathi	n	4	Ва	ags
P.V.	- 1/		[cp	1	voi nauled					[m	1	barabu	t	1	Ba	ags
Y.P.	7.5		[g/	100cm <sup>2</sup> ]	Vol dumper	1				[m	1			60141471	-	
Gels 10 / 10	2				CIFC IOSS					[m	1			COMINIEN	15	
Temperature					Boiler loss					[m	°]					
Pressure	10250				Daily Mud	Cost			\$2,9	36						
pH	7.5				Cum Mud C	ost			\$32,3	\$70						
						BOTTOM H	IOLE ASSEM	BLY								
N° Component											ID [mm]	0D [mm]	Length [r	n] Con	nection	Weight
1 Bit a 70.2.0 Chains Murdu												159	0.24	3.5	Reg P	
2 /8-3.8 Choice Mud	Motor											121	9.14	3.5 Reg	BX3.5IF P	
3 UBHO											61	120	0.89	3.5IF E	3 X 3.5IF P	
4 NM TOOL CARRIER											69	120	5.48	3.5IF E	3 X 3.5IF P	
5 GAP SUB											68	117	1.16	3.5IF E	3 X 3.5IF P	
6 NM BATTERY CARR	IER										70	126	3.96	3.5IF E	3 X 3.5IF P	
7 FLEX NM											69	116	9.35	3.5IF E	3 X 3.5IF P	
8 JARS											54	121	6.56	3.5IF E	3 X 3.5IF P	
9 10 DC'S											58	115	88,99	3.5IF F	X 3.5IF P	
10 24 HW/DP											64	127	222 14	3 517 1	X 3 5 F P	
10 24 HWDP											04	127	222.14	5.5IF t	7 7.3.3IF P	
																1
													[			
	HYDRAULIC	s			_		SURVEY						·	BOP STACK		
0				Time	-			Anie	e ute	Indination	Deviation	a ltom		Nom Immi	W D U	0.0
Pump Make <sup>9</sup> Medal	Dragon 660	Milco	n 600	Fine Circle	-		1652.44	A211	1001	Inclination	Deviation (	Stock		228.6	W.P. [/	uraj vo
Nake&Nodel	Dragon 660	WIISO	n 600	6:00		1656.98	1652.44	13	58.Z	4.6	0.51	Stack		228.6	1050	0
Liner x Stack	8 1/2" X 6	6 1/2	X14 -	8:00		1676.01	1671.41	13	39.2	4.2	0.64	Diverte	r			
SPM	70		-	12:15		1685.33	1680.72	15	57.4	2.4	6.63	Annula	r	228.6	2100	10
Litre/Sk 100%	0.012	0.0	152 -	17:55		1694.75	1690.13	27	2.7	1.1	9.67	Blind		228.6	2100	0
Circ Rate	0.84	-	[m <sup>3</sup> /m	n] 22:20		1704.35	1699.73	28	32.9	2.2	3.54	Other		228.6	2100	10
Pump Eff	90	9	0 [%]									Stack				
Pump Press	8500		[kPa]									Diverte	r			
Drillpipe AV	8400		[mm]									e Annula	r			
Drill Collar AV	38.9	-	[mm]									6 Blind				
Mud Cycle		70	[min]									Other				
Bottom Un		20	[min]								I   -	other		TECTO		
D Mud Tank		24.25	[31								I   -		-	Date	Proc [k	Pal
		34.35	[m]									act BOD	1	7/06/2012	1125	araj :0
Sustem Vol		25.75	[m] [m]									dout BOP	1	.7/00/2015	112:	0
System vol.		50.1	[111]		_				I		<u> </u>	VEAL DOP		i.		
	BITS				STOC	к					CA	SING / CE	MENTING F	PROGRAM		
Bit 4		N <sup>o</sup>	Name	In	Used	Stock	1	Unit	Last Cas	ina	Surface		Last Casin	a		
Size 159		[mm]	Barite	288		288		sacs	Date		07/12/200	5	Date	·		
Mfg Hughes		-	Baracarb	250	8	242		sacs	grade		H-40 -	_	grado			
Type STX-35DX			Baroseal (M)	80	-	80		sacs	diam		177.8	mml	diam	-		[mm]
Serial 5217710			Soad ash	10		10		sans	Lin Wei		25.3	kg/ml	Lin Weicht			[kg/m]
Nozzle 3 x 15 0			N-Vis Plus	27	2	24		sans	Alb lo'			···b/····]	Nh loint	·		
WOR 12		[mm <sup>*</sup> ]	Cellocize	122	3	24 02		5365	IND JOINT	·	272	ml	JUIOL GAL	-		[m]
DDM 12		[udiv]	CellUSIZE Dereth'r	144	29	93		adus conce	Set at		323	inj ml	set at	-		[11]
NF IVI 40/140		[tr/min]	baratnin Citala Asid	15	4	11		sacs	Length		323	ulj Lo-1	Length			[m]
riuw 830		u/min]	CITIC ACID	15		15		sacs	Burst		10000	kr'aj	Burst	-		[кма]
Pres 11000		[кРа]	Bicarb	30	17	13		sacs	Collapse	e	10000 [	кРа]	Collapse			[кРа]
From 1661.5		լայ	Fuel	36156	25389	10767		liters	Tensile		54000 [	daNj	Tensile			[daN]
To 1708		[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]		T	EST			TE	ST	
Drilled 167.9		[m]	Gypsum	20		20		sacs	Date		17/06/20	013	Date			
Hours 48.98		[hrs]	Barabuf	20	1	19		sacs	Pressure	e	11250	kPa]	Pressure	-		[kPa]
			Sodium	576	5	571		sacs	T		,					
			Defoamer	15	12	3		pails	Last Cer	nent	Plug	-	Last Ceme	nt		
	CENTRICUCS				-	ASING BOW			Date		16/12/2005	_	Date			
	CENTRIFUGE				- C	SING BOWL			Class		Α		Class	_		
Make		United		Make		Weatherford			Density		1520 [kg/i	m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	-
OF density		1090	[kg/m <sup>3</sup> ]	Serial		12110022005	-		Volume		50 [m <sup>3</sup> ]		Volume		[m <sup>3</sup> ]	
UF density		1800	[kg/m <sup>3</sup> ]	Size OD		228.6	[mm	]	Time to	GL	ĺmin	1	Time to GI		[min]	
Flow		750	[L/min]	Size ID		177.8	[mm	]	Additive		L-111	·	Additives			
Last Dump				Rating		21,000	[kPa]			-						
Comments:						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
connicitta.																

										02/07/2012
1				D/			NIO	19	Date :	02/07/2013
	INVES	<u>STCAI</u>	V	04		NEP OK I	IN	10	well :	Hurricane#2 RE
	En	ergy Corp	>						Rig :	Foragaz#3
				Spud dat	e: 17/06/2013		Well Licence #	EP 03-107		Page 1/2
	Neather @ 8.00			mKB	140.07		Daily MD	16	Daily Costs	\$72,700
	Wind		ight	mGL	145.7		Total MD	1731.12	Cum Costs	\$1,214,700
	Temperature		12	24h Avg ROP	1.9	Ex	pected MD	1970	AFE	\$2,410,000
Su	mmary of Daily	Operations:	Drill ahead from 1	504m to 1731m. P	OOH to change BHA and test BC	Ps. BOP tested except bl	ind rams.			
					SAFETY	SUMMARY				
We	orkers on site	150	Norkers Injured		Incidents / In	njuries	Hrs	since last Medical Tr	eatment Case	432
Rig	11	Rig	0		None to re	oort	H <sub>2</sub> S	Level 0	Trip Drill	452
Others	7	Others	0		None to re	port	CO <sub>2</sub>	Level 0	Pit Drill	
Rig Mana	ger Gre	g McKinnon	(905) 371 4614			Safet	y Meetings / Tool Box	Talks	III BOP DI II	
Company	Man Vict	or Leroux	(780) 678 5108	9:00	Safety Meeting: Eye Protection					
Company	Man Trav	vis Young	(709) 721 1994	23:15	eve Protection (with night crew	)				
				TIME	LOG - 00:00 to 24:00 (inclu	ide Safety meetings ai	nd Tool box talks)			
	FORMATIO	N/TOP : Red B	eds / Snakes Bight (?)							
	LITHO	DLOGY : Interb	edded red beds, siltstor	nes and very fine g	rained sandstone					
From [Hr]	S To [Hr]	HOWS: No she Depth [m]	Operation description							
0:00	3:00	1715	Drill and slide from 17	08 to 1715.08m						
3:00	3:15	1725	Rig service/ test BOP a	innular. 18 08 to 1724 72~						
9:00	9:15	1725	Safety Meeting (eye p	rotection)	•					
9:15	11:45	1731	Drill from 1724.72m to	1731.12m						
11:45 12:00	12:00	1/31	Circulate up bottom h Circulate up bottom h	ole sample. ole sample.						
12:15	17:45	1731	Trip out of hole- Flow	check @ 1727m, 1	628.78m, 886.16m, 158.02m, O	ut of hole. Handle directi	onal tools. Function te	st blind rams: 3 sec	to close.	
17:45	20:15	1731	Attempt to pessure te Discussion with IEC off	st BOP's, issue wit fice. Wait on order	h test cup size. 's					
20:45	23:15		Service draworks chair	ns and change oil i	n engines (scheduled maintenar	nce).				
23:15	23:30		Safety Meeting (Eye P Make up test cup & Pl	rotection) & Rig se	rvice.					
23.30	0.00		wake up test cup & M		lu rie lest.					
			•	TIME L	OG - 24:00 to 6:00am (incl	ude Safety meetings a	and Tool box talks)			
From [Hr]	To [Hr]	Depth [m]	Operation description							
0:00			Test back 2 manifold v	alves, outside kill	ine valve 1400kPa low and 1125	OkPa high: OK				
			Test middle 3 manifold	d valves and inside	kill line valve 1400kPa low and	11250kPa high: OK				
			Test HCR/Manual chol	ke line valve/Pipe	rams at 1400kPa low and 11250	kPa high: OK				
	2,20		Test annular 1400kPa	low and 10500kPa	(50% of BOP working pressure)	high: OK	por Potroloum P-10-	Degulations		
2:30	2:30		Slip/Cut drilling line	soung valve at 14	JUKEA IOW AND 11250KPA high: C	w. All tests conducted as	per Petroleum Drilling	s negulations.		
4:00	4:45		Handle Directional Too	bl						
4:45	6:00	1731	RIH to 690m							
					RIG TIME (opera	tion duration in hours	)			
Drilling	11.7	5 Weld	Bowl		Cement		Safety/BOP	0.5	Rig move	
Rig Servic	e 0.25	DST			woc		Reaming	0.5	Flow check	0.75
Tripping	4.75	Loggir	ig	!	Nipple U/D		Slip and Cut			
Circ./Con	d. 0.5	Handle	e Tools	0.75	Repair		Other	2.25	TOTAL	24
Pick up Bl	HA	Run C	asing		Rig Up		LOT/FIT		DOWNTIME	0.5
					24 11011	DE EODECAET	1			
					24 HOU	NJ PURECASI				
RIH BHA	and Continue di	illing/sliding a	head with directional t	ools.						

Date :	02/07/20	13	Well: H	lurricane#2 F	ŧE		Rig	:	Forag	az#3				Ра	ige 2/2	
						DRILL	ING MUD									
Fluid type	Polymer Bas	e			Solids		5.	5			[ka/m <sup>3</sup>	,		ADDITIVES	ADDED	
Mud Co	Baroid			ļ	Sands	-	0.	5			[%]		NAME	Quantity	Concer	ntration
Time Check	7:00			ļ	OWR	-		-			[%]	Cellos	70	quantity	B	305
Mud Man				ļ	MBT	-	7				 [ka/m <sup>3</sup>	Bi-aca	rh		B	363 1963
	L. Anthony	r		ļ	CI-	-	400	00			[mg/L]	Defoa	mer		P	ails
Density	1095		[kg/m	n <sup>3</sup> 1	Calcium	-	36	0			[mg/L]	N-Vis			В	ags
Viscosity	55		[s/l]	·' [		,	Volur	mes Balanc	ce			Barath	nin		В	385
P.V.	17		[cp]	F	Vol hauled	,				[m	31	barab	uf			*b-
Y.P.	7.5		[g/10	i0cm <sup>2</sup> l	Vol dumper	b				[m	31					
Gels 10"/10'	3			Juni	Circ loss			(	0	[m	31			COMME	NTS	
Temperature	-			1	Boiler loss			-	-	0 [m	<sup>3</sup> 1					
Pressure	10000			1	Daily Mud	Cost		-	\$1,302	2.00						
рН	8				Cum Mud C	Cost			\$33,67	2.00						
						воттом н	IOLE ASSEMB	ILY								
N° Component											ID [mm]	OD [mm]	Length [	[m] Co	nnection	Weight
1 Bit Choice Mud Met	( odium coood	75 (000)										159	0.24	35.0	.5 Reg P	
	or (meaiain speed -	75 rpmj.									61	121	9.14	2.5 1	EB BAD.DIF F	
	-										50	120	5.49	2 510	B X S.SIF P	
4 NIVETOUL CARRIE - CARSLIP	.К										69	117	5.40	3.51	B X 3.5IF P	
5 GAP SUD	20100										70	11/	2.06	2 510	B X S.SIF P	
	IRIER										60	116	0.25	2 510	B X S.SIF P	
7 FLEX NIVI											69	110	9.55	3.51	B X 3.5IF P	
8 JAKS											54	121	0.50	3.51	B X 3.5IF P	
9 10 00 5											58	115	88.99 222.1	3.51	B X 3.5IF P	
10 24 HWDP											64	127	222.1	4 5.50	B X 3.5IF P	$\square$
	HYDRAULI	cs		1			SURVEY							BOP STAC	ж	
Pump	1		2	Time		m MD	m TVD	Azir	muth	Inclination	Deviation	OP Item		Diam [mm]	W.P. [	kPaj
Make&Model	Dragon 660	Wilso	n 600	22:20		1704.35	1699.73	28	32.9	2.2	3.54	Stack		228.6	1050	30
Liner x Stack	8 1/2" X 6	6 1/2	"X 14 -	2:15		1713.77	1709.14	28	36.1	2.4	0.76	p Divert	er			
SPM	70											i≣ Annula	ar	228.6	2100	J0
Litre/Sk 100%	0.012	0.0	152 -									□ Blind		228.6	2100	30
Circ Rate	0.84	·	[m³/min]	i l								Other		228.6	2100	<u> 30</u>
Pump Eff	90	9	0 [%]									Stack				
Pump Press	8500	·	[kPa]								1 1	Divert	er			
Drillpipe AV	8400	·	[mm]								1 1	∯ Annul	ar			
Drill Collar AV	38.9		[mm]									O Blind				
Mud Cycle		70	[min]	1								Other				
불 Bottom Up		30	[min]											TESTS		
D Mud Tank		34.35	[m <sup>3</sup> ]											Date	Pres [l	kPa]
O Hole Volume		23.75	[m³]									Last BOP		02/07/2013	1125	50
System Vol.		58.1	[m³]									Next BOP				
	BITS				STOC	ж					с	ASING / CE	EMENTING	PROGRAM		
Bit 4	5	N°	Name	In	Used	Stock		Unit	Last Cas	ing	Surface		Last Casin	ng		
Size 155	- 159 	- [mm]	Barite	288		288		sacs	Date		0//12/20	05	Date			
Mig Hughe	Hugnes	-	Baracarb		8			sacs	grade		H-40	-	grade			-
Type 51A-55L	X QD405rA	-	Baroseai (IVI)	10		10		Sacs	diam	. —	1//.8	[mm]	diam		-	[mm]
Serial S21//1	113/201	- ,	Soad ash	27		24		Sacs	Lin Weig	ght	25.3	[Kg/m]	Lin Weign	.t	-	[Kg/m]
Nozzie 5 x 13.	1	_[mm <sup>4</sup> ]	N-VIS Plus	2/	3	24		Sacs	Nb Joint	_	222	-	Nb Joint			- - 
WOB 12	40/140	[dawj - [tr/min]	Cellosize	122	29	95		Sacs	Set at		323	[m]	Set at			[m] = [m]
RPM 40/140	40/140	[tr/min]	Baratnin	15	4	11		Sacs	Lengtn		323	[m]	Length		-	_[m] 
FIOW 030		[I/min]	Citric Acia	20	17	15		sacs	Burst		10000	[KPa]	Burst		-	[KPa]
Pres 11000	1721 12	[Kr d] - r1	Bicaru	42150	27/10	15721		Saus	Collapse		10000	[Krd]	Collapse		-	[Krd]
+roni 1337.0	1/31.14	- [ffi] - [m]	Fuei	45150	2/413	21.0		- 3.	Tensile		54000	[0aivj	Tensile			[Carvj
10 1/31.1 Dellad 122.5	2	- [m]	Drill Water	21.8		21.0		[m <sup>-</sup> ]	2.44		TEST		· · · · ·		EST	
United 155.5		- [http://www.international.org/ - [http://www.international.org/	Gypsum	20		19		sacs	Date		1//00/4	2013	Date			-
Hours Jo.J		- [ins]	Barabut	20	1 5	70		Saus	Pressure	e	11250	[kPa]	Pressure			[кРај
	-	-	Defoamer	15	12	3		nails	last Cer	nent	Plug		Last Ceme	ent		
	CENTRIELIGE	-	Deressie			ASING BOWI		puns	Date		16/12/2005	5	Date			
a da ba	CLATRI COL					ASING DOWL			Class		A	_	Class			_
Make		United	N	ake		Weatherford			Density		1520 [kg	/m³]	Density		[kg/m ]	
OF density	-	1085	[kg/m <sup>3</sup> ] <sup>56</sup>	arial		12110022005	[mm]		Volume		50 [m	ʻ]	Volume		[m³]	
UF density		1780	[kg/m <sup>3</sup> ] 51	ze OD		228.6	[mm]		Time to	GL	[mi	in]	Time to G	L	[min]	
Flow		750	[L/min] Si	ze ID		177.8	[mm]		Additive	25			Additives			
Last Dump			R	ating		21,000	[kPa]									
Comments: Unable to test the bli	1d rams with the te	st cup provid	ed.													

		STCAN		DAILY	DRILLING REPOR	RT 1	N° 19	Date : ( Well : H Rig :	03/07/2013 urricane#2 RE Foragaz#3
				Spud date :	17/06/2013	Well Licence	# EP 03-107		Page 1/2
1	Weather @ 8:00 Wind Temperature	5	ight 12	mKB mGL 24h Avg ROP	149.97 145.7 2.9	Daily MD Total MD Expected MD	42 1773 1970	Daily Costs Cum Costs AFE	\$30,300 est. \$1,245,000 \$2,410,000
Si	ummary of Daily	Operations:	BOP tests, except b	lind rams. Pick up new B	BHA (PDC+mud motor+gamma) and c	frill to 1773m.			
					SAFETY SUMMAR	v			
Wo	orkers on site		Vorkers Injured		Incidents / Injuries		Hrs since last Medical	Treatment Case	456
IEC Rig Others Total	4 11 7 21	IEC Rig Others Total	0 0 0 0		None to report	Cofety Meetings / Teal	Hrs since last Lost Tim           H <sub>2</sub> S Level         0           CO <sub>2</sub> Level         0           Gas Level         25p	e Incident D Trip Drill D Pit Drill ppm BOP Drill	456
Company	/ Man Vict	or Leroux	(905) 371 4614 (780) 678 5108	7:00 Bop Dr	lls (review well control procedures)	Safety Meetings / Tool	BOX TAIKS		
Company	/Man Trav	vis Young	(709) 721 1994	19:00 Bop Dr	lls (review well control proceedures)				
				TIME LOG -	00:00 to 24:00 (include Safety r	neetings and Tool box talks	)		
	FORMATIO	N/TOP : Congle	merate Snakes Bight (?)						
From D/ 3	S	HOWS : No sho	WS						
From [Hr]	10 [Hr]	Depth [m]	Uperation description Test back 2 manifold va	lves, outside kill line val	ve 1400kPa low and 11250kPa blabs	אר			
2:30 4:00 5:00 7:15 8:00 9:00 12:00 14:30 14:45 17:00 17:15 19:00 19:15	2:30 4:000 7:00 7:15 8:00 9:00 12:00 14:30 14:45 17:05 19:00 19:15 0:00	1731 1731 1731 1731 1731 1731 1733 1747 1756 1764	Test HCR/Manual chok Test annular 1400kPa I Test insite BOP and stal Slip & cut drilling line Handle directional tool Trip in hole with bit B5 Safety meeting Trip in hole with new B Rig up top drive & circu Drill from 1731.12m to Drill from 1731.12m to Drill from 1736.8 to 175 Hunction test BOP's (PI Drill from 1764.25 to 17 Work drill string from 1	e line valve/Pipe rams a w and 1050kPa (SOP, bips valve at 1400kPa l (QD405FX- PDC) and ne HA. late out air from trip 1738m 8m 6.44m 66.44m 9e Rams) and BOP Drill 64.25m 1731m, 768 to 1773m (drag ont	: 1400KPa low and 11250kPa high: Of f BOP working pressure) high: OK ow and 11250kPa high: OK. All tests ( w mud motor o string).	c	illing Regulations.		
	<u> </u>		•	TIME LOG - 2	24:00 to 6:00am (include Safety	meetings and Tool box talk	s)		
From [Hr]	To [Hr]	Depth [m]	Operation description						
1:45 2:00	2:00 6:00	1775.11	Barn Hom 1173-13 10 : Rig Service. Lunction te Drill from 1775.11 to 17	85m.					
					RIG TIME (operation duration	on in hours)			
Drilling Rig Servic Tripping Survey Circ./Com Pick up Bl	ce 14.2 0.25 2.75 d. 1 HA	5 Weld E DST Loggin Clean 1 Handle Run Ca	o Btm	Cemen WOC Nipple Press. 1 Repair Rig Up	tU/D2.5	Safety/BOP Reaming Slip and Cut Drill R & M hole Other LOT/FIT	0.75	Rig move Flow check TOTAL DOWNTIME	24
					24 HOURS FORECA	ST			
POOH, ru	ın packer to test i	olind rams and	RIH with insert bit.						

D	ate :	03/07/20	13	Well :	Hurricane#2 R	E		Ri	ig :	Fora	igaz#3				Pa	ge 2/2	
							DRILLI	NG MUD									
Fluid type		Polymer Bas	e			Solids			5			[kg/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co		Baroid	<u> </u>			Sands	-		0.5			[%]	' <b>-</b>	AME	Quantity	Concer	tration
Time Chec	ck	7:00				OWR	-					[%]	Cellosi	7P	2	Ba	aps
Mud Man		1.6.4.4				MBT	-		7			[kg/m <sup>3</sup>	1 Bi-acar	rb	-	Ba	185 185
		L Anthony				CI-	-		38000			[mg/L]	Defoar	ner	2	Pa	ails
Density		1095		[kg/	(m <sup>3</sup> 1	Calcium	-		360			[mg/L]	N-Vis	inc.		Ba	aes
Viscosity		49		[s/l]	<u> </u>	-		Vo	olumes Balanc	e			Barath	in		Ba	ags
P.V.		17		[cp]	. [	Vol hauled					[r	n³]	barabu	ıf	2	Ba	ags
Y.P.		6		[g/1	00cm <sup>2</sup> ]	Vol dumper	4	•			[r	n³1					-D-
Gels 10"/1	10'				000000	Circ loss					[r	n³]			COMMEN	TS	
Temperatu	ure					Boiler loss					[r	ทํๅ					
Pressure		10100				Daily Mud	Cost			\$1,7	25.50	,					
рН	_	9				Cum Mud C	lost			\$35,3	397.00	_				_	
Comm							BOTTOM HC	OLE ASSE	MBLY			ID [mm]	20 [mm]	Longth [n	-1 Cor	tion	Molaht
N° Comp	onent											ID [mm]	00 [mm]	Length (n	n] cor	nection	Weight
1 Bit Choice	- • Aud Motor (												159	0.29	2.5 Po	Reg P	
2 1000	e Νιαα Ινιστοι τ	meaium speeu -	/5 rpmj.									61	121	3.14	3.3 No	BAS.SIF P	
												01	120	0.05	2.51	3 X 3.5Ir r	
4 NW 10	OOL CARRIER											69	120	5.48	3.510	3 X 3.51F P	
5 GAP 5	ATTERV CARRI											08	11/	1.10	3.510	3 X 3.5IF P	
6 NIVI DA	ATTERY CANNI	ER										/0	120	3.90	3.510	3 X 3.51F P	
7 FLEAP	NM											69	116	9.35	3.511	3 X 3.5IF P	
8 JARS	1c											54	121	0.50	3.511	3 X 3.5IF P	
9 10 00	.5											58	115	88.55 222.14	3.510	3 X 3.5IF P	
10 24 Hvs	VDP											04	127	222.14	3.510	3 X 3.51r r	
			CS.					SI IDV/	EV						BOD STAC		
Pump		1		<del>,                                     </del>	Time	_	m MD	m TVI	D Azin	nuth	Inclinatio	n Deviation	op Item		Diam Imml	W.P. II	Pal
Make& Mc	ndel	Dragon 660	Wilso	n 600	22.20		1704.25	1699.7	73 28	2.9	2.2	3 54	Stack		228.6	1050	10
Liner v Sta	uck	9 1/2" Y 6	61/2	"X 14 -	2:15		1704.55	1700 1	14 29	61	2.2	0.76	Divort	or	220.0	1050	
CDM		70		<u></u>	7:40		1/13.//	1719	7 20	0.1	2.4	8 20			228.6	2100	0
Litre/Sk 10		0.012	00	152	9:25		1723.33	1728.1	17 43	3.1	1 4	1 93	C Blind	1	228.6	2100	10
Circ Bate		0.84		. 34 .	13:40		1732.0	1737.8	81 13	22	1.4	47	Other		228.6	2100	10
Pump Eff	_	90	c	Im <sup>*</sup> /mir	15:35		1742.44	1747 2	25 13	83	0.9	1.16	Stack		220.0	2100	
Pump Pres		8500		[kPa]	18:10		1751.00	1756 7	72 33	74	0.0	3 74	Divert	er			
Drillpine A		8400		[mm]	10.10		1701.50	1, 50.7	.2 55		0.0	5.74	Annula	ar			
Drill Collar		38.9		[mm]									5 Blind	-			
M	lud Cycle		70	[min]	-								Other				
+ Bo	ottom Up		30	[min]											TESTS		
M G	ud Tank		30.81	[m <sup>3</sup> ]									-	1	Date	Pres (k	Pal
υ Έ Η Ο	ole Volume		25.75	[m3]									Last BOP	0	2/07/2013	1125	
Sv	stem Vol.		56.56	[m <sup>3</sup> ]									Next BOP		_,,		
		BITS			-	STOC	к			I		c	ASING / CE	MENTING P	ROGRAM		
Bit	4	5	N°	Name	In	Used	Stock	1	Unit	Last Ci	asina	Surface		Last Casina	1		
Size	159	159	[mm]	Barite	288		288		sacs	Date		07/12/20	05	Date			
Mfg	Hughes	Hughes	-: :	Baracarb	-	8			sacs	grade		H-40	-	grade			
Туре	STX-35DX	QD405FX	-	Baroseal (M)	-				sacs	diam	-	177.8	[mm]	diam			[mm]
Serial	5217719	7137507	·	Soad ash	10		10		sacs	Lin We		25.3	[kg/m]	I in Weight			[kg/m]
Nozzle	3 x 15.9	5 x 12.7	- [mm <sup>2</sup> ]	N-Vis Plus	27	3	24		sacs	Nb Joir	nt			Nb Joint			
WOB	12	10	[daN]	Cellosize	122	31	91		sacs	Set at	-	323	[m]	Set at			[m]
RPM	40/75	40/75	[tr/min]	Barathin	15	4	11		sacs	Length	. –	323	[m]	Length			[m]
Flow	830	830	[l/min]	Citric Acid	15		15		sacs	Burst	. –	16000	[kPa]	Burst			[kPa]
Pres	11000	10100	[kPa]	Bicarb	30	17	13		sacs	Collap	se	10000	[kPa]	Collapse			[kPa]
From	1597.6	1731.12	[m]	Fuel	43,150	28917	14233		liters	Tensile	р <u>—</u>	54000	[daN]	Tensile	-		[daN]
То	1731.12	1773.13	[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]		-	TEST			т	ST	
Drilled	133.52	42	_[m]	Gynsum	20	-	20		sacs	Date		17/06/2	2013	Date		51	
Hours	56.5	14.25	[hrs]	Barabuf	20	3	17		sacs	Pressu	ure	11250	[kPa]	Pressure	-		[kPa]
-				Sodium	75	5	70		sacs				[ 0]				[
-			-	Defoamer	15	14	1		pails	Last Co	ement	Plug	_	Last Cemer	nt		
		CENTRIFUGE				C	ASING BOWL			Date	_	16/12/2005	5	Date			_
					Mala		Weath adved			Class	_	A		Class			_
Make	_		United		Make		Weatherford			Densit	.у	1520 [kg	/m³]	Density		[kg/m <sup>-</sup> ]	
OF density	Y		1085	[kg/m <sup>3</sup> ]	Serial		12110022005		,	Volum	ie	50 [m	°]	Volume		[m <sup>3</sup> ]	
UF density	y		1800	[kg/m <sup>3</sup> ]	Size OD		228.6	[m	nm]	Time t	O GL	[mi	in]	Time to GL		[min]	
Flow	_		750	[L/min]	Size ID		177.8	[m	nm]	Additiv	ves			Additives			
Last Dump	0				Rating		21,000	[ki	Pa]								
Comments	s:																
BOP drill a	and function te	st BOPs.															

		STCAI	V	DAILY	DRILLING REPO	RT N	° 20	Date : 04/07/2013 Well : Hurricane#2 RE Rig : Foragaz#3	
				Spud date :	17/06/2013	Well Licence #	EP 03-107	Page 1/2	
v	Veather @ 8:00 Wind Temperature	ov	light 10	mKB mGL 24h Avg ROP	149.97 145.7 1.8	Daily MD Total MD Expected MD	11 1786 1970	Daily Costs         \$52,000           Cum Costs         \$1,304,000           AFE         \$2,410,000	est.
Su	ummary of Daily	y Operations:	Drill to 1786mRF. S	et TAM packer in the 7"	casing and test Blind Rams (OK).				
Wher	n bleeding off pr	essure, packer o	deflated and dropped to	D. Fishing attempt#1 w	ith overshot#1 from TAM Internation	nal. Overshot#2 in preparation.			
Wo	orkers on site		Workers Injured	1	SAFETY SUMMA	RY IH	rs since last Medical	Treatment Case 480	
IEC Rig Others Total	4 11 8 21	IEC Rig Others Total			None to report	H H C G G	rs since last Lost Tim <sub>2</sub> S Level 0 <sub>2</sub> C Level 25p as Level 25p	e Incident 480 D Trip Drill D Pit Drill ppm BOP Drill 03/07/201	13
Company	Man Vic	tor Leroux	(780) 678 5108	7:00 Keepin	g rig floor clean / House keeping	Safety Meetings / 1001 B	OX TAIKS		
Company	Man Tra	avis Young	(709) 721 1994	19:00 Picking	up tubing				
				TIME LOG -	00:00 to 24:00 (include Safety	meetings and Tool box talks)			
	FORMATIC	ON/TOP : Congle	omerate Snakes Bight (?)						
From fu-1	To [Hr]	SHOWS : No sho	WS						
0:00	13 [HF] 1:45	1775 Jeptn [m]	Drill from 1773.13 to 1	775.11m					
1:45	2:00	1786	Rig Service: function te Drill from 1775.11 to 1	st Pipe Ram 5sec 786.15m					
7:00	7:15	1/00	Safety Meeting						
7:15 7:45	7:45 12:00	1786 1786	Drill from 1785.96 to 1 Trip out of hole and lay	786.15m (circulate up b down 1 single & rack ba	ottom hole sample) ck top drive. Flow check @1689m.3	377m, 236m. Handle directional to	ols.		
12:00	12:30	1786	Laydown directional to	ols. Function blind ram	3 sec to close.	,			
12:30 15:00	15:00	1786 1786	Pickup single set TAM Pressure test blind ram	backer to pressure test t 1: 1400 kPa low 11500 kl	plind rams. Set packer at 12.98mRF. Pa high. Both tests 15minutes each.	Test held.			
	15:45		Bleed off pressure and	open blind ram to retri	eve packer.				
15:45	19:00		Run in hole with 2-3/8	tun in 1 joint of tubing v tubing and overshot to	Iccate and latch packer.	retrieve packer. No tag.			
19:00	19:15	1700	Safety meeting			Dealers has defined and falled and			
19.15	0.00	1/00	continue to pick up 2-5	78 tubing with TAW OV	ersnot to retrieve packer assembly.	Packer has denated and left down	i the well.		
				TIME LOG -	24:00 to 6:00am (include Safet	y meetings and Tool box talks	)		
From [Hr]	To [Hr]	Depth [m]	Operation description						
3:30	3:30		Tag fish attempt to late	shot on 2-3/8" tubing h onto fish					
5:30	6:00		Prepare to slip and cut						
			1						
			1						
					RIG TIME (operation dura	tion in hours)			
Drilling Rig Servic	e 0.2	5 Weld E 5 DST	Bowl	Cemen	t	Safety/BOP Reaming	1	Rig move Elow check 0.75	
Tripping	3.5	5 Loggin	g	Nipple	U/D	Slip and Cut		0.75	
Survey Circ./Cond	d	Clean 1 Handle	to Btm	Press. Repair	est 0.75	Drill R & M hole Fishing	8	TOTAL 24	
Pick up Bł	HA 2.5	5 Run Ca	asing	Rig Up		LOT/FIT		DOWNTIME	
						۵ST			
					24 HOURS FUREL				
POOH an	d check whethe	er packer has be	en retrieved. RIH with bi	gger overshot made up	and retrieve fish.				

D	Date :	04/07/201	13	Well :	Hurricane#2 F	RE		Rig	:	Forag	gaz#3				Pag	e 2/2	
							DRILLI	ING MUD									
Fluid type	e	Polymer Base	e e e e e e e e e e e e e e e e e e e		— ,	Solids		5	_			[kg/m <sup>3</sup>	1		ADDITIVES AD	DED	
Mud Co		Baroid			ļ	Sands		0.	5			[%]	' I I	NAME	Quantity	Concer	ntration
Time Che	ck	7:00			1	OWR						[%]	Cellosi	ze		Ba	ags
Mud Man	1	L Anthony			1	MBT		7				íke/m <sup>3</sup>	h Bi-aca	rb		Ba	ags
		L Althony			1	CI-						[mg/L]	Defoa	mer	1	Pa	ails
Density		1095		[kg	/m³]	Calcium		40	0			[mg/L]	N-Vis			Ba	ags
Viscosity		53		[s/l	Ë I			Volur	nes Balano	æ			Barath	nin		Ba	ags
P.V.		17		[cp]	i I	Vol hauled					[	m <sup>3</sup> ]	barab	uf	1	Ba	ags
Y.P.		6.5		[g/:	100cm <sup>2</sup> ]	Vol dumper	1	· · ·			[	m <sup>3</sup> ]					-
Gels 10"/2	10'				· · · · · ·	Circ loss		_			(	m <sup>3</sup> ]			COMMENT	rs	
Temperat	ture				1	Boiler loss		_			(	m³]					
Pressure		10100			1	Daily Mud (	Cost			\$99	15						
рН		8.5	_			Cum Mud C	ost			\$36,3	392			_			
	nonent						BOLLOW HC	DLE ASSEMBI	.Y			ID [mm]	OD [mm]	Length in	vi Con	vection	Weight
1 TAM	OVERSHOT											10 ()	159	0.49	23/	8 FUF	**C·D···
> TUBIN	NG											50.67	60.33	1784.37	2 3/	8 FUE	
3																0101	+
4														1			
5																	+
5																	
7																	+
°																	+
0																	ł
10														1			
10																	
		HYDRAULIC	~					SURVEY			_				BOP STACK		
Pymp		1			Time		m MD	m TVD	Azir	muth	Inclinatio	Deviation	op Item		Diam (mm)	W.P. II	kPai
Make&M	Indel	Dragon 660	Wilso	n 600	18:10	+-	1761.26	1756.72	33	27.4	0.6	3.74	Stack		228.6	1050	10
Liner x Str	ode.	8 1/2" X 6	61/2	"X 14 .	22:05		1701.50	1756.72	34	10.1	0.0	0.65	Divert	or	220.0	****	10
CDW	dCK	70					1//0.16	1/00.72		.0.1	U.0	0.00	i Annul	er ar	778.6	2100	20
litre/Sk 1		0.012	0.0	152 -			I		1				Blind		228.6	2100	n
Circ Bate		0.84		. 3/			I						Other		228.6	2100	10
Pump Eff		90		1m / mi	ni		I						Stack				
Pump Pre		8500		[kPa]			I		1				Divert	or			
Drillpipe /	AV	8400		[mm]			I		1				Annul	ar			
Drill Colla	ar AV	38.9		[mm]			I						Blind		·		
M	Aud Cycle		70	[min]			I						Other				
ter B∕	ottom Up		30	[min]			I								TESTS		
, ci	Aud Tank		26.76	 [m <sup>3</sup> ]			1							1	Date	Pres [	kPa]
ъ н	lole Volume		25.75	[m <sup>3</sup> ]			I						Last BOP	0	2/07/2013	1125	50
S	ystem Vol.	-	52.21	[m <sup>3</sup> ]			1						Next BOP				
		BITS			_	STOC	к				•	Ċ	ASING / CE	MENTING P	ROGRAM		
Bit	5	6	N°	Name	In	Used	Stock		Unit	Last Ca	sing	Surface	2	Last Casing	9		
Size	159	159	[mm]	Barite	288	(	288		sacs	Date	-	07/12/20	05	Date			
Mfg	Hughes	Hughes	-	Baracarb		8			sacs	grade	_	H-40	-	grade		-	-
Туре	QD405FX		-	Baroseal (M)		1			sacs	diam	_	177.8	[mm]	diam			[mm]
Serial	7137507		-	Soad ash	10	í	10		sacs	Lin Wei	ght –	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	5 x 12.7		[mm <sup>2</sup> ]	N-Vis Plus	27	3	24		sacs	Nb Joint	t –		-	Nb Joint			-
WOB	11		[daN]	Cellosize	122	31	91		sacs	Set at		323	[m]	Set at			[m]
RPM	40/75	40/75	[tr/min]	Barathin	15	4	11		sacs	Length		323	[m]	Length			[m]
Flow	830	830	[l/min]	Citric Acid	15	· · · · · ·	15		sacs	Burst	_	16000	[kPa]	Burst			[kPa]
Pres	11000		[kPa]	Bicarb	30	17	13		sacs	Collapse	2	10000	[kPa]	Collapse			[kPa]
From	1731.12	1786.15	[m]	Fuel	43150	31066	12084		liters	Tensile		54000	[daN]	Tensile			[daN]
То	1786.15		[m]	Drill Water	21.8	L'	21.8		[m <sup>3</sup> ]			TEST			TES	Т	
Drilled	55.03		[m]	Gypsum	20	· · · · · ·	20		sacs	Date	_	17/06/3	2013	Date			_
Hours	21.5		[hrs]	Barabuf	20	3	17		sacs	Pressur	e	11250	[kPa]	Pressure			[kPa]
			-	Sodium	75	5	70		sacs						-	-	
			<u> </u>	Defoamer	15	15	0		pails	Last Cer	ment	Plug		Last Cemer	nt		
		CENTRIFUGE				C	ASING BOWL			Date	_	16/12/200	5	Date			
Make					Make		Weatherford			Class	-	1520		Class		<i>n n</i> 3	
iviake			United	— , I	Carlal		weatherford			Density	-	[kg	/m°]	Density	-	_[kg/m]	
UF densit			1085	[kg/m1	Serial		12110022003	[mm]		volume	-	m] 06	1	volume	-	-[m]	
or defisit	y		1800	[kg/m³]	Size OD		220.0	[[1111]		I ime to	GL _	Įm	inj	Time to GL	·	[min]	
FIOW			750	[L/min]	Size ID		1/7.8	[mm]		Additive	25			Additives			
Last Dum	p				Kating		21,000	[кра]		_							
Comment	ts:			ch Channala													
Mudman	will get more o	Jeformer out of wa	arenouse in :	st George's.													

Å	INVE	STCA	v	DAILY	DRILLING REPO	RT	N° 21	Date : 05/07/2013 Well : Hurricane#2 RE Rig : Foragaz#3
	En	ergy Cor	D	Spud date :	17/06/2013	Well Licence	# EP 03-107	Page 1/2
s	Weather @ 8:00 Wind Temperature ummary of Daily	Operations:	light 10	mKB mGL 24h Avg ROP	149.97 145.7 0 failed Fishing attempt#2 (tubing at	Daily MD Total MD Expected MD modified overshot1: failed	0 0 1970	Daily Costs         \$34,100         est.           Cum Costs         \$1,345,300             AFE         \$2,410,000
					named. Framing attempting (tubing v	modified oversition, named		
					SAFETY SUMMAR	RY		
UEC Rig Others	4 11 8	IEC Rig Others	Workers Injured 0 0 0		Incidents / Injuries None to report		Hrs since last Medical Hrs since last Lost Tim H <sub>2</sub> S Level CO <sub>2</sub> Level	Treatment Case         432           e Incident         432           0         Trip Drill           0         Pit Drill
Rig Mana Company	ger Gre Man Vict	g McKinnon or Leroux	(905) 371 4614 (780) 678 5108	7:00 Proced	ures on tripping tubing	Safety Meetings / Too	I Box Talks	pm 60° 0m 05/07/2013
Company	Man Trav	is Young	(709) 721 1994	20:00 Pressur	e equipment			
				TIME LOG -	00:00 to 24:00 (include Safety	meetings and Tool box talk	s)	
	FORMATIO	N/TOP : Congl	omerate Snakes Bight (?)					
Free Pr	S S	HOWS : No sh	omerate with sand matrix ows					
0:00 3:30 5:30 7:30 7:45 11:30 13:15 13:30 13:15 13:30 20:00 20:15	330 530 730 731 1130 1315 1330 1830 2000 2015 0:00	1786	Continue RIH with over Tag fish, attempt to lat Rig service. Slip & cut d Safety Meeting Trip out of hole with tu Modify cut lip on overs Rig service Trip in hole with cut lip Top of fish tagged @ 1 Safety Meeting POOH. flow check on th	shot#I on 2-3/8" tubing horto fish. Flow check filling line. Jone Flow check @ 893 hot#2. Flow check while overshot and 2-3/8" tul zeam. Circulate to top of ne way out.	T784m.     n, 323m.     out of hole.     ing to attempt to retrieve TAM pac     fish	ker, Flow check @ 875m ( .01m	i3 loss).	
				TIME LOG - 2	4:00 to 6:00am (include Safety	r meetings and Tool box tal	ks)	
From [Hr	To [Hr]	Depth [m]	Operation description					
0:30	1:00 6:00		Modify cut lip overshot RIH with modify oversh	(sharper) ot#3 on 2-3/8" tubing.				
					RIG TIME (operation durat	ion in hours)		
Drilling Rig Servio Tripping Survey Circ./Con Pick up B	ce 0.25 12.5 d	Weld DST Loggin Clean Handl Run C	Bowl	Cemen WOC Nipple Press. T Repair Rig Up	J/D	Safety/BOP Reaming Slip and Cut Drill R & M hole Fishing LOT/FIT	0.5 2 7.75	Rig move         1           Flow check         1           TOTAL         24           DOWNTIME         0.5
					24 HOURS FORECA	101		
POOH w	ith custom made	overshot#3. A	ttempt to retrieve fish wi	ile lining up other optic	ns.			

	Date :	05/07/20	13	Well :	Hurricane#2	RE		Rig :		Foraga	az#3				Pa	ge 2/2	
							DRILL	ING MUD									
Fluid ty	oe	Polymer Bas	se			Solids		5				[kg/m <sup>3</sup> ]			ADDITIVES A	DDED	
Mud Co		Baroid				Sands		0.5				[%]	N	AME	Quantity	Concer	tration
Time Ch	eck	7:00				OWR						[%]	Cellosi	ze		Ba	gs
Mud M	in					MBT		7				[ka/m <sup>3</sup> ]	Bi-acar	b		Ba	es
		L. Anthony	<i>,</i>			CI-		380	00			[mg/L]	Defoar	ner		Pa	ils
Density		1095		[ka	(m <sup>3</sup> 1	Calcium		40	)			[mg/L]	N-Vis			Ba	øs
Viscosit	/	55		[s/l	]			Volur	nes Balano	e			Barath	in		Ba	0- 05
P.V.		19		[cp		Vol hauled					ĺm	1	barabu	ıf		Ba	в <sup>2</sup>
Y.P.		8		[a/	100cm <sup>2</sup> 1	Vol dumpe	d				[m <sup>3</sup>	ĥ					0-
Gels 10	/10'	-			Loocini I	Circ loss					[m <sup>3</sup>	ń			COMMEN	тs	
Temper	ature					Boiler loss					(m <sup>1</sup>	ĥ	Cum	mud costs inc	lude Mud engi	neer day rate (4	995/dav)
Pressur	2	-				Daily Mud	Cost			\$1,30	2	,					,
рH		8.5				Cum Mud	Cost			\$37,69	93						
							воттом н	OLE ASSEMBL	Y								
N° Cor	nponent											ID [mm]	OD [mm]	Length [m	] Con	nection	Weight
1 TAP	I OVERSHOT												159	0.9	2 3	/8 EUE	
2 TUE	ING											50.67	60.33	1784.37	2 3	/8 EUE	
3																	
4																	
5																	
6																	
7												_					
8																	
9																	
10																	
		HYDRAUL	ICS					SURVEY							BOP STACE		
Pump	_	1	_	2	Time		m MD	m TVD	Azir	nuth	Inclination	Deviation	OP Item	Di	am [mm]	W.P. [k	Paj
Make&	Nodel	Dragon 660	Wilso	n 600									Stack		228.6	1050	0
Liner x S	tack	8 1/2" X 6	6 1/2	"X 14 -									Diverte	er			
SPM		70		-									≣ Annula	ir	228.6	2100	0
Litre/Sk	100%	0.012	0.0	152 -									Blind		228.6	2100	0
Circ Rat	9	0.84		[m <sup>3</sup> /mi	nl								Other		228.6	2100	0
Pump E	ff	90	9	0 [%]									Stack				
Pump P	ress	8500		[kPa]									_ Diverte	er			
Drillpipe	AV	8400		[mm]									∯ Annula	ır			
Drill Col	ar AV	38.9		[mm]									Blind				
	Mud Cycle		70	[min]									Other				
뵨	Bottom Up		30	[min]											TESTS		
LC L	Mud Tank		26.76	[m <sup>3</sup> ]											Date	Pres [k	Pa]
0	Hole Volume		25.75	[m <sup>3</sup> ]									Last BOP	02	/07/2013	1125	0
	System Vol.		52.21	[m³]									Next BOP				
		BITS				STOC	ж					c	ASING / CE	MENTING PR	ROGRAM		
Bit	6	6	N°	Name	In	Used	Stock		Unit	Last Casi	ing	Surface		Last Casing			
Size	159		[mm]	Barite	288		288		sacs	Date		07/12/200	)5	Date			
Mfg	Hughes		-	Baracarb		8			sacs	grade		H-40	-	grade			-
Туре	STX-30DX		-	Baroseal (M)					sacs	diam		177.8	[mm]	diam	-		[mm]
Serial	52052668		-	Soad ash	10		10		sacs	Lin Weigh	ht	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	3 x 15.9		[mm <sup>2</sup> ]	N-Vis Plus	27	3	24		sacs	Nb Joint			-	Nb Joint			-
WOB			[daN]	Cellosize	122	31	91		sacs	Set at		323	[m]	Set at			[m]
RPM	-		[tr/min]	Barathin	15	4	11		sacs	Length		323	[m]	Length	-		[m]
Flow			[l/min]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres			[kPa]	Bicarb	30	17	13		sacs	Collapse		10000	[kPa]	Collapse			[kPa]
From	1786.15		[m]	Fuel	43150	31066	12084		iters	Tensile		54000	[daN]	Tensile	-		[daN]
То			[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]		Т	EST			TE	ST	
Drilled			[m]	Gypsum	20		20		sacs	Date		17/06/2	013	Date			
Hours	-		[hrs]	Barabuf	20	3	17		sacs	Pressure	_	11250	[kPa]	Pressure	-		[kPa]
			-	Sodium	75	5	70		sacs	1							
				Defoamer	20	15	5		pails	Last Cem	nent	Plug		Last Cemen	t		
		CENTRIFICO	-				ASING ROW	_	_	Date		16/12/2005	-	Date			
		CENTRIFUG	-			C	ASING BOWL			Class		А		Class	-		
Make			United		Make		Weatherford			Densitv		1520 [kg/	/m <sup>3</sup> 1	Density	-	[kg/m <sup>3</sup> ]	
OF dens	ity		1085	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume		50 [m <sup>3</sup>	]	Volume	-	[m <sup>3</sup> ]	
UF dens	ity		1800	[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to 0	GL	[mii	n]	Time to GL	-	[min]	
Flow			750	[L/min]	Size ID		177.8	[mm]		Additives			· · · ·	Additives	-		
Last Du	np				Rating		21,000	[kPa]							-		
Comme	nts:				B												
comme																	
	INVES	STCAN	v	DAIL	Y DRILLING REPO	ORT	N° 22	Date : Well :	06/07/2013 Hurricane#2 RE								
---	---	--	--	--	---	---	--	---	---								
	Ene	ergy Corp	2	Spud date :	17/06/2013	Well Licence	ce # EP 03-107	115.	Page 1/2								
\	Weather @ 8:00 Wind Temperature		clear light 12	mKB mGL 24h Avg ROP	149.97 145.7 0	Daily MD Total MD Expected MD	0 0 1970	Daily Costs Cum Costs AFE	\$34,500 est. \$1,380,000 \$2,410,000								
Su Fishir	ummary of Daily	Operations: Hmodified over	Fishing attempt#3 (	tubing + modified ove	rshot with sharpen lips): failed. ated d/t circulation: unable to deflat	e packer.											
	5 F. A				SAFETY SUMM	ARY											
Wo	orkers on site	\ \	Workers Injured		Incidents / Injuries		Hrs since last Medical	Treatment Case	528								
IEC Rig Others Total Rig Mana	4 11 8 21	IEC Rig Others Total	0 0 0 0 0		None to report	Sofatu Maatings / Te	Hrs since last Lost Time H <sub>2</sub> S Level CO CO <sub>2</sub> Level CO Gas Level 25p	e Incident ) Trip Drill ) Pit Drill pm BOP Drill	528								
Company	Man Victo	or Leroux	(780) 678 5108	7:00 Proce	edures on tripping tubing	Salety Weetings / To	JOI DOX TAIKS										
Company	Man Trav	is Young	(709) 721 1994	19:00 Hous	e keepine												
				TIME LOG	- 00:00 to 24:00 (include Safet	y meetings and Tool box ta	lks)										
	FORMATION	LOGY : Conglo	omerate Snakes Bight (?)														
From Dr. 1	Si Si	IOWS : No sho	Operation description														
0:00 0:30 1:00 9:30 9:45 12:00 14:30 14:45 15:30 20:00 20:15 21:15	0:30 1:00 7:00 9:30 9:34 12:05 14:30 14:45 14:45 20:05 20:15 20:15 20:15 20:15 20:15 20:15	1786	Waiting on orders Sharpen the lip of the c RiH with modified over AttemptR to latch on Safety meeting : review Pull out of hole and lay Rijs service. Function te Wait on orders and cle Trip in hole. Rijs to and Safety meeting: house Fishing: wash down to Attempt to deflate pac	vershot shot to føh. After several at lavjng døvn tubing g døvn tubing string. F døvn tubing string. F st blind rams while ou an rig floor run fishing tools on dr kæping top of fish and attemp fær and unstick packer	tempts to turn tubing to latch tubin roceedures low check @ 893m, 320m, & out of I tof hole: 3 sec. to close III pipe. Run in hole to recover single t#4 to latch on. Packer latched, and by rotating and pulling 72-75 daN: to	g string could not rotate. Trip o nole. The packer was not latche set TAM packer. Flow Check ( inflated due to circulation. unsuccessful ty meetings and Tool box ta	vut to check fishing assem vd on. 9 half way in hole. <b>alks</b> ]	bly.									
From [Hr]	To [Hr]	Depth [m]	Operation description		•	, .	•										
0:00	6:00		viscussion with Ar: dec	isson to unlatch off fis	וי פווע כוועלגאני טעפי זוגה												
					<b>RIG TIME (operation dura</b>	ation in hours)											
Drilling Rig Servic Tripping Survey Circ./Con Pick up Bl	e 0.25 12 d. HA	Weld E DST Loggin Clean t Handle Run Ca	Bowl g to Btm e Tools assing	Ceme WOO Nippl Press Repa Rig U	nt 1.2 e U/D	Safety/BOP 5 Reaming Slip and Cut Drill R & M ho Fishing LOT/FIT	le	Rig move Flow check TOTAL DOWNTIME	1 24 1.75								
					24 HOURS FORE	CAST											
Attempt 1	to wash around p	acker, latch or	nto fish and unstick from	wellbore.													

	Date :	06/07/20	13	Well :	Hurricane#2	RE		Rig :		Forag	az#3				Pa	ge 2/2	
							DRILL	ING MUD									
Fluid ty	pe	Polymer ba	se			Solids		5				[kg/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co		Baroid				Sands		0.5				[%]		NAME	Quantity	Concer	tration
Time Ch	ieck	7:00				OWR					-	[%]	Cellosi	ze		Ba	igs
Mud M	an	L Anthon	v			MBT		7				íke/m³	ם Bi-acar	rb		Ba	igs
			,			CI-		3800	00			[mg/L]	Defoar	ner		Pa	ils
Density		1095		[kg/	m³]	Calcium		440	)			[mg/L]	N-Vis			Ba	igs
Viscosit	y .	53		[s/l]				Volun	nes Balano	te		,	Barath	in		Ba	igs
P.V.		21		[cp]		vol hauled					[m	1]	barabu	ıf		Ba	igs
T.P.	140	0		[g/1	00cm²]	Voi dumper	3				[n	1]				-	
Gels 10	/10 ature	-				CIFC IOSS Roiler loss					[m	1"] .31			COMMEN	15	
Prossur	ature	-				Doily Mud	Cort			\$00	[m	1]					
nH	5	8.5				Cum Mud C	ost			\$38.6	5						
pri						cummuu	воттом н	OLE ASSEMBL	Y	<i><b>4</b>00/</i>							
N° Cor	nponent											ID [mm]	OD [mm]	Length (m	] Con	nection	Weight
1 TAP	A overhot (modif	fied)											159	0.9	23	/8 EUE	
2 DC'	s											58	115	53.34	3	1/2 IF	
3 HW	DP											58	115	221.71	3	1/2 IF	
4																	
5												L	l		-		
6															_		
1												<b> </b>	l		-		
8												<b> </b>	l		-		
9													l		-		
10															_		
		HYDRAUL	ICS					SURVEY							BOP STACE		
Pump		1		2	Time		m MD	m TVD	Azir	nuth	Inclination	Deviation	OP Item	Di	am [mm]	W.P. [F	:Paj
Make&	Vodel	Dragon 660	Wilso	n 600									Stack		228.6	1050	0
Liner x S	stack	8 1/2" X 6	6 1/2	"X14 -									Divert	er			
SPM	-	70		-									i≣ Annula	ar	228.6	2100	0
Litre/Sk	100%	0.012	0.0	152 -									□ Blind		228.6	2100	0
Circ Rat	e	0.84		[m <sup>3</sup> /mir	1								Other		228.6	2100	0
Pump E	ff	90	9	0 [%]									Stack				
Pump P	ress	8500		[kPa]									Divert	er			
Drillpip	AV	8400		[mm]										ar			
Drill Col	lar AV	38.9		[mm]	_								Blind				
	Mud Cycle		70	[min]									Other		TECTO		
ri	Bottom Up		30	[min]											TESTS	Darra II	0-1
ž	Hele Velume		20.70	[m]									Lock DOD	03	Date 1/07/2012	FIES [F	raj
Ŭ	System Vol		52.73	[m]									Novt BOP	02	/0//2015	112:	0
	System voi.	DITC	J2.21			STOC	v			1			ASING / CE	MENTING D	DOCRAM		
Dia	E	BIIS		Nome	l n	SIUC	.K.		11				ASING / CE	WENTING P	RUGRAM		
Sizo	159	8	N•	Name	200	Useu	200 X		Cace.	Last Cas	ung	07/12/20	2	Last Casing			
Mfg	Hughes		-	Baracarb	200	8	200		sacs	grade		H-40	-	grade			
Type	STX-30DX			Baroseal (M)	-	0			sars	graue		177.8	[mm]	graue			[mm]
Serial	52052668			Soad ash	10		10		sacs	Lin Woi	what	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	3 x 15.9		f	N-Vis Plus	27	3	24		sacs	Nh loint			-	Nh loint			-
WOB			[daN]	Cellosize	122	31	91		sacs	Set at		323	[m]	Set at			[m]
RPM			[tr/min]	Barathin	15	4	11		sacs	Length		323	[m]	Length			[m]
Flow			[l/min]	Citric Acid	15		15		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres	-		[kPa]	Bicarb	30	17	13		sacs	Collapse		10000	[kPa]	Collapse			[kPa]
From	1786.15		[m]	Fuel	49090	32367	16723		iters	Tensile		54000	[daN]	Tensile			[daN]
То			[m]	Drill Water	21.8		21.8		[m <sup>3</sup> ]			TEST			TE	ST	
Drilled			[m]	Gypsum	20		20		sacs	Date		17/06/2	2013	Date			
Hours			[hrs]	Barabuf	20	3	17		sacs	Pressur	e	11250	[kPa]	Pressure			[kPa]
1			_	Sodium	75	5	70		sacs								
				Defoamer	20	15	5		pails	Last Cer	nent	Plug		Last Cemen	t		
_		CENTRIFUG	E			0	ASING BOWL			Date		16/12/200	5	Date			
			1		del.e		Weath 1			Class		A		Class			
Make			United		viake		weatherford			Density		1520 [kg	/m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	
UF dens	ity		1085	[kg/m <sup>3</sup> ]	Serial		12110022005	[m ]		Volume		50 [m	1	volume		_[m <sup>-</sup> ]	
Elow			1800	[kg/m <sup>3</sup> ]	Size ID		177.0	[mm]		Time to	GL	[m	inj	rime to GL		[min]	
Last Dev			730	[L/1111]	Rating		21,000	[kPs]		Additive				Additives			
Commo	nts:				willing .		21,000	[Krd]						L			
comme																	
1																	
1																	
1																	
1																	
1																	
1																	

		STCA	P	DAIL	/ DRILLING REPO	DRT	N° 23	Date : 07/07/2013 Well : Hurricane#2 RE Rig : Foragaz#3
				Spud date :	17/06/2013	Well Licen	ice # EP 03-107	Page 1/2
1	Veather @ 8:00 Wind Temperature		clear light 12	mKB mGL 24h Avg ROP	149.97 145.7 2.3	Daily MD Total MD Expected MD	15 1801 1970	Daily Costs         \$56,700         est.           Cum Costs         \$1,436,600            AFE         \$2,410,000
Si	ummary of Daily	Operations:	Fishing attempt#4:	work packer free and F	ЮОН.			
Make	up 159mm 617 E	Baker Tri-cone	bit on Choice Directional	assembly. Run in hole a	ind drill ahead.			
				-	SAFETY SUMM	ARY		
UEC Rig Others Total Rig Mana	4 11 6 21 ger Greg	IEC Rig Others Total g McKinnon	Workers Injured 0 0 0 0 (905) 371 4614		Incidents / Injuries	Safety Meetings / T	Hrs since last Medical Hrs since last Lost Time H <sub>2</sub> S Level CO CO <sub>2</sub> Level C Gas Level 25p fool Box Talks	Treatment Case         552           e Incident         562           0         Trip Drill           0         Pit Drill           pm         BOP Drill         07/07/2013
Company Company	Man Victo Man Trav	or Leroux is Young	(780) 678 5108	7:00 Drink	fliuds to remain hydrated while wo	rking in the heat.		
company	indi indi	15 TOULS	(105)121 1554	19:00 House	keeping			
	FORMAT		and the first sector in the sector	TIME LOG	00:00 to 24:00 (include Safe	ty meetings and Tool box ta	alks)	
		LOGY: Congl	omerate Snakes Bight (?) omerate with sand matrix					
From [Hr]	To [Hr]	HOWS : Very 1 Depth [m]	faint fluorescence Operation description					
6:00 6:00 7:00 11:10 11:15 11:30 12:00 16:00 17:15 19:00 19:15 From [Hr]	6:00 7:00 7:15 11:00 12:00 12:00 17:15 19:00 19:15 0:00	1786 1791 1801 Depth [m] 1804	Relatch and work fish, J Relatch and work fish, J Trip out of hole with fis Safety meeting Continue to trip out Rig service. Clean floor Handle fishing tools; la Rig service. Clean floor Handle fishing tools; la Continue trip in hole. F Circulate and washdow Drill from 1786.12 to 1: Safety meeting: BOP d Drill from 1790.71 to 1: Drill from 1790.71 to 1: Drill from 1801.16 to 1:	r severa attemps to dr OOH. hing assembly. Flow ch and function test blind drown fishing assembly embhy and run in hole two check @893m lay o n 2 singles down 90.71m rill. 001.16m	Hate packer, oscussion with AF an leck @1690m, 893m and out of ho ram: 3 sec to close. y & fish (TAM Single set packer) lown singles, pick up top drive and own singles, pick up top drive and 24:00 to 6:00am (include Safe	to decision to unlatch off packe le. continue to drill forward	r and circulate over it.	
2:15 2:30	2:30 6:00	1807	Rig Service Drill from 1804 to 1807	m	RIG TIME (operation dur	ation in hours)		
Drilling	6.5 0.25	Weld	Bowl	Ceme	nt	Safety/BOP Reaming	0.25	Rig move
Tripping Survey Circ./Con Pick up Bl	d	Loggi Clean Hand Run C	ng to Btm le Tools casing	1 Repair Rig Up	U/D Test	Slip and Cut Drill R & M ho Fishing LOT/FIT	6	other         0.5           TOTAL         24           DOWNTIME
				I	24 HOURS FORE	CAST		
Drill ahea	d to TD.							

	Date :	07/07/20	13	Well: H	lurricane#2	RE		Rig :		Forag	az#3				Pag	e 2/2	
							DRILL	ING MUD									
Fluid tv	pe	Polymer Bas	ie			Solids		5				[ka/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co		Baroid				Sands		0.5				[%]	· •	JAME	Quantity	Concer	tration
Time Ch	eck	7:00				OWR						[%]	Cellosi	70	Quantity	Ba	age
Mud M	an					MBT		10.	5			- 1	Bi-acar	rh		Ba	162 102
		L. Anthony	,			CI-		370	-			[kg/m [mg/l]	Defear	mor		De	alle
Density		1090		D-= /-	.3,	Calcium		44	)			[mg/l]	N-Vic	iiei		P 6	2015
Viscosit	v	49		[kg/r [s/l]	n I	culcium		Volur	nes Balano	<b>1</b> 0		[***6/*]	Rereth	in .		De	igs
P V	,	16		[://]		Vol hauled		<b>V</b> olui	ics building		Í.e.	31	Barath	un .f		Ba	igs
V P		6		[cp]		Vol dumner	4				[11	1 ] ,31	UdidUu			De	iR2
Gold 10	'/10'			[g/10	Ucm <sup>-</sup> ]	Circ loss	-				[11	31			COMMEN	re	
Temper	ature					Roiler loss				<i>.</i>	0 [m	1 ] ,31			COMMENT	5	
Proceur	ature	10100				Daily Mud	Cort			\$995	nj <mark>0</mark>	1]					
Pressur	e	0.0				Daily Widd	COSL			¢20.00	2.00						
рн		6.5							v	\$39,00	3.00						
N° Cor	nponent						Borrowin					ID [mm]	OD [mm]	Length Im	Conr	rection	Weight
1 Bit	stx 40dx 617												159	0.18	3	5 IF	
2 Cho	ice Mud Motor (	medium speed -	75 rpm).										121	9.06	3	SIF	
3 UBI	10											82	165	0.87	3	SIE	
4 NM	TOOL CARRIER											69	120	5.48	3	5 IF	
5 GAL	SUB											68	117	1 16	3		
C NM	BATTERY CAPPIN	FR										70	126	3.96		5 IF	
	V NM											20	116	0.25	3	510	
	c INIVI											29	121	5.55	3	.JIF FIF	
8 JAR	5 4 75											54	121	0.56	3	. 51F	
9 DC	4.75											58	115	88.89	3	5 IF	
10 DP												L					
1												1 -					
			~					SU IDVEV							BOD STACK		
		IIIDIAOLI	6					JORVET							BOF STACK		
Pump		1		2	Time		m MD	m TVD	Azir	nuth	Inclination	Deviation	OP Item	Di	am [mm]	W.P. [F	Paj
Make&	Model	Dragon 660	Wilso	n 600	19:15		1789.59	1784.95	33	6.4	1.3	0.67	Stack		228.6	1050	0
Liner x S	stack	8 1/2" X 6	6 1/2	"X14 -									to Diverte	er			
SPM	_	70												ar	228.6	2100	0
Litre/Sk	100%	0.012	0.0	152 -									Blind		228.6	2100	0
Circ Bat	e	0.84		. 3/									Other		228.6	2100	0
Pump F		90		Im /min									Stack				
Rump D		8500		[kBa]									Divorte	or			
Drillning	ΔV	8400		[mm]									e Annula	ar			
Drill Col		39.0		[mm]									D Dlind	10			
Drin Col	Mud Cuelo	30.5	70	[min]	-								Other				
	Rottom Un		70	[[[[[]]]]									oulei		TECTO		
E,	Bottom Up		30	[min]											TESTS		
i,	widd rank		29.3	[m*]											Date	Pres (F	araj
0	Hole volume		31.3	[m"]									Last BOP	02	/0//2013	1125	NU .
	System Vol.		60.6	[m"]									Next BOP				
		BITS				STOC	к					c	ASING / CE	MENTING PR	ROGRAM		
Bit	6		N°	Name	In	Used	Stock		Unit	Last Cas	ing	Surface	2	Last Casing			
Size	159		[mm]	Barite	288		288		sacs	Date		07/12/20	05	Date			
Mfg	Hughes			Baracarb		8			sacs	grade		H-40	-	grade			
Type	STX-40DX		-	Baroseal (M)					sacs	diam		177.8	[mm]	diam			[mm]
Serial	5186682			Soad ash	10		10		sacs	Lin Wei		25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	3 x 15.9		[mm <sup>2</sup> ]	N-Vis Plus	27	3	24		sacs	Nb Ioint	· –			Nb Joint			
WOB			[daN]	Cellosize	122	31	91	1	sacs	Set at		323	[m]	Set at			[m]
RPM	-		[tr/min]	Barathin	15	A .	11		sacs	Length		323	[m]	Length			[m]
Flow	-		[l/min]	Citric Acid	15		15		sacs	Buret		16000	[kPa]	Buret			[kPa]
Pres	-		[kPa]	Bicarb	30	17	13		sacs	Collance	. –	10000	[kPa]	Collance	-		[kPa]
From	1796 15		[m]	Fuel	AO EEE	34207	152/10		iters	Tor -"	·	54000	[daN]	Tonsil			[daN]
То	1/00.15		- [m]	Dellation	10,000	54207	21.0		r31	rensilê		54000	fequal	rensile		· <b>T</b>	[agia]
Drillod			- [m]	Cuprum	21.0		21.8		[if] ]	Data		17/00 "	0012	Data	LE3	01	
Hours			- [hre]	Gypsum	20		20		sdCS	Date	_	1//06/2	1013	Date			
nours			[111.2]	Barabut	20	3	1/	I	30.5	Pressur	6	11250	[кРај	Pressure			[кРа]
			-	Sodium	75	5	/0		sacs			DL					
			_	Deroamer	20	15	5		palls	Last Cer	nent	rlug		Last Cemen	·		
		CENTRIFUGE				C	ASING BOWL			Date		10/12/2005	<u> </u>	Date			
										Class		A		Class			
Make	. –		United	N	таке		weatherford			Density		1520 [kg	/m³]	Density		[kg/m³]	
OF dens	ity		1085	[kg/m <sup>3</sup> ] S	erial		12110022005	-		Volume		50 [m	1	Volume	-	[m³]	
UF dens	aty		1800	[kg/m <sup>3</sup> ] S	ize OD		228.6	[mm]		Time to	GL	[mi	in]	Time to GL	-	[min]	
Flow	_		750	[L/min] S	ize ID		177.8	[mm]		Additive	25			Additives			
Last Du	np		<u> </u>	R	ating		21,000	[kPa]		<u> </u>				<u> </u>			
Comme	nts:																
li																	
li																	

		<b>STCA</b> ergy Cor		DAIL	y drilling repo	DRT	N°	24	Date : Well : Rig :	08/07/2013 Hurricane#2 RE Foragaz#3
				Spud date :	17/06/2013	We	ll Licence #	EP 03-107		Page 1/2
١	Veather @ 8:00 Wind Temperature		clear light 12	mKB mGL 24h Avg ROP	149.97 145.7 2.2	Daily M Total M Expected		37.3 1842 1970	Daily Costs Cum Costs AFE	\$44,000 est. \$1,480,600 \$2,410,000
Su	ummary of Daily	Operations:	Drill from 1801.16n	n to 1841m						
Down	itime. work on i	ig brakes and r	nuu pump							
		-		1	SAFETY SUMM	IARY				
IEC Rig Others Total Rig Mana	4 12 6 22 ger Gru	IEC Rig Others Total	Workers Injured 0 0 0 0 (905) 371 4614		None to report	Safety Meet	Hrs Hrs H <sub>2</sub> S CO <sub>2</sub> Gas tings / Tool Box	since last Medical since last Lost Time Level 0 Level 0 Level 25p Talks	Preatment Case Incident Trip Dri Pit Drill Pm BOP Dri	576 576 I II 08/07/2013
Company	Man Vic Man Tra	tor Leroux	(780) 678 5108	7:00 Safe	y Inspection: Safety pins & safety lin weeting on increased hole drag or	nes				
company	indin inte	No roung	(103) 121 1334	19:00 BOP	drill with crew coming off long chan	ge				
	FORMATIO			TIME LOG	- 00:00 to 24:00 (include Safet	ty meetings and Too	l box talks)			
	FORMATIC	OLOGY : Congl	omerate - Snakes Bight (? omerate with sand matrix	1						
From [Hr]	To [Hr]	Depth [m]	Operation description							
0:00 2:15 2:30 7:15 12:00 7:15 12:00 12:15 19:00 19:15 From [H] 0:00 0:45	2:15 2:30 7:00 7:15 12:00 12:15 18:45 19:00 19:15 0:00	1804.0 1808.0 1808.0 1820.1	Drill from 1801.16 to 11 Rig Service: function pi Drill from 1804 to 1805 Safety Meeting. Drill from 1808.74 to 11 Safety meeting. Drill from 1820.14 to 11 Rig Service: check oil at BOP drill with crew con Downtime - Drawwork: Downtime - Drawwork: Rig service : change ou Drill from 1841.31 to 11	004m 904m 4 sec. to close 74m 320.14m 41.31m 41.31m 41.31m 41 grease swivel, bloc hing off long change work on brake pots work on brake pots two brake pots two brake pots two brake pots	k booster and adjust brakes - 24:00 to 6:00am (include Safe	ety meetings and Toe	ol box talks)			
Drilling Rig Servic Tripping Survey Circ./Con Pick up Bl	e d	25 Weld 5 DST Clean Handl Run C	Bowl Ig to Btm e Tools asing	Cem WoO Nipp Pres Repz Rig L	RIG TIME (operation dur.	ation in hours) Safety Ream Slip ar Drill R 75 LOT/F	//BOP ing nd Cut : & M hole g iT	0.75	Rig move Flow check other TOTAL DOWNTIME	 
					24 HOURS FORE	CAST				
Drill ahea	d to 1970m or t	op basement v	vhichever comes first							

	Date :	08/07/20	13	Well: H	lurricane#2	RE		Rig :		Forag	az#3				Pag	e 2/2	
							DRILL	ING MUD									
Fluid ty	<i>be</i>	Polymer Bas	ie			Solids		5				[ka/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co		Baroid				Sands		0.5				(%)		NAME	Quantity	Concer	tration
Time Ch	eck	7:00				OWR						[%]	Cellosi	70	2	R	105
Mud Ma	in					MBT		10.	5			[kg/m <sup>3</sup>	Bi-aca	rb	-	Ba	105
		L. Anthony				CI-		360	00			[mg/L]	Defoar	mer		Pa	ails
Density		1095		[ka/m	31	Calcium		56	)			[mg/L]	N-Vis			Ba	105
Viscosit	,	62		[s/l]				Volur	nes Balano	e			Barath	in		Ba	105
P.V.		22		[cp]		Vol hauled					ĺn	1	barabi	uf		Ba	105
Y.P.		7		[a/10	0cm <sup>2</sup> 1	Vol dumper	d				[n	3	soda a	sh	4	Ba	105
Gels 10'	/10'				ociii 1	Circ loss					(n	3			COMMEN	rs	-0-
Temper	ature					Boiler loss					(n	้ำ					
Pressur		-				Daily Mud	Cost			\$1,537	7.12						
рH		8.5				Cum Mud C	Cost			\$41,22	5.49						
							BOTTOM H	OLE ASSEMBL	Y								
N° Con	ponent											ID [mm]	OD [mm]	Length [m	Conr	nection	Weight
1 Bit	TX- 40DX (617)												159	0.18	3	5 IF	
2 Cho	ice Mud Motor (	medium speed -	75 rpm).										121	9.06	3	.5IF	
3 UBH	10											82	165	0.87	3	.5IF	
4 NM	TOOL CARRIER											69	120	5.48	3	5 IF	
5 GAF	SUB											68	117	1.16	3	.5IF	
6 NM	BATTERY CARRIE	ER										70	126	3.96	3	5 IF	
7 FLE	NM											29	116	9.35	3	.5IF	
8 JAR	5											54	121	6.56	3	.5IF	
9 DC	1.75											58	115	88.89	3	5 IF	
10 DP															1		
		HYDRALIU	~					CUDVEY.							BOD STACK		
		monoc	6					JORVET							BOF STACK		
Pump		1		2	Time		m MD	m TVD	Azir	nuth	Inclination	Deviation	OP Item	Di	am [mm]	W.P. [F	(Pa]
Make&I	Aodel	Dragon 660	Wilso	n 600	19:15		1789.59	1784.95	33	6.4	1.3	0.67	Stack		228.6	1050	10
Liner x S	tack	8 1/2" X 6	6 1/2	"X14 -									<u>به</u> Divert	er			
SPM		70		-									🚆 Annula	ar	228.6	2100	0
Litre/Sk	100%	0.012	0.0	152 -									Blind		228.6	2100	00
Circ Rat	2	0.84		[m <sup>3</sup> /min]									Other		228.6	2100	00
Pump E	f	90	g	0 [%]									Stack				
Pump P	ess	8500		[kPa]									_ Divert	er			
Drillpipe	AV	8400		[mm]									∯ Annula	ar			
Drill Col	ar AV	38.9		[mm]									O Blind				
	Mud Cycle		67.5	[min]									Other				
.±	Bottom Up		25.1	[min]											TESTS		
5	Mud Tank		27.9	[m <sup>3</sup> ]											Date	Pres [k	Pa]
ü	Hole Volume		33.4	[m <sup>3</sup> ]									Last BOP	02	/07/2013	1125	60
	System Vol.		61.3	[m <sup>3</sup> ]									Next BOP				
		BITS				STOC	к					с	ASING / CE	MENTING PR	OGRAM		
Bit	6		N <sup>o</sup>	Name	In	Used	Stock		Unit	Last Cas	ina	Surface	,	Last Casina			
Size	159		[mm]	Barite	288		288		sacs	Date		07/12/20	05	Date	-		
Mfg	Hughes		'	Baracarb		8			sacs	grade		H-40	-	grade	-		-
Type	STX-40DX			Baroseal (M)					sacs	diam		177.8	[mm]	diam	-		[mm]
Serial	5186682			Soad ash	10	4	6		sacs	Lin Weig		25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	3 x 15.9		[mm <sup>2</sup> ]	N-Vis Plus	27	3	24		sacs	Nb Joint				Nb Joint			
WOB	Dec-14		[daN]	Cellosize	122	33	89		sacs	Set at		323	[m]	Set at			[m]
RPM	40		[tr/min]	Barathin	15	4	11		sacs	Length		323	[m]	Length			[m]
Flow	878		[l/min]	Citric Acid	15		15	1	sacs	Burst	-	16000	[kPa]	Burst	-		[kPa]
Pres	10000		[kPa]	Bicarb	30	17	13		sacs	Collapse	-	10000	[kPa]	Collapse	-		[kPa]
From	1786.15		[m]	Fuel	52,937	35407	17530		iters	Tensile		54000	[daN]	Tensile			[daN]
То			[m]	Drill Water	21.8		21.8	1	(m <sup>3</sup> )			TEST			TF	T	
Drilled			[m]	Gypsum	20		20		sacs	Date		17/06/2	2013	Date	16.		
Hours			[hrs]	Barabuf	20	3	17	1	sacs	Pressure	р <u>—</u>	11250	[kPa]	Pressure			[kPa]
	-			Sodium	75	5	70		sacs		-		( v)				(.a. 9)
			-	Defoamer	20	15	5		pails	Last Cer	nent	Plug	_	Last Cement			
										Date		16/12/2005	5	Date			
		CENTRIFUGE				c	ASING BOWL			Class		A	_	Class			_
Make			United	N	lake		Weatherford			Density		1520 r	/m <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	_
OF dens	ity		1085	[ka/m <sup>3</sup> 1 Si	erial		12110022005			Volume		50 [m	( <sup>111</sup> )	Volume		[m <sup>3</sup> ]	
UF dens	ity		1780	[kg/m <sup>3</sup> ] Si	ze OD		228.6	[mm]		Time to	GL	. [m	inl	Time to GI		[min]	
Flow	·		750	[L/min] Si	ze ID		177.8	[mm]		Additive	·	Lun.	· · · ·	Additives		_ ·····1	
Last Du	np			R	ating		21.000	[kPa]		, a a la							
Comme	nts:		•				22,000	[ U]									
comme																	
1																	

		EST Enerav	CAN Corp		DAIL	Y DRILLING REP	ORT	N	25	Date : Well : Rig :	09/07/2013 Hurricane#2 RE Foragaz#3
					Spud date :	17/06/2013		Well Licence #	EP 03-107		Page 1/2
	Weather @ 8: Wind Temperatur	:00	cle lig	ear ght	mKB mGL 24h Avg ROP	149.97 145.7 1.4	- 	Daily MD Total MD spected MD	12.69 1854 1970	Daily Costs Cum Costs AFE	\$68,000 est. \$1,548,500 \$2,410,000
5	ummary of D	aily Operat	tions:	Drill to 1955m BOO	H to replace mud mo	or and drill hit. PIH with new mu	d motor and RDC	hit		-	
				<u></u>	into replace mua mo	of and drift bic. Kill widthew hid		bit.			
						SAFETY SUM	MARY				
W	orkers on site	IEC	W	orkers Injured		Incidents / Injuries		Hrs	s since last Medical T	reatment Case	600
Rig Others Total	12 6 22	Rig Otl	z B hers tal	0		None to report		H <sub>2</sub> S CO	5 Level 0 2 Level 0 5 Leve	Trip Dril Pit Drill	
Rig Mana	ager	Greg McKir	nnon	(905) 371 4614			Safe	ty Meetings / Tool Bo	x Talks		
Company	/ Man / Man	Victor Lero Travis Your	ng	(709) 721 1994	7:00 House	e keeping: Maintain a clean safe v	vork area. Ensure	trapped pressure is bl	led off before workin	ng on high pressure	lines
					19:45 Pay d	ose attention to new crew memb - 00:00 to 24:00 (include Sa	er while tripping. fety meetings a	nd Tool box talks)			
	FORMA	TION/TOP :	Conglon	nerate - Kennels Brook			,				
	L	SHOWS :	Interbeo No show	dded conglomerate with	sandstones and red s	Itstones increasing red beds					
From [Hr	To [Hr]	Depth	[m]	Operation description	value in the Mud Por	an rotate rode change lube'*-	n fluid				
0:00	7:00	1	851	Drill from 1841.31 to 18	valve in the Mud Pur 51m	np, rotate rods, change lubricatio	n fluid.				
7:00	7:15	1	851 852	Safety Meeting. Drill from 1851 to 1852	n						
7:30	8:00	1	852	Downtime: tighten and	grease washpipe pacl	ing.					
8:00 11:00	11:00 11:45	1	855	Drill from 1852.23 to 18 Drill string pressured up	54.78m and blew pop valve.	Attempt to regain circulation. Tri	p out to check for	mud motor failure.			
11:45	12:00			Flow check @ 1854m							
12:00	12:45	1	855	Trip out of hole flow ch Downtime: replace brai	eck @1827m re booster						
14:30	17:00			Trip out of hole flow ch	eck @ 923m						
17:00	18:00	1	955	Downtime - Hoisting : n	epair hydraulic oil leal	of hole					
19:15	19:45	1		Check and laydown mu	d motor.	of fible.					
19:45	20:00			Safety meeting.	nick up and cat now p	otor mud and commo					
21:00	21.00	1	855	Trip in hole, flow check	half way in (0.05m3 lo	ss) and at 290m (0.04m3 loss)					
					TIME LOG -	24:00 to 6:00am (include Sa	afety meetings a	and Tool box talks)			
From [Hr 0:00	To [Hr] 0:30	Depth	[m]	Operation description RIH							
0:00	0:45			Rig Service							
0:45	2:45	1	867	Pick up Top Drive and w Drill from 1854 to 1866.	rash down 3 singles, P 5 m	attern bit					
						RIG TIME (operation d	uration in hours	)			
Drilling	ce	9.5	Weld Bo	lwo	Ceme	nt		Safety/BOP Reaming	0.5	Rig move	
Tripping		8.5	Logging	_	Nippl	e U/D		Slip and Cut		Other	
Survey Circ /Cor	nd.		Clean to Handle	Btm Tools	Press	Test	3.75	Drill R & M hole Fishing		TOTAL	24
Pick up B	HA		Run Cas	ing	Rig U			LOT/FIT		DOWNTIME	3.75
						24 HOURS FOI	RECAST	L		1	
						24110011010					
Drill ahe	ad to 1970m c	or top base	ment wh	ichever comes first							

· ·	Date :	09/07/20:	13	Well: H	urricane#2 I	RE		Rig	:	Forag	gaz#3				Pa	ge 2/2	
							DRILLI	ING MUD									
Fluid typ	e	Polymer bas	e			Solids						[kg/m <sup>3</sup>	1	1	ADDITIVES A	DDED	
Mud Co		Baroid				Sands		0	5			[%]		NAME	Quantity	Conce	ntration
Time Ch	eck	7:00				OWR						[%]	Cellosi	78	1	B	ags
Mud Ma	n					MBT		10	.5			[ka/m <sup>3</sup>	Bi-acar	rb	4	в	ags
		L Anthony				CI-		360	000			[mg/L]	Defoar	mer	1	Р	ails
Density		1090		[ka/m	31	Calcium		44	10			[mg/L]	N-Vis		5	в	ags
Viscosity		52		[s/l]				Volu	mes Balano	ce			Barath	in	2	в	ags
P.V.		19		[cp]		Vol hauled					ĺm	3	barabu	ıf	-	в	ags
Y.P.		7		[g/10	0cm <sup>2</sup> 1	Vol dumpe	d				(m	<sup>3</sup> į́	soda a	sh	0	в	ags
Gels 10"	/10'				ochi i	Circ loss					[m	3			COMMEN	TS	-0-
Tempera	ature					Boiler loss					[m	3					
Pressure						Daily Mud	Cost			\$2,0	48	·					
pH		9				Cum Mud C	Cost			\$43,	273						
						-	BOTTOM H	OLE ASSEMB	LY								
N° Com	ponent											ID [mm]	OD [mm]	Length [m]	Cor	nection	Weight
1 Bit D	P307S PDC												159	0.18		1.5 IF	
2 Choi	ce Mud Motor (	medium speed -	/5 rpm).										121	9.06		3.51F	
3 UBH	0											82	165	0.87		3.5IF	
4 NM	TOOL CARRIER											69	120	5.48		1.5 IF	
5 GAP	SOR											68	117	1.16		3.5IF	1
6 NM	BATTERY CARRI	ER										70	126	3.96		1.5 IF	
7 FLEX	NM											29	116	9.35	1	3.5IF	
8 JARS												54	121	6.56	1	3.5IF	
9 DC 4	.75											58	115	88.89		1.5 IF	
10 DP																	
															1		1
		HYDRALIUM	~r					CUDVEY							RODSTAC		
		HYDRAULI	15					SURVET							BOPSTAC	•	
Pump		1		2	Time		m MD	m TVD	Azir	muth	Inclination	Deviation	OP Item	Dia	am [mm]	W.P. [	kPaj
Make&N	Aodel	Dragon 660	Wilso	on 600	19:15		1789.59	1784.95	33	36.4	1.3	0.67	Stack		228.6	105	00
Liner x S	tack	8 1/2" X 6	6 1/2	"X14 -	22:25		1798.99	1794.34	33	37.8	1.3	0.1	Diverte	er			
SPM		70		-	6:25		1808.47	1803.83	34	13.3	1.4	0.52	E Annula	ar	228.6	210	00
Litre/Sk	100%	0.012	0.0	152 -	11:05		1817.87	1813.22	34	12.8	1.4	0.4	ם Blind		228.6	210	00
Circ Rate		0.84		[m <sup>3</sup> /min]	14:15		1827.31	1822.66	34	10.2	1.4	0.2	Other		228.6	210	00
Pump Ef	f	90	9	90 [%]	17:25		1836.84	1832.19	34	14.5	1.2	0.7	Stack				
Pump Pr	ess	8500		[kPa]	2:25		1845.47	1840.82	34	19.2	1	0.76	, Diverte	er			
Drillpipe	AV	8400		[mm]							-		Annula	ar			
Drill Coll	ar AV	38.9		[mm]									O Blind				
	Mud Cycle		67.5	[min]	-								Other				
+	Bottom Up		28.1	[min]											TESTS		
E E	Mud Tank		34.3	[m <sup>3</sup> ]										1	Date	Pres [	kPa]
ι Έ	Hole Volume		34.1	[m <sup>3</sup> ]									Last BOP	02/	07/2013	112	50
	System Vol.		68.4	[m <sup>3</sup> ]									Next BOP				
		DITC		1		(70)				T					000000		
Bit	6	BI13 7	au <b>Q</b>	Name	In	lised	.n. Stock	-	Unit	Last Ca	eina	Surface	ASING / CE	Last Casing	OGRAIN		
Sizo	150	150	 [mm]	Parito	200	oscu	200		6200	Data	sing	07/12/20	05	Data	-		
Mfg	Hughes	Hughes	- []	Baracarb	250	6	200		sacs	Date		H-40	-	grado			
Type	STY-40DY	002075		Baroseal (M)	200	0			5365	graue		177.9	[mm]	graue			[mm]
Sorial	5196697	7022500		Soad ach	10		6		5005			25.2	[ka/m]		-		[ka/m]
Nozzle	3 x 15 0	5 x 12 7 2 x 11	1, 2.	N-Vis Plus	27	4	22		sacs	Nh loin	ειις <u>–</u>	23.3	-	Nh loint			
WOB	14	- A 12.7 2 A 11.	[mm]	Cellosize	122	24	80		sars	NID JOIN	·	373	[m]	Cot at	-		[m]
RPM	40		[tr/min]	Barathin	15	54 C	0		sacs	Jongth		323	[m]	Jerath			[m]
Flow	979		[l/min]	Citric Acid	15	6	5		5305	Length		16000	[kDa]	Length			[kpa]
Pres	10000		[kPa]	Bicarb	20	21	15		sacs	Burst	. –	10000	[kPa]	Burst Collor			[kPa]
From	1796 15	1954 79	[m]	Fuel	52027	37501	15/12/		liters	Collaps	e —	54000	[daN]	Tonsil			[daN1
To	1/00.15	1034.78	_ [11]	r uel	3235/	57501	10430		, 3,	rensile		54000	[udiv]	rensile			frigini
Drillad	1024.78		[[11]	Urill Water	21.8		21.8		[m]]	2.4	1	151	042	Dete	TE	21	
Hours	24.25		[brc]	Gypsum Darrahu (	20		17		Sacs	Date		1//06/2	013	Date			11.0-2
nours	54.20		[1115]	Barabut	20	3	1/		adus	Pressur	е	11250	[кра]	Pressure			[кРа]
	-		-	Sodium	75	5	/0		sdCS	larer		Dł		1 met C			
<b>—</b>				Peroamer	20	10	4		hall2	Last Ce	ment	riug		Last Cement			
		CENTRIFUGE				C	ASING BOWL			Class		10/12/2005	,	Date			
1.4-1			-		al.a		14/			class		A		Ciass			
маке	. –		United	M	lane		weatnerford			Density	_	1320 [kg	/m³]	Density		[kg/m <sup>*</sup> ]	
UF densi	ty		1085	[kg/m³] Se	eriai		12110022005			Volume	· _	50 [m	1	volume		[m*]	
UF densi	ty		1810	[kg/m <sup>3</sup> ] Si	ze OD		228.6	[mm		Time to	GL	[mi	nj	Time to GL		[min]	
FIOW			750	[L/min] Si	ze iD		1/7.8	[mm]		Additiv	es			Additives			
Last Dun	пр			R	ating		21,000	[kPa]		<u> </u>				l			
Commer	nts:																
l																	
l																	
1																	

		STCA ergy Cor		DAILY	DRILLING REPO	DRT	N° 26	Date : Well : H Rig :	LO/07/2013 urricane#2 RE Foragaz#3
				Spud date :	17/06/2013	Well Lice	ence # EP 03-107		Page 1/2
١	Weather @ 8:00 Wind Temperature		clear light 15	mKB mGL 24h Avg ROP	149.97 145.7 1.8	Daily MD Total MD Expected MD	28 1882 1970	Daily Costs Cum Costs AFE	\$36,200 est. \$1,585,000 \$2,410,000
Si	ummary of Daily	Operations:	Drill to 1882mRF.	Frip out of hole to chang	e BHA.				
-									
					SAFETY SUMN	IARY			
Wo IEC	orkers on site 4	IEC	Workers Injured 0		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Tin	l Treatment Case ne Incident	624 624
Rig Others Total	12 6 22	Rig Others Total	0 0 0		None to report		H <sub>2</sub> S Level CO <sub>2</sub> Level Gas Level 20	0 Trip Drill 0 Pit Drill ppm BOP Drill	
Rig Mana Company	ger Gre Man Vic	eg McKinnon tor Leroux	(905) 371 4614 (780) 678 5108	7:00 House	keening/ Renair oil leaks asan & c	Safety Meetings / lean up any spills.	Tool Box Talks		
Company	Man Tra	vis Young	(709) 721 1994	19:00 Laving	down HW drill nine				
				TIME LOG -	00:00 to 24:00 (include Safe	ty meetings and Tool box	talks)		
	FORMATIC	N/TOP : Congl	omerate - Kennels Brook						
	LITH	OLOGY : Intert SHOWS : No sh	edded conglomerate wit ows	h sandstones and red sill	tstones increasing red beds				
From [Hr]	To [Hr]	Depth [m]	Operation description						
0:45 2:45 7:00 7:15 12:01 17:00 17:00 19:00	2:45 7:00 7:15 12:00 17:00 19:00 0:00 7:0 [Hr] 0:30 0:45 2:00 3:30	1870 1878 1882 1882 1882 1882	Pick up Top Drive and Drill from 1854 to 186 Safety meeting Drill from 1869 95 to 1 Drill from 1878 nto 18 Condition mud and cir Take off top drive. Trip Ale off top drive. Trip Operation description POOH Lay down 8 DC Rig Service Handle Directional toc Silo/Cut Drill Line Rie S	wash down 3 singles, pa 9.95m 182.42m culate: increase mud we o out of hole to change E TIME LOG - TIME LOG -	ttern bit ight and attempt to regain rotatic IHA. Flow check @1792m (0 loss), 24:00 to 6:00am (include Saf	in. Work pipe and attempt to 850m (0.02m3 loss), 150m (0 950m (0.02m3 loss), 150m (0 950m (0.02m3 loss), 150m (0.02m3 loss), 1	drill 0.05m3 loss) x talks)		
5:00 5:15 Drilling Rig Servic Tripping Survey Circ./Con Pick up Bi		Weld 5 DST 5 Loggi Clean Hand Run C	Flow check (0.01 M3 k RIH with new tricone l Bowl rg rg to Btm asing	SSS) SIT WOO Nipple Press. Repair Rig Up	RIG TIME (operation dur t	ation in hours) Satety/80P Reaming Silp and Cu Dorlift & A Fishing LOT/FiT	t 0.25 t hole	Rig move Flow check Other TOTAL DOWNTIME	
					24 HOURS FOR	CAST			
Drill ahea	nd to 1970m or t	op basement v	vhichever comes first						

Date :	10/07/20:	13	Well :	Hurricane#2	RE		Rig	:	Forag	gaz#3				Pa	ge 2/2	
						DRILLI	NG MUD									
Fluid type	Polymer Bas	e			Solids		f	5.5			[kg/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co	Baroid			, i	Sands	-	(	J.5			[%]	' r	NAME	Quantity	Concer	ntration
Time Check	7:00			, i	OWR	-					[%]	Cellosi	ze	0	B	ags
Mud Man	L Anthony			, i	MBT	-		14			[kg/m <sup>3</sup>	1 Bi-acar	rb	0	Ba	ags
	L Althony			, i	CI-	-	50	0000			[mg/L]	Defoar	mer	1	Pr	ails
Density	1150		[kg/	/m <sup>3</sup> ]	Calcium		4	140			[mg/L]	N-Vis		0	Br	ags
Viscosity	53		[s/l	i'''' I			Volu	umes Balanc	e			Salt		70	B	ags
P.V.	20		[cp]	j I	Vol hauled		-	-		[1	m³]	Barite		96	Ba	ags
Y.P.	7		[g/:	100cm <sup>2</sup> ]	Vol dumpe	b	-			[	m <sup>3</sup> ĺ	soda a	sh	0	Ba	ags
Gels 10"/10'				ooch. ,	Circ loss		-		-	[	m <sup>3</sup> j			COMMEN	TS	
Temperature			· · · · · ·	, i	Boiler loss		-		-	[	m <sup>3</sup> ]					
Pressure	-			I	Daily Mud	Cost	-		\$4,8	378	-					
рН	9				Cum Mud C	Cost			\$48,	151						
						воттом но	OLE ASSEMI	BLY								
N° Component											ID [mm]	OD [mm]	Length [n	n] Cor	nection	Weight
1 Bit TC537												159	0.19	3.	IFPIN	
2 Motor												121	9.06		3.5IF	
3 UBHO											82	165	0.87		3.5IF	
4 NM TOOL CARRI	ER										69	120	5.48		.5 IF	
5 GAP SUB											68	117	1.16		3.5IF	
6 NM BATTERY CA	RRIER										70	126	3.96		.5 IF	Γ
7 FLEX NM											29	116	9.35		3.5IF	
8 JARS											54	121	6.56		3.5IF	Γ
9 DC 4.75											58	127	17.41		i.5 IF	Γ
10 HWDP												121	222.09		3.5if	
	HYDRAULI	CS					SURVEY							BOP STACE		
Pump	1		2	Time		m MD	m TVD	Azin	nuth	Inclinatio	on Deviation	OP Item	6	Diam [mm]	W.P. [F	kPaj
Make&Model	Dragon 660	Wilso	n 600	2:25		1845.47	1840.82	34	9.2	1	0.76	Stack		228.6	1050	0
Liner x Stack	8 1/2" X 6	6 1/2	X14 -	9:45		1854.91	1850.03	3	56	1.2	0.76	po Divert	er			_
SPM	70			5:05		1863.69	1859.03	0	.3	1.2	0.31	E Annula	ar	228.6	2100	10
Litre/Sk 100%	0.012	0.0	152 -			I						□ Blind		228.6	2100	00
Circ Rate	0.84		[m³/mi	nl			1					Other		228.6	2100	0
Pump Eff	90	9	0 [%]			I						Stack				
Pump Press	8500		[kPa]				1					Divert	er			
Drillpipe AV	8400		[mm]				1					∯ Annula	ar			
Drill Collar AV	38.9		[mm]			I						O Blind				
Mud Cycle		67.5	[min]				1					Other				
.별 Bottom Up		28.1	[min]				1							TESTS		
전 Mud Tank		34.3	[m <sup>3</sup> ]				i i							Date	Pres [k	(Pa]
O Hole Volume		34.1	[m <sup>3</sup> ]									Last BOP	0	2/07/2013	1125	50
System Vol.		68.4	[m <sup>3</sup> ]									Next BOP				
	BITS				STOC	к					c	ASING / CE	MENTING P	ROGRAM		
Bit 7	8	N°.	Name	In	Used	Stock		Unit	Last Ca	sing	Surface	<u> </u>	Last Casing			
Size 159	159	[mm]	Barite	288	96	192		sacs	Date	_	07/12/20	05	Date	-		
Mfg Hughe	s Hugnes	-	Baracarb	250	ь	244		sacs	grade	-	H-40	÷ .	grade	-		-: .
Type DP307	S TC537		Baroseal (M)	80	0	80		sacs	diam	_	177.8	[mm]	diam	-		[mm]
Serial 703250	0 5205268	-	Soad ash	10	4	6		sacs	Lin Wei	ight	25.3	[kg/m]	Lin Weight	_		[kg/m]
Nozzle 5 x 12.7 2 x	(11.1 3X20	[mm <sup>2</sup> ]	N-Vis Plus	27	5	22		sacs	Nb Join	t _			Nb Joint			
WOB 9		[daN]	Cellosize	122	34	88		sacs	Set at	_	323	[m]	Set at			[m]
RPM 25		[tr/min]	Barathin	15	6	9		sacs	Length	-	323	[m]	Length	-		[m]
Flow 850		[l/min]	Citric Acid	15	0	15		sacs	Burst	_	16000	[kPa]	Burst			[kPa]
Pres 9200		[kPa]	Bicarb	30	21	9		sacs	Collapse	e	10000	[kPa]	Collapse			[kPa]
From 1854.7	8 1882.4	[m]	Fuel	52937	38456	14481		liters	Tensile		54000	[daN]	Tensile			[daN]
To 1882.4	4	[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]			TEST			TE	ST	
Drilled 27.66		[m]	Gypsum	20	0	20		sacs	Date	_	17/06/2	2013	Date			_
Hours 14		[hrs]	Barabuf	20	3	17		sacs	Pressur	'e	11250	[kPa]	Pressure			[kPa]
		-	Sodium	75	75	0		sacs		. –						
			Detoamer	20	17	3		pails	Last Cel	ment	Plug 16/12/2009		Last Cemei	nt		
	CENTRIFUGE			1 1	C	ASING BOWL			Class	-	A		Class			
Make		United		Make		Weatherford			Density	. –	1520 [kg	/m <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	
OF density		1	085 [kg/m <sup>3</sup> ]	Serial		12110022005		-	Volume	-	50 [m	1	Volume		[m <sup>3</sup> ]	
UF density		1	810 [kg/m <sup>3</sup> ]	Size OD		228.6	[mm	1]	Time to	GL	 [mi	in]	Time to GL		[min]	
Flow			750 [L/min]	Size ID		177.8	[mm	1	Additiv	es —		· · ·	Additives			
Last Dump				Rating		21,000	[kPa	.]								
Comments:																
Start centrifuge at 5a	m, stop centrifuge af	: 8am.														

a						NDT.	NO 37	Date : 11/07/2013
A	INVE	STCAI	V	DAIL	DRILLING REPC	JKI	N° 27	Well : Hurricane#2 RE
	EI	nergy Corp	2	Spud date :	17/06/2013	Well Licen	ce # EP 03-107	Page 1/2
,	Weather @ 8:00	)	clear	mKB	149.97	Daily MD	35	Daily Costs \$38,500 est
	Wind Temperature		light 15	mGL 24h Avg ROP	145.7 2.42	Total MD Expected MD	1917 1970	Cum Costs \$1,646,200 AFE \$2,410,000
S	ummary of Dail	y Operations:	Drill to 1917mKB					
					SAFETY SUMM	ARY		
W	orkers on site		Workers Injured		Incidents / Injuries		Hrs since last Medical	Treatment Case 648
IEC Rig Others	4 12 6	Rig Others	0		None to report		Hrs since last Lost Tim H <sub>2</sub> S Level CO <sub>2</sub> Level	teincident         648           0         Trip Drill           0         Pit Drill
Rig Mana	ger Gr	reg McKinnon	(905) 371 4614			Safety Meetings / T	ool Box Talks	ppm BOP Drill
Company	Man Vi	ctor Leroux	(780) 678 5108	0:00/9:00 Laying	down drill collars			
company	IVIGIT TT	avis roung	(705) 721 1554	19:00 Crew	andover safety meeting.			
				TIME LOG	00:00 to 24:00 (include Safet	ty meetings and Tool box ta	alks)	
	FORMATI	ON/TOP : Congle	omerate , Limestone, San	istone				
	LITI	HOLOGY : Sands SHOWS : Verv f	tone and conglomerate aint residual					
From [Hr]	To [Hr]	Depth [m]	Operation description					
0:00	0:30	1882	POOH Lay down 8 DC.	Safety meeting on layir	g down collars			
0:30	2:00		Handle directional tool	pe ram, 5 sec to close s , RIH				
2:00	3:30		Slip/cut drill line. Rig se	rvice drawworks brake	S.			
3:30 5:00	6:15		Trip in hole, Flow check	@940m (0.01m3 loss				
6:15	9:00	1882	Pick up singles to repla	ce drill collars, pick up	op drive, fill pipe, circulate out air a	and wash to bottom		
9:00	9:15	1882	Safety Meeting Pattern bit and drill fro	m 1887m to 1888m				
12:00	12:15	1889	Drill from 1888m to 18	88.5m				
12:15	12:30	1889	Safety Meeting					
12:30	19:00	1901	Safety meeting	Jim				
19:15	0:00	1917	Drill from 1901 to 1917	m				
				TIME LOG -	24:00 to 6:00am (include Safe	ety meetings and Tool box	talks)	
From [Hr	To [Hr]	Depth [m]	Operation description					
0:00	2:45	1928	Drill from 1917 to 1927 Big service function to	.83m st nine rams and appu	ar			
3:00	5:00	1935	Drill from 1927.83 to 1	935.38m	u1			
5:00	5:30	1027	Circulate bottoms up	226.5				
5:30	6:00	1937	Drill from 1935.38 to 1	136.5,				
					RIG TIME (operation dura	ation in hours)		
Drilling	14	5 100014	Bowl	Como	t and the toperation dura	Cofety/DOD	0.75	Rig move
Rig Servic	ce 0.2	25 DST		W00		Reaming	0.75	Flow check 0.25
Tripping	5.	5 Loggin	ig	Nipple	U/D	Slip and Cut	1.5	Other
Circ./Con	d	Handle	e Tools	1.25 Repai		Fishing		TOTAL 24
Pick up B	НА	Run C	asing	Rig Up		LOT/FIT		DOWNTIME 1.5
					24 HOURS FORE	CAST		
Dellak	d to 1070m	ton hocomo-+	hishover somes fir-+					
orini anea	a to 12/0m 0f	top pasement w	micilever comes first					

	Date :	11/07/20	13	Well :	Hurricane#2	RE		Rig	; :	Forag	gaz#3				Ра	ge 2/2	
							DRILLI	ING MUD									
Fluid typ	2	Polymer Bas	se			Solids			7			[kg/m <sup>3</sup>	1		ADDITIVES /	ADDED	
Mud Co		Baroid				Sands			0.5			[%]	' ,	NAME	Quantity	Conce	atration
Time Che	ck	7:00				OWR						- [%]	Colloci	NAME.	Quantity	Conce	age
Mud Mar						MRT			14				- Di aco	ze rb		D	ags
Ividu Ividi		L. Anthony	/			CI .			14			_ [kg/m <sup>-</sup>	1 BI-aca	rb		в	ags
						U-			5000			_ [mg/L]	Defoar	mer	2	Р	ails
Density		1160		[kg	(m³]	Calcium			440			[mg/L]	N-Vis			В	ags
viscosity		51		[S/	J			Vol	umes Balano	ce		-	Salt			В	ags
P.V.		18		[cp		Vol hauled		_			[n	າ້]	Barite			В	ags
Y.P.		5		[g/	100cm <sup>2</sup> ]	Vol dumper	d	_			[m	າ"]	soda a	sh		В	ags
Gels 10"/	10'	3				Circ loss					[m	1 <sup>3</sup> ]			COMME	NTS	
Tempera	ture					Boiler loss		-			[m	1 <sup>3</sup> ]					
Pressure						Daily Mud	Cost	-		\$1,60	8.10						
pH		8.5				Cum Mud C	Cost		-	\$49,75	58.84						
							BOTTOM H	OLE ASSEM	BLY								
N° Com	ponent											ID [mm]	OD [mm]	Length [m	n] Cor	nnection	Weight
1 Bit S	TX-30DX (537 T	i-cone)											159	0.19	3.	5 IFPIN	
2 Moto	or (angle set at (	))											121	9.06		3.5IF	
3 UBH0	C											82	165	0.87		3.5IF	
4 NM 1	OOL CARRIER											69	120	5.48		3.5 IF	
5 GAP	SUB											68	117	1.16		3.5IF	
6 NM F	ATTERY CARRI	R										70	126	3,96	1	3.5 IF	
7 FLEY	NM											29	116	9.25	-1	3 5IF	-
0 1400												E 4	121	2.33		2 515	
8 JARS	75											54	121	0.56		3.3IF	L
g DC4.	./3											58	127	1/.41		3.3 11	I
10 HWU	iP												121	222.09		3.51	
		HYDRAULI	cs					SURVEY	(						BOP STAC	к	
Pump		1		2	Time		m MD	m TVD	Azir	muth	Inclination	Deviation	OP Item	D	iam [mm]	W.P. [	kPaj
Make&M	lodel	Dragon 660	Wils	on 600	5:05		1863.69	1859.03	. C	0.3	1.2	0.31	Stack		228.6	105	00
Liner x St	ack	8 1/2" X 6	61/3	"X14 -	11:00		1977.05	1872.39		3.4	1.2	0.27	m Divert	er			
SPM		70		<u> </u>	11:05		1006 40	1881 87		5.8	1.5	1 29	.⊑ Annula	ar	228.6	210	00
Litre/Sk 1	00%	0.012		1152 .	15:35		1000.40	1891 27	1	5.1	1.7	1.2.5	O Blind		228.6	210	00
Circ Pate		0.94			20:05		1095.94	1000.67	1	27	2	4.26	Other		220.0	210	20
Circ Nate		0.04		[m <sup>-/</sup> /m	n1 20.05		1905.34	1500.07	1.	2.7	2.1	4.50	Charle		220.0	210	30
Pump En	_	90		90 [%]									Stack				
Pump Pre	255	8500		[kPa]									Divert	er			
Drillpipe	AV	8400		[mm]									- Annula	ar			
Drill Colla	ir AV	38.9		[mm]									Blind				
N	Aud Cycle		79	[min]									Other				
.± B	ottom Up		27.6	[min]											TESTS		
2 N	Aud Tank		29.6	[m <sup>3</sup> ]											Date	Pres [	kPa]
ΰH	lole Volume		18.3	[m <sup>3</sup> ]									Last BOP	0	2/07/2013	112	50
s	ystem Vol.		67.6	[m³]									Next BOP				
		BITS				STOC	к					c	ASING / CE	MENTING P	ROGRAM		
Bit	7	8	N°	Name	In	Used	Stock	-	Unit	Last Ca	sing	Surface	2	Last Casing	,		
Size	159	159	[mm]	Barite	288	96	192		sacs	Date		07/12/20	05	Date			
Mfg	Hughes	Hughes	-: :	Baracarb	250	6	244		sacs	grade		H-40	-	grade	-		-
Type	DP3075	TC537		Baroseal (M)	80	0	80		sacs	diam		177.8	[mm]	diam	-		[mm]
Serial	7032500	5205268		Soad ash	10	4	6		sacs	Lin Wei	aht	25.3	[kg/m]	Lin Weicht			[kg/m]
Nozzle	5 x 12.7 2 x 11	1 3¥20	-, ,.	N-Vis Plus	20	4 E	22		sacs	Nb loin	5 <sup>111</sup>	23.5		Nh loint			-
WOR		12	_[mm^]	Cellosize	122	5	22		5365	C at at	·	272	[m]	JULIOL UNI			[m]
DDM	3	14	[tr/min]	Darathin	122	34			saus	set at	_	323	[11]	set at			[11]
CI	25	20	[tr/min]	odratnin	15	6	9		sacs	Length	_	323	[11]	Length			[if]
FIOW	850	850	[I/min]	utric Acid	15	0	15		sacs	Burst	_	16000	[кРај	Burst			[кРај
Pres	9200	9275	[kPa]	Bicarb	30	21	9		sacs	Collapse	e	10000	[кРа]	Collapse			[кРа]
From	1854.78	1882.4	[m]	Fuel	52,937	39745	13192		liters	Tensile		54000	[daN]	Tensile			[daN]
То	1882.44	1917	[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]			TEST			Т	EST	
Drilled	27.66	34.6	[m]	Gypsum	20	0	20		sacs	Date		17/06/2	2013	Date			
Hours	14	14.25	[hrs]	Barabuf	20	3	17		sacs	Pressur	e	11250	[kPa]	Pressure			[kPa]
			-	Sodium	75	75	0		sacs								
			-	Defoamer	20	19	1		pails	Last Ce	ment	Plug		Last Cemer	nt		
		CENTRIFUG	E			c	ASING BOWL			Date Class	_	16/12/2005 A	<u> </u>	Date Class			
Make			Linkt-	1	Make		Weatherford			Densit	_	1520 -	1	Density		[ka/m <sup>3</sup> ]	- 1
OF dor -'			United	<u> </u>	Corial		12110022025			Density	_	[kg	/m*	Density		[Kg/m ]	
OF densit	-y		1085	[kg/m³]	Serial		12110022005		.1	volume	· —	⊃∪ [m	1	volume		[m <sup>-</sup> ]	
u⊦ densit	y		1830	[kg/m <sup>3</sup> ]	Size OD		228.6	[mn	nj	Time to	GL	[mi	in]	Time to GL		[min]	
Flow	_		750	[L/min]	Size ID		177.8	[mn	nj	Additive	es			Additives			
Last Dum	р		1		Rating		21,000	[kPa	]	1				1			
Commen	ts:																
New BHA	has reduced di	ag up and down															

	INVE	STCA	N	DAILY	DRILLING REPOR	۲ T	l° 28	Date : 12/07/2013 Well : Hurricane#2 RE Rig : Foragaz#3
	Er	iergy cor	<u>p</u>	Spud date :	17/06/2013	Well Licence	# EP 03-107	Page 1/2
١	Weather @ 8:00 Wind Temperature		clear light	mKB mGL 24h Ave ROP	149.97 145.7 2.65	Daily MD Total MD Expected MD	29 1957 1970	Daily Costs         \$59,100         es           Cum Costs         \$1,704,400            AFF         \$2,410,000
Si	ummary of Dail	Operations:	Drill to 1937mRF I	200H to replace mud mot	or and hit. Drill to 1957 mBE			
			<u>- 5111 (6 1957 1111 - 1</u>	Conto replace mad mor				
					SAFETY SUMMAR	Ŷ		
WO	orkers on site 4	IEC	Workers Injured 0		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Tim	Treatment Case 672 le Incident 672
Rig Others Total	12 6 22	Rig Others Total	0 0 0		None to report		H <sub>2</sub> S Level ( CO <sub>2</sub> Level ( Gas Level 20p	0 Trip Drill 0 Pit Drill ppm BOP Drill
Rig Mana Company	ger Gr Man Vie	eg McKinnon tor Leroux	(905) 371 4614 (780) 678 5108	7:00 Review	Fripping proceedures	Safety Meetings / Tool	Box Talks	
Company	Man Tri	avis Young	(709) 721 1994	19:00 BOP Dril	1			
				TIME LOG - (	00:00 to 24:00 (include Safety r	meetings and Tool box talks	)	
-	FORMATIO	ON/TOP : Cong	glomerate, sandstone	andstone				
From [L]	To [Hr]	SHOWS : Faint	to dull residual cut	101103LUTIC				
0:00	2:45	1928	Drill from 1917 to 192	7.83m				
2:45 3:00	3:00 5:00	1935	Rig service, function te Drill from 1927.83 to 1	st pipe rams and annular 935.38m	BOP			
5:00	5:30	1027	Circulate bottoms up	936 60m				
7:00	7:15	1957	Pre-job Safety Meetin	350.0011				
7:15 7:30	7:30 11:30		Rig service: function st Trip out of hole: flow of	abbing valve heck @1918m, @967.5m	, @52.25m and out of hole. Function	n blind rams: 3 sec to close		
11:30	12:00		Laydown mud motor a	ind dress bit				
12:00	16:45		Trip in hole: flow chec	k @ 960m, @1900m				
16:45 17:15	17:15	1937 1938	Condition mud and cir Drill from 1936 60 to 1	culate out air from trip. 937 8m				
19:00	19:15	1550	Safety meeting					
				TIME LOG - 2	4:00 to 6:00am (include Safety	meetings and Tool box talk	s)	
From [Hr]	To [Hr]	Depth [m]	Operation description					
0:00	1:45 2:00	1958	Drill from 1950 to 195 Rig Service and conne	7.96 tion. Function test pipe r	ams			
2:00 5:15	5:15 6:00	1970 1970	Drill from 1957.96 to 1 Circulate bottoms Up	970 TD				
	•	•			RIG TIME (operation duration	on in hours)		
Drilling	12.	75 Weld	d Bowl	Cement		Safety/BOP Reaming	0.5	Rig move
Tripping	8.2	5 Logg	ing	Nipple U	/D	Slip and Cut		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Survey Circ./Con	d. 1	Clear Hand	n to Btm dle Tools	Press. Te Repair		Drill R & M hole Fishing		TOTAL 24
Pick up BI	HA	Run	Casing	Rig Up		LOT/FIT		DOWNTIME
					24 HOURS FORECA	ST		
Wash out	t of hole. Wiper	Trip and Log	well.					

	Date :	12/07/20:	13	Well :	Hurricane#2	RE		Rig	:	Fora	gaz#3				Pag	e 2/2	
							DRILLI	ING MUD									
Fluid typ	e	Polymer Bas	e			Solids						[kg/m <sup>3</sup>	1		ADDITIVES A	DED	
Mud Co		Baroid				Sands		0	5			[%]		AME	Quantity	Concer	ntration
Time Ch	ck	7:00				OWR						[%]	Cellosi	ze		Ba	ags
Mud Ma	n	L Anthony				MBT		1	4			[kg/m <sup>3</sup>	Bi-acar	rb		Ba	ags
		L. Anthony				CI-		52	000			[mg/L]	Defoar	mer		Pa	ails
Density		1155		[kg	/m <sup>3</sup> 1	Calcium		4	00			[mg/L]	N-Vis			Ba	ags
Viscosity		55		[s/I				Volu	mes Balano	ce			Salt			Ba	ags
P.V.		18		[cp]		Vol hauled					ĺm	3	Barite			Ba	ags
Y.P.		7		[a/	00cm <sup>2</sup> 1	Vol dumper	d	_			(n	3	soda a	sh		Ba	ags
Gels 10"	'10'			. 16/ -	loocini j	Circ loss					in	3î			COMMEN	S	0
Tempera	ture					Boiler loss		_			[m	j.					
Pressure						Daily Mud	Cost	_		\$2,2	247						
рН		9				Cum Mud C	Cost		-	\$52,	006						
							BOTTOM H	OLE ASSEME	LY								
N° Com	ponent											ID [mm]	OD [mm]	Length [m]	Conr	ection	Weight
1 Bit S	TX-30DX (537 T	ri-cone)											159	0.19	3.5	IFPIN	
2 Mot	or (low speed m	iotor#1, used - 12	Shrs when R	IH)									121	9.06	3	511-	
3 OBH	0											82	165	0.87	3	5IF	
4 NM	FOOL CARRIER											69	120	5.48	3	5 IF	
5 GAP	SUR											68	117	1.16	3	5IF	
6 NM	SATTERY CARRI	EK										70	126	3.96	3	5 (F	
7 FLEX	NM											29	116	9.35	3	5IF	
8 JARS												54	121	6.56	3	5IF	
9 DC 4	.75											58	127	17.41	3	5 IF	
10 HW	P												121	222.09	3	5IF	
		HYDRAULI	cs					SURVEY							BOP STACK		
Dump		1		7	Time		m MD	m T)/D	Azir	muth	Inclination	Deviation	oplitem	Die	mimmi	WPI	(Pal
Make8.N		Dragon 660	Wilco	n 600	20.05		1005.24	1000.67	1	2.7	2.4	4 26	Stack	Die	228.6	1050	in al
Linory	ack	0 1/2" V C	6 1/2	" × 14	20.05		1905.34	1010.15	1	2.7	2.1	4.50	Discorte		220.0	1050	~
CDM	duk	70	0 1/2	× 14 -	0.50		1914.83	1020.42	20		2.1	4.7		ei	228.6	21.00	0
SPIVI Litro /Ch	0.00%	/0		-	2:10		1925.11	1920.42	35	1 5	1.7	5.04	E Annula	ar	228.6	2100	0
Circ Date	.00%	0.012	0.0	132 -	4.45		1934.55	1929.00	33	2.2	1.5	5.5	Othor		220.0	2100	0
CIFC Rate	. –	0.84	,	[m³/mi	n1 7:20		1943.96	1939.27	33	57.Z	1.3	5.52	Other		228.6	2100	NU .
Pump Er		90		10 [%]	0:25		1953.34	1948.64	33	55.0	1.4	5.72	Stack				
Pump Pr	ess	8500		[KPa]	5:15		1970	1965.3	33	53.8	1.4	6.09	Diverte	er			
Drillpipe	AV	8400		[mm]									Annua O Diad	ar			
Drill Coll	IF AV	38.9	70	[mm]	_								Blind				
	Aud Cycle		79	[min]									Other		75676		
i ii	lottom Up		27.6	[min]											TESTS		
i i i	viud Tank		29.6	[m]											Date	Pres (K	Paj
0	tole volume		18.3	[m <sup>-</sup> ]									Last BOP	02/	07/2013	1125	NU .
	ystem Vol.		67.6	[m]						1			Next BOP				
		BITS				STOC	к					c	ASING / CE	MENTING PR	OGRAM		
Bit	8	9	_N°	Name	In	Used	Stock		Unit	Last Ca	sing	Surface		Last Casing			
Size	159	159	[mm]	Barite	288	96	192		sacs	Date		07/12/20	05	Date			
Mfg	Hughes	Hughes	-	Baracarb	250	6	244		sacs	grade		H-40	-	grade			-
Туре	STX-30DX	STX-30DX	-	Baroseal (M)	80	0	80		sacs	diam		177.8	[mm]	diam	-		[mm]
Serial	5205268	5206281	-	Soad ash	10	4	6		sacs	Lin Wei	ight	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle	3 x 15.9	3 x 15.9	[mm <sup>2</sup> ]	N-Vis Plus	27	5	22		sacs	Nb Join	t		-	Nb Joint			-
WOB	12	12	[daN]	Cellosize	122	35	87		sacs	Set at		323	[m]	Set at			[m]
RPM	25	40	[tr/min]	Barathin	15	9	6		sacs	Length		323	[m]	Length			[m]
Flow	850	850	[l/min]	Citric Acid	15	1	14		sacs	Burst		16000	[kPa]	Burst	-	-	[kPa]
Pres	9225	8950	[kPa]	Bicarb	30	21	9		sacs	Collaps	e	10000	[kPa]	Collapse	-	-	[kPa]
From	1882.4	1936.6	[m]	Fuel	57,937	41633	16304		liters	Tensile		54000	[daN]	Tensile			[daN]
То	1936.6	1957	[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]	<b></b>		TEST			TES	т	
Drilled	54.6	20.4	[m]	E Z mud	20	3	17		sacs	Date		17/06/2	2013	Date			
Hours	20.5	6.75	[hrs]	Barabuf	20	3	17		sacs	Pressur	'e	11250	[kPa]	Pressure	-		[kPa]
1	-		-	Sodium	75	75	0		sacs	T							
			-	Defoamer	20	19	1		pails	Last Ce	ment	Plug	_	Last Cement			
		CENTRIEUCE				~	ASING BOW			Date		16/12/2005	5	Date	_		
		CENTRIFUGE				с.	HOING BOWL			Class		А		Class	-		_
Make			United		Make		Weatherford			Density		1520 [kg	/m <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	
OF densi	ty		1	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	5	50 [m	³] <sup>`</sup>	Volume		[m <sup>3</sup> ]	
UF densi	ty			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm		Time to	GL	[mi	in]	Time to GL	-	[min]	
Flow			750	[L/min]	Size ID		177.8	[mm		Additiv	es			Additives	-		
Last Dun					Rating		21,000	[kPa]									
Commer	ts:																
1																	
1																	

		STCA ergy Cor		DAILY	DRILLING REPC	ORT	N° 29	Date : 13/07/2013 Well : Hurricane#2 RE Rig : Foragaz#3
				Spud date :	17/06/2013	Well Licenc	e # EP 03-107	Page 1/2
,	Weather @ 8:00 Wind Temperature		clear light 15	mKB mGL 24h Avg ROP	149.97 145.7 3.84	Daily MD Total MD Expected MD	12 1970 1970	Daily Costs         \$36,600         est.           Cum Costs         \$1,745,000            AFE         \$2,410,000
S	ummary of Daily	Operations:	Drill to TD=1970. W	/iper trip. Baker Hughes	ogging Run#1			
					SAFETY SUMM	ARY		
W	orkers on site 4	IFC	Workers Injured		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Time	Treatment Case 696
Rig	12	Rig	0		None to report		H <sub>2</sub> S Level 0	D Trip Drill
Total	24	Total	0				Gas Level 20p	pm BOP Drill 08/07/2013
Rig Mana	ger Gre	g McKinnon	(905) 371 4614			Safety Meetings / To	ool Box Talks	
Company	Man Vict Man Trav	or Leroux ris Young	(709) 721 1994	7:00 Pinch p 15:00 Safety r	oints while tripping neeting with Baker Hughes prior t	o logging		
				19:00 Safety r	neeting with Baker Hughes prior t	o logging with night crew		
				TIME LOG -	00:00 to 24:00 (include Safet	y meetings and Tool box ta	lks)	
	FORMATIO	N/TOP : Congl	omerate , sandstone	andstone				
	LITHO	HOWS: Faint	equed contomerate and s to dull residual cut	anustone				
From [Hr]	To [Hr]	Depth [m]	Operation description					
0:00	1:45	1958	Drill from 1950 to 1957 Big Service and Conner	1.96m tion (function test nine :	rams)			
2:00	5:15	1970	Drill from 1957.96 to 1	970 (TD)				
5:15 7:15	7:15	1970	Circulate up bottom sa Winer trip 10 stands	mple and condition mud				
8:30	10:00	1970	Circulate, condition mu	id and hole				
10:00	12:00	1970	Trip out of hole to log:	flow check @1950m, @	985m			
12:00	14:00	1970	Laydown Choice direct	ional assembly	of hole			
15:00	15:15	1970	Safety meeting	la selas de el secondolo se	d las out have to share Trankle		the standard second Bull	
19:00	19:00		Safety meeting	logging tool assembly a	id log with Baker Hughes. I rouble	s with 2DL, POOH and change o	out tool with spare. RH.	
19:15	0:00		Openhole logging					
				TIMELOG	14:00 to 6:00am lincludo Safe	ty mostings and Tool how to	alke)	
From [Hr]	To [Hr]	Depth [m]	Operation description	TIME LOG - 2	4:00 to 8:00am (include sale	ty meetings and 1001 box to	aiks)	
0:00	5:00	bepti [iii]	Complete Logging Run	#1 (HDIL, ML, ZDL, CN, XI	MAC, ORIT, DSL,TTRM)			
5:00	6:00		Rig out logging tools pr	epare logging tools for F	un#2 (TTRM, GR, STAR, ORIT, CIB	L)		
					RIG TIME (operation dura	ation in hours)		
Drilling Big Social	5	Weld	Bowl	Cemen		Safety/BOP	0.5	Rig move
rig servic Tripping	6.25	Loggi	ng	8.75 Nipple	J/D	Slip and Cut		other
Survey		Clean	to Btm	Press. T	est	Drill R & M hol	le	
CIRC./CON Pick up B	a. <u>3.5</u> HA	Hand Run C	e 10015	Repair Rig Up	·	Fishing LOT/FIT		DOWNTIME 24
			-					
					24 HOURS FORE	CAST		
Logging R	un#2 (formation	imager), Run	#3 (NMR) and Run#4 (FM1	r).				

0	ate :	13/07/20	13	Well :	Hurricane#2	RE		Rig :		Forag	gaz#3				Pag	e 2/2	
							DRILL	ING MUD									
Fluid type		Polymer Bas	e			Solids		3				[ka/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co		Baroid				Sands		0.5				[%]		NAME	Quantity	Concer	ntration
Time Che	ck	7:00				OWR						[%]	Cellosi	76		Bi	ags
Mud Man						MBT		14				 [ka/ <sup>3</sup>	h Bi-aca	rb		R	-8- ags
		L. Anthony				CI.		520	00			[Kg/m	Defeat				alle
Density		1150				Calcium		520	)			- [mg/L]	Deroal	ner		Pi	alls
Viccositu		1150		[kg/	(m~1	Calcium		Volum	, aas Balan			[IIIg/L]	N-VIS			В	ags
VISCUSILY		54		[5/1]		Malla and a d		Volui	les balall	le		1.	Salt			Bi	ags
P.V.		19		[cp]		vol hauled					[m	บุ	Barite			Bi	ags
Y.P.		7		[g/1	100cm <sup>2</sup> ]	Vol dumper	d				[m	າ"]	soda a	sh		Bi	ags
Gels 10"/	10'					Circ loss					[m	1 <sup>3</sup> ]			COMMEN	TS	
Temperat	ure					Boiler loss					[m	1 <sup>3</sup> ]					
Pressure		-				Daily Mud	Cost			\$1,4	47						
рH		8.5				Cum Mud C	Cost			\$51,2	206						
r.							BOTTOM H	OLE ASSEMBL	Y								
N° Comp	onent											ID [mm]	OD [mm]	Length [m]	Con	nection	Weight
1 Bit ST	X-30DX (537 Tr	ri-cone)											159	0.19	3.5	IFPIN	
2 Moto	r												121	9.06	3	.5IF	
3 UBHC	)											82	165	0.87	3	.5IF	
4 NM T	OOL CARRIER											69	120	5.48	3	.5 IF	
5 GAP	UB											68	117	1.16	1 3	.5IF	1
6 NM P	ATTERY CARPIC	R										70	126	3.96	2	5 IF	1
												20	110	0.25	3	510	l
/ FLEX	in the second											29	110	9.35	1 3		l
8 JARS												54	121	6.56	3	.5IF	l
9 DC 4.	/5											58	127	17.41	3	.5 IF	
10 HWD	P											1	121	222.09	3	.5 IF	1
l												1	I	1	1		I
		HYDRAULI	cs					SURVEY							BOP STACK		
Pumn		1		7	Time	-	m MD	m TVD	Δzi	muth	Inclination	Deviation	on Item	Dia	mimmi	WPI	Pal
Marko 9 MA	- del	Dragon 660	Miles	- 600	F:1E		1070	1065.2	7421	22.0	inclination	6.00	Stock	0.	220 6	1050	0
I VIANE OLIVI	udei	Diagon 000	C 4 /2		5.15		1970	1505.5	5.	55.0	1.4	0.05	Disert		220.0	1050	
Liner x Sta	ICK	81/2 86	6 1/2	X 14 -									Divert	er			
SPM		70											■ Annula	ar	228.6	2100	00
Litre/Sk 1	00%	0.012	0.0	1152 -									□ Blind		228.6	2100	00
Circ Rate		0.84		[m <sup>3</sup> /mi	nl								Other		228.6	2100	00
Pump Eff		90		90 [%]									Stack				
Pump Pre	ss	8500		[kPa]									, Divert	er			
Drillpipe A		8400		[mm]									a Annula	ar			
Drill Colla	- AV	20.0		[mm]									ÖRlind				
Drin Cona	i AV	30.9	70	[mm]									Dilliu				
IV D	lud Cycle		79	[min]									Other		75070		
i i B	ottom up		27.6	[min]											TESTS		
, n r	lud Tank		29.6	[m³]											Date	Pres [	(Pa]
υн	ole Volume		18.3	[m_]									Last BOP	02/	07/2013	1125	50
S	/stem Vol.		67.6	[m³]									Next BOP				
		BITS				STOC	к					c	ASING / CE	MENTING PR	OGRAM		
Bit	9		N°	Name	In	Used	Stock		Unit	Last Ca	sing	Surface	5	Last Casing			
Size	159		[mm]	Barite	288	96	192		sacs	Date		07/12/20	05	Date			
Mfg	Hughes		-: :	Baracarb	250	6	244		sacs	grade		H-40	-	grade			-
Type	STX-200V			Baroseal (M)	80	0	<u>en</u>		6200	graue		177.9	[mm]	grade			[mm]
Corial	5206201			Son Oscal (IVI)	10		60 6		5365	ulam		25.2	[ka/m]				[ka/m]
Jeridi	3200281		- <u> </u>	JUdu dSN	10	4	0		adus	Lin Wei	gnt	20.5	rvR/111]	Lin Weight			[vR/10]
ivozzie	3 X 15.9		_[mm_1	IN-VIS PIUS	27	5	22		SaCS	Nb Join	t		· .	ND Joint			· .
WOB	12		[daN]	Cellosize	122	35	87		sacs	Set at	_	323	[m]	Set at			[m]
RPM	40		[tr/min]	Barathin	15	9	6		sacs	Length		323	[m]	Length			[m]
Flow	850		[l/min]	Citric Acid	15	1	14		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres	8950		[kPa]	Bicarb	30	21	9		sacs	Collapse	e	10000	[kPa]	Collapse	-		[kPa]
From	1936.6		[m]	Fuel	57937	43304	14210		liters	Tensile		54000	[daN]	Tensile	-		[daN]
То	1970		[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]	renaite		TEST		- offano	TE	ST.	
Drilled	33.4		[m]	E 7 mud	20	5	17		610 J	Date		17/00/	2012	Date	1E		
Hours	12		- [bre]	C 2 IIIUU Davahuré	20	-	17		2005	Date		1/106/.	[UD-1	Date			[LD-1
nours	15		[1115]	Barabut	20	3	1/		3013	Pressur	е	11250	[кРа]	Pressure			[кРај
			-	Sodium	75	75	J		sacs			0.					
				Deroamer	20	19	1		palls	Last Ce	ment	riug		Last Cement			
		CENTRIFUGE				C	ASING BOWL			Date	_	10/12/200	<u> </u>	Date			
										Class		A		class			
Make	_		United		Make		Weatherford			Density		1520 [kg	/m³]	Density		[kg/m³]	
OF densit	Y		L	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	. –	50 [m	1]	Volume		[m <sup>3</sup> ]	
UF densit	y		1	[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[m	in]	Time to GL		[min]	
Flow			750	[L/min]	Size ID		177.8	[mm]		Additive	es			Additives	-		
Last Dum					Rating		21,000	[kPa]		1					-		
Comment	s:						,							-			
comment	<i></i>																
l																	

	INVES	тсал	,	DAILY	DRILLING REPOR	۲ N°	30	Date : 14/07/2013 Well : Hurricane#2 RE	
	Ene	ergy Corp	<u> </u>	Spud date :	17/06/2013	Well Licence #	EP 03-107	Rig : Foragaz#3 Page 1/2	
v	Veather @ 8:00 Wind Temperature		lear ight 15	mKB mGL 24h Avg ROP	149.97 145.7	Daily MD Total MD Expected MD	N/A 1970 1970	Daily Costs         \$33,200           Cum Costs         \$1,778,000           AFE         \$2,410,000	est.
Su	Immary of Daily C	Operations:	Logging Run#2 (TT	RM, GR, STAR, ORIT, CBIL	) complete. Logging Run#3 (TTRM, MP	REX, GRSL) ongoing.			
		itenunce y elec	anning or mining fridde y ciccur	ing our sand trup					_
Wo	orkers on site		Vorkers Injured	T	Incidents / Injuries	Hrs	since last Medical T	Treatment Case 720	
IEC Rig Others Total	4 12 14 30	IEC Rig Others Total			None to report	Hrs H <sub>2</sub> S CO <sub>2</sub> Gas	since last Lost Time Level 0 Level 0 Level 19p	Incident         720           Trip Drill         Pit Drill           Pit Drill         12/07/2013	
Company	Man Victo	r Leroux	(780) 678 5108	7:00 Safety N	feeting: hazards associated with wirel	ine logs	Taiks		
Company	Man Travi	is Young	(709) 721 1994	15:00 19:00 Safety N	feeting: Hazards associated with wire	ine loes			
				TIME LOG -	00:00 to 24:00 (include Safety m	eetings and Tool box talks)			
	FORMATION	LOGY : Interes	merate, sandstone	andstone					
	SH	IOWS : Faint to	o dull residual cut	anustone					
From [Hr] 0:00	10 [Hr] 1 7:00	Uepth [m] 1970	Operation description Complete Logging Run	#1: HDIL, ML, ZDL, CN. XN	/AC, ORIT, DSL, TTRM				
7:00	7:15		Safety meeting	#2. TTD14 CD CT4D OD	T CDU. Chile hash delline fluid. Chan				
7:15 21:00	21:00 22:00		Rig up for open hole lo	g #3. Safety Meeting	г, сыс. Strip back drilling fluid. Clean	out sand trap.			
22:00	0:00		Open hole logging Rur	#3: TTRM, MREX, GRSL					
				TIME LOG - 2	4:00 to 6:00am (include Safety n	neetings and Tool box talks)			
From [Hr] 0:00	To [Hr]	Depth [m]	Operation description	#3: TTRM, MREX, GRSI					
			Issue with main comp	iter @1420 mRF during lo	ogging of the main pass				
	6:00		Decision to convert th	at pass into repeat and log	g again the entire openhole section				
			I						_
					RIG TIME (operation duration	n in hours)			
Drilling Rig Service	e 0.25	DST Weld B	lowl	Cement WOO		Safety/BOP Reaming	0.5	Rig move Flow check	
Tripping		Loggin	g	23.25 Nipple L	J/D	Slip and Cut			_
Survey Circ./Cond	4	Clean t Handle	o Btm	Press. To Repair	est	Drill R & M hole Fishing		TOTAL 24	
Pick up BH	IA	Run Ca	sing	Rig Up		LOT/FIT		DOWNTIME	_
				L	34 1101105 500				
					24 HOURS FORECAST				
Complete	logging Run#3 (N	IMR) and Run	#4 (FMT). Perform DSTs	as required.					

Date :	14/07/201	3	Well :	Hurricane#2	RE		Rig :		Forag	az#3				Ра	ge 2/2	
						DRILLI	NG MUD									
Fluid type	Polymer Base				Solids		3				[kg/m <sup>3</sup> ]	1		ADDITIVES	ADDED	
Mud Co	Baroid				Sands		0.5				[%]		NAME	Quantity	Concer	ntration
Time Check	7:00				OWR						[%]	Cellos	ize		B	ags
Mud Man	L. Anthony				MBI		14				[kg/m <sup>3</sup> ]	Bi-aca	irb		Bi	ags
Density	1150			3.	Calcium		440				- [IIIg/L]	Defoa	mer		Pa	ails
Viscosity	53		[Kg/ [s/l]	m I	culcium		Volume	es Balanc	e		[116/1]	Salt			B	ags
P.V.	19		[cp]		Vol hauled					[m	13]	Barite			Bi	ags
Y.P.	7		[g/1	.00cm <sup>2</sup> ]	Vol dumped	t				[m	a)	soda	ash		Bi	ags
Gels 10"/10'	-				Circ loss					[m	1 <sup>3</sup> ]			COMME	NTS	
Proscuro	-				Boller loss	Cost			\$995	[m	[]					
pH	8.5				Cum Mud C	lost	-		\$54,44	8.25						
						BOTTOM H	OLE ASSEMBLY									
N° Component											ID [mm]	OD [mm	Length [n	n] Co	nnection	Weight
2																
3																
5																
6																
8																
9																
10																
	HYDRAULIC	s					SURVEY							BOP STAC	к	
Pump	1		2	Time	1	m MD	m TVD	Azin	nuth	Inclination	Deviation	OP Item	0	iam [mm]	W.P. [	kPaj
Make&Model	Dragon 660	Wilso	n 600									Stack		228.6	1050	00
Liner x Stack	8 1/2" X 6	6 1/2	"X14 -									Diver	er			
SPM	70	- 0.0	-									Annu	ar	228.6	2100	00
Circ Rate	0.84	0.0	- 3/ .									Other		228.6	2100	00
Pump Eff	90	g	0 [%]	11								Stack				
Pump Press	8500		[kPa]									Diver	er			
Drillpipe AV	8400		[mm]									∯ Annu	ar			
Drill Collar AV	38.9	-	[mm]									Blind				
Bottom Lin		27.6	[min]									Other		TESTS		
Mud Tank	-	29.6	[m <sup>3</sup> ]										1	Date	Pres [	kPal
Hole Volume		18.3	[m <sup>3</sup> ]									Last BOP	0	2/07/2013	1125	50
System Vol.		67.6	[m <sup>3</sup> ]						-			Next BOP				
	BITS				STOC	к					C	ASING / C	EMENTING P	ROGRAM		
Bit 9 Size 159		N <sup>o</sup> [mm]	Name Barite	288	Used	5tock 192	U	nit	Last Ca	ing	Surface	05	Last Casing	' <u> </u>		
Mfg Hughes		-	Baracarb	250	6	244	Si	acs	grade		H-40	-	grade			
Type STX-30D	(		Baroseal (M)	80	0	80	Si	acs	diam		177.8	[mm]	diam			[mm]
Serial 5206281		-	Soad ash	10	4	6	Si	acs	Lin Wei	ght	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle 3 x 15.9		[mm <sup>2</sup> ]	N-Vis Plus	27	5	22	Si	acs	Nb Join	: <u> </u>		: . ·	Nb Joint			÷
VVUB 12		[daN] [tr/min]	Cellosize Barathin	122	35	87	Si	acs	Set at		323	[m]	Set at			[m]
Flow 850		[l/min]	Citric Acid	15	9	14	Si	acs	Length	-	16000	[kPa]	Length			[kPa]
Pres 8950		[kPa]	Bicarb	30	21	9	Si	acs	Collapse	. —	10000	[kPa]	Collapse			[kPa]
From 1936.6		[m]	Fuel	57937	44465	13472	lit	ers	Tensile		54000	[daN]	Tensile	-		[daN]
To 1970		[m]	Drill Water	21.8	15	6.8	1]	n³]			TEST			Т	EST	
United 33.4		[m] [brc]	E Z mud	20	3	17	S	acs	Date	. —	17/06/2	2013	Date			(LO-1
10013 15		[113]	Sodium	20	3	0	Si	acs	Pressur	e	11250	[кра]	Pressure			[кра]
			Defoamer	20	19	1	р	ails	Last Ce	nent	Plug		Last Cemer	nt		
	CENTRIFUGE				c	ASING BOWL			Class		A	•	Class			
Make		United		Make		Weatherford			Density	_	1520 [kg/	/m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	
OF density			[kg/m <sup>3</sup> ]	Serial		12110022005	, .		Volume	_	50 [m <sup>3</sup>	1	Volume		[m <sup>3</sup> ]	
UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	n]	Time to GL		[min]	
Last Dump		750	[L/min]	Size ID Rating		21 000	[mm] [kPa]		Additive	25			Additives			
Comments:		0	1			24,000	[613]		•							
RIH to 400m with loggi Problems with logging	ing run#2: tension se truck recording syst	ensor workin em but reco	g improperly. PC rding on laptop	OH replace sens	or and RIH v	vith logging run#	12									

		ESTC Energy (	<b>AN</b>		DAIL	ORILLING RE	PORT	N°	31	Date : Well : Rig :	15/07/2013 Hurricane#2 RE Foragaz#3
					Spud date :	17/06/2013		Well Licence #	EP 03-107		Page 1/2
,	Weather @ 8:1 Wind Temperature	00	<i>clear</i> light 15	-	mKB mGL 24h Avg ROP	149.97 145.7	E	Daily MD Total MD xpected MD	1970 1970	Daily Costs Cum Costs AFE	\$30,000 est. \$1,809,000 \$2,410,000
S	ummary of Da	aily Operatio	ins:	Logging Run#3 (TTF	RM, MREX, GRSL). Mak	e up Logging Run#4 (FMT).					
						SAFETY SUI	MMARY				
W	orkers on site		Wor	kers Injured		Incidents / Injuri	es	Hrs	since last Medical T	reatment Case	744
IEC Rig Others Total	4 12 14 30	Rig Othe Tota	ers I	0		None to report		Hrs H <sub>2</sub> S CO <sub>2</sub> Gas	Level 0 Level 0 Level 0 Level 19pp	Trip Drill Pit Drill Om BOP Drill	/44
Rig Mana Company	Man	Greg McKinn Victor Leroux	ion K	(905) 371 4614 (780) 678 5108	7:00 Safety	Meeting: Working in hot weat	Safe her.	ety Meetings / Tool Box	Talks		
Company	Man 1	Travis Young		(709) 721 1994	16:00 Safety	Meeting: with new crew on sa	afe logging proceed	ures			
					TIME LOG	00:00 to 24:00 (include S	afety meetings a	nd Tool box talks)			
	FORMA	TION/TOP : C	onglomer nterbedde	rate , sandstone ed conlomerate and s	andstone						
From [Hr	To [Hr]	SHOWS : F	aint to du	Il residual cut							
0:00	7:00	197	70 RI	IH with logging run#3	(TTRM, MREX, GRSL).	Main computer crashed at 142	OmRF while logging	g. RIH to TD to log from	TD to casing shoe.		
7:00 7:15	7:15 12:00		Sa	atety Meeting ogging Run#3 (TTRM,	MREX, GRSL)						
12:00 16:00	16:00 16:15		Lo	ogging Run#3 (TTRM, afety Meeting	MREX, GRSL)						
16:15	21:30	197	70 LC	ogging Run#3 (TTRM,	MREX, GRSL)						
21:30 23:30	23:30		Ri	ig out logging Run# 3 /OO to run in to test i	/ Rig up logging Run#4 ntervals with FMT tool:	FMT Tools.					
					TIME LOG -	24:00 to 6:00am (include	Safety meetings	and Tool box talks)			
From [Hr	To [Hr]	Depth [n	n] 0	peration description							
0:15	0:13		Ri	ig Service							
0:30	6:00		RI	IH logging Run#4 (FM	T) to specified intervals	and run test					
	1										
<b>6</b> 100				_		RIG TIME (operation	duration in hours	5)		101	
Drilling Rig Servic	.e		veld Bowl DST		Ceme	it	0.5	Satety/BOP Reaming	0.5	Rig move Flow check	
Tripping		L	ogging		23 Nipple	U/D		Slip and Cut		Other	
Survey Circ./Con	d	P	andle To	ols	Press. Repair	1621		Fishing		TOTAL	24
Pick up B	НА	F	Run Casing	-	Rig Up			LOT/FIT		DOWNTIME	0.5
						24 HOURS F	ORECAST	<u> </u>			
· · ·	landa = "										
complete	: logging Run#	++. BOP tests	. wiper tr	ip. DS15.							

Date :	15/07/201	3	Well :	Hurricane#2	RE		Rig :		Forag	az#3					Page	2/2	
						DRILLI	ING MUD										
Fluid type	Polymer Base				Solids		6.5				[kg/m <sup>3</sup>	1		ADD	DITIVES AD	DED	
Mud Co	Baroid				Sands		0.5	_			[%]		NAME	0	Quantity	Concen	tration
Time Check	7:00				OWR						[%]	Cello	size		2	Ba	igs
Mud Man	L. Anthony				MBT		14				[kg/m <sup>3</sup>	Bi-ad	arb			Ba	igs
Density	1150				CI- Calcium		400	D			[mg/L]	Deto	amer			Ра	rils
Viscosity	54		Kg [s/	/m1 	Calcium		Volum	es Balanc	e		ر- /6/ ي	IN-VI Salt	S			Dd Ra	.gs
P.V.	19		[cp		Vol hauled				-	]	m <sup>3</sup> 1	Bari	e			Ba	igs igs
Y.P.	8		[g/	100cm <sup>2</sup> ]	Vol dumped	d					m <sup>3</sup> ]	soda	ash			Ba	ags
Gels 10"/10'					Circ loss					[	m <sup>3</sup> ]			(	COMMENT	S	
Temperature					Boiler loss				¢1.4	[	m³]						
Pressure	9				Daily Mud C	Cost			\$1,4 \$55 <i>8</i>	19							
рн	3				Cum wide c	BOTTOM H	OLE ASSEMBL	1	ېردونې	.67			_	_			
N° Component											ID [mm]	OD [mr	n] Lengt	h [m]	Conn	ection	Weight
1																	
2																	
3													_				
4														+			
6														-			
7																	
8																	
9													_				
10																	
																1	
																	l
	HYDRAULIC	s					SURVEY							ВС	OP STACK		
Pump	1		2	Time		m MD	m TVD	Azir	nuth	Inclinatio	Deviation	OP Item		Diam (	[mm]	W.P. [k	Paj
Make&Model	Dragon 660	Wilso	n 600									Stac	k	228	3.6	1050	0
Liner x Stack	8 1/2" X 6	6 1/2	"X14 -	I								<u>ا</u> Dive	rter				
SPM	70	- 0.0	-			1						Ann	ular	228	3.6	2100	0
Litre/SK 100%	0.012	0.0	152 -			1						Othe	1	220	3.6	2100	0
Pump Eff	90	- 9	[m <sup>-</sup> /m n [%]	inl		1						Stac	er k	220	5.0	2100	0
Pump Press	8500		[kPa]			1						Dive	rter				
Drillpipe AV	8400		[mm]			1						∯ Ann	ular				
Drill Collar AV	38.9		[mm]			1						O Bline	ł				
Mud Cycle		79	[min]			1						Othe	er	_	- 10-0		_
Bottom Up		27.6	[min]			1							_	-	TESTS	Dave ()	- 1
ο Mud Tank		29.6	[m <sup>-</sup> ]			1						Loct BOI	,	02/07/	te /2012	Pres (K	Paj
System Vol.		67.6	[m] [m]									Next BO	P	02/07/	/2015	1125	0
	BITS				STOC	к					c	ASING /	CEMENTIN	IG PROGI	RAM		
Bit		N°	Name	In	Used	Stock		Jnit	Last Ca	ing	Surface		Last Ca	sing			
Size		[mm]	Barite	288	96	192		acs	Date	-	07/12/20	)5	Date	_			
Mfg		-	Baracarb	250	6	244		iacs	grade	_	H-40	-	grade	-			-
Sorial			Baroseal (IVI)	80	0	80		acs	diam	-	25.2	[mm]	diam				[mm]
Nozzle		- <sup>2</sup> 1	N-Vis Plus	27	4	22		acs	Nh loint	<sup>3nt</sup> –	23.5	-	Nh Join	t m			-
WOB		[daN]	Cellosize	122	37	85		acs	Set at	-	323	[m]	Set at	` -			[m]
RPM		[tr/min]	Barathin	15	9	6	1	acs	Length	-	323	[m]	Length	-			[m]
Flow		[l/min]	Citric Acid	15	1	14		iacs	Burst	_	16000	[kPa]	Burst	_			[kPa]
Pres		[kPa]	Bicarb	30	21	9	:	acs	Collapse	· _	10000	[kPa]	Collaps	e			[kPa]
From		[m]	Fuel	5/93/	45034	12903		ters	Tensile		54000	[daN]	Tensile		750	-	[daN]
Drilled		[m]	F 7 mud	21.8	15	17		m j vails	Date		17/06/3	013	Date		TES	1	
Hours		[hrs]	Barabuf	20	3	17		acs	Pressure		11250	[kPa]	Pressur	e –			[kPa]
-			Sodium	75	75	0	1	acs								-	
			Defoamer	20	19	1	I	ails	Last Cer	nent	Plug	_	Last Ce	ment			
	CENTRIFUGE			1	c	ASING BOWL			Class	-	16/12/200: A	<u> </u>	Date Class	-			_
Make				Make		Weatherford			Density	-	1520 [kg	(m <sup>3</sup> 1	Density	_		[kg/m <sup>3</sup> ]	
OF density			[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	-	50 [m	]	Volume	. –		[m <sup>3</sup> ]	
UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	n]	Time to	GL		[min]	
Flow			[L/min]	Size ID Bating		177.8	[mm]		Additive	s			Additiv	es _			
Last Dump				Kating		21,000	[KPa]		I								
Reboot system and rur	n off back computers	s, but had to	return to TD an	id recommence N	IMR log (save	d from TD to 14	120m as repea	t run)									

		STCA ergy Col	N P	DAILY	DRILLING REPOR	T T	N° 32	Date : Well : Rig :	16/07/2013 Hurricane#2 RE Foragaz#3
				Spud date :	17/06/2013	Well Licence	# EP 03-107		Page 1/2
v	Veather @ 8:00 Wind Temperature		clear light 15	mKB mGL 24h Avg ROP	149.97 145.7	Daily MD Total MD Expected MD	1970 1970	Daily Costs Cum Costs AFE	\$464,000 est. \$2,273,600 \$2,410,000
Su	ummary of Daily	Operations:	Complete logging	un#4 (FMT). Clean out tr	p. Prepare BHA for DST#1				
					SAFETY SUMMAR	Y			
W0 IEC	orkers on site 3	IEC	Workers Injured 0		Incidents / Injuries		Hrs since last Medical Hrs since last Lost Tim	Treatment Case e Incident	768
Rig Others Total	12 6 21	Rig Others Total	0 0 0		None to report		H <sub>2</sub> S Level ( CO <sub>2</sub> Level ( Gas Level 19p	0 Trip Drill 0 Pit Drill 0pm BOP Drill	
Rig Manag Company	ger Gre Man Vic	g McKinnon tor Leroux	(905) 371 4614 (780) 678 5108	0:00 Safety M	feeting: Lock outs used while servici	Safety Meetings / Tool ng equipment.	Box Talks		
Company	Man Tra	vis Young	(709) 721 1994	7:00 Safety M 0:15 Safety M	Meeting: Safe Logging Proceedures Meeting: Running DST Tools				
				TIME LOG -	00:00 to 24:00 (include Safety r	neetings and Tool box talks	)		
	FORMATIC	N/TOP : Cong	lomerate , sandstone	sandstone					
From [H-1	To [Hr]	HOWS : Faint	to dull residual cut						
0:00	0:15	1970 Lepth [m]	Safety meeting						
0:30 7:00 9:45 9:45 14:15 18:00 20:00 23:15 7:00 0:23:15 7:00 0:15 0:30 3:30	7:00 7:15 9:45 12:00 14:15 18:00 20:00 23:15 0:00 23:15 0:00 0:01 0:15 0:30 1:15 0:30 1:15 3:30 6:00	Depth [m]	RIH with FMT to specify Run back in to continu Safety meeting Complete logging rund Test BOP's: Pressure to Inside BOP,Pipe rams. Accumulator Function Recharge time: 2 minu Run in hole dean, cc POCH with Flow check Handle DST tools Operation description Make up test tools for Safety meeting RIH with tail pipe and I Make up DST tool stri RIH with tail pipe, DST	ied intervals and run test ie with FMT 44 (FMT) and laydown log est all manifold valves, HG 1400 kPa low 11250 kPa Test: start pressure 2200 tes and 9 seconds no Bit # 9 for clean out trip pe, and wash 3 singles to notifition mud and hole s @ 1956.08, @25m, OO TIME LOG - 2 DST#1 test tools g RIH test tools, top string	3 attempts made to test @1202.8n ging tools R valve, Manual HCR valve, Manifold high. All test 15 minutes each. Test Opa. Final pressure after 3 function bottom 4 4:00 to 6:00am (include Safety	(no seal) and 1199.9m (no sea lines, Casing Bowl & valves, In Annular Preventer 1400 kPa lov s: 11600 kPa (functioned annul s: 11600 kPa (functioned annul meetings and Tool box talk	<ol> <li>Pull up to test on ca side &amp; Outside kill valv v, 10250 kPa high for1 ar, pipe ram and HCR s)</li> </ol>	ves, Stabbing valve, 5 minutes each. )	
Drilling Rig Service Tripping Survey Circ./Conc Pick up Bł	e 0.2 6.2 d. 1	5 DST 5 Logg Clean Hanc Run	I Bowl ing n to Btm Ile Tools Casing	0.75 WOO 9 Nipple L Press. T Repair Rig Up	RIG TIME (operation duration)	on in hours) Rearning Slip and Cut Drill R & M hole Fishing LOT/FIT	5.25	Rig move Flow checks other TOTAL DOWNTIME	  24
					24 HOURS FORECA	ST			
Openhole	DST.								

Da	te :	16/07/201	13	Well: H	urricane#2 R	E		Rig :		Forag	az#3				Pag	e 2/2	
							DRILLI	NG MUD									
Fluid type		Polymer Bas	5		-	olids		6.5				[kg/m <sup>3</sup>	1		ADDITIVES A	DDED	
Mud Co		Baroid			4	iands		0.5				[%]		IAME	Quantity	Concen	tration
Time Check		7:00			0	OWR						[%]	Cellosi	ze	2	Ba	igs
wud wan		L Anthony				VIB I 1.		14	0			[kg/m <sup>3</sup>	] Bi-acar	ъ		Ba	igs
Density		1145		El (	.31	alcium		440				[mg/L]	Deroar N-Vic	ner		Pa	llis
Viscosity		54		[s/l]				Volum	es Balanc	ce		(8/-)	Salt			Ba	195
P.V.		19		[cp]		/ol hauled					[r	n³]	Barite			Ba	igs
Y.P.		7.5		[g/10	0cm <sup>2</sup> 1	/ol dumped	ł				[r	n³]	soda a	sh		Ва	igs
Gels 10"/10		-			0	Circ loss					[r	n <sup>3</sup> ]			COMMEN	TS	
Temperatur	'e					Boiler loss	Cost			61 A	[r	n²]					
nH		8				Cum Mud C	ost			\$55.28	6.00						
							воттом не	OLE ASSEMBL	Y	1.1							
N° Compor	nent											ID [mm]	OD [mm]	Length (m	nj Con	nection	Weight
1 Bit #9													159	0.19	31	/2 Reg	
2 Bit sub												58	116	0.9	3 1/2 Re	g x 3 1/2 IF	
3 2 DC's												58	115	17.41	3	L/2 IF	
4 Jar	0											54	121	6.56	3	L/2 IF	
6 183 Dril	Inine											65	102	1722.09	3	1/2 IF	
7	ihihe											05	102	1722.05	J	y 2 11	
8													1	1	+		
9																	
10																	
11	-		-			-			-	-							
12															-		
13												_					
14												-					
15																	
17																	
18																	
19																	
20																	
21																	
22												_					
23												-					
24																	
26																	
			rc .		1			SUID//EV							BOD STACK		
		monden	~					5011721							bor strack		
Pump	-	1 Dragon 660	Mile	2	Lime	_	m MD	m IVD	Azın	muth	Inclinatio	n Deviation	OP Item	D	iam [mm]	W.P. [k	Paj
Liner v Stack		9 1/2" Y 6	6 1/3	DI 600									Stack	ar.	228.0	1050	U
SPM	`	70	0 1/2											= Ir	228.6	2100	0
Litre/Sk 100	1%	0.012	0.0	- 152									Blind		228.6	2100	0
Circ Rate	-	0.84		[m <sup>3</sup> /min]									Other		228.6	2100	0
Pump Eff	_	90		90 [%]									Stack				
Pump Press	_	8500		[kPa]									Diverte	er			
Drillpipe AV		8400		[mm]									E Annula	ır			
Drill Collar A	4V d Cucle	38.9	70	[mm]	-								- Blind				
- Bott	tom Un		27.6	[min]									Other		TESTS		
TO Muc	d Tank	-	29.6	[m <sup>3</sup> ]											Date	Pres (k	Pal
υ Hole	e Volume	-	18.3	[m <sup>3</sup> ]									Last BOP	10	5/07/2013	1125	0
Syst	em Vol.		67.6	[m <sup>3</sup> ]									Next BOP				
		BITS				STOC	к					c	ASING / CE	MENTING P	ROGRAM		
Bit	9	9 Re-Run	N°	Name	In	Used	Stock		Unit	Last Cas	ing	Surface	2	Last Casing			
Size	159	159	[mm]	Barite	288	96	192		sacs	Date		07/12/20	05	Date			
Mfg	Hughes	Hughes	-	Baracarb	250	6	244		sacs	grade	_	H-40		grade		_	:
Type	STX-30DX	STX-30DX	-	Baroseal (M)	80	0	80		sacs	diam	. –	177.8	[mm]	diam			[mm]
Serial	5206281	5206281	· .	soad ash	10	4	6		sacs	Lin Weig	ght	25.3	[Kg/m]	Lin Weight			[Kg/m]
WOR	3 X 15.9	3 X 15.9	[mm <sup>2</sup> ]	N-VIS PIUS	122	5	22	_	Sacs	Nb Joint	_	272	- [m]	Nb Joint			- [m]
RPM	40	2	[tr/min]	Barathin	15	39	6		sacs	Set at	-	323	[m]	Set at			[m]
Flow	850	500	[l/min]	Citric Acid	15	1	14		sacs	Burst	-	16000	[kPa]	Burst			[kPa]
Pres	8950	3500	[kPa]	Bicarb	30	21	9		sacs	Collapse	. –	10000	[kPa]	Collapse	-		[kPa]
From	1936.6	1970	[m]	Fuel	57937	45034	12903	1	iters	Tensile		54000	[daN]	Tensile			[daN]
То	1970	1970	[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]			TEST			TE	ST	
Drilled	33.4	0	[m]	E Z mud	20	3	17		pails	Date	_	17/06/2	2013	Date			
Hours	13	9	[hrs]	Barabuf	20	3	17		sacs	Pressure	2	11250	[kPa]	Pressure			[kPa]
-			-	Sodium	75	75	#REF!		sacs	last Cer	ment —	Plug		Last Cemer			
		CENTRIFLICE		Deroanier	20	15			20113	Date		16/12/2005	5	Date			_
		CENTRIFUGE				C	ASING BOWL			Class	-	A	_	Class			_
Make				N	lake		Weatherford			Density	_	1520 [kg	/m <sup>3</sup> ]	Density		[kg/m <sup>3</sup> ]	
OF density	_		l	[kg/m <sup>3</sup> ] Si	erial		12110022005			Volume		50 [m <sup>3</sup>	°]	Volume		[m <sup>3</sup> ]	
UF density				[kg/m <sup>3</sup> ] Si	ze OD		228.6	[mm]		Time to	GL	[mi	in]	Time to GL		[min]	
Last Dump				[L/min] Si	ze ID ating		21 000	[mm]		Additive	s			Additives			
Commente:			L	ĸ			21,000	[Krd]									
No trip gas o	on wiper trip																

		ESTCA	N	DAILY	DRILLING REPOR	RT I	N° 33	Date : Well : Rig :	17/07/2013 Hurricane#2 RE Foragaz#3
		chergy co		Spud date :	17/06/2013	Well Licence	# EP 03-107	, i i i i i i i i i i i i i i i i i i i	Page 1/2
V	Weather @ 8: Wind Temperature	e	clear light 15	mKB mGL 24h Avg ROP	149.97 145.7 0	Daily MD Total MD Expected MD	0 1970 1970	Daily Costs Cum Costs AFE	\$38,300 est. \$2,312,000 \$2,410,000
	ummary of Da	aily Operations	Prepare BHA for I	DST#1. RIH with DST tool	s, mud found insite DST string: missin	g sleeve in hydraulic productio	n tool. Stand By.		
					SAFETY SUMMAR	Ŷ			
Wo IEC Rig Others Total	00000000000000000000000000000000000000	IEC Rig Others Total	Workers Injured 0 0 0 0 0 0		Incidents / Injuries None to report		Hrs since last Medical Hrs since last Lost Time H <sub>2</sub> S Level C Gas Level 30p	Treatment Case e Incident ) Trip Drill ) Pit Drill pm BOP Drill	<u>792</u> 792
Kig Manag Company Company	Man Man	Greg McKinnon Victor Leroux Travis Young	(905) 371 4614 (780) 678 5108 (709) 721 1994	0:15 Handlin 7:00 Safety	ng DST tools meeting: Hazards associated with DST	Safety Meetings / Tool	Box Talks		
company	Widi	Travis roung	(705) 721 1554	19:00 Safety	meeting: Hazards associated with DST meeting: Hazards associated with DST	Testing			
	FORMA	TION/TOP: Con	glomerate, sandstone	TIME LOG -	00:00 to 24:00 (include Safety r	neetings and Tool box talks	)		
	L	ITHOLOGY : Inte SHOWS : Fair	rbedded conlomerate and t to dull residual cut	sandstone					
From [Hr]	To [Hr]	Depth [m]	Operation description	1000101					
0:30 1:15 3:30 7:00 7:15 11:30 15:00 15:00 19:00 19:01 19:15 <b>From [Hr]</b>	1:15 3:30 7:00 7:15 11:30 12:00 15:00 16:00 19:15 0:00 19:15 0:00	Depth [m]	KH with tai ppe and Make up D5 tool strin RH with tail pipe, D5 Safety Meeting D5T #1 from 1444m to Trip out D5T tools to c Trip out D5T tools to c Trip out D5T tools to c Handle test tools. Fou W/O Third party tools W/O Third party tools Operation description W/O Third party tools Make up test tools will RH with D5T tools (D5	test tools g RiH t test tools, top string 1480.5m. Got drill mud heck for equipment fail, heck for equipment fail, heck for equipment fail, wait on production slee : wait on production slee <b>TIME LOG</b> - : Wait on production slee h production sleeve. T#1)	to surface inside of pipe. DST test fail rre. rre. hydraulic production tool. eve for DST tool. Slip & cut drilling line vive for DST tool.	ed. 2. meetings and Tool box talk	s)		
Drilling Rig Servicu Tripping Survey Circ./Conc Pick up BH	e d d	Wel DST 3.5 Log Clea Run	d Bowl ging gint to Btm dle Tools Casing	11 Cemer WOO Nipple Press. Repair Rig Up	RIG TIME (operation duration tt	on in hours) Reaming Slip and Cut Drill R & M hole Fishing LOT/FIT	0.75	Rig move Flow checks Stand By TOTAL DOWNTIME	7.75 24 7.75
Openhole	DST.				24 NUUR PLA				

Date :	17/07/20:	13	Well :	Hurricane#2	RE		Rig :		Forag	az#3				Pag	e 2/2	
						DRILLIN	G MUD									
Fluid type	Polymer Bas	e			Solids		6				[ka/m <sup>3</sup> ]		A	DDITIVES A	DDED	
Mud Co	Baroid				Sands		0.7	5			[%]	N	IAME	Quantity	Concer	ntration
Time Check	7:00				OWR	_					[%]	Cellosi	ze		Bi	ags
Mud Man	L. Anthony				MBT	_	10.5	5			[kg/m <sup>3</sup> ]	Bi-acar	'b		B	ags
Density	1145				Calcium	_	5100	00			- [mg/L]	Defoar	ner		P	ails
Viscosity	55		[kg	/m³] 1	Calcium		Volun	, nes Balanc	·0		[IIIg/L]	N-VIS Colt			Bi	ags
P.V.	21		[cp	1	Vol hauled		Volum	ies balanc	~	ĺm	1 <sup>3</sup> ]	Barite			B	ags
Y.P.	8		[0/	100cm <sup>2</sup> 1	Vol dumper	ł				[m	3	soda a	sh		Bi	ags
Gels 10"/10'			12/	100cm i	Circ loss					` [m	<sup>3</sup>			COMMEN	TS	
Temperature	-				Boiler loss		_			[m	13]					
Pressure					Daily Mud	Cost			\$995	5						
рН	8				Cum Mud C	ost	-	v	\$58,2	81						_
ue Component						BOTTOWIHOL	E ASSEIVIBL	T			Dimmi	OD Immi	Length Im	Con	nection	Weight
1 Bullnose											61.5	120.65	0.61	COIL	5 IF	weight
2 DP											69	120.05	482.96	-	.5 IF	
3 Recorder Sub											12.7	120.65	1.524	3	.5 IF	
4 Perf Sub											61.5	120.65	1.22	3	.5 IF	
5 Packer											12.7	120.65	2.34	3	.5 IF	
6 Packer					-		-				12.7	120.65	0.915		.5 IF	1
7 Packer	-			-		-					12.7	120.65	0.915	3	.5 IF	
8 Blank Sub											61.5	120.65	0.305	1 3	.5 IF	I
9 HWDP											64	127	27.65	1 -	.5 IF	
10 c/Recorder Sub											12.7 61 5	120.05	5 705	1 -	. 5 IF	l
12 Packer											12.5	120.05	0.305	1 -	5 IF	l
13 Packer											12.7	120.05	1.524	1 3	.5 IF	t
14 Packer											12.7	120.65	2.34	1 3	.5 IF	1
15 Safety Sub											61.5	120.65	0.61	1 3	.5 IF	1
16 E/Recorder Sub											12.7	120.65	1.524	3	.5 IF	
17 Jars											61.5	120.65	2.05	3	.5 IF	
18 Hydraulic Valve											61.5	120.65	1.72		.5 IF	
19 Sampler											12.7	120.65	0.93	3	.5 IF	
20 Shut -in Sub											61.5	120.65	1.65	3	.5 IF	
21 Recorder Sub											12.7	120.65	1.524		515	
22 DC											50	127	0.305		5 IF	
23 PO 505											58	120.05	88.31		.5 IF	
25 HWDP											64	127	194.41	3	.5 IF	
26 DP											69	121	1133	3	.5 IF	
	HYDRAULI	cs					SURVEY							BOP STACK		
Pumn	1		,	Time		m MD	m TVD	Δzin	puth	Inclination	Deviation	OP Item	Dia	mimmi	WPI	(Pal
Make&Model	Dragon 660	Wilso	n 600	Time	-	III WID	III I VD	Addin	nutri	meimation	Deviation	Stack	Dia	28.6	1050	00
Liner x Stack	8 1/2" X 6	6 1/2	'X 14 -									Diverte	er			
SPM	70		-									E Annula	ir 2	28.6	2100	00
Litre/Sk 100%	0.012	0.0	152 -									ם Blind	2	28.6	2100	00
Circ Rate	0.84		[m³/m	n]								Other	2	28.6	2100	0
Pump Eff	90	9	0 [%]									Stack				
Pump Press	8500		[kPa]									Diverte	er			
DrillCollar AV	28.0		[mm]									5 Annula	Ir			
Mud Cycle	30.9	79	[min]	_								Other				
e Bottom Up		27.6	[min]											TESTS		
Mud Tank		29.6	[m <sup>3</sup> ]											Date	Pres [	kPa]
5 Hole Volume		18.3	[m <sup>3</sup> ]									Last BOP	16/0	07/2013	1125	50
System Vol.		67.6	[m <sup>3</sup> ]									Next BOP	30/0	07/2013		
	BITS				STOC	к					c	ASING / CE	MENTING PRO	OGRAM		
Bit		N°	Name	In	Used	Stock		Unit	Last Cas	ing _	Surface		Last Casing			_
Size	-	[mm]	Barite	288	96	192		sacs	Date	_	07/12/20	05	Date			
Mtg		-	Baracarb	250	6	244		sacs	grade	_	H-40		grade			÷ .
Type		-	Baroseal (M)	80	0	80		sacs	diam		177.8	[mm]	diam			[mm]
Nozzla		<u> </u>	Soad ash	10	4	5	_	sdCS	Lin Weig	nt	25.3	rkg/m]	Lin Weight			[Kg/m]
WOB		[mm <sup>1</sup> ]	Cellosize	122	5	83	_	sacs	ND Joint		373	- [m]	IND JOINT			- [m]
RPM		[tr/min]	Barathin	15	39	6	-	sacs	Length		323	[m]	Length			[m]
Flow		[l/min]	Citric Acid	15	1	14		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres		[kPa]	Bicarb	30	21	9	1	sacs	Collapse		10000	[kPa]	Collapse	-		[kPa]
From		[m]	Fuel	57937	46414	11523		iters	Tensile		54000	[daN]	Tensile			[daN]
То		[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]		1	TEST			TE	ST	
Drilled	-	[m]	E Z mud	20	3	17		pails	Date		17/06/2	2013	Date			
Hours		[hrs]	Barabuf	20	3	17		sacs	Pressure		11250	[kPa]	Pressure			[kPa]
· · · · · · · · · · · · · · · · · · ·		-	Sodium	75	75	0		sacs	last Co-	nent	Plua	_	last Comort			
			Deroamer	20	19	1	_	palls	Date		16/12/2005	_	Date			
	CENTRIFUGE				C.	ASING BOWL			Class	-	A		Class			-
Make		United		Make		Weatherford			Density	-	1520 n	/m <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	-
OF density		Sinceu	[ka/m <sup>3</sup> 1	Serial		12110022005			Volume	-	50 [m <sup>3</sup>	1 1	Volume		[m <sup>3</sup> ]	
UF density		1	[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	n]	Time to GL		[min]	
Flow			[L/min]	Size ID		177.8	[mm]		Additive	s _			Additives			
Last Dump				Rating		21,000	[kPa]		L							
Comments:																
rnere is no info in bit sec	uon due to no bi	ts being run.														

A	INVES	STCA	N	DAILY	DRILLING REPOR	۲T	N° 34	Date : 18/07/2013 Well : Hurricane#2 RE
	En	ergy Cor	<u>p</u>	Spud date :	17/06/2013	Well Licence	e # EP 03-107	Page 1/2
1	Veather @ 8:00 Wind Temperature		Rain light 12	mKB mGL 24h Avg ROP	149.97 145.7 0	Daily MD Total MD Expected MD	0 1970 1970	Daily Costs         \$29,000         est.           Cum Costs         \$2,340,000           AFE         \$2,410,000
Su DST#	ummary of Daily 2 (1316.5m-1371	Operations: m) started	W/O Production sle	eeve for DST tool. Compl	ete DST#1 (1444m to 1480.5m): 10 n	nin. pre-flow, 2 hour shut in, 3	30 min open, 4 hour shu	tin
					SAFETY SUMMAR	v		
Wo	orkers on site		Workers Injured		Incidents / Injuries	•	Hrs since last Medical	Treatment Case 816
IEC Rig Others Total Rig Mana	3 12 6 21	IEC Rig Others Total	0 0 0 0 0 0 0 0		None to report	Safatu Maatings / Too	Hrs since last Lost Time           H <sub>2</sub> S Level         0           CO <sub>2</sub> Level         0           Gas Level         30p	e Incident 816 D Trip Drill D Pit Drill ppm BOP Drill
Company	Man Vict	or Leroux	(780) 678 5108	7:00 Safety I	Meeting: DST testing proceedures	Salety Weetings / Tot	JI BOX TAIKS	
Company	Man Trav	is Young	(709) 721 1994	19:00 Safety I	Meeting: Working on slipperv drill flo	or ( watch footing and clean o	often)	
				TIME LOG -	00:00 to 24:00 (include Safety r	neetings and Tool box tall	cs)	
	FORMATIO	V/TOP : Congl	omerate, sandstone	andstone				
	S	HOWS : Faint	to dull residual cut	01030016				
0:00 4:15 7:00 7:15 7:30 14:10 18:00 21:30	4:15 4:45 7:00 7:15 7:30 10:10 14:10 14:10 14:10 14:10 14:10 14:00 21:30 0:00 0:00 0:00 0:00 0:00 6:00	1970 Depth [m]	Standby: wait on produ Make up test tools with RiH tools for DST#1 Safety Meeting RIG with BHA Drill Stem Test: 10 min Shut in 4 hours (DST#1 Deflate packers and pu Trip in Test Tools: Mak DST#2: interval 1316.5 DST#2: interval 1316.5 Safety Meeting Rig Service: repair high DST#2: Software and the safety Meeting Rig Service: repair high Service and the safety Meeting Shut in 6 hours (DST#2	uction sleeve for DST too n production sleeve. ute pre-flow (weak pre- interval: 1444m to 1480 II out of hole to recover e up DST Assembly ¥2 ar m to 1371m, 10min pre- <b>TIME LOG - 2</b> clutch ol (Initial weak flow to fa Interval: 1316.5m to 13	L low) , 2 hour shut in, 30 minute Oper .5m) recorders from DST#1. Flow check @ dr uru in hole to test interval 1316.5r low (weak) followed by 2 hrs shut in weak) followed by 2 hrs shut in the shut in the shut in the shut in the shut in the shut in the shut is shut in the shut in the shut in the shut in the shut is shut in the shut is shut in the shut in the shut is shut is shut is shut is shut in the shut is s	n tool (Initial weak flow to fail 1985m n to 1371m	nt after 10 minutes, deal	d after 30 minutes)
Drilling Rig Servic Tripping Survey Circ./Con Pick up Bl	e 2.25 d	Weld DST Loggi Clean Hand Run C	Bowl ng to Btm le Tools asing	13 Cemen Nipple Press. T 4 Repair Rig Up	RIG TIME (operation duration J/D	Dn in hours) Safety/BOP Reaming Siljo and Cut Drill R & M hole Fishing LOT/FIT	0.25	Rig move Flow checks 0.25 Stand by 4.25 TOTAL 24 DOWNTIME 4.25
					24 HOURS FORECA	ST		
Openhole	DST.							

	Date :	18/07/20	13	Well :	Hurricane#2	RE		Rig :		Forag	az#3				Pag	je 2/2		
							DRILLIN	IG MUD										
	Fluid type	Polymer Bas	e			Solids		6				[ka/m <sup>3</sup>	5	A	DDITIVES A	DDED		
	Mud Co	Baroid				Sands	-	0.7	5			[%]		NAME	Quantity	Concer	ntration	
	Time Check	7:00				OWR	_					[%]	Cellosi	ze		Ba	ags	
	Mud Man	L. Anthony				MBT	-	10.5	5			_ [kg/m <sup>3</sup>	ן Bi-acar	rb		Ba	ags	
	Density	1140				Cl-	-	4800	00			[mg/L]	Defoar	ner		Pa	ails	
	Viscosity	54		[kg	/m³]	Calcium		Volum	, nos Balanc			[mg/L]	N-Vis			Ba	ags	
	P.V.	20		[3/1 [CD	j I	Vol hauled		Voluli	ies balanc	.c	ĺm	31	Salt			Ba Dr	ags	
	Y.P.	8.5		[-/	20021	Vol dumper	1				[m	3 1	soda a	sh		Bi	ags	
	Gels 10"/10'	-		12/	LUUCIII I	Circ loss					[m	3			COMMEN	TS	-0-	
	Temperature					Boiler loss					(m	<sup>3</sup> j						
	Pressure					Daily Mud	Cost			\$99	5							
	рН	8				Cum Mud C	lost			\$59,2	276							
							BOLLOW HO	LE ASSEMBL	Ŷ			Dime	OD Immi	Longth Inc.	Con	nection	Moight	
	1 Bullnose											61.5	120.65	Length [III]	COIL	I ECCION	weight	
a Montrie Aunit         1.27         1000         1.04         1.57         1.04           a Montrie Aunit         1.02         1.020         1.024         1.57         1.021           a Montrie Aunit         1.02         1.026         1.024         1.57         1.021           a Montrie Aunit         1.021         1.026         1.024         1.57         1.021           a Montrie Aunit         1.020         1.024         1.57         1.021         1.57         1.021         1.57         1.021         1.57         1.021         1.57         1.021         1.57         1.021         1.57         1	2 DP											69	120.05	586.76		.5 IF		
	3 Recorder Sub											12.7	120.65	1.524		.5 IF		
5         5         0.00000         0.00000	4 Perf Sub											61.5	120.65	6.7	3	.5 IF		
	5 Packer											12.7	120.65	2.34	3	.5 IF		
7 Paker       120 Pa	6 Packer											12.7	120.65	0.915	3	.5 IF		
	7 Packer						-					12.7	120.65	0.915	3	.5 IF		
0         0	8 Blank Sub											61.5	120.65	0.305		.5 IF		
11 mm       11 mm <td< td=""><td>9 HWDP</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>64</td><td>127</td><td>46.22</td><td>1 -</td><td>.5 IF</td><td>  </td></td<>	9 HWDP											64	127	46.22	1 -	.5 IF		
11 priorie         10.23         10.03	10 E/Recorder Sub											61 5	120.05	1.524	1 -			
11         Parter         127         1202	12 Packer											12.7	120.05	0.305	1	.5 IF		
14       Pale	13 Packer											12.7	120.65	1.524	1 3	.5 IF		
Si Safey Sab         12.5         120.6         12.6	14 Packer											12.7	120.65	2.34	3	.5 IF		
16 5 File       122       1206       1206       1206       1206       1206       1206       1206       1207	15 Safety Sub											61.5	120.65	0.61	3	.5 IF		
17. Jan	16 E/Recorder Sub											12.7	120.65	1.524	3	.5 IF		
19. hybrid value         10. b         1.72         3.5 p         1.72         3.5 p           21. Biording         10. c         12.05         1.72         12.05         1.72         12.05           21. Biording         0.12         12.05         1.72         12.05         1.72         12.05           21. Biording         0.12         12.05	17 Jars											61.5	120.65	2.05		.5 IF		
33 mmpt         -         12.7         12.05         0.33         3.3 #         -           32 mmpt         -         -         10.1         12.1         12.05         0.33         3.3 #         -           22 PO 300         -         -         -         61.5         12.05         0.33         3.3 #         -           22 PO 300         -         -         60         122         17.54         3.5 #         -           24 DP         -         -         60         122         17.54         3.5 #         -           25         -         -         60         121         11.25 C7         3.5 #         -           26 DP         -         -         -         -         -         0.05 TAC         -           26 DP         -         -         -         -         0.05 TAC         0.05 TAC         0.05 TAC           3 mmpt         10.07 TA         -         -         0.05 TAC	18 Hydraulic Valve											61.5	120.65	1.72	3	.5 IF		
00     Processor     10.27     10.20     10.31     10.25     10.20     10.31     10.25     10.20     10.21     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25     10.20     10.25	19 Sampler											12.7	120.65	0.93	3	.5 IF		
12         100	20 Shut -in Sub											61.5 12.7	120.65	1.65	4	.5 IF		
22         1000         64         122         122         122.8.8         5.87           25	22 PO Sub											61.5	120.05	0.305	-	.5 IF		
24 0 0	22 10 Sub 23 HWDP											64	120.05	175.84		3.5IF		
15     10     10     10     10     10     10       NORAULCS     SURVEY     BOY STACK       NURVEY     Data memory       NURVEY     Atmuth     Inclusted     Data memory       NURVEY     Atmuth     Inclusted     Data memory       NURVEY     Atmuth     Inclusted     Data memory       NURVEY     NURVEY     Data memory       Mark Colspan="4">Colspan="4">Colspan="4">Atmuth     Inclusted     Data memory       Data memory     Data memory       Mark Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4"       Total memory     Total memory       Mark Colspan="4">Colspan="4">Colspan="4"     Colspan="4"       Solspan= 10     Colspan="4" <th cols<="" td=""><td>24 DP</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>69</td><td>121</td><td>1129.67</td><td></td><td>3.5IF</td><td></td></th>	<td>24 DP</td> <td></td> <td>69</td> <td>121</td> <td>1129.67</td> <td></td> <td>3.5IF</td> <td></td>	24 DP											69	121	1129.67		3.5IF	
25         VICA         SURVEY         DOP STACK           Value & Model         Dragon 560 = 61/27 X1 a = 42 Stack         Trine         m NO         m TVO         Atmuth         Inclination         Devators         Differen         Data (2 K G 1000 C)           Value & Model         Dragon 560 = 61/27 X1 a tring knoop         0.012 = 0.0152 =	25																	
NPACULOS         SURVE         OP         OP        OP	26																	
Namp         1         2         Time         m MO         m TO         Azmuth         Inclusion         Devalues         Diam         Diam         W/2 (#3)           vake&Model         B1/2 (6.5)         G1/2 'X 1.4         -		HYDRAULI	cs					SURVEY							BOP STACK			
Marked         Dragen 660 (\$1/2)X 16         Wilson 600 (\$1/2)X 17         Wilson 600	Dump	1		3	Time			m T)/D	Anio	outh	Inclination	Deviation	OD Itom	Dia		WDU	Dal	
mar state       51/2*X6       61/2*X14       .         refX       00152       00152       .	Make&Model	Dragon 660	Wilso	2 nn 600	Time		III MD	III IVD	AZII	nuun	Inclination	Deviation	Stack	Dia	28.6	1050	(raj 10	
BAT         Yor         Out         Out <td>Liner v Stack</td> <td>8 1/2" X 6</td> <td>6.1/2</td> <td>"X 14 -</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Diverte</td> <td>er 2</td> <td>20.0</td> <td>1050</td> <td>20</td>	Liner v Stack	8 1/2" X 6	6.1/2	"X 14 -									Diverte	er 2	20.0	1050	20	
Name       Note       Stack       S	SPM	70											E Annula	ar 2	28.6	2100	00	
Dr. Rate       0.84	Litre/Sk 100%	0.012	0.0	152 -									Blind	2	28.6	2100	00	
Dump Eff       90       90       [K9]         priliple AV       8800       [mn]       [mn]         Muld Cycle       79       [mn]         Bottom Up       27.5       [mn]         Bottom Up       67.6       [mn]         System Vol.       67.6       [mn]         Bottom Up       27.6       [mn]         System Vol.       67.6       [mn]         Barace In Mode       Stock       Cast Cosing       Date         Muld Tank       22.6       [mn]       [mn]       [mn]         System Vol.       67.6       [mn]       [mn]       [mn]       [mn]         Barace In Mode       22.50       6       12.2       sack       grade       [mn]       [mn]         Barace In Mode       88 arcarb       22.50       6       22.44       sack       grade       [mn]	Circ Rate	0.84		[m <sup>3</sup> /mi	n]								Other	2	228.6	2100	00	
Jump Press         8500         [kp]           multiplies AV         38.9         [mm]           Mult Cycle         79         [mm]           Mult Cycle         76.5         [mi]           Mult Cycle         76.5         [mi]           Mult Cycle         76.5         [mi]           Mult Cycle         76.5         [mi]           System Vol.         67.6         [mi]           System Vol.         80.7         CSCK         CASING / CEMENTING PROGRAM           Mile Cycle         100/12/2005         base cosel (Mi No         0         80.0         363.0         100         4         6         362.0         10/12/2005         base cosel (Mi No         100         4         6         362.0         10/12/2005         bioin	Pump Eff	90		90 [%]									Stack					
Byte         B400         [mm]           Build Cycle         79         [mn]           Build Tark         225.6         [mn]           System Vol.         67.6         [m1]           Barcach         280         66         192.         sac           Size         [mn]         Barcach         280         66         192.         sac           Size         [mn]         Barcach         280         66         192.         sac         pate	Pump Press	8500		[kPa]									Diverte	er				
Min Cord       38.9       (min)         Min Cord       79       (min)         Min Cord       27.6       (min)         Multiple       21.6       (min)         Multiple       22.6       (min)         Multiple       18.3       (min)         System Vol.       76.6       (min)         Multiple       Net BDP       10.001       11250         Multiple       Net BDP       10.001       11250         Mile       Net BDP       Surface       CASING / CEMENTING PROGRAM         Mile       Net BDP       Surface       Date       Office	Drillpipe AV	8400		[mm]									E Annula	ar				
Buttom Up         27.6         (m)         TEST           Buttom Up         27.6         (m)	Mud Cycle	56.9	79	[min]									Other					
B         Mud Tank Hole Volume         29.6 18.3         [m] m]         Image: model model         Date model         Pres [VP] mext 800P         Date Model         Pres [VP] mext 800P           BITS         N° Mike         N° mext 80P         N° Mike         N° Mike         Stock         Onit Stock         Lost Casing Stat         Lost Casing O7/12/2005         Lost Casing Pres [VP]           Mike         N° Mike         N° Mike         N° Mike         Stock         Onit Stock         Lost Casing Stat         Lost Casing O7/12/2005         Lost Casing Prade         Stock         Mike         <	😖 Bottom Up		27.6	[min]											TESTS			
Barborne         18.3         m <sup>1</sup> /m         11250           Barborne         CASING / CEMENTING PROGRAM           BITS         N°         Name         In         Used         Stock         Unit         Lost Cosing         Surface         Date         Date <thdate< th=""> <thdate< th=""> <thdate< th=""></thdate<></thdate<></thdate<>	Mud Tank		29.6	[m³]											Date	Pres [k	(Pa]	
System Vol.         0.7.6         [m <sup>2</sup> ]         STOCK         CASING / CEMENTING PROGRAM           BITS         Nome         In         Used         Stock         Unit         Cast Casing         Cuttern Tope         Date         Date <thdate< th="">         Date         <thdate< th=""> <thda< td=""><td>Hole Volume</td><td></td><td>18.3</td><td>[m<sup>3</sup>]</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Last BOP</td><td>16/0</td><td>07/2013</td><td>1125</td><td>50</td></thda<></thdate<></thdate<>	Hole Volume		18.3	[m <sup>3</sup> ]									Last BOP	16/0	07/2013	1125	50	
BITS         STOCK         CASING / CEMENTING PROGRAM           Site         Image: Stock         Vired         Stock         Unit         Lost Casing         Surface         Date	System Vol.		67.6	[m <sup>3</sup> ]						_			Next BOP	30/	07/2013			
fif         NP         Name         In         Used         Stock         Unit         Lost Casing         Surface         Lost Casing           wite         [mm]         Barrite         228         96         132         sacs         Date         0ate		BITS				STOC	к					c	ASING / CE	MENTING PRO	OGRAM			
size     [mn]     Barte     288     96     192     sacs     Date     07/12/2005     Date     main       Yope	Bit	_	N°	Name	In	Used	Stock		Unit	Last Cas	ing	Surface	5	Last Casing				
Mfg     -     Baracah     250     6     244     Sacs     grade     -     grade     -       ype     -     Barosal (M)     80     0     800     sacs     diam     T/7.8     mm     diam      [fm]       serial     -     Sod ash     10     4     6     Sacs     diam     T/7.8     mm     diam      [fk/m]       vola     [fm]     Sod ash     10     4     6     Sacs     diam     T/7.8     mm     diam      [fk/m]       vola     [fm]     Sod ash     10     4     6     Sacs     Lin Weight     Lin Weight      [fk/m]       vola     [fm]     Sod ash     10     4     6     Sacs     Lin Weight      [fk/m]       vola     [fm]     Barathin     15     9     6     Sacs     Length     Length      [fk/m]       res     [k/m]     Bicarb     30     21     9     Sacs     Collapse     Collapse     [k/m]       res     [k/m]     Bicarb     30     21     9     Sacs     Collapse     Icot Mool     [k/m]       rom     [m]     [m]     Icot Mac <td>Size</td> <td></td> <td>[mm]</td> <td>Barite</td> <td>288</td> <td>96</td> <td>192</td> <td></td> <td>sacs</td> <td>Date</td> <td>_</td> <td>07/12/20</td> <td>05</td> <td>Date</td> <td></td> <td></td> <td></td>	Size		[mm]	Barite	288	96	192		sacs	Date	_	07/12/20	05	Date				
ype         -         Baroscal (M)         80         0         80         sacs         diam         177.8         mm         diam         mm           Soad ab         10         4         6         sacs         liam         177.8         mm         diam         [mm]         diam         [mm]           Vozle	Mtg		-	Baracarb	250	6	244		sacs	grade	_	H-40	·	grade			÷ .	
verva         -         oud sth         10         4         6         Sacs         Lin Weight         Lin Weight         [kg/m]	Type		-	Baroseal (M)	80	0	80		sacs	diam	. —	177.8	[mm]	diam			[mm]	
None         Immining         Version         21         3         24         343         ND Joint	Norzie		-	Soad ash	10	4	5		sdCS	Lin Weig	gnt	25.3	[Kg/m]	Lin Weight			[Kg/m]	
Linery         Lenser         Lenser         Length         Set at [m]         Set at [m]         Set at [m]         Mill [m]           How         Uming         Entry into acid         15         9         6         Sacs         Length         323         [m]         Length         [m]         [m]           How         Uming         Citic Acid         15         1         14         Sacs         Length         323         [m]         Length         [KPa]           How         Uming         Excarb         30         21         9         Sacs         Collapse         Dot00         [KPa]         Burst         [KPa]           Fores         [KPa]         Bicarb         30         21         9         Sacs         Collapse         Dot00         [KPa]         Burst         [KPa]           Fores         [Ma]         Drill Water         218         15         6.8         [m]         TEST         TEST         TEST         TEST         TEST         TEST         [daN]         Dete         17/06/2013         Date         [kPa]	WOB		[mm <sup>4</sup> ]	Cellosize	122	5	22		sars	ND Joint	·	372	- [m]	IND JOINT			- [m]	
Centre Acid         12         2         0         2         0         2         0         2         0 <t< td=""><td>RPM</td><td></td><td>[tr/min]</td><td>Barathin</td><td>15</td><td>39</td><td>6</td><td></td><td>sacs</td><td>Set at</td><td></td><td>323</td><td>[m]</td><td>Jength</td><td></td><td></td><td>[m]</td></t<>	RPM		[tr/min]	Barathin	15	39	6		sacs	Set at		323	[m]	Jength			[m]	
VPcs         Ikrah         30         21         9         3acs         Collapse         10000         [kPa]         Collapse         [kPa]         Collapse <td>Flow</td> <td></td> <td>[l/min]</td> <td>Citric Acid</td> <td>15</td> <td>1</td> <td>14</td> <td></td> <td>sacs</td> <td>Burst</td> <td></td> <td>16000</td> <td>[kPa]</td> <td>Burst</td> <td></td> <td></td> <td>[kPa]</td>	Flow		[l/min]	Citric Acid	15	1	14		sacs	Burst		16000	[kPa]	Burst			[kPa]	
rom         [m]         [u]         57937         46679         11258         liters         Tensile         54000         [daN]         rensile         [daN]           on         [m]         Drill Water         21.8         15         6.8         [m]         TEST	Pres		[kPa]	Bicarb	30	21	9		sacs	Collapse		10000	[kPa]	Collapse			[kPa]	
Op         (m)	From		[m]	Fuel	57937	46679	11258		iters	Tensile		54000	[daN]	Tensile			[daN]	
Optimized         Image: I	То		[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]			TEST			TE	ST	-	
Dours         Infsi Sodium         Barabuf         20         3         1/         Sacs         Pressure         11250         [kPa]         Pressure         [kPa]           Odd         75         0         5acs         Iost Cement         Plug         Lost Cement         Plug         Lost Cement         Cement         Cement         Cement         Cement         Cement         Plug         Lost Cement         Plug         Cement         Cement <t< td=""><td>Drilled</td><td></td><td>[m]</td><td>E Z mud</td><td>20</td><td>3</td><td>17</td><td></td><td>pails</td><td>Date</td><td></td><td>17/06/2</td><td>2013</td><td>Date</td><td></td><td></td><td></td></t<>	Drilled		[m]	E Z mud	20	3	17		pails	Date		17/06/2	2013	Date				
Sodium         75         75         0         Sacs         Paig         Lost Cement         Paig         Lost Cement         Date         Date         Date         Date         Date         Class         A           Adke         United         Make         Wate         Weatherford         Density         1520         [kg/m]         Density         [kg/m]         Paig         [kg/m]         Density         [kg/m]	Hours		Inrsi	Barabuf	20	3	17		sacs	Pressure	e	11250	[kPa]	Pressure			[kPa]	
CENTRIFUGE         CAS INCE OBWL         Out Cartern         Fing         Content of the content	I ———		-	Defoamer	75	10	1	_	nails	Last Con	ment	Plug		Last Coment				
CENTRIFIGE         CASING BOWL         Class         A         Class         A           Vake         United         Make         Weatherford         Density         1520         [kg/m <sup>1</sup> ]         Density				Deroanter	20	19	*		pana	Date		16/12/2005	5	Date				
Viake         United         Make         Weatherford         Density         1520         [kg/m <sup>3</sup> ]         Density         [kg/m <sup>3</sup> ]           0F density         [kg/m <sup>3</sup> ]         Serial         12110022005         Volume         50         [m <sup>3</sup> ]         Volume         [m <sup>3</sup> ]           16 density         [kg/m <sup>3</sup> ]         Size 0D         228.6         [mm]         Time to GL         [min]           100 w         [L/min]         Size 0D         177.8         [mm]         Additives         Additives           ast Dump         [L/min]         Rating         21.000         [kPa]         Additives         Additives         Additives		CENTRIFUGE				c	ASING BOWL			Class		A		Class			- 1	
DF density         [kg/m <sup>3</sup> ]         Serial         12110022005         Volume         50         [m <sup>3</sup> ]         Volume         [m <sup>3</sup> ]           JF density         [kg/m <sup>3</sup> ]         [kg/m <sup>3</sup> ]         Size DD         228.6         [mm]         Time to GL         [min]         Additives         Additives <td< td=""><td>Make</td><td></td><td>United</td><td></td><td>Make</td><td></td><td>Weatherford</td><td></td><td></td><td>Density</td><td></td><td>1520 [ka</td><td>/m<sup>3</sup>1</td><td>Density</td><td>-</td><td>[kg/m<sup>3</sup>]</td><td></td></td<>	Make		United		Make		Weatherford			Density		1520 [ka	/m <sup>3</sup> 1	Density	-	[kg/m <sup>3</sup> ]		
JF density     ike_OD     228.6     [mm]     Time to GL     [min]     Time to GL     [min]       Iow     [L/min]     Size DD     177.8     [mm]     Additives     Additives       ast Dump     [L/min]     177.8     [mm]     Additives     Additives	OF density			[kg/m <sup>3</sup> ]	Serial		12110022005			Volume		50 [m	3]	Volume		[m <sup>3</sup> ]		
Iow     [L/min]     Size ID     177.8     [mm]     Additives     Additives       ast Dump     Rating     21,000     [kPa]     Additives     Additives       Standby due to new production sleeve to come onsite from Ontario (Holland Testers).     Image: Comparison of the standby due to new production sleeve to come on site from Ontario (Holland Testers).     Image: Comparison of the standby due to new production sleeve to come on site from Ontario (Holland Testers).	UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[mi	in]	Time to GL		[min]		
ase comp n n name of the second secon	Flow			[L/min]	Size ID		177.8	[mm]		Additive				Additives				
comments. Itandby due to new production sleeve to come onsite from Ontario (Holland Testers).	Last Dump		1		nating		21,000	[KPa]		1				l				
	Standby due to new pro	duction sleeve to	come onsite	from Ontario (H	olland Testers).													

		STCAI ergy Corp	V	DAILY	DRILLING REPO	ORT	N° 35	Date : 19/07/2013 Well : Hurricane#2 RE Rig : Foragaz#3
			_	Spud date :	17/06/2013	Well Licenc	e # EP 03-107	Page 1/2
v	Weather @ 8:00 Wind Temperature		light 12	mKB mGL 24h Avg ROP	149.97 145.7 0	Daily MD Total MD Expected MD	0 1970 1970	Daily Costs         \$28,000         est.           Cum Costs         \$2,369,000            AFE         \$2,410,000
Su	ummary of Daily	Operations:	DST#2 (1316.5-137	1 mRF) complete after 1	hr of drawdown followed by 6 h	rs of PBU. RIH DST#4 assembly, to	est ongoing (1090-1125.5	5 mRF).
We	orkers on site		Workers Injured	1	SAFETY SUMN	IARY	Hrs since last Medical	Treatment Case 840
IEC Rig Others Total Rig Manaj	3 12 6 21 ger Gre	IEC Rig Others Total g McKinnon	0 0 0 (905) 371 4614		None to report	Safety Meetings / To	Hrs since last Lost Time H <sub>2</sub> S Level C CO <sub>2</sub> Level C Gas Level ol Box Talks	e Incident 840 ) Trip Drill ) Pit Drill BOP Drill
Company Company	Man Vict Man Trav	or Leroux ris Young	(780) 678 5108 (709) 721 1994	0:00 Tripping 7:00 Tripping	g Hazards g Hazards			
				19:00 Check s	afety lines and shackles			
	FORMATIO	N/TOP :		TIME LOG -	UU:UU TO 24:UU (Include Safe	ty meetings and Tool box tal	KS)	
	LITHO	DLOGY : HOWS :						
From [Hr]	To [Hr]	Depth [m]	Operation description					
0:15 0:30 7:00 7:15 10:00 11:30 12:00 14:00 15:30 19:00 19:15	0:30 7:00 7:15 10:00 11:30 12:00 14:00 15:30 19:00 19:15 0:00		Rig Service: repair high DST#2 (1365-mto 13: Shut in 6 hrs. Safety Meeting Trip out test tools to re Recover mud samples. Downtime: repair hydr Make up DST#4 assem Trip in DST Tools to tes DST#4 (Interval 1090m Weak to faint and deac Safety Meeting Shut in 6 hours.	cluth 11m): 60 min open tool (I cover recorders and mu and recorders. Service D omatic shifter on draww bly (DST#3 cancelled) tinterval 1090m to 1125 to 1125.5m): 10 min Pre lafter a half hour (no gas	nitial weak flow to faint after 40 d sample. Flow check @1188m, d 5 tool. Note: no oil in retort test orks -5m -flow, bubble test 3" into pail for to surface).	min, dead at 60 min) ©588m on mud sample the full 10 minutes. Shut in 2 ho	urs. Open tool for 1 hour	r. Bubble test 2" in pail.
From [Hr]	To [Hz]	Donth [m]	Operation description	TIME LOG - 2	4:00 to 6:00am (include Saf	ety meetings and Tool box ta	ilks)	
0:00 0:30 3:00 5:30 5:45	0:30 3:00 5:30 5:45 6:00		6 hours PBU complete POOH with DST #4 too Recover mud samples. Safety Meeting POOH with tail pipe res	Is. Lay down tools flow cl and recorders. Unload pr move bullnose.	veck @1900m, @905m, @50m a essure into gas canister and fluic	nd out of hole I into sample jar. Lay down DST t	ools. DST testing comple	ted.
	1		1		RIG TIME (operation du	ration in hours)		
Drilling Rig Servic Tripping Survey Circ./Cond Pick up Bł	d	Weld I DST Loggin Clean Handle Run Ca	sowl	18.5 Cement 18.5 WOO Nipple L Press. T 3.5 Repair Rig Up	J/D	Safety/BOP Reaming Slip and Cut Drill R & M hol .5 Fishing LOT/FIT	0.75	Rig move Flow checks 0.5 other TOTAL 24 DOWNTIME 0.5
Wiper trip	p and condition h	ole for runnin	g casing.					

Date :	19/07/201	3	Well :	Hurricane#2	RE		Rig :		Forag	az#3				P	age 2/2	
		_				DRILLI	NG MUD				_					
Fluid type	Polymer Base				Solids		6				[kg/m <sup>3</sup>	1		ADDITIVES	ADDED	
Mud Co	Baroid				Sands		0.7	5			[%]		NAME	Quantity	/ Conce	entration
Mud Man	7.00				MBT		10.	5			[70]	h Bijaca	ize irb			Bags Rags
	L. Anthony				CI-		470	00			[mg/L]	Defoa	mer			Pails
Density	1135		[kg	/m <sup>3</sup> ]	Calcium		40	0			[mg/L]	N-Vis				Bags
P.V.	18		[5/	1	Vol hauled		Volur	nes Balanc	te	ĺm	31	Salt				Bags
Y.P.	7		[9]	100cm <sup>2</sup> 1	Vol dumper	b				[m	'n	soda a	ash			Bags
Gels 10"/10'					Circ loss		_			[m	່ງ			COMM	ENTS	
Temperature					Boiler loss	Cost			\$99	[m]	"]					
рН	8				Cum Mud C	Cost			\$60,2	271						
						BOTTOM HO	OLE ASSEMBL	Y.								
N° Component											ID [mm]	0D [mm]	Length [	m] C	2 5 IE	Weight
2 DP											69	120.05	832.2	3	3.5 IF	
3 Recorder Sub											12.7	120.65	1.524		3.5 IF	
4 Perf Sub											61.5	120.65	6.7		3.5 IF	_
6 Packer											12.7	120.65	0.915		3.5 IF	_
7 Packer											12.7	120.65	0.915		3.5 IF	
8 Blank Sub											61.5	120.65	0.305		3.5 IF	
9 HWDP											64	127	27.65	_	3.5 IF	1
11 Perf Sub											61.5	120.65	4,87	_	3.5 IF	1
12 Packer											12.7	120.65	0.305		3.5 IF	
13 Packer											12.7	120.65	1.524		3.5 IF	
14 Packer											12.7	120.65	2.34		3.5 IF	1
15 Sarety Sub 16 E/Recorder Sub											b1.5 12.7	120.65	0.61		3.5 IF	1
17 Jars											61.5	120.65	2.05	1	3.5 IF	1
18 Hydraulic Valve											61.5	120.65	1.72		3.5 IF	
19 Sampler											12.7	120.65	0.93		3.5 IF	_
20 Shut -in Sub											61.5	120.65	1.65		3.5 IF	_
22 PO Sub											61.5	120.65	0.305		3.5 IF	
23 HWDP											64	127	175.84	1	3.5 IF	
24 DP											69	121	884.1	5	3.5IF	_
25																
	HYDRAULIC	5					SURVEY							BOP STA	СК	
Pump	1		2	Time		m MD	m TVD	Azin	nuth	Inclination	Deviation	OP Item		Diam [mm]	W.P.	[kPa]
Make&Model	Dragon 660	Wilso	on 600									Stack		228.6	105	500
Liner x Stack	8 1/2" X 6	6 1/2	"X 14 -									Divert	er	228.6	210	000
Litre/Sk 100%	0.012	0.0	-									E Alind	dl	228.6	210	000
Circ Rate	0.84		[m <sup>3</sup> /m	inl								Other		228.6	210	000
Pump Eff	90	ę	90 [%]									Stack				
Pump Press Drillnine AV	8500		[kPa]									Diver	ar			
Drill Collar AV	38.9		[mm]									5 Blind	u			
Mud Cycle		79	[min]	_								Other				
H Bottom Up		27.6	[min]											TESTS		
D Hole Volume		29.6	[m <sup>3</sup> ]									Last BOP		Date 16/07/2013	Pres 11	[KPa] 250
System Vol.		67.6	[m3]									Next BOP		30/07/2013		250
	BITS				STOC	ж					c	ASING / C	EMENTING	PROGRAM		
Bit		N° ,	Name	In	Used	Stock		Unit	Last Ca	sing	Surface	2	Last Casin	g		
Mfg		unmj -	Baracarb	288	96	192		sacs	Date		U//12/20 H-40	- 00	Date			-
Туре		-	Baroseal (M)	80	0	80	1	sacs	diam		177.8	[mm]	diam			[mm]
Serial		-	Soad ash	10	4	6		sacs	Lin Wei	ght	25.3	[kg/m]	Lin Weigh	t		[kg/m]
Nozzle		[mm <sup>2</sup> ]	N-Vis Plus	27	5	22		sacs	Nb Joint	t	222	- [m]	Nb Joint			- [m]
RPM		[tr/min]	Barathin	122	39	83 6		Sacs	Set at Length		323	[m]	Set at Length			[m]
Flow		[l/min]	Citric Acid	15	1	14		sacs	Burst		16000	[kPa]	Burst			[kPa]
Pres		[kPa]	Bicarb	30	21	9		sacs	Collapse	2	10000	[kPa]	Collapse			[kPa]
From To		[m]	Fuel Drill Water	57937	4/473	10464		Inters Im <sup>3</sup> 1	Tensile		54000 EST	[daN]	Tensile		TEST	[daN]
Drilled		[m]	E Z mud	21.0	3	17		pails	Date	1	17/06/	2013	Date		1131	
Hours		[hrs]	Barabuf	20	3	17		sacs	Pressur	e	11250	[kPa]	Pressure			[kPa]
			Sodium	75	75	0		sacs	last Con	ment	Plug		last Cem		-	
	CENTRIEUGE	_	Deroamer	20	13	ASING BOW		palls	Date		16/12/200	5	Date			_
Make		United		Make		Weatherford			Class Density	_	A 1520 r	/m <sup>3</sup> 1	Class Density		[kg/m <sup>3</sup> 1	
OF density		Sinceu	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume		50 [m	ym:1 ]	Volume		[m <sup>3</sup> ]	
UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL	[m	in]	Time to G	L	[min]	
Flow			[L/min]	Size ID Bating		177.8	[mm]		Additive	25			Additives			
Last Dump Comments:				ndting		21,000	[кра]		1				1			
confinents.																

			N	DAIL	ORILLING REPO	DRT	N° 36	Date : Well : H Rig :	20/07/2013 Iurricane#2 RE Foragaz#3
	Line	ingy con	<u>-</u>	Spud date :	17/06/2013	Well Lice	nce # EP 03-107	-	Page 1/2
We T	eather @ 8:00 Wind Temperature		Cloudy Mod 15	mKB mGL 24h Avg ROP	149.97 145.7 0	Daily MD Total MD Expected MD	0 1970 1970	Daily Costs Cum Costs AFE	\$33,700 est. \$2,408,000 \$2,410,000
Sun	nmary of Daily (	Operations:	POOH with DST stri	ng. Condition mud and	circulate. Start running 5" casing.				
					SAFETY SUMM	ARY			
Wor	kers on site		Workers Injured		Incidents / Injuries		Hrs since last Medical	Treatment Case	864
Rig Others Total	3 12 6 21	Rig Others Total	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		None to report	Safatu Maatings /	Hrs since last Lost Him H <sub>2</sub> S Level 0 CO <sub>2</sub> Level 0 Gas Level 2 Tool Roy Talks	D Trip Drill D Pit Drill 5 BOP Drill	864
Company N	Aan Victo	or Leroux	(780) 678 5108	5:30 Safety	Meeting: Handling DST tools	Salety Weetings /	TOOLDOX TAIKS		
Company N	lan Trav	is Young	(709) 721 1994	19:30 Safety	Meeting : running casing				
				TIME LOG ·	00:00 to 24:00 (include Safe	ty meetings and Tool box	talks)		
	FORMATION	I/TOP : LOGY :							
From [Hr] T	SH [o [Hr]	HOWS : Depth [m]	Operation description						
0:00 0:20 3:00 5:45 7:00 10:30 12:30 12:30 19:15 19:45 20:15 From [Hr] T	0.30 3:00 5:45 5:45 7:30 10:30 12:30 12:30 12:30 13:15 19:35 19:45 20:15 0:00 6:00	1970 Depth [m]	DST44 (1090 - 1125.5m POOH with DST44 tool Recover mud samples. Safety Meeting Trip out of hole to rem Trip in hole. Flow check Condition mud and circ Laydown drillippe and Clean rig floor Safety Meeting Rig up to run casing. Run 5" casing with Rig 5 Operation description	RFI: Gith 3 PBU complex and recorders. Unload j we buil nose and prep. @ 985m @ 985m ulate ulate ulate service power tongs. TIME LOG -	e heck @1900m, @905m, @50m an ressure into gas canister and fluid are for wiper trip. 24:00 to 6:00am (include Saf	d out of hole into sample jar. Lay down DS	T tools. DST testing comple	ted.	
0:00	6:00		Run casing with Rig Ser	vice Power tongs	BIG TIME (operation due	ation in houre)			
Drilling		Weld	Bowl	Cemer	nt normal operation dur	Safety/BOP	0.5	Rig move	
Rig Service Tripping Survey Circ./Cond. Pick up BHA	0.25 15.5 2	DST Loggir Clean Handl Run C	ng to Btm e Tools asing	0.5 WOO Nipple Press. Repair 4.25 Rig Up	U/D	Reaming Slip and Cut Drill R & M f Fishing LOT/FIT	nole	Flow checks other TOTAL DOWNTIME	1 24
					24 HOURS FORE	CAST			
Land casing	g. Circulate and	cement casin	g						

Date :	20/07/201	.3	Well :	Hurricane#2	RE		Rig :		Forag	az#3				Page	2/2	
						DRILLI	NG MUD									
Fluid type	Polymer Base				Solids		6				[kg/m <sup>3</sup>	1	A	DDITIVES AD	DED	
Mud Co	Baroid				Sands		0.7	5			[%]		IAME	Quantity	Concen	tration
Time Check	7:00				OWR						[%]	Cellosi	ze		Ba	gs
Mud Man	L Anthony				MBT	-	10.5	5			[kg/m <sup>3</sup>	Bi-acar	b		Ba	gs
					CI-	-	4700	00			_ [mg/L]	Defoar	ner		Pa	ils
Density	1135		[ks	/m³]	Calcium		400	) 			[mg/L]	N-Vis			Ba	gs
VISCOSILY	34		[5/	1]	Vol bauled		volun	ies Balanc	ce	L.	. 31	Salt			Ba	gs
r.v. v p	18		լգ	1	Vol dumper	4				[n	1"] .31	Barite			Ba	gs
Gels 10"/10'			[e/	100cm <sup>-</sup> 1	Circ loss					[n	1] ,31	soda a	sn	COMMENT	ва	gs
Temperature					Boiler loss					[n	1 J n <sup>3</sup> 1			comment	<u>.</u>	
Pressure					Daily Mud	Cost			\$995	["	.1					
рН	8				Cum Mud C	Cost			\$61,2	66						
P.						BOTTOM HO	DLE ASSEMBL	Y								
N° Component											ID Immi	OD Immi	Length Imi	Conn	ection	Weight
1 shoe												127	0.44	LT	/c	
2 float												127	0.39	LT	/C	
3 Casing											108.61	127	1955.23	LT	/C	
4 X=over											118.62	139.7	0.25	LT	/C	
5																
6			-		-											
7																
8																
9														1		
10																
11																
12																
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20																
20																
22																
23																
24																
25																
26																
	HYDRAUUC	Ś					SURVEY							BOD STACK		
		-														
Pump	1		2	Lime	_	m MD	m IVD	Azır	muth	Inclination	Deviation	OP Item	Dia	m [mm]	W.P. [K	Paj
Make&Model	Dragon 660	Wilso	on 600									Stack		228.6	1050	0
Liner x Stack	8 1/2" X 6	6 1/2	"X 14 -									Diverte	er -	120 6	2100	0
Litro /Sk 100%	0.012	00	152									- Rlind		220.0	2100	0
Circ Rate	0.84		1.52 -									Other		228.6	2100	0
Pump Eff	90	c	[m²/m	inl								Stack		20.0	2100	0
Pump Press	8500		[kPa]									, Diverte	er			
Drillpipe AV	8400		[mm]									Annula	r			
Drill Collar AV	38.9		[mm]									6 Blind				
Mud Cycle		79	[min]									Other			-	
📇 Bottom Up		27.6	[min]											TESTS		
D Mud Tank		29.6	[m <sup>3</sup> ]											Date	Pres [k	Pa]
O Hole Volume		18.3	[m <sup>3</sup> ]									Last BOP	16/	07/2013	1125	0
System Vol.		67.6	[m³]					I			1	Next BOP	30/	07/2013		
	BITS				STOC	ж					c	ASING / CE	MENTING PRO	OGRAM		
Bit		N°	Name	In	Used	Stock		Unit	Last Cas	ing	Surface		Last Casing			
Size		[mm]	Barite	288	96	192		sacs	Date	-	07/12/20	05	Date			
Mfg		-	Baracarb	250	6	244		sacs	grade	_	H-40	-	grade			-
Туре		-	Baroseal (M)	80	0	80		sacs	diam		177.8	[mm]	diam			[mm]
Serial		-	Soad ash	10	4	6		sacs	Lin Weig	ht	25.3	[kg/m]	Lin Weight			[kg/m]
Nozzle		[mm <sup>2</sup> ]	N-Vis Plus	27	5	22		sacs	Nb Joint			-	Nb Joint			-
WOB	-	[daN]	Cellosize	122	39	83		sacs	Set at	_	323	[m]	Set at			[m]
RPM		[tr/min]	Barathin	15	9	6		sacs	Length	_	323	[m]	Length			[m]
Flow		[I/min]	Citric Acid	15	1	14		sacs	Burst	_	16000	[kPa]	Burst			[kPa]
Pres		[kPa]	Bicarb	30	21	9		sacs	Collapse	_	10000	[kPa]	Collapse			[kPa]
From		[m]	Fuel	57937	48414	9523		iters	Tensile		54000	[daN]	Tensile			[daN]
10		[m]	Drill Water	21.8	15	6.8		[m³]	L		TEST			TES	<u>i                                     </u>	
Unilled		[m]	E Z mud	20	3	17		pails	Date	_	17/06/2	2013	Date			
Hours		[nrs]	Barabuf	20	3	17		sacs	Pressure		11250	[kPa]	Pressure			[kPa]
			Sodium	75	75	U 1		sacs	Inst Cr-		Dhua	_	Last Comort			
			Defoamer	20	19	1		pails	Data	ient	Plug	_	Lust Cement			_
	CENTRIFUGE				C	ASING BOWL			Class		10/ 12/ 2005 Δ	·	Class			-
Make		United		Make	_	Weatherford	_	_	Density		1520 "	/ <sup>3</sup> 1	Density		[kg/m <sup>3</sup> ]	-
OF density		United	ri., 7 3.	Serial		12110022005			Volumo		50 [kg	/m"  1	Volume		[m <sup>3</sup> ]	
UF density			[kg/m <sup>-1</sup> ]	Size OD		228.6	[mm]		Time to	GI	[m	l n]	Time to GI		[min]	
Flow			[Kg/m <sup>2</sup> ]	Size ID		177.8	[mm]		Additises	<u>د</u>	Įmi	<u>.</u>	Additiver		. from the	
Last Dump			(-, ·····)	Rating		21,000	[kPa]		Auditive	· _			, autores			
Comments:		•				,										
Casing contrilizers over	v 10 jointr in or or b		nu 2 iointe in 7"	cosing												

Casing centrilizers every 10 joints in open hole and every 3 joints in 7" casing Mud will be centrifuged and salt added for long term storage (next well) since mud condition has been deemed sufficient for further drilling

		STCAN ergy Corp	V.	DA	ALLY DRILL	ING REPO	RT	N°	37	Date : Well : Rig :	21/07/2013 Hurricane#2 RE Foragaz#3
				Spud date	e: 1	7/06/2013	Well Licer	nce #	EP 03-107		Page 1/2
,	Weather @ 8:00 Wind Temperature	CL(	OUDY Mod 15	mKB mGL 24h Avg ROP	149. 145 0	97	Daily MD Total MD Expected MD		0 1970 1970	Daily Costs Cum Costs AFE	est.
Si	ummary of Daily	Operations:	Run and cement 5"	casing							
						SAFETY SUMMARY	1				
W	orkers on site	IFC	Norkers Injured			Incidents / Injuries		Hrs sin	nce last Medical	I Treatment Case	888
Rig	12	Rig	0	6:40. Minor col	lision between 2 vehicl	les (water truck and safe	ety vehicle) when backing out. No	H <sub>2</sub> S Le	vel	0 Trip D	rill
Others Total	24	Total	0			injuries.		Gas Le	vel 25	ppm BOP E	nii Drill
Rig Mana	iger Gre	eg McKinnon	(905) 371 4614	7:00	Pinging out nower to	nas	Safety Meetings / Too	Box Talks			
Company	/ Man Tra	vis Young	(709) 721 1994	7.00	ugging out power to	1182					
				19:00 H	Halliburton Safety M	eeting: pumping casir	ng cement	cl			
	FORMATIO	N/TOP :		TIVIE LOG	- 00:00 10 24:00	o (include salety fr	reetings and 1001 box talk	5)			
	ЦТН	OLOGY :									
From [Hr	To [Hr]	Depth [m]	Operation description								
0:00	7:00	1970	Run Casing with Rig Ser	vice power tongs							
7:00	8:00		Run Casing with Rig Ser	vice power tongs	to 1960.63m KB.						
8:00 12:00	12:00 19:00		Condition mud and circ Condition mud and circ	ulate casing. Wa	t on cementers. t on cementers.						
19:00	19:15		Pre job safety meeting	ementing proce	lures with Halliburto	on .					
19:15			Primary cementing : Pro Pressure test lines to 17	e Hydrate gel wat ' Mpa	er for lead cement h	iead up.					
			Pump 3m3 Pre flush fol Displace with 18 25m3	lowed by 9.90m3 water	(8.50T) Class G + Ac	ditives lead cement.	8.22m3 (10.5t) Class G + addi	tives Tail C	ement.		
			Bump Plug hold pressur	e 10 min and rig	out. Casing landed (	@ 1960.33m. 2m3 go	od cement returns.				
	0:00		Transfer condition drilli	ng mud from rig f	anks to 400 stb hold	ling tank.					
				TIME LOG	- 24:00 to 6:00a	m (include Safety i	meetings and Tool box tal	ks)			
From [Hr	To [Hr]	Depth [m]	Operation description	a 7" casing to to	un comont from 20	m to surface					
0:00	1:15		Top up cement aroung	7" casing to top 7" casing from 39	m - surface. Start ni	ppling down BOP's to	set slips				
1:15 2:00	2:00		Rig out and clean up ce Nipple down BOP's and	ment pumper wit set slips	h Crosbie Vac Truck						
5:00	6:00		WO cement								
			·		<b>RIG TIME</b>	(operation duratio	n in hours)				
Drilling		Weld B	lowl		Cement	4.7	5 Safety/BOP		0.5	Rig move	
Rig Servic Tripping	ce	DST	g		NOO Nipple U/D		Reaming Slip and Cut			Flow checks other	
Survey		Clean t	o Btm		Press. Test		Drill R & M h	ole		-	
Pick up Bl	IU. 11 HA	Run Ca	sing	7.75	kepair Rig Up		LOT/FIT			DOWNTIME	24
										- 1	
					2	4 HOURS FORECAS	ST				
WO Cem	ent. Start rigging	g out Rig. Salt a	dded to drilling mud for s	torage.							

Date :	21/07/201	.3	Well :	Hurricane#2	RE		Rig :		Foraga	z#3				Page	2/2
						DRILLING	MUD								
Fluid type					Solids						[kg/m <sup>3</sup>			ADDITIVES ADI	DED
Mud Co	-				Sands						[%]		NAME	Quantity	Concentration
Time Check	-				OWR						[%]	Cellos	ize		Bags
Mud Man					CI-						[kg/m <sup>3</sup>	Bi-aca	rb		Bags
Density			ĺka	(m <sup>3</sup> 1	Calcium		-				[mg/L]	N-Vis	mer		Bags
Viscosity	-		[s/l]	1			Volun	nes Balanc	ce			Salt		229	Bags
P.V.	-		[cp]	l .	Vol hauled		_			[m	3]	CW85	51	2	Pails
Y.P.			[g/1	100cm <sup>2</sup> ]	Vol dumpe	d				[m	3] 3,	Bara 1	'hin	2	Bags
Temperature	-				Boiler loss					[m	31			CONNIVIENTS	,
Pressure					Daily Mud	Cost					1				
рН					Cum Mud	Cost									
						BOTTOM HOLE	ASSEMBLY								
N° Component											ID [mm]	127	Length	[m] Conn	ection Weight
2 float												127	0.39	LT	/c /c
3 Casing											108.61	127	1955.	23 LT	/c
4 Crossover											118.62	139.7	0.25	LT	/c
5															
5															
8															
9															
10															
11															
12															
14															
15															
16															
1/															
19															
20															
21															
22															
23															
25															
26															
	HYDRAULIC	s					SURVEY							BOP STACK	
Pump	1		2	Time		m MD	m TVD	Azin	muth	Inclination	Deviation	OP Item		Diam [mm]	W.P. [kPa]
Make&Model	Dragon 660	Wilso	n 600									Stack		228.6	10500
SPM	70	6 1/2	X 14 -									a Divert	er ar	228.6	21000
Litre/Sk 100%	0.012	0.0	152 -									Blind		228.6	21000
Circ Rate	0.84		[m³/mi	n]								Other		228.6	21000
Pump Eff	90	9	0 [%]									Stack			
Drillpipe AV	8400		[KPa]									Annul	er ar		
Drill Collar AV	38.9		[mm]									6 Blind			
Mud Cycle		79	[min]									Other			
Bottom Up		27.6	[min]											TESTS	Dere (l-Del
U Hole Volume		18.3	[m <sup>-</sup> ]									Last BOP		16/07/2013	11250
System Vol.	-	67.6	[m <sup>3</sup> ]									Next BOP		30/07/2013	
	BITS				STOC	ж					CASI	NG / CEM	ENTING PR	OGRAM	
Bit		N°	Name	In	Used	Stock		Unit	Last Casi	ng	Surface		Last Casir	ng	Surface
Size Mfg		լmmj	Baracarb	288	96	192		sacs	Date		U7/12/20		Date	21	/07/2013
Туре		-	CW8551	4	2	244		sacs	diam		177.8	[mm]	diam	1	27 [mm]
Serial		-	Soad ash	10	4	6		sacs	Lin Weigh	nt	25.3	[kg/m]	Lin Weigh	t 26	.79 [kg/m]
Nozzle		[mm <sup>2</sup> ]	N-Vis Plus	27	5	22		sacs	Nb Joint			-	Nb Joint		-
WOB		[daN]	Cellosize Barath'r	122	39	83		sacs	Set at		323	[m]	Set at	196	0.33 [m]
Flow		[tr/min]	Barathin Citric Acid	15	15	0		sacs	Length		323	(M) (kPa1	Length Burst	196	U.33 [M] [kPa1
Pres		[kPa]	Bicarb	30	21	9		sacs	Collapse		10000	[kPa]	Collapse		[kPa]
From		[m]	Fuel	57937	49297	8640		liters	Tensile		54000	[daN]	Tensile		[daN]
То		[m]	Drill Water	21.8	15	6.8		[m <sup>3</sup> ]		Т	EST			TEST	
Unified		[m]	E Z mud	20	3	17		pails	Date		17/06/2	013 (kDa)	Date		[1-0-1
nodis		[112]	Sodium	20	3	1/	<del>-   -</del>	sacs	Pressure		11250	[кга]	Pressure		[крај
			Defoamer	20	19	1		pails	Last Cem	ent	Plug		Last Cem	ent Casing	cement
	CENTRIFUGE	_			с	ASING BOWL			Date	_	16/12/2005	;	Date	21/07	/2013
Make		Date: 1		Make		Weatherford			Class		A 1520 ···	( 3)	Class		3
OF density		United	[kg/m <sup>3</sup> ]	Serial		12110022005			Volume		50 [kg	/m~  1	Volume	1895	[m <sup>3</sup> ]
UF density			[kg/m <sup>-</sup> ]	Size OD		228.6	[mm]		Time to G	5L	<u></u> un [mi	, n]	Time to G	L	[min]
Flow			[L/min]	Size ID		177.8	[mm]		Additives	_			Additives	0.55	6 Halad 344
Last Dump			·	Rating		21,000	[kPa]					_			
Comments:															
I															
I															

A	INVEST	TCAN		DAII	Y DRILLING	REPORT		N°	38	Date : Well :	22/07/2013 Hurricane#2 RE
	Ener	gy Corp		Spud date :	17/06/201	3	Well Licence	e# EF	P 03-107	KIg :	Page 1/2
	Weather @ 9:00			mKB			Daily MD			Daily Costs	
	Wind Temperature	Moc 15	i	mGL	149.97 145.7		Total MD Expected MD	19	70	Cum Costs	est.
	Summary of Daily On	arations:			5		Expected ind			74 2	
	Summary of Daily Op	erations.	Nipple down BOP's,	, install slips. Rig dowi	n.						
					SAFETY SU	JMMARY					
W	/orkers on site	Wor	kers Injured		Incidents /	njuries		Hrs since	last Medical 1	Treatment Case	912
IEC Rig Others Total	9 24	IEC Rig Others Total			None to re	port		Hrs since H <sub>2</sub> S Level CO <sub>2</sub> Level Gas Level		e incident ) Trip I ) Pit Di ) BOP	912 Drill Drill Drill
Rig Mana Compan	ager Greg M Iv Man Victor I	1cKinnon Leroux	(905) 371 4614 (780) 678 5108	7:00 Nipp	ling down BOPs / Rigging de	Safe	ty Meetings / Tool Bo	ox Talks			
Compan	y Man Travis Y	Young	(709) 721 1994								
				TIME LOG -	00:00 to 24:00 (include	Safety meetings ar	nd Tool box talks)				
	FORMATION/T LITHOLO	OP : DGY :									
From [Hi	r] To [Hr] De	ws: epth [m] O	peration description								
0:00	0:30	PI	lace rods down outsid	le 7" casing to top up	cement from 39m to surfac	e.					
0:30 1:15	1:15 2:00	Te	op up cement aroung ig out and clean up ce	/ casing from 39m - ment pumper with C	surrace. Start nippleing dov rosbie Vac Truck.	vn BOP's to set slips.					
2:00 5:00	5:00 6:00	N	ipple down BOP's and /O cement	l set slips							
6:00 7:00	7:00	W	/ash out and service B afety Meeting	OP's. Release Mud N	lan, Day company Man (Vic	tor Leroux). Travis Yo	ung becomes supervi	isor (12h o	ps)		
7:15	12:00	W	/ash out and service B	OP's. Continue to rig	down.		, device also services allo				
12:00	19:00	N	o night crew for FORA	AGAZ (all crews going	on days)	ean up centrituge. Lay	y down rig service slip	ps and elev	ators.		
Frank III		ath (a)		TIME LOG - 2	4:00 to 6:00am (includ	e Safety meetings a	and Tool box talks)				
From [H	rj to (Hrj De	eptn (m) – O	peration description								
	· · · ·				RIG TIME (operation	duration in hours	)				
Drilling		Weld Bowl		Cem	lent		Safety/BOP		0.25	Rig move	
ng servi Tripping		Logging	—	Nipp	le U/D	3	Slip and Cut			Other	
Survey Circ./Coi	nd.	Clean to Bi Handle Too	im ols	2 Pres Repa	s. Test air		Drill R & M hole Fishing			TOTAL	19
Pick up B	зна	Run Casing	;	Rig c	lown	7	LOT/FIT			DOWNTIME	
					24 HOURS	FORECAST					
Prep and	d install tubing spool	and blind flang	e onto casing bowl, r	release rig. Ship all Ir	vestcan equipment to sec	ured yard in Stephen	ville.				

			wen.	Hurricane#2	RE		Rig :	For	ngaz#3				Page	2/2
						DRILLING	MUD							
Fluid type					Solids					[kg/m <sup>3</sup>	<sup>3</sup> 1	A	DDITIVES ADD	ED
Mud Co Time Check	-				Sands					[%]	Caller	NAME	Quantity	Concentration
Mud Man	-				MBT					[kg/m <sup>3</sup>	Bi-aca	rb		Bags
Donsity	-				CI-					[mg/L]	Defoa	mer		Pails
Viscosity			[kg [s/l	/m³] ]	Calcium		Volume	es Balance		[mg/L]	N-Vis Salt			Bags Bags
P.V.			[cp		Vol hauled				[	m <sup>3</sup> ]	CW85	51		Pails
Y.P. Gels 10"/10'			[g/	100cm <sup>2</sup> ]	Vol dumped Circ loss	1			[i	m <sup>3</sup> ] m <sup>3</sup> 1	Bara	Thin	COMMENTS	Bags
Temperature					Boiler loss				[	m <sup>3</sup> ]				
Pressure	-				Daily Mud (	Cost	-	56	995					
pri					Culli Muu C	BOTTOM HOLE	ASSEMBLY	Ŷ	5,521					
ue Component						DOTTOMINOLE	ASSEMBET			D [mm]	00 [mm	Length In	n] Conner	tion Weight
1 shoe										10 (mm)	127	0.44	LT/0	C Weight
2 float										100.01	127	0.39	LT/	C C
3 Casing 4 Crossover										108.61	127	1955.2		C
5												0.00		-
6														
8														
9														
10 11													_	
12									_					
13												1		
14 15										1				
16														
17										_				
19														
20														
21														
23														
24														
25													_	
	HYDRAULIC	s					SURVEY						BOP STACK	
Pump	1		2	Time		m MD	m TVD	Azimuth	Inclinatio	n Deviation	OP Item		Diam [mm]	W.P. [kPa]
Make&Model	Dragon 660	Wilso	on 600								Stack		220 C	10500
Liner x Stack	8 1/2" X 6	6 1/2	"X14 -								Diver	er	228.0	
Liner x Stack SPM	8 1/2" X 6 70	6 1/2	" X 14 -								Diver	er ar	228.6	21000
Liner x Stack SPM Litre/Sk 100% Cice Pate	8 1/2" X 6 70 0.012	6 1/2	"X 14 - - 152 -								Diver Annul Blind	er ar	228.6 228.6 228.6	21000 21000
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff	8 1/2" X 6 70 0.012 0.84 90	6 1/2 0.0	"X 14 - - - - - - - - - - - - - - - - - - -	n]							Diveri Annul Blind Other Stack	ar	228.6 228.6 228.6 228.6	21000 21000 21000
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Press	8 1/2" X 6 70 0.012 0.84 90 8500	<u>6 1/2</u> 0.0	" X 14 - - 152 - [m <sup>3</sup> /mi 90 [%] [kPa]	n]							Builling Blind Other Stack	er	228.6 228.6 228.6 228.6	21000 21000 21000
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Press Drillpipe AV Drill Collar AV	8 1/2" X 6 70 0.012 0.84 90 8500 8400 38.9	6 1/2 0.0	"X 14 - 152 - [m <sup>3</sup> /mi 00 [%] [kPa] [mm]	n]							Diver Diver Diver Diver Other Stack Diver Stack Diver Blind Other Stack Diver	er ar	228.6 228.6 228.6 228.6	21000 21000 21000
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Press Drillpipe AV Drill Collar AV Mud Cycle	8 1/2" X 6 70 0.012 0.84 90 8500 8400 38.9	6 1/2 0.0	"X 14 - - 152 - (%) (%) (kPa) (mm) (mm) (min)	n]							Other Diver Diver Diver Diver Diver Diver Diver Diver Diver Diver Diver Diver Diver Diver Diver	ier	228.6 228.6 228.6 228.6	21000 21000 21000
Liner x Stack SPM Litre/Sk 100% Litre/Sk 100% Circ Rate Pump Eff Pump Eff Drillipice AV Drill Collar AV Mud Cycle g Bottom Up	8 1/2" X 6 70 0.012 0.84 90 8500 8400 38.9	<u>6 1/2</u> 0.0	"X 14 - - - - - - - - - - - - - - - - - - -	n]							Puiling Diverting Blind Other Stack Diverting Blind Other Blind Other	er	228.6 228.6 228.6 228.6 TESTS	21000 21000 21000
Liner x Stack SPM Litre/Sk 100% Litre/Sk 100% Circ Rate Pump Eff Pump Eff Drillpipe AV Drill Collar AV Mud Cycle S Mud Tank DH Mud Tank DH Volume UH	8 1/2" X 6 70 0.012 0.84 90 8500 8400 38.9		"X 14 	n]							Blind Other Stack Diveri HD Other Last BOP	ier	228.6 228.6 228.6 228.6 228.6 TESTS Date 6/07/2013	21000 21000 21000 Pres [kPa] 11250
Liner x Stack SPM Litre/Sk 100% Litre/Sk 100% Circ Rate Pump Eff Pump Pff Drillapce AV Drill Collar AV Drill Collar AV U U U U U U U U U U U U U U U U U U U	8 1/2" × 6 70 0.012 0.84 90 8500 8400 38.9		"X 14 - - - - - - [m <sup>3</sup> /mi [%] [kPa] [mm] [mm] [min] [min] [m <sup>3</sup> ] [m <sup>3</sup> ]	n]							Build Annuel Blind Other Stack Divert Annuel Blind Other Last BOP Next BOP	ier inter in	228.6 228.6 228.6 228.6 228.6 TESTS Date 6/07/2013 0/07/2013	21000 21000 21000 Pres [kPa] 11250
Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Pff Pump Pff Prill police AV Drill Collar AV Mud Cycle Buttom Up Drill Collar AV System Vol. System Vol.	8 1/2" × 6 70 0.012 0.84 90 8500 8400 38.9 BITS		"X 14 - - - - - - - - - - - - - - - - - - -	n]	STOC	к		_		CASI	Blind Diver Annul Blind Other Stack Diver Juer Annul Blind Other Last BOP Next BOP	er ar	228.6 228.6 228.6 228.6 228.6 7 228.6 228.6 228.6 228.7 200 200 200 200 200 200 200 200 200 20	21000 21000 21000 Pres [kPa] 11250
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump fff Pump fff Drill Collar AV Drill Collar AV Drill Collar AV Bottom Up Mud Cycle Bottom Up Bottom Vol. Bit Bit Bit Stac	8 1/2" × 6 70 0.012 0.84 90 8500 8400 38.9  BITS	0.0 0.0 5	"X 14 	n]	STOC Used	K Stock		init Lost	casing	CASI Surface	Blind Other Annul Blind Other Stack Annul Blind Other Last BOP Next BOP Next BOP	er ar er ar 1 3 enting PRO	228.6 228.6 228.6 228.6 228.6 228.6 7 228.6 228.6 0 228.6 200 201 201 207/2013 0/07/2013 207/2014 207/2014 207/2014 207/2014 207/2014 207/2014 207/2014 207/2014 207/2014 207/2014 207/2014 20	21000 21000 21000 Pres [kPa] 11250
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Eff Pump Press DrillipieR AV DrillipieR AV DrillipieR V Bottom Up Sustem Vol. Bit Size Size Mid g	8 1/2" × 6 70 0.012 0.84 90 8500 8400 38.9 38.9 BITS	N <sup>e</sup> [[mm]]	"X 14 - - - - - - - - - - - - - - - - - - -	n] in 288 250	5700 5700	K 5tock 192 244	U 	init Last acs Date acs grade	Casing	CASI Surface 07/12/20 H-40	Bilert Bilert Annul Blind Other Stack Divert Annul Blind Other Blind Other Last BOP Next BOP Next BOP Next BOP	er ar er ar 1 3 ENTING PRO Date grade	222.6. 228.6 228.6 228.6 228.6 228.6 7 228.6 228.6 007/2013 0/07/2013 0/07/2013 GRAM g <u>Star</u> 21/ L800	21000 21000 21000 Pres [kPa] 11250 <i>inface</i> 07/2013 10
Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Eff Pump Press Orilloclar AV Drilloclar AV Drilloclar AV Bottom Up Bit Size Kise Mfg Type Litre/Sk 200	8 1/2" × 6 70 0.012 0.84 90 8500 8500 8400 38.9 	N <sup>e</sup> [mm]	"X 14 - - - - - - - - - - - - -	n] 10 288 250 4	<b>STOC</b> Used 96 6 2	K 5tock 192 244 2	U S S S S	init Last acs Date acs grade acs diam	Casing	CASI Surface 07/12/2C H-40 177.8	Biler Biler Biler Annul Bilind Other Stack Diver Annul Bilind Other Stack Diver Annul Bilind Other Stack Biler Annul Biler	ter ar	228.6 228.6 228.6 228.6 228.6 228.6 7 228.6 7 228.6 0/07/2013 0/07/2013 0/07/2013 0/07/2013 0/07/2013 0/07/2013 0/07/2013	21000 21000 21000 Pres [kPa] 11250 07/2013 10 
Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Eff Pump Fff Pump Press Drillople AV Orill Collar AV Mud Cycle Bit Bit Size Mitg System Vol. Bit Size Serial Nozzle	8 1/2" x 6 70 0.012 0.84 90 8500 8400 38.9 	N <sup>®</sup> [mm] -	"X 14 152 - 152 - 15	n] in 288 250 4 10 27	STOC Used 96 6 2 2 4 4 5	K 5tock 192 244 2 6 77	U Si Si Si Si Si	init Last acs Date acs grada acs diam acs Lin W	Casing	CASI Surface 07/12/2C H-40 177.8 25.3	Bioen Bi	er ar	228.6 228.6 228.6 228.6 228.6 228.6 TESTS Date 6/07/2013 GRAM g <u>SC</u> 21/ 1800 21/ 1800 21/ 22.6.7	21000 21000 21000 Pres [kPa] 11250 11250 07/2013 10 7 [mm] 9 9 [kg/m]
Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Pff Pump Pff Drill Collar AV Drill Collar AV Drill Collar AV Bit System Vol. Bit Size Mig Serial Nozzle WOB Litre/Sk 200 Litre/S	8 1/2* X6 70 0.012 0.84 90 95 8500 8400 38.9 8400 38.9	■ 6 1/2 ■ 0.0 • • • • • • • • • • • • • • • • • • •	"X 14 152 152 152 152 152 152 152 152	in           288           250           4           10           27           122	500 500 500 500 500 500 500 500 500 500	K 192 244 2 6 22 83	U 53 53 53 53 53 53 53 53 53	init Last acs Date acs gradacs acs diam acs Lin W acs Nb Jo acs Set a	Casing	CASI Surface 07/12/2C H-40 177.8 25.3 323	Bilind Other Stack Stack Annulus Stack Annulus Diver Stack Annulus Bilind Other Next BOP Next BOP	er ar	222.6 c 228.6 c 228	21000 21000 21000 Pres [kPa] 11250 07/2013 10 
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pff Pump Press Drilloclar AV Drilloclar AV Drill Collar AV Drill Collar AV Bit Buttom Up System Vol. Bit Size Size Nozzle WoB RPM From	8 1/2* X 6 70 0.012 0.84 90 8500 8400 38.9  B400 8400 BHTS	Nº [mm] - [mm <sup>2</sup> ] [t/mi] [t/mi]	"X 14 152 [m <sup>3</sup> /m] 0 [%] 160 [%] 170 [%] 160 [%] 16	in 288 250 4 10 27 122 27 15	<b>STOC</b> 96 6 2 4 5 39 15	K Stock 192 244 2 6 6 22 83 0 0	U SS SS SS SS SS SS	Init Lost acs Date acs grad acs diam acs Lin W acs Sea Nb Jo acs Sea La Lengt acs Sea Lengt	Casing	CASI Surface 07/12/20 H-40 177.8 25.3 25.3 323 323 323	Bilind Other Stack Stack Stack Stack Stack Stack Stack Other Next BOP Next BOP Next BOP Next BOP Next BOP Next BOP NG / CEM	ter ar	228.6 2010 2013 2013 2017 2017 2017 2013 2017 2017 2017 2017 2017 2017 2017 2017	21000 21000 21000 21000 Pres [kPa] 11250 uface 07/2013 10 - r [mm] - g [kg/m] - - - - - - - - - - - - -
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Eff Pump Press Drillipie AV Drillipie AV Drillipie AV Buttor Up Buttor Up System Vol. Bit Size Size Mitg Type Serial Nozzle WOB Press	8 1/2* X 6 70 0.012 90 90 8500 8400 38.9 8400 38.9 8400 38.9	■ 6 1/2 ■ 0.0 = 5 = 5 = 100 [mm] = - = - = - [mm <sup>2</sup> ] [tr/min] [tr/min]	"X 14 152 [m <sup>3</sup> /m] (m <sup>3</sup> /m] (mm) (mm) (mm) [min] [min] [min] [m <sup>3</sup> ] Mame Barate Ba	nl 288 250 4 10 27 122 15 30	5000 5000 5000 5000 5000 5000 5000 500	K 192 244 2 6 6 22 83 0 14 9	U Si Si Si Si Si Si Si Si Si Si Si Si Si	init Last acs Date acs prada acs Lin W acs Lin W acs Set a acs Leng acs Eurst acs Leng acs Eurst acs Colla	Casing  eight h h bse	CASI Surface 07/12/2 H-40 177.8 25.3 323 323 16000 10000	Biveri Diveri Bind Other Stack Jannul Other Stack Annul Other Last BOP Next BOP Next BOP Next BOP Next BOP (kg/m] - [kg/m] [kPa] [kPa]	er ar ar ar ar 1 3 ENTING PRO Last Casin, Date grade diam Lin Weight Nb Joint Set at Length Burst Collapse	228.6 228.6 228.6 228.6 228.6 228.6 228.7 Date 6/07/2013 0/07/2013 GRAM g St 21/ L&00 0/07/2013 22.6.7 12: 26.7 1960 1960	21000 21000 21000 21000 Pres [kPa] 11250 mface 07/2013 10 - r [kg/m] [kg/m] [kg/m] [kPa]
Liner x Stack SPM Litre/sk 100% Crc Rate Pump Eff Pump Pfrs Drillpipe AV Drillpipe AV Drill Collar AV Bit Bit Size Mifg Mifg Kit Size Nozzle WO8 From From Litre/sk 100%	8 1/2* X 6 70 0.012 0.84 90 8500 8400 38.9 	N <sup>0</sup> [mm] - [mm <sup>2</sup> ] [darN] [kPa] [m]	"X 14 152 160 152 160 160 160 160 160 160 160 160	In           228           250           4           10           27           112           15           30           5937	STOC 96 6 2 39 15 15 1 1 21 50677	K 192 244 22 6 222 83 0 14 9 9 7260	U 53 53 53 55 55 55 55 55 55 55 55 55 55	init Last acs Date acs gradacs diam acs Lin W acs No Jo acs Set a acs Leng acs Burst acs Colla acs Colla	Casing	CASI Surface 07/12/2C H-40 177.8 25.3 323 323 16000 10000 54000	Bilderi Bilderi Bilderi Bilderi Bilderi Bilderi Stack Annulu Bilderi B	er  ar  ar  ar  ar  ar  ar  ar  br  br  br  br  br  br  br  br  br  b	228.6 228.6 228.6 228.6 228.6 228.6 228.6 007/2013 0/07/2014 0/07/2000000000000000000000000000000000	21000 21000 21000 Pres [kPa] 11250 07/2013 10 r/[kg/m] - - 33 [m] 33 [m] [kPa] [kPa] [dak]
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pff Drill Collar AV Drill Collar AV Drill Collar AV Bit System Vol. Bit Size Mig Serial Nozzle Fiow Pres Fiow Pres Fiom Fiom Fiom Fiom Fiom Fiom Fiom Fiom	8 1/2* X 6 70 0.012 0.84 90 8500 38.9 	6 1/2           0.0           \$           (mm)           -           (max)           (tr/min)           (V/min)           (Mrain)           (kPa)           (m)           (m)	"X 14 152 m <sup>3</sup> /m) (m <sup>3</sup> /m) (kPa) (mm) (mm) (mm) (min) (m <sup>3</sup> ) (m <sup>3</sup> )	n] In 288 250 4 10 27 122 15 15 15 30 57937 221.8 70	STOC 96 6 2 4 5 5 39 15 1 21 21 21 2 1 5 0677 15 3	K 1922 244 2 6 22 83 0 14 9 9 7260 6.8 7 77	U U SS SS SS SS SS SS SS SS SS I III III	init Last acs Date acs gradacs acs diam acs Lin W blo acs Set a acs Leng acs Colla acs Colla acs Colla acs Terrs Tensin n <sup>1</sup>	Casing	CASI Surface 07/12/2C H-40 177.8 25.3 223 323 323 323 323 323 323 323 323 3	Biologia Divert Bind Other Divert Bind Other Divert Bind Other Last BOP Next BOP Next BOP Next BOP (kg/m) [(kg/m)] [(kPa)] [(daN)] 2013	er e	228.6 200.5 0 007/2013 0007/2013 0007/2013 200.5	21000 21000 21000 21000 Pres [kPa] 11250 pres [kPa] [kg/m] 
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pfess Pillipie AV Drilliciar AV Drill Collar AV Drill Collar AV Bit Buttom Up System Vol. Bit Size Size Size Size Size Size Size Size	8 1/2*X6 70 0.012 0.84 90 8500 8400 38.9  BHTS	6 1/2           0.0           5           (mm)           -           -           (mm²)           (idaN)           (kPa)           (m)           (m)           (m)           (m)           (m)	"X 14 152 [m <sup>3</sup> /m] (0 [%] [(mn]) [	in 288 250 4 10 277 122 15 15 15 15 21.8 20 20	<b>STOC</b> 96 6 2 39 15 15 15 15 15 3 3 3	K Stock 192 244 2 6 83 0 14 9 7260 6.8 17 17 17	U SS SS SS SS SS SS SS SS SS SS SS SS SS	Init Last acs Date acs diam acs diam acs Leng acs Set a leng acs Set a succost acs Set a leng acs Set acs	Casing	CASI 07/12/2 H-40 177.8 25.3 323 323 16000 10000 54000 TEST 17/06/ 11250	Billind Billind Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Diver Stack Cher Stack Diver Diver Stack Diver Di	er e	228.6 228.6 228.6 228.6 228.6 228.6 0ate 6/07/2013 0/07/2014 0/07/20000000000000000000	21000 21000 21000 21000 Pres [kPa] 11250 pres [kPa] 11250 pres [kPa] [kPa] [kPa] [kPa]
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Eff Pilipipe AV Drillipie AV Drillipie AV Drill Collar AV Bit Bit Size Size WOB Mfg Type Serial Nozzle WOB Pres From Filow Drille Difled Hours Litter	8 1/2* X 6 70 0.012 90 90 8500 8400 38.9 8400 38.9 8400 38.9	6 1/2     0.0     0.0     (mm]     (mm]     (mm^2)     (darN)     (kPa]     (m)     (m)     (hrs)	"X 14 152 152 150 152 150 152 150 150 150 150 150 150 150 150	nl	<b>STOC</b> 96 2 39 15 15 15 15 3 3 3 3 3 3 3 04	K 192 244 2 6 6 22 83 0 14 9 7260 6.8 8 17 17 0 0	U SS SS SS SS SS SS SS SS SS SS SS SS SS	Init Last acs Date acs grade acs diam acs Lin W acs Nb Jo acs Set a acs Leng acs Leng acs Colla teres Tensin m <sup>1</sup> alls Date acs Press acs	Casing	CASI Surface 07/12/2C H-40 177.8 25.3 223 323 16000 10000 54000 54000 54000 54000 54000 54000 125 17/06/	Bureformer States State	er ar	228.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 208.6 209.6 200.00	21000 21000 21000 21000 Pres [kPa] 11250 11250 10
Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Eff Pump Fff Pump Press Drill collar AV Mud Cycle Bit Bit Bit Size Serial Nozle WO2B RPM Fiow Press From To Dilled Litre/Sk 200% Crosses Crosse	8 1/2*X6 70 0.012 0.84 90 8500 8400 38.9 	6 1/2           0.0	"X 14 152 [m <sup>3</sup> /ml	n] 10 288 250 4 10 27 12 15 15 30 57937 21.8 20 20 304 20	STOC Used 96 6 2 4 5 15 1 1 21 50677 15 3 3 3 4 3 04 19	K 5tock 192 244 2 8 3 0 14 9 7260 6.8 17 0 17 0 17 0	U Si Si Si Si Si Si Si Si Si Si Si Si Si	Init Lost acs Date acs grad acs diam acs Lin W acs Uh S acs Set a acs Colla ters Tensi m <sup>1</sup> ] als Date acs Deress acs acs Colla ters Tensi als Date acs base base base base base base base bas	Casing	CASI 5//12/20 H-40 177.8 323 323 16000 54000 54000 54000 5// casing 21/07/201	Billind         Billind           Other         Stack           Billind         Billind           Other         Stack           Billind         Other           Other         Stack           Billind         Other           Istack         BOP           North         Stack           Istack         BOP           Istack	er international	228.6 200 200 200 200 200 200 200 200 200 20	21000 21000 21000 21000 Pres [kPa] 11250 07/2013 0 - 7 [kg/m] - 33 [m] 33 [m] [kPa] [kPa]
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pff Drill Collar AV Drill Collar AV Drill Collar AV Bit System Vol. Bit Size Mitg Nozzle WOB RPM Fiow Pres Fiow Pres Dilled Litte	8 1/2* X 6 70 0.012 0.84 90 8400 38.9 8400 38.9 8400 38.9 8600 8500 8600 8600 8600 8600 8600 8600	N <sup>e</sup> [mm] 	"X 14 152 160 152 160 160 160 160 160 160 160 160	n] 10 288 250 4 10 27 15 15 30 57937 21.8 20 20 20 20	STOC 96 6 2 4 5 5 15 15 15 15 15 30 30 4 19 C	K 5tock 192 244 2 6 222 83 0 14 9 7260 6.8 17 0 17 0 1 17 0 1 SSING BOUL	U Si Si Si Si Si Si Si Si Si Si Si Si Si	init Lost acs Date acs grad acs diam acs Lin W acs Ni Jo acs Set a acs Colla acs Colla acs Colla acs Press acs Colla acs Colla acs Press acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla acs Colla C	Casing	CASS Surfac 07/12/20 H-40 177.8 323 323 16000 10000 54000 TEST 17/06/ 11250 5*Casing 21/07/201 5*Casing 21/07/201	Billed	er international	228.6 200 6 (07/2013 007/2013 007/2013 26.7 26.7 26.7 26.7 27.7 26.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20	21000 21000 21000 21000 Pres [kPa] 11250 07/2013 10 7 [kg/m] - 33 [m] 33 [m] [kPa] [daN]
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pff Drill Collar AV Drill Collar AV Drill Collar AV Drill Collar AV Bit State System Vol. Bit State State Mag Pres From To Drilled Hours Make Of density	8 1/2* X 6 70 0.012 0.084 90 8500 38.9 	N <sup>0</sup> [mm] - - [mm <sup>2</sup> ] [t/min] [t/min] [t/min] [t/min] [t/min]	"X 14 152 [m <sup>3</sup> /m] 0 [%] 162 [m <sup>3</sup> /m] [mn] [mn] [mn] [m] [m] [m] [m] [m] [m] [m] [m	nl in 288 250 4 10 27 122 15 30 27 21.8 20 20 20 20 304 20 304 20 304 20 304 20 Serial Serial	STOC Used 96 6 2 39 15 1 1 21 20 15 3 3 3 3 04 9 6 7 5 0 67 7 5 0 7 7 5 0 7 7 5 7 5 7 5 7 9 6 6 7 9 6 7 7 7 9 6 7 7 9 6 7 7 7 9 6 7 7 9 6 7 7 9 6 7 7 9 6 7 7 7 9 6 7 7 9 7 7 7 9 7 7 7 7	K 5tock 192 244 2 6 22 83 0 144 9 7260 6.8 17 17 0 1 17 17 0 1 1 SING BOWL Weatherford 121022026	U S S S S S S S S S S S S S S S S S S S	Init Last Iacs Date Iacs grada Iacs Grada Iacs Grada Iacs Linty Iacs Seta Iacs Leng Iacs Seta Iacs Colla Iacs Press Iacs Press Iacs Date Iacs Press Iacs Date Iacs Press Iacs Date Iacs Press Iacs Date Iacs Press Iacs Date Iacs Date	Casing	CASI Surfact 07/12/2C H-40 177.8 25.3 323 16000 10000 540000 10000 540000 10200 11250 5° casing 21/07/201 G 1895 [kg 17.9] [kg	Billed         Billed           Other         Billed           Other         Billed           Other         Stack           Stack         Billed           Other         Stack           Stack         Billed           Other         Gother           Ital         Billed           Other         Gother           Ital         Billed           Other         Gother           Ital         Gother           Ital         Ital           Ital         Gother           Ital         Ital	er lar la	228.6 228.6 228.6 228.6 228.6 228.6 228.6 228.6 228.6 228.6 328.6	21000 21000 21000 21000 Pres [kPa] 11250 nface n7/2013 [kPa] [kPa] [kPa] [kPa]
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pff Pump Press Drill Collar AV Drill Collar AV Drill Collar AV Bit Buttom Up State Mud Cycle Bit State Mud Cycle Bit State Mut State Collar AV Drill C	8 1/2* X 6 70 0.012 0.84 90 8400 38.9 	6 1/2           0.0           9           0.0           9           1	"X 14 	In           288           250           4           10           27           15           15           30           59937           21.8           20           204           200           304           20           304           Serial           Stee OD	STOC Used 96 2 39 39 39 39 30 15 15 15 15 3 3 3 304 19 C	K Stock 192 244 2 6 83 0 14 9 7260 6.8 17 17 0 1 1 XSING BOWL Weatherford 12110022005 228.6	U S S S S S S S S S S S S S S S S S S S	Init Last Cass Date Cass Prada Cass Date Cass Date Cass Date Cass Date Cass Date Cass Date Cass Colla Cass Colla Cass Date Cass Date	casing	CASI Surfact 07/12/2C H-40 177.8 323 16000 10000 54000 TEST 17/06/ 11250 5° casing 21/07/201 G 1895 [kg 17.9.9] [m]	Billed         Other           Billed         Other           Stack         Billed           Other         Stack           Stack         Billed           Other         Stack           Stack         Billed           Other         Stack           Other         Stack           Ital         Billed           Other         Stack           Ital         Billed           Other         Stack           Ital         Billed           Other         Stack           Ital         Billed           Ital         Ital           Ital <td< td=""><td>er inter and interest interest</td><td>228.6 228.6 228.6 228.6 228.6 Date 6/07/2013 0/07/2013 g 221/ 0/07/2013 GRAM g 50 221/ 1800 122 26.7 1960 1960 1960</td><td>21000 21000 21000 21000 Pres [kPa] 11250 uface 07/2013 10 - - - - - - - - - - - - -</td></td<>	er inter and interest	228.6 228.6 228.6 228.6 228.6 Date 6/07/2013 0/07/2013 g 221/ 0/07/2013 GRAM g 50 221/ 1800 122 26.7 1960 1960 1960	21000 21000 21000 21000 Pres [kPa] 11250 uface 07/2013 10 - - - - - - - - - - - - -
Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Eff Pump Eff Pump Fres Drilliple AV Drilliple AV Drilliple AV Drill Collar AV Drill Collar AV Bit Stree System Vol. Bit Stree Nozzle WOB RPM RPM Flow Pres From To Drilled Hours Drilled Hours Cr density Flow Flow Flow Flow Cr density Flow Flow Flow Flow Flow Flow Flow Flow	8 1/2* X 6 70 70 0.012 90 90 8500 8400 38.9 	6 1/2     0.0     0.0     (mm)     (mm)     (mm^2)     (darNini)     (kPa)     (m)     (hrs)	"X 14 	In           2280           250           4           10           27           122           15           30           57937           21.8           20           304           20           Sice OD           Sice OD           Sice Do           Sice Do	STOC 96 2 39 15 15 1 5 0677 15 3 3 3 3 3 3 04 19 C	K 5tock 192 244 2 6 6 22 83 0 14 9 7260 6.8 17 17 0 12110022005 228.6 12110022005 228.6 121778 3100 228.6 127 228.6 127 228.6 129 249.6 129 249.6 129 249.6 129 249.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149 259.6 149.7 177 177 177 177 177 177 177 1	U SS SS SS SS SS SS SS SS SS SS SS SS SS	Init Last acs prada acs prada acs prada acs Lin W acs Lin W acs Lin W acs Set a acs Leng acs Leng alis Date acs colla alis Date class Dens Dots Last Date Act Act Class Dens Volum Time Addit	Casing	CASI Surfact 07/12/2C H-40 177.8 25.3 323 16000 540000 540000 540000 540000 540000 540000 540000 540000 540000 540000 5400000 5400000 540000000000	Billed         Billed<	er intervention of the second	228.6 228.6 228.6 228.6 228.6 228.6 228.6 7 5072013 6/072013 6/072013 6/072013 6/072013 6/072013 7 21/1 8 8 8 8 9 5 1960 1960 1960 1960 1960	21000 21000 21000 21000 Pres [kPa] 11250 mface 07/2013 10 - - - - - - - - - - - - -
Liner x Stack SPM Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Pff Pump Pff Drillpipe AV Drill Collar AV Drill Collar AV Bit Size Mitg System Vol. Bit Size Mitg Cype Size Size Mitg Cype Size Size Size Size Size Size Size Siz	8 1/2* X 6 70 0.012 0.84 90 8400 38.9 	6 1/2           0.0           9           (mm)           -           (daN)           (tr/min)           (l/min)           (m)           (m)           (m)           (m)           (m)           (m)           (m)           (m)           (m)	"X 14 	nl 10 288 250 4 10 27 15 15 30 57937 21.8 20 20 20 Make Serial Size 0D Size 0D Rating	STOC 96 6 2 4 5 5 97 15 15 15 15 15 3 3 3 3 3 0 19 2 0 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	K 1922 244 2 6 22 83 0 144 9 7760 6.8 177 17 17 17 10 2110022005 228.6 1777.8 21,000	U U Si Si Si Si Si Si Si Si Si Si Si Si Si	init Lost acs Date acs grad acs diam acs Lin W acs Ni Jo acs Set a acs Colla acs Colla	Casing	CASS Surfac 07/12/20 H-40 177.8 323 323 16000 10000 54000 TEST 17/06/ 11250 5'' casing 21/07/201 5'' casing 21/07/201 [n] 5'' casing 21/07/5 [kg 17.9 [kg 17.9 [kg]	Billed         Billed<	er ar	228.6 200 200 200 200 200 200 200 200 200 20	21000 21000 21000 21000 Pres [kPa] 11250 07/2013 10 - - - - - - - - - - - - -
Liner x Stack SPM Liner x Stack SPM Litre/Sk 100% Crc Rate Pump Pff Pump Pff Drill Collar AV Drill Collar AV Drill Collar AV Bit State System Vol. Bit State State Nozzle WOB RPM Filow Pres From To Drilled Hours Uf density Flow Last Dump Comments: Last DDR EXPM	8 1/2* X 6 70 0.012 0.84 90 8500 38.9 	6 1/2           0.0           9           (mm)           -           -           (mm)           -           (mm)           (min)           (min) <tr< td=""><td>"X 14 </td><td>In           288           250           4           0           27           15           30           57937           21.8           20           304           20           304           305           Size 0D           Size 0D           Rating</td><td>STOC Used 96 6 2 4 4 5 39 15 15 15 15 15 3 3 3 304 19 20 6 6 2 4 4 5 5 39 9 6 6 7 2 4 15 15 15 15 15 10 5 7 2 10 5 7 10 5 10 5 10 5 10 5 10 5 10 5 10</td><td>K Stock 192 244 2 6 8 3 0 144 9 7260 6 8 3 0 144 9 7260 6 8 3 0 144 9 7260 6 8 3 0 147 9 7260 6 8 3 0 147 9 7260 6 8 3 0 147 172 2 8 3 0 147 172 172 172 172 172 172 172 17</td><td>U S S S S S S S S S S S S S S S S S S S</td><td>init Last acs Date acs grada acs Grada acs Grada acs Leng acs Burst acs Colla acs Seta acs Seta</td><td>Lasing</td><td>CASI Surface 07/12/2C H-40 177.8 25.3 16000 540000 540000 540000 55000 1125</td><td>Billed         Other           Billed         Other           Billed         Other           Stack         Billed           Other         Stack           Stack         Billed           Other         Stack           Stack         Billed           Other         Image: Stack           Ista BOP         Next BOP           Next BOP         Image: Stack           Image: Stack         Image: Stack           Image: Stack<td>er er e</td><td>228.6 228.6 228.6 228.6 228.6 228.6 228.6 328.6</td><td>21000 21000 21000 21000 Pres [kPa] 11250 nface n7/2013 0 - - - - - - - - - - - - - -</td></td></tr<>	"X 14 	In           288           250           4           0           27           15           30           57937           21.8           20           304           20           304           305           Size 0D           Size 0D           Rating	STOC Used 96 6 2 4 4 5 39 15 15 15 15 15 3 3 3 304 19 20 6 6 2 4 4 5 5 39 9 6 6 7 2 4 15 15 15 15 15 10 5 7 2 10 5 7 10 5 10 5 10 5 10 5 10 5 10 5 10	K Stock 192 244 2 6 8 3 0 144 9 7260 6 8 3 0 144 9 7260 6 8 3 0 144 9 7260 6 8 3 0 147 9 7260 6 8 3 0 147 9 7260 6 8 3 0 147 172 2 8 3 0 147 172 172 172 172 172 172 172 17	U S S S S S S S S S S S S S S S S S S S	init Last acs Date acs grada acs Grada acs Grada acs Leng acs Burst acs Colla acs Seta acs Seta	Lasing	CASI Surface 07/12/2C H-40 177.8 25.3 16000 540000 540000 540000 55000 1125	Billed         Other           Billed         Other           Billed         Other           Stack         Billed           Other         Stack           Stack         Billed           Other         Stack           Stack         Billed           Other         Image: Stack           Ista BOP         Next BOP           Next BOP         Image: Stack           Image: Stack         Image: Stack           Image: Stack <td>er er e</td> <td>228.6 228.6 228.6 228.6 228.6 228.6 228.6 328.6</td> <td>21000 21000 21000 21000 Pres [kPa] 11250 nface n7/2013 0 - - - - - - - - - - - - - -</td>	er e	228.6 228.6 228.6 228.6 228.6 228.6 228.6 328.6	21000 21000 21000 21000 Pres [kPa] 11250 nface n7/2013 0 - - - - - - - - - - - - - -
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Pff Pump Pfes Pillipie AV Drill Collar AV Drill Collar AV Mud Cycle Bit Sue Mud Cycle System Vol. Bit Size Size Mud Tank Hole Volume Size Nozzle WoB RPM Flow Pres From Co Drilled Hours Last DDR Last DDR	8 1/2* X 6 70 0.012 0.8400 8400 38.9  BITS	6 1/2           0.0           9           0.0           9           1	"X 14 	In           288           250           4           10           27           122           15           15           20           204           200           304           20           304           20           304           20           304           20           304           Stee 0D           Stee D           Rating	STOC Used 96 2 39 39 30 39 30 15 15 15 3 3 3 304 19 C	K Stock 192 244 2 6 83 0 14 9 7260 6.8 17 17 0 1 1 XSING BOWL Weatherford 12110022005 228.6 177.8 221.000	U S S S S S S S S S S S S S S S S S S S	Init Lost Cass Date Cass Pradac Cass Date Cass Cass Date Cass C	ty	CASI Surface 07/12/2C H-40 177.8 323 323 16000 10000 54000 TEST 11250 5° casing 21/07/201 6 12895 [kk 17.9 [m]	Billed         Other           Billed         Other           Stack         Billed           Other         Stack           Stack         Stack           Other         Stack           Image: Stack         Stack           Other         Stack           Other         Stack           Image: Stack         Stack	er in weight of the second sec	228.6 228.6 228.6 228.6 228.6 Date 6/07/2013 0/07/2013 g S1 22/ 1960 12: 12: 26.7 1960 1960 1970 1960	21000 21000 21000 11000 11250 11250 11250 11250 11250 110 - r [mm] 9 [kPa] [kPa] [kPa] [kPa]
Liner x Stack SPM Litre/Sk 100% Circ Rate Pump Eff Pump Eff Pilipipe AV Drillipie AV Drillipie AV Drill Collar AV Drill Collar AV Bit Size Size Size Nozzle WoB RFM RPM Flow Pres From Drilled Hours Drilled Hours Drilled Litre Size Litre Drilled Litre Size Drilled Litre Size Size Size Size Size Size Size Siz	8 1/2* X 6 70 70 0.012 90 90 8500 8400 38.9 	6 1/2           0.0	"X 14 	nl 10 288 250 4 10 27 122 15 30 20 20 20 20 20 20 20 20 20 2	STOC 96 2 39 15 15 15 33 3 3 3 304 19 C/	K 5tock 192 244 2 6 22 83 0 14 9 7260 6.8 17 17 0 1 28 56 17 17 0 1 21 26 6 6 22 23 4 9 7260 56 14 9 7260 56 14 9 7260 56 14 9 7260 56 17 7260 56 17 7260 56 17 7260 56 17 77 17 7260 56 56 17 77 70 17 7260 56 56 17 77 77 70 70 70 77 70 70 77 70 70	U         Si           SS         SS           SS <t< td=""><td>Init Last acs Date acs Prada acs Lin W acs Lin W acs Lin W acs Long acs Set a acs Colla acs Colla ac</td><td>Lasing</td><td>CASI Surfact 07/12/22 H-40 H-70 H-70 177.8 323 323 16000 540000 540000 540000 540000 540000 540000 540000 540000 5400000 5400000 540000000000</td><td>Billed         Billed         Billed&lt;</td><td>er ar ar</td><td>228.6 228.6 228.6 228.6 228.6 228.6 228.6 7 5072013 0/072012 0/072013 0/072012 0/072013 0/072012 0/07200 0/0000000000</td><td>21000 21000 21000 11000 11250 11250 11250 11250 10</td></t<>	Init Last acs Date acs Prada acs Lin W acs Lin W acs Lin W acs Long acs Set a acs Colla acs Colla ac	Lasing	CASI Surfact 07/12/22 H-40 H-70 H-70 177.8 323 323 16000 540000 540000 540000 540000 540000 540000 540000 540000 5400000 5400000 540000000000	Billed         Billed<	er ar	228.6 228.6 228.6 228.6 228.6 228.6 228.6 7 5072013 0/072012 0/072013 0/072012 0/072013 0/072012 0/07200 0/0000000000	21000 21000 21000 11000 11250 11250 11250 11250 10
Liner x Stack SPM Liner X Stack SPM Litre/Sk 100% Crc Rate Pump Pff Pump Pff Drill Collar AV Drill Collar AV Drill Collar AV Bit System Vol. Bit Size Mifg Multi System Vol. Bit Size Mifg Filow Filow Colled Collar Bit Size Mifg Distant Bit Size Distant Bit Distant	8 1/2* X 6 70 0.012 0.84 90 8400 38.9 	6 1/2           0.0	"X 14 	nl in 288 250 4 10 27 122 15 15 30 57937 221 20 20 20 20 304 20 Stre ID Stre ID Stre ID Rating	STOC 96 2 4 5 15 15 15 15 3 3 3 3 04 19 C	K 5tock 192 244 2 6 6 22 83 0 7260 6.8 12 12 102205 21,000 21,000	U SS SS SS SS SS SS SS SS SS SS SS SS SS	Init         Lost           acs         Date           acs         grad           acs         diam           acs         Lin W           acs         Lin W           acs         Set a           acs         Lost           acs         Bate           acs         Lost           acs         Lost           acs         Cols           acs         Cols           alis         Date           acs         Cols           pons         Yolu           Time         Addit	Casing	CASI 5//12/20 07/12/20 H-40 177.8 25.3 123 16000 54000 54000 54000 54000 54000 51/07/20 112/50 5' casing 21/07/201 G 1895 17.9 [kg 17.9 [kg 1895 17.9	Billind         Billind           Billind         Billind           Billind         Billind           Billind         Billind           Billind         Billind           Other         Stack           Maximum         Billind           Other         Billind           Itast BOP         Billind           Imax	er ar ar land	228.6 228.6 228.6 228.6 228.6 228.6 028.6 229.6 221 220 20 20 20 20 20 20 20 20 20 20 20 20	21000 21000 21000 11250 11250 11250 11250 10 7 [kg/m] 9 [kg/m] 9 [kg/m] [kPa] [kPa] [kPa] [kPa]

		DAILY [	RILLING REPORT	N°	39	Date : Well : Rig :	23/07/2013 Hurricane#2 RE Foragaz#3
	<u> </u>	Spud date :	17/06/2013	Well Licence #	EP 03-107		Page 1/2
Weather @ 8:00 Wind Temperature	sunny Mod 18	mKB mGL 24h Avg ROP	149.97 145.7 0	Daily MD Total MD Expected MD	0 1970 1970	Daily Costs Cum Costs AFE	est.
Summary of Daily C	perations:						
Foragaz Rig released as	of 19:00 July 23 2013						
Workers on site	Workers Injured	1	SAFETY SUMMARY	Hre	since last Medical 7	Freatment Case	026
EC 2 ilig 12 Others 2 iotal 16 ilig Manager Greg icompany Man Victo	IEC         0           Rig         0           Others         0           Total         0           McKinnon         (905) 371 4614           r Leroux         (780) 678 5108	7:00 Rigging dow	None to report	Hrs Hrs CO; Gas Safety Meetings / Tool Box	since last Lost Time Level 0 Level 0 Level 0 Talks	Pincient Cost Includent Trip Drill Pit Drill BOP Drill	936
Company Man Travis	s Young (709) 721 1994	19:00					
		TIME LOG - 00:	00 to 24:00 (include Safety meeti	ngs and Tool box talks)			
FORMATION	OGY :						
rom [Hr] To [Hr]	ows : Depth [m] Operation description	1					
10:00 19:00	Continue rigging dir No night shift. Rig Release as of 19:0 Depth [m] Operation description	n Forgaz rig. 0 July 23 2013 TIME LOG - 24:0	0 to 6:00am (include Safety meet	ings and Tool box talks)			
rilling	Weld Bowl	Cement	RIG TIME (operation duration in	hours) Safety/BOP Beaming	0.25	Rig move	
ripping	Logging	Nipple U/D		Slip and Cut		WOO	
urvey irc./Cond.	Clean to Btm Handle Tools	Press. Test Repair		Drill R & M hole Fishing		TOTAL	12
ick up BHA	Run Casing	Rig out	11.75	LOT/FIT		DOWNTIME	
			24 HOURS FORECAST				
रोष्ठ out Foragaz rig Ship all	Investcan equipment to yard in step	henville. Rig Release.					

Date :	23/07/201	.3	Well :	Hurricane#2	RE		Rig	:	Forag	az#3				Pa	age 2/2	
						DRILLI	NG MUD									
Fluid type					Solids				_		[kg/m <sup>3</sup>	1		ADDITIVES	ADDED	
Mud Co Time Check					Sands						[%]		NAME	Quantity	Conce	ntration
Mud Man					MBT						[ <sup>70</sup> ]	1 Bi-aca	ize rh		В	ags ags
					CI-						[mg/L]	Defoa	mer		P	ails
Density			[kg	/m³]	Calcium		Mala	0.1			[mg/L]	N-Vis			В	ags
P.V.			[S/I	]	Vol hauled		Volui	nes Balano	ce	ĺn	n <sup>3</sup> 1	Salt	51		B	ags ails
Y.P.	-		[e/	100cm²1	Vol dumped	I				[n	n <sup>3</sup> ]	Bara T	hin		в	ags
Gels 10"/10'					Circ loss		_			[n	n <sup>3</sup> ]			COMME	INTS	
l'emperature Pressure					Boiler loss Daily Mud (	ost				[n	n°]		Total Mud cos	st includes mu	idman cost of \$99	95.00d
рН					Cum Mud C	ost		-								
						BOTTOM HO	OLE ASSEMB	LY								
N° Component											ID [mm]	OD [mm]	Length [n	n] Co	onnection	Weight
2 float												127	0.39		LT/C	
3 Casing											108.61	127	1955.23		LT/C	
4 X=over											118.62	139.7	0.25		LT/C	
5														_		
7																
8																
9												l				
10														_		
12																
13																
14																
15														_		
17																
18																
19																
20														_		
22																
23																
24																
25																
	HYDRALILIC	s					SURVEY							BOD STA	ск.	
Rump	1	-	2	Time	-	m MD	m TVD	Azir	muth	Inclination	n Deviation	Oplitam		iam [mm]	WP	k Dal
Make&Model	Dragon 660	Wilso	n 600	Time	_	III WID	111140	7,211	nutii	mennation	Deviation	Stack		228.6	105	00
Liner x Stack	8 1/2" X 6	6 1/2	"X 14 -									Divert	er			
SPM	70											Annula Annula	ar	228.6	210	00
Litre/Sk 100%	0.012	0.0	152 -									Dind Other		228.6	210	00
Pump Eff	90	9	[m /mi 0 [%]	nı								Stack		220.0	210	
Pump Press	8500		[kPa]									لي Divert	er			
Drillpipe AV	8400		[mm]									Annuli O Blind	ar			
Mud Cycle	38.9		[mm]	-								Other				
😫 Bottom Up			[min]											TESTS		
D Mud Tank			[m <sup>3</sup> ]											Date	Pres [	kPa]
O Hole Volume System Vol			[m <sup>3</sup> ]									Last BOP Next BOP	1	b/07/2013	112	50
5 / 1 / 1 / 1	RITS		[]	•	STOC	ĸ			1				MENTING P	ROGRAM		
Bit		N°	Name	In	Used	Stock		Unit	Last Ca	sina	Surface	,,,,,,,,	Last Casing	1	Surface	
Size		[mm]				0		sacs	Date		07/12/20	05	Date		21/07/2013	
Mfg						0		sacs	grade	_	H-40	÷ .	grade		L80D10	<u>.</u>
l ype Serial		-				0		sacs	diam Lin Wei	aht —	25.3	[mm] [kg/m]	diam Lin Weight		26 79	[mm] [kg/m]
Nozzle		[mm <sup>2</sup> ]				0		sacs	Nb Joint	t		-	Nb Joint		-0.75	-
WOB		[daN]				0		sacs	Set at	_	323	[m]	Set at		1960.33	[m]
Flow		[tr/min]		+		0		sacs	Length	-	323	[m] [kPa]	Length		1960.33	[m]
Pres		[kPa]	I			0		sacs	Collapse		10000	[kPa]	Collapse			[kPa]
From		[m]	Fuel	57937	51977	5960		liters	Tensile	-	54000	[daN]	Tensile	-		[daN]
To		[m]				0		[m³]			TEST				TEST	
Hours		[m] [hrs]		-		0		pails	Date	_	17/06/2	2013 [kBa]	Date			[kDa]
						0		sacs	rressult		11230	[AF 0]	Last Cemer	nt Casi	ing cement	(Nr aj
						0		pails	Last Cer	ment	Plug	_	Date	21	/07/2013	
	CENTRIFUGE				C/	SING BOWL			Date		16/12/2005 A	>	Class Density	1805	G [kg/m <sup>3</sup> ]	
Make				Make		Weatherford			Density	_	1520 [kg	/m <sup>3</sup> 1	Volume	17.9	[m <sup>3</sup> ]	
OF density			[kg/m <sup>3</sup> ]	Serial		12110022005			Volume	_	50 [m	5 ]	Time to GL		[min]	
UF density			[kg/m <sup>3</sup> ]	Size OD		228.6	[mm]		Time to	GL _	[m	in]	Additives		0.5% Halad 344	
Last Dump			[L/min]	Rating		21,000	[mm] [kPa]		Additive							
Comments:							( J)						•			


# **APPENDIX D : Drilling Curve & Time Breakdown**

Number of pages : 2

**Summary of the content:** .Drilling Curve and Time Breakdown for Hurricane#2

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APPENDIX D: Drilling Curve & Time Breakdown





APPENDIX D : Drilling Curve & Time Breakdown







## **APPENDIX E : Well Costs**

 

 Number of pages :
 1

 Summary of the content:
 .Well Costs for Hurricane#2 (Whip#1) Re-Entry



Total	\$2.78 M
· ·	
Supervision and Administration	\$ 301,000
Evaluation Services	\$ 433,000
Testing and Completion services	\$ 55,000
Directional Services	\$ 242,000
Material Supply and Haulage	\$ 158,000
Well control and Rig Instrumentation	\$ 33,000
Fishing	\$ 2,000
Casing and casing setting services	\$ 286,000
Drilling fluids	\$ 63,000
Drilling tools and equipment	\$ 72,000
Bits and Hole openers	\$ 126,000
Operating Costs	\$ 807,000
Pre-Spud and Post Rig release cost	\$ 199,000



# **APPENDIX F : Benefits Tracking**

Number	of pages :	1
I CALLO CL	or pageor	-

Summary of the content:	This append	lix presen	ts a su	mmary of the
-	workforce	during	the	Hurricane#2
	operations.			



	RESI	DENCE	
Week	NL	OTHER	Total
1	5	13	18
2	6	16	22
3	6	16	22
4	5	17	22
5	5	19	24
6	5	16	21
Average	6	16	22
Percentage	25.4%	74.6%	100.0%



## **APPENDIX G : Bit Run Summary**

Number of pages : 1

**Summary of the content:** Bit Run Summary for Hurricane#2



												BIT RE	ECOF	RD											
			Opera	ator	Investca	n Energy	Corp									Well	l	Hu	rrica	neŧ	2 R	e-Er	ntry		
			Contra	ctor	Foragaz										I	Rig #		3							
Bit	Size	Make	Туре	IADC	Jet	Serial	Depth	Depth	Drilled	Hours	ROP	RPM	WOB	TRQ	Flow	Pres			CON	IDIT	ION	(IAC	C)		Comments
#	(mm)			CODE	(1/32)"	#	IN (m)	Out (m)	(m)		MPH		daN	_	lpm	kPa	TI	TO	MDC	LO	B/S	GA	ODC	RP	
1	159	Hughes	STX-1	117	3x20	5177714	936	940.5	4.5	2.25	2.0	50.0	4		830	7,600	2	2	WT	Α	2	Ι	NO	BHA	Used Bit D/O 2 cement plugs 143m in 9.5 hrs
2	159	Hughes	QD406FX	M333	4x16+2x11	7032271	940.5	1509.5	569	122.25	4.7	40+140	7		830	9,500	4	2	WT	Ν	Х	-	СТ	PR	
3	159	Hughes	QD406FX	M333	4x16+2x12	7029738	1509.5	1597.6	88.1	30.25	2.9	40+140	8		830	11,400	2	7	WT	S	Х	Ι	СТ	PR	
4	159	Hughes	STX-35DX	547	3x20	5217719	1597.6	1731.1	133.5	56.5	2.4	40+75	12		830	11,000	4	4	WT	А	4	Ι	SD	HR	
5	159	Hughes	QD405FX	M333	5x16	7137507	1731.1	1786.2	55.1	21.5	2.6	40+75	11		830	11,000	6	5	WT	Α	Х	Ι	СТ	PR	
6	159	Hughes	STX-40DX	617	3x20	5186692	1786.2	1854.8	68.6	34.25	2.0	40+75	14		880	10,000	4	8	WT	А	3	1/8	SD	PR	3mm undergage
7	159	Hughes	DP307S	M333	5x16+2x14	7032500	1854.8	1882.4	27.6	14	2.0	25+75	9		850	9,200	7	8	RO	S	Х	-	LN	PR	
8	159	Hughes	STX-30DX	537	3x20	5205268	1882.4	1936.6	54.2	20.5	2.6	25+75	12		850	9,225	3	6	WT	Α	4	Ι	BT	DSF	
9	159	Hughes	STX-30DX	537	3x20	5206281	1936.6	1970	33.4	13	2.6	40+75	12		850	8,950	3	4	LT	Н	3	Ι	LT	TD	



# **APPENDIX H : Cementing Reports**

Number of pages :3Summary of the content:Reports of the cementation of production<br/>casing.



## HALLIBURTON

Investcan Energy Corp

Sunday, July 21, 2013

Hurricane 2

## Post Job Summary

### **CEMENT PRODUCTION CASING**

SO# :

PREPARED FOR: Victo

Victor Leraux

PREPARED BY: Monford, Keith

#### HALLIBURTON

CEMENTING Mount Pearl Customer Service Center 1-800-335-6333





APPENDIX H: Cementing Reports

	-7		1			HA Ceme	LLIE nting S	BURT		l t	I	-0-			Verlan K.B. Carteri Denice Reput
Customer:	Investoa	Energy	Corp					Customer	Renre	sentative:	: Viete	r Leraux	:		
Well Name:			- up					Salesman	Inchio	004198-94.101	1 1 1 1 1 1		•		
IWI								Calas Ord	No.	-h					
Description .	NT							Sales Ora	CL IANU	aber:					
Province;	NL DO							Fleid:							
Called Out:	July 20,	2013 0:0	0					Job Starte	d:		July	21, 2013	22:41		
On Location:	July 21,	2013 20:	00					Job Comp	leted:		July 1	22, 2013	2:00		
Supervisor:	Monford	, Keith						Rig Name	:		Hurr	icane 2			
Job Type:	CMT PF	RODUCT	ION CASING	- BON	4			Service BO	DM #:		7523				
Wellbore Co	onfigura	tion:													
Hole Data	8		Mea	sured D	epth (m)										
				197	1										
Cashes on Line	. Deta				-										
Casing or Line	r Data							Size (mm)	Weig	ht (kg/m)	Grade	Depth	(m)		
								127			J-55	1970	)		
Products &	Equipn	ient:													
Equipmen	at		Туре	9	uantity	Depth	(m)								
		FLO	AT COLLAR		1	1958	.0								
Plue Typ		Ton	TUTE	Roft	tom: UWP			Come	at Hand	Tuna	ewery?	E			
Temperatur	n Data:	Toby	IWD.	Loon		Datas		Center	nt rieau	Type.	SWEDG	(E		the second s	
Fluid	C Data.		hid T		QA Mir X	Data:	-hereite								
Fiuld	Temp(-C)	r	iula i	emp(~C)	MIX	vater An	atysis				the free of the Party of the Pa				
Mixing Water:	14	Dis	placing Fluid:	14		S	ource:	RIG TANK							
Lead Slurry:	16						pH:	7							
Tail Slurry:	16		Returns:	18	1	thioride (r	ng/L):	0							
Ambient Air:	. 14														
Cement Data	a:										Density	Water	Yield	Volume	
	Tonne				Ce	ement Ble	nd				(kg/m <sup>2</sup> )	(m <sup>2</sup> /0)	(m <sup>5</sup> /t)	(m <sup>2</sup> )	
LEAD	8.5				Class G	+ 0.5% H	alad 344				1600	0.83	1.17	9.9	
TAIL	10.5				Class G	+ 0.5% H	alad 344				1895	0.44	0.76	8.0	
Casing or Li	ner Joh	Data:													
		Ve	stume		T	me	Rate	Pre	ssure (A	(Pa)					
Even	t		m*)		Start	Finish	(m²/min)	) Minimun	1 1	faximum	Comments				
Water @ 100	0 kg/m3		3.0		18:15	18:22	0.5	0.0		3.0					
Pressure	Test				18:22	18:26		0.0		20.0					
TAI	0		9.9		18:49	19:16	0.7	3.0		8.0					
Release	Pho		a.u		19:26	10-55	0.7	6.0		9.0					
Water @ 100	00 kaim3	,	9.0		19:41	20-32	0.8	0.0		21.0	All Times	ne in Saak	time		
Talk to Comp	pany Rep		0,0		12:00	20.02	0.0	0.0		21.0	The Thirds 4	ate hit Geob	- SELIFO		
Leave Loc	cation				2:00										
Plue Displaced	By: Halli	nurion	Fluid Return	ns: Full			Cement V	(ohume (m <sup>3</sup> ); 1	7.9	Cem	ent Returns D	ensity (ka	(m3): 160	0	
			11	40			content r	· · · · · ·					,,.		
Bump	Piug:		Floats Fich	KU Y		(	Sement to S	surface (m <sup>*</sup> ): 2	.0						
Pipe Mover	nent: Recip	procated				Base	of Tail (m)	: 1971							
Personnel &	Equip	ment:													
Name	adaily	Empl #	Unit #		Tractor #		Unit Terr	ie .	Assima	1					
Monford, Ke	eith	230086	11858833		June of the local division of the local divi		PICKUP		16056	-					
Lobert, Jam	nie	507319	10230733		10297343	1	ULK TRALES	1 660	16056						
Liesch, Darr	rick	513825	10700079				TAROPT		16056						
											-	OW	NER, OF	PERATOR OR A	GENT



Bay Saint George 03-107 – Hurricane#2 (Whip#1) Re-Entry – FWR

INVESTCAN Energy Corp

**APPENDIX H:** Cementing Reports



# **APPENDIX I : Mud Reports**

Number of pages :37Summary of the content:Daily Mud Reports for Hurricane#2

Ivestcan Energy				Well Name:	Hurrican	e # 2		06/15/2013 Spud Date: @ 06/15/2013					
L.S.D.:				Rig #:	Foragaz	#3	l	Spud Date:			@	06/15/2013	
Victor Leroux				Report For:	Greg Ma	cKinnon		Report * :	1	Total Days:	1		
DRILLING	FLU	ID PROPE	RTIES	ŀ	IOLE GEO	OMETRY				BIT DAT/	4		
Time		13:00	24hr.		OD mm	ID mm	Length m	Bit #		Depth In		meters	
Depth M.D.		Mud	meters	Casing				Size mm		Depth Out		meters	
Depth T.V.D.	fro	om green ta	meters	D.P.	1		#VALUE!	Туре		Hours Run		hrs.	
Density		1130	kg/m <sup>3</sup>	HWDP	1			RPM		Noz Vel.	#DIV/0!	m/sec	
Funnel Viscosity		43	sec/L	D.C. <sup>#</sup> 1				Weight dN		Bit HHP	#DIV/0!	КW	
Fann 600		40			SURV	EYS		ROP		Jet Impact	#DIV/0!	N	
Fann 300		25		Depth (m)				Nozzles				mm	
Fann 200		17		Survey <sup>o</sup>				Nozzles				mm	
Fann 100		10		PUMP [	DATA	#1 PUMP:			#2 PUMP:				
Fann 6		2			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total	
Fann 3		1		# 1			100	0.00		0.0	L/min.	m <sup>3</sup> / min.	
10 Sec. Gel Strength		1	Ра	<sup>#</sup> 2			100	0.00		0.0	0.0	0.00	
10 Min. Gel Strength		2	Pa	CIR	CULATIN	G SYSTE	VI		FLOWLINE	<b>CLEANERS</b>	- MESH SI	ZES	
30 Min. Gel Strength		2	Ра	Hole Enlargerr	nent		%	Shaker #1					
Apparent Viscosity		20	mPa-sec	Tank Volume			m <sup>3</sup>	Shaker #2					
Plastic Viscosity		15	mPa-sec	Circulating Pre	essure:		kPa						
Yield Point		5	Pa	Adjusted Hole	Size		mm	SOLIDS I	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		4.3	ml/30 min	String Capacit	V	#VALUE!	m³	EQUIF	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.	
Filter Cake		0.25	mm	String Displace	, ement	#\/ALLEI	m <sup>3</sup>	Centrifuge #1		na	na	0.0	
nH Strip / Motor		0.25	scalo			#VALUE:	m <sup>3</sup>	Centrifuge #2		na	na	0.0	
		0 1 5	scale		Jume	0.0 #\/ALLIEI	m <sup>3</sup>	Desander		na	па	0.0	
		1.5			le	#VALUE!		Desiltor		na			
Alkalinity mF		2	rrii 	Detterre Lin		#VALUE!	111 1	Othor		na			
Chloride		82000	mg/L	Bottoms Up		#VALUE!	min. min	Other		na			
Carbonatos		/00	mg/L	Surface to Bit #VALUE! min.					FLUID ACCOUNTING         0:00-12:00         12:00-24:0				
Carbonales		U	mg/∟ ″		me	#VALUE!		FLOID AC			0.00-12.00	12.00-24.00	
Bicarbonates		0	mg/L	Hydrostatic Pre	essure	#VALUE!	kPa	Premix added	(m <sup>°</sup> )				
Methylene Blue			kg/m°	Mud Gradient		11.1	kPa/m	Water added	(m <sup>°</sup> )		0.0	0.0	
Sand Content		0	%	EC Density		#DIV/0!	kg/m <sup>3</sup>	Volume discar	rded (m <sup>3</sup> )	2			
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>'</b> .	#DIV/0!	m/min	Solids equipm	ient underflow (	m <sup>3</sup> )	0.0	0.0	
Water Content		#VALUE!	vol frac	Ann. Vel. D.P.	Csg.	#DIV/0!	m/min	Total fluid add	led (m <sup>3</sup> )		0.0	0.0	
Solids Content		0.081	vol frac	Ann. Vel. HWI	ЭР	#DIV/0!	m/min	Total fluid disc	carded (m <sup>3</sup> )		0.0	0.0	
Low "n" value		0.70	slope	Ann. Vel. D.C	<sup>#</sup> 1	#DIV/0!	m/min						
Low "K" value		1.63	dyn-sec/cm <sup>2</sup>					L					
High "n" value		0.68	slope	REMARKS	i								
High "K" value		1.87	dyn-sec/cm <sup>2</sup>	Do mud check	on used mu	ud from last	well	Mud should be	a good to displa	ice hole after dr	illing cement	plugs with water andr	
A.S.G.		#VALUE!	Spec.Grav.	and drilling ahe	ead		Lloyd						
Lo-Grav Solids		#VALUE!	kg/m³			Leave hom	e Thursday	at 3:00 PM					
Drill Solids		#VALUE!	kg/m³	Catch ferry, arr	ive at rig lat	e Friday. Dis	scuss plans	with Drilling F	Foreman and	Rig manager, D	id mud check	< on mud from last	
Hi-Grav Solids		#VALUE!	kg/m³		well and co	ontact wareh	ouse and m	ake up load of	products to be	delivered to rig	site.		
PHPA Content			kg/m³		Lloyd								
Materials U	sed \$	Since Las	t Report	RECON	IMENDAT	IONS							
Material	Amt.	Price	Cost				-						
Caustic Soda			\$0.00	Mud report for	mud in gree	en tank from	Iast well !						
Bentonite			\$0.00										
Sawdust			\$0.00										
Lime			\$0.00										
Soda Ash			\$0.00										
Drilling Detergent			\$0.00										
Envirofloc			\$0.00										
Floxit			\$0.00										
Drispac R			\$0.00										
Lignite			\$0.00										
Borito			\$0.00 \$0.00										
Danie	2		\$0.00 \$2.085.00										
Cellophane	3		\$2,965.00 \$0.00										
Daily Cost		L	#2905	Field Pepres	ntativo:	Llovd Anth	001/		Warobouso				
Brevious Cost			#20 <del>3</del> 0 ¢	Phono:	intative.	Lioyu Anin	Лу		Phono:				
Total Cost \$			<sup></sup>	Phone. 902 456 6752					Fnone. Engineer #	403 231 9483			

Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:	16-Jun-2013	3			
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:					
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report # :	2	Total Days:			
DRILLING	FLU	ID PROPE	RTIES	ŀ	IOLE GEO	OMETRY				BIT DAT	A		
Time			24hr.		OD mm	ID mm	Length m	Bit #		Depth In		meters	
Depth M.D.				Casing				Size mm		Depth Out		meters	
Depth T.V.D.			meters	D.P.				Туре		Hours Run		hrs.	
Density			kg/m <sup>3</sup>	core bbl				RPM		Noz Vel.	0.0	m/sec	
Funnel Viscosity			sec/L	D.C. <sup>#</sup> 1				Weight dN		Bit HHP	#DIV/0!	KW	
Fann 600					SURV	EYS		ROP		Jet Impact	0.0	N	
Fann 300				Depth (m)				Nozzles		95		mm	
Fann 200				Survey °				Nozzles		0.0		mm	
Fann 100				PUMP I	DATA	#1 PUMP:			#2 PUMP:				
Fann 6					Liner mm	Stroke mm	EEE %	L / stroke	Strokes/min	L / min	Total	Total	
Fann 3				# 1	165.0	216.0	90	12 47	0	0.0	I / min	m <sup>3</sup> /min.	
10 Sec. Gel Strength			Pa	# 2	100.0	210.0	100	0.00	0	0.0	0.0	0.00	
10 Min. Gel Strength			Pa			G SYSTE	N IOO	0.00	FLOWLINE		- MESH SI	7FS	
20 Min. Col Strongth			Γα Do				0/	Shakar #1	110	110	110		
SU MIN. Ger Strength			га		lent		3		110	110	110		
Apparent Viscosity			mPa-sec	Tank Volume		0	m'	Shaker #2					
Plastic Viscosity			mPa-sec	Circulating Pre	essure:	0	кра	SOLIDS REMOVAL Over Flow Under Flow					
				Adjusted Hole	Size		mm m <sup>3</sup>	SULIDS		Over Flow	Under ka/m <sup>3</sup>		
Fluid Loss			mi/30 min	String Capacit	У	0.0	2	EQUI	<sup>2</sup> WENT	Kg/III	ку/п	L/min.	
Filter Cake			mm	String Displace	ement		m <sup>3</sup>	Centrifuge #1		na	na	0.0	
pH Strip / Meter			scale	Casing Ann Vo	olume	0.0	m	Centrifuge #2		na	na	0.0	
Alkalinity pF			ml	Annular Volum	ne	0.0	m³	Desander		na	na		
Alkalinity mF			ml	Total Volume	Total Volume 0.0 m <sup>3</sup> Desilter na								
Chloride			mg/L	Bottoms Up	Bottoms Up #DIV/0! min. Other na								
Calcium			mg/L	Surface to Bit		#DIV/0!	min.						
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID ACCOUNTING         0:00-12:00         12:00-24:00					
Bicarbonates		0	mg/L	Hydrostatic Pr	Hydrostatic Pressure 0.0 kPa Premix added (m <sup>3</sup> )						0.0		
Methylene Blue			kg/m³	Mud Gradient		0.0	kPa/m	Water added (m <sup>3</sup> )			0.0	0.0	
Sand Content		0	%	EC Density		#DIV/0!	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0		
Oil Content		0.000	vol frac	Ann. Vel. D.F	».	#DIV/0!	m/min Solids equipment underflow (m <sup>3</sup> )			m³)	0.0	0.0	
Water Content			vol frac	Ann. Vel. D.P.	Csg.	#DIV/0!	m/min	Total fluid add	led (m <sup>3</sup> )		0.0	0.0	
Solids Content			vol frac	Ann. Vel. HWI	OP	#DIV/0!	m/min	Total fluid disc	carded (m <sup>3</sup> )		0.0	0.0	
Low "n" value		#DIV/0!	slope	Ann. Vel. D.C	<sup>#</sup> 1	#DIV/0!	m/min						
Low "K" value		#DIV/0!	dyn-sec/cm <sup>2</sup>										
High "n" value		#DIV/0!	slope	REMARKS									
High "K" value		#DIV/0!	dyn-sec/cm <sup>2</sup>		Should drill	out tonight	or tomorrow	, will use wate	r fraction off sha	ale bin @ last w	ell for makeu	p wate	
A.S.G.			Spec.Grav.		when we m	ud up.							
Lo-Grav Solids			ka/m³										
Drill Solids			ka/m³										
Hi-Grav Solids			kg/m³										
PHPA Content			kg/m³	Presentlv:									
Materials U	sed S	Since Las	t Report	RECON	IMENDAT	IONS							
Material	Amt.	Price	Cost				4						
Baro seal M		\$37 41	\$0.00	1	ΤΟΠΑΥ								
N-Dril Lo		\$211.06	\$0.00		Tested wat	er in shale h	nin @ lact w		CA 840 ppm	Cl 15000 mg/l			
Barabuf		\$78.33	\$0.00		105loa wal				0/( 040 pp/)	OF 10000 mg/E			
Baracarb		¢12.05	00.00 00.00		Tostod mal	koup water l	bould to ric		A 100 ppm C	1 400 mg/l			
Biachonataa		\$43.05 \$42.05	00.00 \$0.00		resteu mai	Keup water i	lauleu to ng	FIT 7.0 C		1 400 mg/L			
		\$43.00 \$24.00	φ0.00 ¢0.00			Llove							
		\$24.20	\$0.00			Lioya							
		Φ∠8U.7U	\$U.UU										
		\$14.06	\$0.00										
		\$306.55	<b>*</b> - · · ·										
N-Vis Plus		\$240.47	\$0.00										
B-1008		\$290.10											
Salt		\$35.80											
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	teel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				
Previous Cost			\$ 2,985.00	Phone:					Phone:				
Total Cost \$			\$ 3,980.00	Cellular:		902 456 67	52		Engineer #:	403 231 9483			

Operator:	Inve	stcan En	ergy		Well Name:	Hurrican	e # 2		Date:				06/17/2013
L.S.D.:					Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux			Report For:	Greg Ma	cKinnon		Report # :	3	Total Days:		
DRILLING	FLU	ID PROPE	ERTIES		ŀ	IOLE GEO	OMETRY				BIT DAT	4	
Time			24hr.			OD mm	ID mm	Length m	Bit #		Depth In		meters
Depth M.D.					Casing				Size mm		Depth Out		meters
Depth T.V.D.			meters		D.P.				Type		Hours Run		hrs.
Densitv			ka/m <sup>3</sup>		core bbl				RPM		Noz Vel.	0.0	m/sec
Funnel Viscosity			sec/L		D.C. <sup>#</sup> 1				Weight dN		Bit HHP	#DIV/0!	KW
Fann 600						SURV	EYS		ROP		Jet Impact	0.0	N
Fann 300					Depth (m)		-		Nozzles		9.5		mm
Fann 200					Survev <sup>o</sup>				Nozzles		3.5		mm
Fann 100					PUMP	ΔΤΔ	#1 PLIMP		11022103	#2 PLIMP			
Forn 6						Linormm	Stroke mm		L / atroko	Strokog/min	L / min	Total	Total
Falli 0 Fann 3					# 1	165 0	216 0	<u>EFF. %</u>	12.47	Strokes/IIIII.	L/IIIII.	I Utdi	m <sup>3</sup> /min
10 Soc Col Strongth			Pa		# 2	105.0	210.0	90 100	0.00	0	0.0	L/IIII.	0.00
10 Sec. Gel Strengti 10 Min. Col Strongth	1		Га				C SVSTE	100	0.00				755
10 Min. Gel Strength			га D-			CULATIN	G STSTER		Ob also a #4				
30 Min. Gel Strength	1		Ра		Hole Enlargem	ient		%	Shaker #1	110	110	110	
Apparent Viscosity			mPa-sec		Tank Volume			m°	Shaker #2				
Plastic Viscosity			mPa-sec		Circulating Pre	essure:		кРа					
Yield Point			Ра		Adjusted Hole	Size		mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss			ml/30 mir	ר	String Capacit	y		m	EQUI	PMENT	кg/m	кg/m	L/min.
Filter Cake			mm		String Displace	ement		m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter			scale		Casing Ann Vo	olume		m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF			ml		Annular Volum	e	0.0	m <sup>3</sup>	Desander		na	na	
Alkalinity mF			ml		Total Volume		0.0	m <sup>3</sup>	Desilter		na	na	
Chloride			mg/L		Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium			mg/L		Surface to Bit		#DIV/0!	min.					
Carbonates			mg/L		Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L		Hydrostatic Pr	essure	0.0	kPa	Premix added	(m <sup>3</sup> )		0.0	
Methylene Blue			kg/m <sup>3</sup>		Mud Gradient		0.0	kPa/m	Water added	(m <sup>3</sup> )		0.0	0.0
Sand Content		0	%		EC Density		#DIV/0!	ka/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	
Oil Content		-	vol frac		Ann Vel DF	,	#DIV/0!	m/min	Solids equipm	ent underflow (	'm <sup>3</sup> )	0.0	0.0
Water Content			vol frac		Ann Vel D.P.	Csa	#DIV/0!	m/min	Total fluid add	led (m <sup>3</sup> )	,	0.0	0.0
Solids Content			vol frac		Ann Vel HWI	009. )P	#DIV/0	m/min	Total fluid dise	carded (m <sup>3</sup> )		0.0	0.0
Low "n" value		#DIV/01	slone		Ann Vel D.C.	# 1	#DIV/0I	m/min	rotar nara alo			0.0	0.0
Low "K" value		#DIV/0!	dvn-sec/c	2 m <sup>2</sup>		1	#DIV/0.						
High "n" value		#DIV/0!	slope		REMARKS								
High "K" value		#DIV/01	dyn coc/c	m <sup>2</sup>									
		#019/0:	Cree Cre			Toot requilt		المتعرفة والمتعاط		100	9500 Ma/l		
A.S.G.			Spec.Gra	IV.		rest result	s on comple		PH 10.0 Ca	400 ppm Ci	8500 Mg/L		
Lo-Grav Solids			kg/m <sup>3</sup>										
Drill Solids		U	kg/m³										
Hi-Grav Solids			kg/m <sup>3</sup>		<b>D</b> "	<b>.</b> .							
PHPA Content			kg/m³		Presently:	Pressure te	esting	<u> </u>					
		5.	<b>a</b> .		RECON		IUNS	]					
Material	Amt.	Price	Cost										
Baro seal M		\$37.41		\$0.00		TODAY							
N-Dril Lo		\$211.96		\$0.00		Pick up sa	mple of com	pletion fluid	,test same,fluid	suitable for ma	akeup water for	drilling ceme	r.
Barabuf		\$78.33		\$0.00		Thanx Lloy	d						
Baracarb		\$43.05		\$0.00									
Bicarbonates		\$43.05		\$0.00									
Cal Carb		\$24.20		\$0.00									
CW 8551		\$280.70		\$0.00									
GYP		\$14.06		\$0.00									
XL Defoamer		\$306.55		\$0.00									
N-Vis Plus		\$240.47		\$0.00									
B-1008		\$290.10		\$0.00									
Salt		\$35.80		\$0.00									
Engineering		\$995.00		\$0.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd		
Daily Cost	_		\$ 9	95.00	Field Represe	ntative:	Lloyd Antho	ony		Warehouse:			
Previous Cost			\$ 3.9	80.00	Phone:					Phone:			
Total Cost \$			\$ 4,97	75.00	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

		. –		I		". 0		<b>I</b>				
Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e#2		Date:				06/18/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	4	Total Days:		
DRILLING	FLU	ID PROPE	RTIES	· ·	HOLE GEO	OMETRY				BIT DAT	4	
Time	-	24.00	0.4hr			ID mm	Longth m	D# #	10	Depth In		matara
		21.00	24111.	a .			Lengui m	ы. <i>#</i>	10	Deptinin		ineleis
Depth M.D.		329		Casing	177.8	159.6		Sizemm		Depth Out		meters
Depth T.V.D.			meters	D.P.	102.0	85.0		Туре		Hours Run		hrs.
Density			kg/m <sup>3</sup>	core bbl			0.0	RPM		Noz Vel.	0.0	m/sec
Funnel Viscosity		32	sec/L	D.C. <sup>#</sup> 1				Weight dN		Bit HHP	#DIV/0!	KW
Fann 600					SURV	EYS		ROP		Jet Impact	0.0	N
Eann 200				Dopth (m)				Nozzlaa		0.5		<b>mm</b>
Fallin 300				Depth (III)				Nuzzies		9.5		
Fann 200				Survey				NOZZIES				mm
Fann 100				PUMPI		#1 PUMP:		1	#2 PUMP:	1		
Fann 6					Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3				<sup>#</sup> 1	165.0	216.0	90	12.47	0	0.0	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	ı		Ра	<sup>#</sup> 2			100	0.00		0.0	0.0	0.00
10 Min Gel Strength			Pa	CIR		G SYSTE	M		FLOWI INF		- MESH S	ZES
00 Min. Oal Otranath			Г ц П-				0/	Oh alvan #4	440	440	440	
30 Min. Gel Strength	I		Ра	Hole Enlargen	nent		%	Shaker #1	110	110	110	
Apparent Viscosity			mPa-sec	Tank Volume		18.0	m³	Shaker #2				
Plastic Viscosity			mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point			Ра	Adjusted Hole	Size	156.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss			ml/30 min	String Capacit	v	0.0	m <sup>3</sup>	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min
				String Displace	,	0.0	<sup>3</sup>	Centrifuge #1		na	na	0.0
Filter Cake			mm	String Displace	ement		m' 2	Centiliuge #1		na	na	0.0
pH Strip / Meter		12	scale	Casing Ann Vo	olume	0.0	m	Centrifuge #2		na	na	0.0
Alkalinity pF			ml	Annular Volum	ne		m <sup>3</sup>	Desander		na	na	
Alkalinity mF			ml	Total Volume			m <sup>3</sup>	Desilter		na	na	
Chloride		2000	ma/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium		720	mg/l	Surface to Bit		#DI\//01	min					
Carbonatos		0	mg/L	Circulation Ti	mo	#DIV/01	min		COUNTING		0.00 12.00	12:00 24:00
Carbonales		U	mg/∟	Circulation II	me	#DIV/0!		FLUID AC			0.00-12.00	12.00-24.00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	0.0	kPa	Premix addec	l (m³)		0.0	
Methylene Blue			kg/m <sup>3</sup>	Mud Gradient		0.0	kPa/m	Water added	(m <sup>3</sup> )		0.0	0.0
Sand Content		0	%	EC Density		#DIV/0!	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	
Oil Content		0 000	vol frac	Ann Vel DF	<b>b</b>	0.0	m/min	Solids equipm	ent underflow (	m <sup>3</sup> )	0.0	0.0
Water Centent		0.000	vol frae		Car	0.0		Total fluid add	$d_{ad}$ (m <sup>3</sup> )	,	0.0	0.0
water Content			vornac	Ann. vei. D.P.	usg.	0.0	m/min				0.0	0.0
Solids Content			vol frac	Ann. Vel. HWI	JP "	#DIV/0!	m/min	Total fluid dis	carded (m°)		0.0	0.0
Low "n" value		#DIV/0!	slope	Ann. Vel. D.C	<sup>#</sup> 1	#DIV/0!	m/min					
Low "K" value		#DIV/0!	dyn-sec/cm <sup>2</sup>									
High "n" value		#DIV/0!	slope	REMARKS								
- High "K" value		#DIV/01	dyn-sec/cm <sup>2</sup>			Drilled out	coment nluc	n @ 203 m Dril	to 320 m POF	1		
		#014/0:				Diffied Out	cement plug	y @295 iii. Diii	10 323 11.1 01			
A.S.G.			Spec.Grav.									
Lo-Grav Solids			kg/m³									
Drill Solids		0	kg/m³									
Hi-Grav Solids			kg/m³									
PHPA Content			ka/m³	Presently:	Tripping ou	ut of hole						
Materials U	sed 9	Since Las	t Report	RECON	IMENDAT	IONS						
Motorial	Amt	Drico	Cost				1					
wateria	Amt.	Price	Cosi	-								
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00									
Barabuf		\$78.33	\$0.00									
Baracarb		\$43.05	\$0.00									
Biaarbanataa		¢ 10.00	00.00									
Dicarbonates		\$43.05	\$0.00									
Cal Carb		\$24.20	\$0.00									
CW 8551		\$280.70	\$0.00									
GYP		\$14.06	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
B 1008		¢200.40	¢0.00									
B-1000		φ290.10	\$0.00	<u> </u>								
Salt		\$35.80	\$0.00	1								
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd		
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Anthe	ony		Warehouse:			
Previous Cost			\$ 4,975.00	Phone:					Phone:			
Total Cost \$			\$ 5.970.00	Cellular:		902 456 67	<b>7</b> 52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name	Hurrican	e#2		Date:				06/19/2013
	invo		orgy	Rig #	Foranaz	# 3		Soud Date:				00/10/2010
L.J.D.: Poport For:	Victo			Rig #. Roport For:	Grog Ma	# J ckinnon		Report * ·	5	Total Daves		
			DTIES					Roport :	5			
DRILLING	FLU			· ·	IOLE GEO					BILDAI	•	
Time		20:00	24hr.		OD mm	ID mm	Length m	Bit #	10	Depth In		meters
Depth M.D.		564		Casing		159.6	323.0	Size mm	156.0	Depth Out		meters
Depth T.V.D.		564	meters	D.P.		85.0		Туре		Hours Run		hrs.
Density			kg/m <sup>3</sup>	core bbl			0.0	RPM		Noz Vel.		m/sec
Funnel Viscosity		32	sec/L	D.C. " 1				Weight dN		Bit HHP	#DIV/0!	КW
Fann 600					SURV	EYS		ROP		Jet Impact	0.0	N
Fann 300				Depth (m)				Nozzles				mm
Fann 200				Survey <sup>o</sup>				Nozzles				mm
Fann 100				PUMP [	DATA	#1 PUMP:			#2 PUMP:			
Fann 6					Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	Total
Fann 3				# 1	165.0	216.0	90	12.47	63	785.6	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	า		Pa	<sup>#</sup> 2			100	0.00		0.0	785.6	0.79
10 Min. Gel Strength			Pa	CIR	CULATIN	G SYSTE	Ń		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min Gel Strength			Pa	Hole Enlargem	nent		%	Shaker #1	110	110	110	
Apparent Viscosity			mDo ooo	Tonk Volumo	ion	24.6	m <sup>3</sup>	Shakar #2	110	110	110	
Apparent viscosity			mPa soc	Circulating Pro	Securo:	24.0	III kPo	Sliakel #2				
Viold Point			Do		Sizo	156.0	кга mm			Over Flow	Undor	Flow
			n a m1/20 min		0120	130.0	m <sup>3</sup>	EOU			ka/m <sup>3</sup>	1 /00W
			mi/30 min	String Capacity	У		2	EQUI		Kg/III	Kg/III	L/min.
Filter Cake			mm	String Displace	ement		m	Centrifuge #1		na	na	0.0
pH Strip / Meter		12	scale	Casing Ann Vo	olume		m°	Centrifuge #2		na	na	0.0
Alkalinity pF			ml	Annular Volum	ne		m <sup>3</sup>	Desander		na	na	
Alkalinity mF			ml	Total Volume			m³	Desilter		na	na	
Chloride		10000	mg/L	Bottoms Up		0.0	min.	Other		na	na	
Calcium		280	mg/L	Surface to Bit		0.0	min.					
Carbonates		0	mg/L	Circulation Ti	me	0.0	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	0.0	kPa	Premix addec	l (m <sup>3</sup> )		0.0	
Methylene Blue			ka/m <sup>3</sup>	Mud Gradient		0.0	kPa/m	Water added	(m <sup>3</sup> )		10.0	0.0
Sand Content		0	%	EC Density		#DIV/0!	ka/m <sup>3</sup>	Volume disca	$(m^3)$		0.0	
Oil Content		0 000	vol frac		)	/1 1	m/min	Solids equipm	hadd (m.)	m <sup>3</sup> )	0.0	0.0
Water Content		0.000	vol frac	Ann. Vel. D.I.	Cea	20.2	m/min	Total fluid add	$d = (m^3)$	,	10.0	0.0
Solida Content			vol frac	Ann. Vel. U.V.	usy. D	39.5		Total fluid dia	100 (m)		10.0	0.0
		"DI) //OI	vornac		JP # 4	41.1	m/min , .	Total liuld dis	carded (m)		0.0	0.0
Low "n" value		#DIV/0!	slope	Ann. vel. D.C	1	41.1	m/min					
		#DIV/0!	dyn-sec/cm	DEMARKS								
High "h" value		#DIV/0!	siope	REWARKS								
High "K" value		#DIV/0!	dyn-sec/cm <sup>2</sup>									
A.S.G.			Spec.Grav.									
Lo-Grav Solids			kg/m³									
Drill Solids			kg/m³									
Hi-Grav Solids			kg/m³									
PHPA Content			kg/m³	Presently:	Reaming to	o bottom						
Materials U	sed S	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost				_					
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00									
Barabuf		\$78.33	\$0.00		moved 40 i	m3 used mu	ud from last	well site,put in	remote tank.			
Baracarb		\$43.05	\$0.00		moved con	noletion fluid	and water	from shale bin	at last well site	and used as ma	akeup water f	or reaming
Bicarbonates		\$43.05	\$0.00		and drilling	cement						g
Barite		\$24.20	\$0.00		Llovd	oomona.						
		¢200.70	\$0.00		Lioyu							
GVP		φ200.70 ¢14.00	φ0.00									
GTP		\$14.00	\$0.00									
AL Deroamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$290.10	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd		
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Anthe	ony		Warehouse:			
Previous Cost			\$ 5,970.00	Phone:					Phone:			
Total Cost \$			\$ 6,965.00	Cellular:		902 456 67	/52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e#2		Date:				06/20/2013
			5.9)	Ria #·	Foragaz	#3		Soud Date:				00/20/2010
Report For:	Victo	or Leroux		Report For	Grea Ma	<i>#</i> 0 cKinnon		Report # :	6	Total Davs:		
	FIU		RTIES			OMETRY			0	BIT DAT	Δ	
Timo		10.00	24br			ID mm	Longth m	Dit #	2	Dopth In		motoro
		19.00	24111.	Casing	OD IIIII	162.6			2	Depth III		meters
		940		Casing		103.0	323.0	Size mm	159.0	Depth Out		meters
Depth I.V.D.		940	meters	D.P.		85.0		Туре	Hughes	Hours Run		hrs.
Density		1075	kg/m°	core bbl			0.0	RPM		Noz Vel.		m/sec
Funnel Viscosity		37	sec/L	D.C. 1				Weight dN		Bit HHP	0.0	KW
Fann 600		16			SURV	EYS		ROP		Jet Impact	0.0	N
Fann 300		5		Depth (m)				Nozzles	4- 12.7			mm
Fann 200		4		Survey °				Nozzles	2 - 8.7			mm
Fann 100		3		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		1			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	Total
Fann 3		1		<sup>#</sup> 1	165.0	216.0	90	12.47		0.0	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strenath	h	1	Ра	<sup>#</sup> 2			100	0.00		0.0	0.0	0.00
10 Min Gel Strength		1	Pa	CIE		G SYSTE	M		FLOWLINE		- MESH S	ZES
20 Min. Col Strongth		1	Pa	Holo Enlargon			0/.	Shakar #1	110	110	110	
SU MILL Ger Strength			га		lent		70 3		110	110	110	
Apparent Viscosity			mPa-sec	Tank Volume		30.2	m <sup>°</sup>	Shaker #2				
Plastic Viscosity		11	mPa-sec	Circulating Pre	essure:	0	кРа	0.0110.0				
Yield Point		3	Ра	Adjusted Hole	Size	159.0	mm 3	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		5.4	ml/30 min	String Capacit	у		m	EQUI	PMENT	kg/m*	kg/m*	L/min.
Filter Cake		0.25	mm	String Displac	ement		m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		12.5	scale	Casing Ann V	olume		m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		1.2	ml	Annular Volum	ne		m <sup>3</sup>	Desander		na	na	
Alkalinity mF		1.7	ml	Total Volume			m <sup>3</sup>	Desilter		na	na	
Chloride		44000	ma/l	Bottoms Up		#DIV/0!	min	Other		na	na	
Calcium		1320	ma/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/l	Circulation Ti	me	#DIV/0!	min	FLUID AC	COUNTING		0.00-15.00	12.00-24.00
Dieerhanatea		0				0012.0	kDe	Dromiy oddoo	(m <sup>3</sup> )		20.0	12.000 2 1.000
Bicarbonales		U	mg/∟		essure	9913.0	кра	Premix added	1 (III ) ( <sup>3</sup> )		30.0	
Methylene Blue		-	kg/m	Mud Gradient		10.5	кРа/m	water added	(m <sup>-</sup> )		20.0	0.0
Sand Content		0	%	EC Density		1076.9	kg/m°	Volume disca	rded (m°)	2	20.0	
Oil Content		0.000	vol frac	Ann. Vel. D.F	<b>.</b>	0.0	m/min	Solids equipm	nent underflow (	m³)	0.0	0.0
Water Content			vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	ded (m <sup>3</sup> )		50.0	0.0
Solids Content			vol frac	Ann. Vel. HWI	OP	0.0	m/min	Total fluid dis	carded (m <sup>3</sup> )		20.0	0.0
Low "n" value		0.35	slope	Ann. Vel. D.C	<sup>#</sup> 1	0.0	m/min					
Low "K" value		2.89	dyn-sec/cm <sup>2</sup>									
High "n" value		1.68	slope	REMARKS								
High "K" value		0.00	dyn-sec/cm <sup>2</sup>		•							
A.S.G.			Spec.Grav.									
Lo-Gray Solids			ka/m <sup>3</sup>									
Drill Solids			kg/m <sup>3</sup>									
Lli Crov Solido			kg/m									
HI-GIAV Solids			kg/m²									
Meteriolo II	and (	Since Lee	kg/m²	BECON								
	seu			RECOM	IWENDAI	10113	]					
Material	Amt.	Price	Cost									
Baro seal M		\$37.41	\$0.00		TODAY	Displace h	ole to mud,o	lilute mud back	to lower wt. Us	se cement wate	for makeup	water.
N-Dril Lo		\$211.96	\$0.00			Will adjust	properties t	onight.	TONIGHT add	d 10 sx. Bicarb	@ 15 min./sk.	
Barabuf		\$78.33	\$0.00			Lloyd			Add4 sx.Cello	size @ 1 Hr./sk		
Baracarb		\$43.05	\$0.00						Thanx Lloyd			
Bicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
CW 8551		\$280.70	\$0.00									
GYP		\$14.06	\$0.00									
VI. Defeamer		¢206 55	00.0¢									
		\$306.55	\$0.00									
IN-VIS PIUS		\$240.47	\$0.00									
Salt 20 kg		\$290.10	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00		Any proble	ms,questior	is or concer	ns please cont	act me.	Lloyd		
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Anth	ony		Warehouse:			
Previous Cost			\$ 6,965.00	Phone:					Phone:			
Total Cost \$			\$ 7,960.00	Cellular:		902 456 67	/52		Engineer #:	403 231 9483		

Operator:	Invo	stcan En	orav	Well Name:	Hurrican	o#2		Date:				06/21/2012
	mve		ergy		Larogo-	し # 2 业 つ		Date.				00/21/2013
L.S.D.:	1/:-+-			Rig #:	Foragaz	# 3		Spud Date:	7	TILD	0	
Report For:	VICto	or Leroux		Report For:	Greg Ma	CKINNON		Report :	1	Total Days:	6	
DRILLING	FLU	ID PROPE	ERTIES		HOLE GEO	OMETRY	1		1	BIT DAT/	4	1
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	2	Depth In	940.0	meters
Depth M.D.		959		Casing		159.6	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		959	meters	D.P.	102.0	85.0	846.5	Туре	Hughes	Hours Run	3.0	hrs.
Density		1075	kg/m <sup>3</sup>	jars	115.0	58.0	6.6	RPM	86	Noz Vel.	626.0	m/sec
Funnel Viscosity		35	sec/L	D.C. <sup>#</sup> 1	115.0	58.0	105.9	Weight dN	8.3	Bit HHP	4.8	КW
Fann 600		15			SURV	EYS	•	ROP	8.46	Jet Impact	11717.2	N
Fann 300		6		Depth (m)				Nozzles	4x12 7			mm
Fann 200		3		Survev <sup>°</sup>				Nozzles	2x8.7			mm
Fann 100		2		PIMP	ΔΤΔ	#1 DI IMD		NOZZICS	#2 PLIMP			
		2		POMPT		#TFUIVIF.			#2 F UIVIF.			
Fann 6		1		# 4	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.		
Fann 3		1	_	# 0	165.0	216.0	90	12.47	85	1060.0	L/min.	m /min.
10 Sec. Gel Strength	۱	1	Ра	<i>"</i> 2			100	0.00		0.0	1060.0	1.06
10 Min. Gel Strength	1	1	Ра	CIR	CULATIN	G SYSTE	M		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min. Gel Strength		1	Ра	Hole Enlargen	nent		%	Shaker #1	110	110	110	
Apparent Viscosity			mPa-sec	Tank Volume		33.8	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		9	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		1.5	Ра	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		4.8	ml/30 min	String Capacit	v		m <sup>3</sup>	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min
Filtor Cako		0.25	mm	String Displace	omont		m <sup>3</sup>	Centrifuge #1		na	na	0.0
		0.25					3	Contrifuge #7		na	110	0.0
pH Strip / Meter		12	scale	Casing Ann Vo	blume		m'	Centinuge #2		lid	lla	0.0
Alkalinity pF		1.1	ml	Annular Volum	ne		m°	Desander		na	na	
Alkalinity mF		1.4	ml	Total Volume			m³	Desilter		na	na	
Chloride		46000	mg/L	Bottoms Up		0.0	min.	Other		na	na	
Calcium		1320	mg/L	Surface to Bit		0.0	min.					
Carbonates		0	mg/L	Circulation Ti	me	0.0	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	10113.4	kPa	Premix addec	l (m <sup>3</sup> )		5.0	
Methylene Blue		0.0	ka/m <sup>3</sup>	Mud Gradient		10.5	kPa/m	Water added	(m <sup>3</sup> )		10.0	0.0
Sand Content		0	%	EC Density		1099.5	ka/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	0.0
		0.000	vol frog		,	00.7	m/min	Solids oquipre	ant underflow (	m <sup>3</sup> )	0.0	0.0
		0.000	vornac		·.	90.7	· · ·			iii )	0.0	0.0
Water Content		0.960	vol frac	Ann. vel. D.P.	Usg.	89.5	m/min	Total fluid add			15.0	0.0
Solids Content		0.040	vol frac	Ann. Vel. HWI	DP #	111.9	m/min	Total fluid dis	carded (m°)		0.0	0.0
Low "n" value		0.39	slope	Ann. Vel. D.C	# 1	111.9	m/min					
Low "K" value		2.71	dyn-sec/cm <sup>2</sup>									
High "n" value		1.32	slope	REMARKS								
High "K" value		0.01	dyn-sec/cm <sup>2</sup>									
A.S.G.			Spec.Grav.									
Lo-Grav Solids		3	ka/m³									
Drill Solids		3	kg/m <sup>3</sup>									
Hi-Gray Solids		4	ka/m <sup>3</sup>									
PHPA Content		70	kg/m <sup>3</sup>	Presently	Drilling abo	ad						
Materiale II	sed 9	Since Las	t Report	RECOM		IONS						
Motoria!	A	Dria-	Cost	NLCON		10110	J					
	AMÌ.	Price	COSL	4								
Baro seal M		\$37.41	\$0.00		FODAY							
N-Dril Lo		\$211.96	\$0.00		Add Cello	size as req'o	d (3 sx. ) to r	maintain vis 40	- 45 S/L			
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	running fine so	reens on shake	r.		
Baracarb		\$43.05	\$0.00									
Bicarbonates		\$43.05	\$0.00									
Barite		\$24 20	\$0.00		Llovd							
CW 8551		\$280.70	\$0.00		2.0)0							
GVP		\$11 DC	\$0.00 \$0.00									
		\$14.00	\$0.00									
AL Deroamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$290.10	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd	<u> </u>	
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Anthe	ony		Warehouse:			
Previous Cost			\$ 7,960.00	Phone:					Phone:			
Total Cost \$			\$ 8,955.00	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

				1									
Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				06/22/2013	
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:					
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	8	Total Days:	7		
DRILLING	FLU	ID PROPE	ERTIES	ŀ	HOLE GEO	OMETRY				BIT DAT	4		
Time		7.00	24hr		OD mm	ID mm	l enath m	Bit #	2	Depth In	940.0	meters	
Dopth M D		1 002	2	Cosing	00 1111	150.6	222.0	Sizo mm	150.0	Dopth Out	010.0	motors	
		1,055				159.0	323.0		139.0	Deptil Out	07.0	hee	
Depth I.V.D.		1,071	meters	D.P.		85.0		туре	Hughes	Hours Run	27.0	nrs.	
Density		1100	kg/m <sup>3</sup>	core bbl			0.0	RPM	86	Noz Vel.	626.0	m/sec	
Funnel Viscosity		42	sec/L	D.C. 1				Weight dN	8.3	Bit HHP	5.4	KW	
Fann 600		28			SURV	EYS		ROP	8.46	Jet Impact	8745.4	N	
Fann 300		18		Depth (m)				Nozzles	4x12.7			mm	
Fann 200		7		Survey °				Nozzles	2x8.7			mm	
Fann 100		2		PUMP I	DATA	#1 PUMP:			#2 PUMP:				_
Forn 6		1			Linor mm	Stroko mm		L / stroko	Strokos/min	L / min	Total	Total	
Fann 2		1		# 1	165.0	216.0	LII. /0		Stickes/min.	∠ / IIIIII. 772.0	I / min	m <sup>3</sup> /min	_
		1	D-	# 2	105.0	210.0	90	12.47	02	113.2	Z70.0	0.77	
10 Sec. Gel Strengtr	1	1	Ра	2			100	0.00			113.2	0.77	
10 Min. Gel Strength		1	Ра	CIR	CULATIN	GSYSTE	M		FLOWLINE	CLEANERS	- MESH S	ZES	
30 Min. Gel Strength		1	Pa	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175		
Apparent Viscosity			mPa-sec	Tank Volume		29.6	m <sup>3</sup>	Shaker #2					
Plastic Viscosity		10	mPa-sec	Circulating Pre	essure:	0	kPa						
Yield Point		4	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		48	ml/30 min	String Capacit	N N		m³	FOUI	PMENT	ka/m <sup>3</sup>	ka/m <sup>3</sup>	L/min	
		4.0	111/00 11111		y		3	Contrifugo #1		5	5	0.0	_
Filter Cake		0.25	mm	String Displace	ement		m	Centriluge #1		na	na	0.0	
pH Strip / Meter		12	scale	Casing Ann Vo	olume		m°	Centrifuge #2		na	na	0.0	
Alkalinity pF		1.1	ml	Annular Volum	ne		m <sup>3</sup>	Desander		na	na		
Alkalinity mF		1.4	ml	Total Volume			m <sup>3</sup>	Desilter		na	na		
Chloride		44000	mg/L	Bottoms Up		0.0	min.	Other		na	na		
Calcium		840	mg/L	Surface to Bit		0.0	min.						
Carbonates		0	ma/L	Circulation Ti	me	0.0	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00	-
Pieerbonotoo		0		Hydrostatia Dr	0000110	11557.0	kDo	Dromiy oddod	(m <sup>3</sup> )		5.0		
Bicarbonales		0	mg/∟	Hydrostatic Pr	essure	11557.2	кра	Premix added	(m) ( <sup>3</sup> )		5.0		
Methylene Blue		0.0	kg/m°	Mud Gradient		10.8	kPa/m	Water added	(m°)		10.0	0.0	
Sand Content		0.5	%	EC Density		1102.6	kg/m³	Volume disca	rded (m <sup>3</sup> )		0.0		
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>)</b> .	38.9	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	0.0	0.0	
Water Content		0.095	vol frac	Ann. Vel. D.P.	Csg.	38.6	m/min	Total fluid add	ded (m <sup>3</sup> )		15.0	0.0	
Solids Content		0.050	vol frac	Ann. Vel. HWI	OP	38.9	m/min	Total fluid dise	carded (m <sup>3</sup> )		0.0	0.0	
l ow "n" value		0.63	slope	Ann Vel D.C.	<sup>#</sup> 1	38.9	m/min						
Low "K" value		1 84	dvn-sec/cm <sup>2</sup>		•	00.0							
High "n" value		0.64	slope	REMARKS	1								_
		0.04	, , 2										
High "K" value		1.73	dyn-sec/cm <sup>-</sup>										
A.S.G.			Spec.Grav.										
Lo-Grav Solids		3	kg/m³										
Drill Solids		3	kg/m³										
Hi-Grav Solids		4	kg/m³										
PHPA Content		7.0	kg/m <sup>3</sup>	Presently:	Drilling ahe	ad							
Materials U	sed S	Since Las	t Report	RECON	IMENDAT	IONS							
Material	Amt	Price	Cost				8						
Baro seal M		\$27 /1	¢0.00		TODAY								
		\$37.41 \$244.00	\$0.00		100A1	45 50 0 "							
N-Drii Lo	11	\$211.96	\$2,331.56		Maintain Vi	s 45-50 S/L	with n-dril (	cello size)				•	
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.			
Baracarb	6	\$43.05	\$258.30		When volu	me req'd us	e water for r	makeup.			i		
Bicarbonates	10	\$43.05	\$430.50		Thanx Lloy	ď							
Barite		\$24.20	\$0.00	)									
CW 8551		\$280.70	\$0.00										
GYP		\$14.06	\$0.00										
		¢000 ==	φ0.00 Φ040.10										
AL Deroamer	2	\$306.55	\$613.10										
N-Vis Plus		\$240.47	\$0.00										
Salt 20 kg	5	\$17.90	\$89.50										
Salt 40 kg		\$35.80	\$0.00										
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 4.717.96	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				
Previous Cost			\$ 8 955 00	Phone:		· · · · · ·			Phone:				
Total Cost \$			\$ 13,672,96	Cellular		902 456 67	52		Engineer #	403 231 9483			
			+, U						g				

													_
Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				06/23/2013	
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:					
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	9	Total Days:	8		
DRILLING	FLU	ID PROPE	RTIES	l l	HOLE GEO	OMETRY				BIT DAT	4		_
Time		7.00	24hr		OD mm	ID mm	l enath m	Bit #	2	Denth In	940.0	meters	-
Dopth M D		1 222	24111.	Cosing	222.0	164.0	222.0	Sizo mm	150.0	Dopth Out	540.0	motors	
		1,232		Casing	222.0	104.0	323.0	Size min	159.0	Depth Out	07.0	ineleis	
Depth I.V.D.		1,228	meters	D.P.	102.0	85.0	1119.0	Гуре	Hughes	Hours Run	27.0	hrs.	
Density		1120	kg/m³	jars		85.0	6.6	RPM	86	Noz Vel.	626.0	m/sec	
Funnel Viscosity		47	sec/L	D.C. * 1	121.0	58.0	105.9	Weight dN	8.3	Bit HHP	12.9	KW	
Fann 600		36			SURV	EYS		ROP	8.46	Jet Impact	9191.7	Ν	
Fann 300		23		Depth (m)				Nozzles	4x12.7			mm	
Fann 200		15		Survey °				Nozzles	2x8.7			mm	
Fann 100		9		PUMP I	DATA	#1 PUMP:			#2 PUMP:				
Forn 6		2			Linor mm	Stroko mm		L / stroko	Strokos/min	L / min	Total	Total	-
Fann 2		4		# 1	165.0	216.0	LII. /0			709.1	I / min	m <sup>3</sup> /min	
		1	D-	# 2	105.0	210.0	90	12.47	04	790.1	L / IIIII.	0.00	
10 Sec. Gel Strengtr	1	2	Ра	2			100	0.00			798.1	0.80	
10 Min. Gel Strength		2	Ра	CIR	CULATIN	GSYSTE	M		FLOWLINE	CLEANERS	- MESH S	IZES	
30 Min. Gel Strength		1	Pa	Hole Enlargen	nent		%	Shaker #1	175	175	175		
Apparent Viscosity			mPa-sec	Tank Volume		29.6	m <sup>3</sup>	Shaker #2					
Plastic Viscosity		13	mPa-sec	Circulating Pre	essure:	0	kPa						
Yield Point		5	Ра	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		3.8	ml/30 min	String Capacit	v		m³	FQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min	
		0.0	111/00 11111		y		3	Contrifugo #1		5	5	0.0	_
Filter Cake		0.25	mm	String Displace	ement		m°	Centriluge #1		na	na	0.0	
pH Strip / Meter		11	scale	Casing Ann Vo	olume		m°	Centrifuge #2		na	na	0.0	
Alkalinity pF		0.6	ml	Annular Volum	ne		m <sup>3</sup>	Desander		na	na		
Alkalinity mF		0.9	ml	Total Volume			m <sup>3</sup>	Desilter		na	na		
Chloride		42000	mg/L	Bottoms Up		0.0	min.	Other		na	na		
Calcium		400	mg/L	Surface to Bit		0.0	min.						_
Carbonates		0	ma/L	Circulation Ti	me	0.0	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00	-
Pieerbonotoo		0		Hydrostatia Dr	0000110	12402.2	kDo	Dromix oddog	(m <sup>3</sup> )			1	-
Bicarbonales		0	mg/∟	Hydrostatic Pr	essure	13492.3	кра	Premix added	(m) ( <sup>3</sup> )				
Methylene Blue		0.0	kg/m°	Mud Gradient		11.0	kPa/m	Water added	(m°)		6.0	0.0	
Sand Content		0	%	EC Density		1190.6	kg/m³	Volume disca	rded (m <sup>3</sup> )		0.0		
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>)</b> .	68.3	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	0.0	0.0	
Water Content		0.094	vol frac	Ann. Vel. D.P.	Csg.	61.6	m/min	Total fluid add	ded (m <sup>3</sup> )		6.0	0.0	
Solids Content		0.060	vol frac	Ann. Vel. HWI	OP	40.2	m/min	Total fluid dis	carded (m <sup>3</sup> )		0.0	0.0	
l ow "n" value		0.68	slope	Ann Vel D.C.	<sup>#</sup> 1	95.5	m/min		. ,				
Low "K" value		1 68	dvn-sec/cm <sup>2</sup>		•	00.0							
High "n" value		0.65	slope	REMARKS	1								-
		0.00	, , 2										
High "K" value		2.09	dyn-sec/cm <sup>-</sup>										
A.S.G.			Spec.Grav.										
Lo-Grav Solids		6	kg/m³										
Drill Solids		6	kg/m³										
Hi-Grav Solids			kg/m³										
PHPA Content		7.0	kg/m <sup>3</sup>	Presently:	Drilling ahe	ad							
Materials U	sed S	Since Las	t Report	RECON		IONS							_
Material	Δmt	Price	Cost				8						
Para agal M	, unit.	¢07 //	±500										
		<b> პ</b> 37.41	\$0.00	<b>'</b>	TUDAY								
N-Dril Lo	4	\$211.96	\$847.84		Maintain vi	s 45-50 S/L	with n-dril (	cello size)					
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.			
Baracarb		\$43.05	\$0.00		When volu	me req'd us	e water for r	makeup.			i i i i i i i i i i i i i i i i i i i		
Bicarbonates	5	\$43.05	\$215.25		Thanx Lloy	ď							
Barite		\$24.20	\$0.00										
CW 8551		\$280.70	\$0.00										
GVP		\$11.00	¢0.00										
		φ14.06	φ <b>υ.</b> υυ										
XL Defoamer	2	\$306.55	\$613.10										
N-Vis Plus		\$240.47	\$0.00										
Salt 20 kg		\$17.90	\$0.00										
Salt 40 kg		\$35.80	\$0.00										
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 2.671.19	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				-
Previous Cost			\$ 13 672 96	Phone:		· · · · · ·			Phone:				
Total Cost \$			\$ 16.344 15	Cellular		902 456 67	52		Engineer #	403 231 9483			
			+,. r+. rU						g				

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e#2		Date:				06/24/2013
	mve		cigy	Pia #	Foradaz	43 43		Soud Date:				00/24/2013
Report For	Victo	or Leroux		Report For:	Gred Ma	π 5 cKinnon		Report # :	10	Total Davs:	9	
	FLU		RTIES			OMETRY			10	BIT DAT	<u> </u>	
Time	1 20	7:00	24hz				Longth m	D:# #	2	Danth In	040.0	matara
nime		1.00	2401.	Casing					2	Depth In	940.0	meters
		1,344		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,340	meters	D.P.	102.0	85.0	1119.0	Туре	Hughes	Hours Run		hrs.
Density		1120	kg/m <sup>s</sup>	jars		57.0	6.6	RPM	38	Noz Vel.	626.0	m/sec
Funnel Viscosity		47	sec/L	D.C. I	121.0	57.0	105.9	Weight dN	8.3	Bit HHP	14.0	ĸw
Fann 600		40			SURV	EYS	-	ROP	3.68	Jet Impact	9191.7	N
Fann 300		25		Depth (m)				Nozzles	4x12.7			mm
Fann 200		17		Survey <sup>o</sup>				Nozzles	2x8.7			mm
Fann 100		10		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		2			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		1		# 1	165.0	216.0	90	12.47	64	798.1	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength		2	Ра	# 2			100	0.00		0.0	798.1	0.80
10 Min. Gel Strength		2	Ра	CIR	CULATIN	G SYSTE	M		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min. Gel Strength		1	Ра	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		27.8	m <sup>3</sup>	Shaker #2	-	~	-	
Plastic Viscosity		15	mPa-sec	Circulating Pre	Securo.	27.0	kPa	Shakel #2				
Vield Point		5	Pa	Adjusted Hole	Sizo	159.0	mm	SOLIDS	REMOVAL	Over Flow	Linder	Flow
		24	rd	Aujusteu Hole	5126	7.6	m <sup>3</sup>	SOLIDS		ka/m <sup>3</sup>	ka/m <sup>3</sup>	
		3.4	mi/30 min	String Capacit	у	7.0	2			Kg/III	Kg/III	L/min.
Filter Cake		0.25	mm	String Displace	ement	4.0	m°	Centrifuge #1		na	na	0.0
pH Strip / Meter		10	scale	Casing Ann Vo	olume	5.3	m³	Centrifuge #2		na	na	0.0
Alkalinity pF		0.2	ml	Annular Volum	ne	10.3	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.4	ml	Total Volume		51.0	m <sup>3</sup>	Desilter		na	na	
Chloride		43000	mg/L	Bottoms Up		19.5	min.	Other		na	na	
Calcium		240	mg/L	Surface to Bit		9.5	min.					
Carbonates		271.92	mg/L	Circulation Ti	me	63.9	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	ma/l	Hydrostatic Pr	essure	14722 8	kPa	Premix addec	l (m <sup>3</sup> )			
Methylene Blue		0.0	$ka/m^3$	Mud Gradient		11.0	kPa/m	Water added	(m <sup>3</sup> )		60	0.0
Sand Content		0.0	0 <u>/</u>	FC Density		1189.5	$ka/m^3$	Volume disca	rded (m <sup>3</sup> )		0.0	0.0
		4-			, ,	60.0	ng/min	Solido oquipre	ideu (iii )	m <sup>3</sup> )	0.0	0.0
		u 0.004	vornac		0	00.3	····	Solids equiph		···· )	0.0	0.0
Water Content		0.094	vol frac	Ann. vel. D.P.	Usg.	61.6	m/min				6.0	0.0
Solids Content		0.060	vol frac	Ann. Vel. HWI	уР #	40.2	m/min	I otal fluid dis	carded (m°)		0.0	0.0
Low "n" value		0.70	slope	Ann. Vel. D.C	‴ 1	95.5	m/min					
Low "K" value		1.63	ayn-sec/cm									
High "n" value		0.68	slope	REMARKS								
High "K" value		1.87	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		6	kg/m³									
Drill Solids		6	kg/m³									
Hi-Grav Solids		4	ka/m <sup>3</sup>									
PHPA Content		7.0	kg/m³	Presentlv:	Drilling ahe	ead						
Materials U	sed \$	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost				4					
Baro seal M		\$37 41	00.02	1								
	2	\$211.00	\$625.00		Maintain vi	e 15-50 Q/	with p dril (	cello sizo)				
N-DIII LU	3	φ211.90 ¢70.00	\$033.88 ¢0.00			5 40-00 0/L				ble		•
Dalabul		\$70.33	\$0.00			l. as iow as	possible by	using screens	as line as possi	bie.		
Baracarb		\$43.05	\$0.00		When volu	me req'd us	e water for i	makeup.				
Bicarbonates		\$43.05	\$0.00		i hanx Lloy	a						
Barite		\$24.20	\$0.00									
CW 8551		\$280.70	\$0.00									
GYP		\$14.06	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd		
Daily Cost			\$ 1 630 88	Field Represe	entative:	Llovd Anthe	onv		Warehouse:	- ) -		
Previous Cost			\$ 16.344.15	Phone:		,			Phone:			
Total Cost \$			\$ 17.975.03	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

Operator:	Invo	stcan En	orav	Well Name:	Hurrican	o # 2		Date:				06/25/2012
	inve		ergy		Faraga	モ# Z # つ		Date.				00/23/2013
L.S.D.: Domont Form	Viet			Rig #:	Foragaz	# 3 akinnan		Spud Date:	11	Total Davis	10	
Report For:	VICIO		DTIEO	Report For:	Greg Ma	CKINNON		Report .	11	Total Days:	10	
DRILLING	FLU		ERTIES	· · ·	IOLE GEO	JMEIRY	1		1	BII DATA	4	
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	2 RR	Depth In	1344.0	meters
Depth M.D.		1,380		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,376	meters	D.P.	102.0	85.0	1270.0	Туре	Hughes	Hours Run		hrs.
Density		1120	kg/m <sup>3</sup>	jars		57.0	6.6	RPM	40	Noz Vel.	626.0	m/sec
Funnel Viscosity		46	sec/L	D.C. <sup>#</sup> 1	121.0	57.0	105.9	Weight dN	7.2	Bit HHP	15.8	KW
Fann 600		38			SURV	EYS		ROP	4	Jet Impact	10763.5	Ν
Fann 300		24		Depth (m)				Nozzles	4x12.7			mm
Fann 200		15		Survey °				Nozzles	2x8.7			mm
Fann 100		9		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Forn 6		2			Linormm	Stroko mm		L / stroke	Strokog/min	L / min	Total	Total
Falli 0 Fann 3		2		# 1	165 0	216 0	05	12.16	5110KeS/IIIII.	L/IIIII.	I Utdi	m <sup>3</sup> /min
		1	D-	# 2	105.0	210.0	95	13.10	/ 1	934.0	L/IIII.	0.00
10 Sec. Gel Strength	1	2	Pa D-	2			95	0.00			934.6	0.93
10 Min. Gel Strength		2	Ра	CIP	CULATIN	GSISIE	VI		FLOWLINE	CLEANERS	- MESH 5	ZES
30 Min. Gel Strength		1	Pa	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		38.4	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		14	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		5	Ра	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		3.5	ml/30 min	String Capacit	у	7.6	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
Filter Cake		0.25	mm	String Displac	ement	4.0	m <sup>3</sup>	Centrifuge #1		na	na	0.0
nH Strin / Meter		9.5	scale	Casing Ann V		53	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity nE		0.2	ml	Appular Volum		10.7	m <sup>3</sup>	Desander		na	na	
		0.2			le	10.7		Desilter		na no	110	
Alkalinity mF		0.4	mi	Total Volume		62.0	m'	Desilier		na	IId	
Chloride		45000	mg/L	Bottoms Up		17.1	min.	Other		na	na	
Calcium		320	mg/L	Surface to Bit		8.1	min.					
Carbonates		271.92	mg/L	Circulation Ti	me	66.3	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	15118.4	kPa	Premix addec	l (m <sup>3</sup> )		6.0	
Methylene Blue		0.0	kg/m <sup>3</sup>	Mud Gradient		11.0	kPa/m	Water added	(m <sup>3</sup> )		7.0	0.0
Sand Content		0.5	%	EC Density		1197.4	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		4.0	
Oil Content		tr	vol frac	Ann. Vel. D.F	».	80.0	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	0.0	0.0
Water Content		0.094	vol frac	Ann. Vel. D.P.	Csa.	72.1	m/min	Total fluid add	ded (m <sup>3</sup> )		13.0	0.0
Solids Content		0.060	vol frac	Ann Vel HWI	3. P	47 1	m/min	Total fluid dis	carded (m <sup>3</sup> )		4.0	0.0
Low "n" value		0.60	slope	Ann Vel D.C	# 1	111.8	m/min					010
		1.66	dyn-sec/cm <sup>2</sup>	Ann. vei. D.C	1	111.0						
High "n" value		0.66	clopo	DEMARKS								
		0.00	310pe	ILEMAIL IO								
High "K" value		1.97	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		6	kg/m³									
Drill Solids		6	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		7.0	kg/m³	Presently:	Drilling ahe	ead						
Materials U	sed S	Since Las	t Report	RECOM	IMENDAT	IONS						
Material	Amt.	Price	Cost									
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo		\$211 96	\$0.00		Maintain vi	s 45-50 S/I	with n-dril (	cello size)				
Barabuf		\$78.33	\$0.00		Maintain w				as fino as nossi	blo		•
Darabui		¢10.00	\$0.00					using screens	as life as possi	we tank ( E0/E0	``	
		\$43.05	\$0.00			me regid us	e mua from	green tank and	a water from bro	wn iank ( 50/50		
Bicarbonates		\$43.05	\$0.00		I hanx Lloy	ď						
Barite		\$24.20	\$0.00									
CW 8551		\$280.70	\$0.00									
GYP		\$14.06	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Anv problem	s. question	s or concers	feel free to	call anvtime T	hanks	l lovd		
Daily Cost		÷000.00	\$ 9950.00	Field Penros	ntative	Llovd Anth			Warehouse	Lioyu		
Previous Cost			ψ 330.00 ¢ 17 075 00	Phone					Phone:			
			\$ 18 070 02	Collular:		002 156 67	52		Engineer #	103 231 0492		
			$\psi$ 10,010.00	Jonalai.		JUL 7JU 0/	<u> </u>		Lignicel #.	100 201 3403		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e#2		Date:				06/26/2013
			0.9)	Rig #	Foragaz	#3		Soud Date:				00/20/2010
Report For:	Victo	or Leroux		Report For	Grea Ma	<sup>#</sup> CKinnon		Report # :	12	Total Davs:	11	
	FIU		RTIES			OMETRY				BIT DAT	Δ	
Timo		7.00	24br				Longth m	Dit #		Dopth In	. 040.0	motoro
		1.00	24111.	Casing		101111				Depth III	940.0	meters
		1,440		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Deptn I.V.D.		1,436	meters	D.P.	102.0	85.0	1119.0	Туре	Hughes	Hours Run		nrs.
Density		1125	kg/m°	jars	404.0	57.0	6.6	RPM	0	Noz Vel.	626.0	m/sec
		46	sec/L	D.C. 1	121.0	57.0	105.9	weight div	8.3	Bit HHP	16.8	KVV
Fann 600		42			SURV	EYS		ROP	2.06	Jet Impact	10659.3	Ν
Fann 300		26		Depth (m)				Nozzles	4x12.7			mm
Fann 200		17		Survey				Nozzles	2x8.7			mm
Fann 100		9		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		2			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		1		<sup>#</sup> 1	165.0	216.0	95	13.16	70	921.4	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	n	1	Ра	<sup>#</sup> 2			100	0.00		0.0	921.4	0.92
10 Min. Gel Strength		2	Pa	CIR		G SYSTE	M		FLOWLINE	<b>CLEANERS</b>	- MESH S	IZES
30 Min. Gel Strength		2	Pa	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		34.4	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		16	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		5	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		32	ml/30 min	String Canacit	v	7 9	m³	FOU	PMENT	ka/m <sup>3</sup>	kq/m <sup>3</sup>	L/min
Filter Colve		0.5		String Diaples	y 	1.0	<sup>3</sup>	Centrifuge #1			na	0.0
Filter Cake		0.5	mm	String Displace	ement	4.2	m' 3	Centrifuge #1		na	na	0.0
pH Strip / Meter		9.5	scale	Casing Ann Vo	blume	5.3	m <sup>-</sup>	Centriluge #2		na	na	0.0
Alkalinity pF		0.2	ml	Annular Volum	ie	11.2	m	Desander		na	na	
Alkalinity mF		0.4	ml	Total Volume		58.8	m°	Desilter		na	na	
Chloride		45000	mg/L	Bottoms Up		17.9	min.	Other		na	na	
Calcium		320	mg/L	Surface to Bit		8.6	min.					
Carbonates		271.92	mg/L	Circulation Ti	me	63.8	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	15848.1	kPa	Premix addec	l (m <sup>3</sup> )			
Methylene Blue		0.0	kg/m <sup>3</sup>	Mud Gradient		11.0	kPa/m	Water added	(m <sup>3</sup> )		0.0	0.0
Sand Content		0.5	%	EC Density		1196.9	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	
Oil Content		tr	vol frac	Ann. Vel. D.F	».	78.8	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	0.0	0.0
Water Content		0.930	vol frac	Ann. Vel. D.P.	Csa.	71.1	m/min	Total fluid add	ded (m <sup>3</sup> )		0.0	0.0
Solids Content		0.070	vol frac	Ann Vel HWI	)P	46.4	m/min	Total fluid dis	carded (m <sup>3</sup> )		0.0	0.0
Low "n" value		0.71	slope	Ann Vel D.C.	<sup>#</sup> 1	110.2	m/min					
Low "K" value		1.61	dyn-sec/cm <sup>2</sup>		•	110.2						
High "n" value		0.69	slope	REMARKS								
lligh "K" volue		4 70	dura ana/am <sup>2</sup>									
		1.78	dyn-sec/cm									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		6	kg/m <sup>3</sup>									
Drill Solids		6	kg/m³									
Hi-Grav Solids		4	kg/m³	-								
PHPA Content		7.0	kg/m <sup>3</sup>	Presently:	Drilling ahe	ad						
Materials U	sed	Since Las	t Report	RECON		IONS	J					
Material	Amt.	Price	Cost	4								
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo	4	\$211.96	\$847.84	ł	Maintain vi	s 45-50 S/L	with n-dril (	cello size)				
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.		
Baracarb		\$43.05	\$0.00				When volu	me req' use m	ud from green ta	ank and water fi	rom brown ta	nk (50/50)
Bicarbonates		\$43.05	\$0.00		Thanx Lloy	'd						
Barite		\$24.20	\$0.00									
CW 8551		\$280.70	\$0.00									
GYP		\$14.06	\$0.00									
XI Defoamer		\$306 55	¢0.00									
		\$300.35 \$340.47	φ0.00									
IN-VIS FIUS		φ240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00	** 4			fe el f		1 I			
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	teel free to	call anytime. T	nanks	Lloyd		
Daily Cost			\$ 1,842.84	Field Represe	entative:	Lloyd Anthe	ony		Warehouse:			
Previous Cost			\$ 18,970.00	Phone:					Phone:			
Total Cost \$			\$ 20,812.84	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e#2		Date:				06/27/2013
			0.9)	Rig #	Foragaz	#3		Soud Date:				00/21/2010
Report For:	Victo	or Leroux		Report For	Grea Ma	<sup>#</sup> CKinnon		Report # :	13	Total Davs:	12	
	FIU		RTIES			OMETRY			10	BIT DAT	Δ	
Timo		7:00	24br				Longth m	Dit #		Dopth In	. 040.0	motoro
		1 400	24111.	Casing		101111				Depth III	940.0	meters
		1,499		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Deptn I.V.D.		1,495	meters	D.P.	102.0	85.0	1375.0	Туре	Hughes	Hours Run		nrs.
Density		1130	kg/m°	jars	404.0	57.0	6.6		0	Noz Vel.	626.0	m/sec
		47	Sec/L	D.0. 1		57.0	105.9		0.3	ы ппр	17.0	
Fann 600		42			SURV	EIS	1	ROP	2.06	Jet Impact	10859.6	N
Fann 300		26		Depth (m)				Nozzles	4x12.7			mm
Fann 200		18		Survey -				Nozzles	2x8.7			mm
Fann 100		10		PUMPI		#1 PUMP:		1	#2 PUMP:		-	1
Fann 6		2		# .	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		1		# 1 #	165.0	216.0	95	13.16	71	934.6	L/min.	m°/min.
10 Sec. Gel Strength	۱	1	Ра	# 2			100	0.00		0.0	934.6	0.93
10 Min. Gel Strength	1	2	Ра	CIR	CULATIN	G SYSTE	М		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min. Gel Strength		2	Ра	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		36.3	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		16	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		5	Ра	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		3.2	ml/30 min	String Capacit	у	8.2	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
Filter Cake		0.5	mm	String Displace	ement	4.2	m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		9	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.2	ml	Annular Volum	ne	11.8	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.4	ml	Total Volume		61.6	m <sup>3</sup>	Desilter		na	na	
Chloride		45000	ma/l	Bottoms Lin		18.3	min	Other		na	na	
Calcium		360	mg/L	Surface to Bit		8.8	min					
Carbonates		271.92	mg/L	Circulation Ti	me	65.9	min	FLUID AC	COUNTING		0.00-15.00	12.00-24.00
Pieerbonotoo					0001150	16570 5	kDo	Dromix oddog	(m <sup>3</sup> )		0.00 .2.00	12100 2 1100
Mathulana Dhua		0	ling/L	Mud Cradient	essure	10372.3	kDa/m	Motor added	$(m^{3})$		0.0	0.0
		0.0	kg/m			11.1	KPa/m		(III )		0.0	0.0
Sand Content		0.5	%	EC Density		1211.2	kg/m	volume disca	raea (m <sup>+</sup> )	3	0.0	
Oil Content		tr	vol frac	Ann. Vel. D.F	'.	80.0	m/min	Solids equipm		m <sup>-</sup> )	0.0	0.0
Water Content		0.930	vol frac	Ann. Vel. D.P.	Csg.	72.1	m/min	Total fluid add	ded (m <sup>°</sup> )		3.0	0.0
Solids Content		0.070	vol frac	Ann. Vel. HWI	DP #	47.1	m/min	Total fluid dis	carded (m <sup>3</sup> )		0.0	0.0
Low "n" value		0.71	slope	Ann. Vel. D.C	‴ 1	111.8	m/min					
Low "K" value		1.61	ayn-sec/cm	DEMARKO								
High "n" value		0.69	slope	REMARKS								
High "K" value		1.78	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		6	kg/m³									
Drill Solids		6	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		7.0	kg/m³	Presently:	Drilling ahe	ead	-					
Materials U	sed \$	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost	1								
Baro seal M		\$37.41	\$0.00	)	TODAY							
N-Dril Lo		\$211.96	\$0.00	)	Maintain vi	s 45-50 S/L	with n-dril (	cello size)				
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.		
Baracarb		\$43.05	\$0.00				When volu	me req' use m	ud from green ta	ank and water fi	rom brown ta	nk (50/50)
Bicarbonates		\$43.05	\$0.00		Thanx Lloy	rd						
Barite		\$24.20	\$0.00									
CW 8551		\$280.70	\$0.00	)								
GYP		\$14.06	\$0.00									
XL Defoamer		\$306.55	\$0.00	)								
N-Vis Plus		\$240 47	\$0.00									
Salt 20 kg		\$17 QA	\$0.00									
Salt 40 kg		\$35 QO	\$0.00 ¢0.00									
Engineering	1	\$995.00 \$995.00	ου.υφ \$0.00	**Any problem	s question	s or concere	feel free to	call anytime T	hanks	Lloved		
Daily Cost		ψ000.00	\$ 005.00	Field Peproce	ontative:	Lloved Anth		can anyunio. I	Warehouse	Lioyu		
Provious Cost			ψ <del>33</del> 0.00 \$ 20 912 94	Phone:	manve.		ony		Phone:			
Total Cost ¢			\$ 21 807 84	Cellular		902 456 67	752		Fngineer #·	403 231 0/82		
. J.u. 003. 9			Ψ 21,007.04	Jonalai.		JUL 700 01	54		Lignicel #.	100 201 3403		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e#2		Date:				06/28/2013
				Rig #	Foradaz	#3		Soud Date:				00/20/2010
Report For	Victo	or Leroux		Report For	Grea Ma	r C Kinnon		Report # :	14	Total Davs:	13	
	FLU		RTIES			METRY			1-1	BIT DAT	<u> 10</u>	
Timo		7:00	24br				Longth m	Dit #	2	Dooth In	. 040.0	motoro
Time		1.00	2401.	Casing	00 mm	10 mm			3	Depth In	940.0	meters
		1,522		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth I.V.D.		1,518	meters	D.P.	102.0	85.0	1375.0	Туре	Hughes	Hours Run		hrs.
Density		1120	kg/m³	jars	121.0	57.0	6.6	RPM	0	Noz Vel.	626.0	m/sec
Funnel Viscosity		47	sec/L	D.C. I	121.0	57.0	119.0	Weight dN	11	Bit HHP	13.8	ĸw
Fann 600		40			SURV	EYS	-	ROP	13.06	Jet Impact	9095.9	Ν
Fann 300		25		Depth (m)				Nozzles	4x12.7			mm
Fann 200		17		Survey °				Nozzles	2x8.7			mm
Fann 100		10		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		2			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		1		# 1	165.0	216.0	95	13.16	60	789.8	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	n	1	Pa	<sup>#</sup> 2			100	19.90		0.0	789.8	0.79
10 Min. Gel Strength		2	Pa	CIR	CULATIN	G SYSTE	Ń		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min Gel Strength		2	Pa	Hole Enlargen	ent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity		-	- u 	Tork Volume	iont	20.5	m <sup>3</sup>	Chaker #2	110	110		
Apparent viscosity		45	mPa-sec	Circulating Dro		28.5	III IrDa	Snaker #2				
Plastic viscosity		15	mPa-sec	Circulating Pre		450.0	кра	SOLIDS			Lindau	<b></b>
		5	Ра	Adjusted Hole	Size	159.0	mm m <sup>3</sup>	SULIDS	RENOVAL	Over Flow	Under	
Fluid Loss		3.2	ml/30 min	String Capacit	y	8.2	m	EQUI	PMENI	kg/m	kg/m	L/min.
Filter Cake		0.5	mm	String Displace	ement	4.2	m³	Centrifuge #1		1075.0	1730.0	750.0
pH Strip / Meter		9	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.2	ml	Annular Volum	e	12.0	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.05	ml	Total Volume		54.0	m <sup>3</sup>	Desilter		na	na	
Chloride		44000	ma/L	Bottoms Up		21.9	min.	Other		na	na	
Calcium		400	ma/L	Surface to Bit		10.4	min.					
Carbonates		0	ma/L	Circulation Ti	me	68.4	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Ricarbonatos		0	mg/l	Hydrostatic Pr		16679.6	kPo	Promix addag	(m <sup>3</sup> )			
Mathulana Dhua		0	ling/∟	Mud Oradiant	essure	10070.0	кга 1-D (		(m <sup>3</sup> )		0.0	0.0
		0.0	kg/m			11.0			(11)		0.0	0.0
Sand Content		0.5	%	EC Density		1192.8	kg/m°	Volume disca	rded (m°)	3.	0.0	
Oil Content		0.500	vol frac	Ann. Vel. D.F	).	67.6	m/min	Solids equipm	nent underflow (	m³)	0.0	0.0
Water Content		0.940	vol frac	Ann. Vel. D.P.	Csg.	61.0	m/min	Total fluid add	ded (m <sup>3</sup> )		3.0	0.0
Solids Content		0.070	vol frac	Ann. Vel. HWI	)P	94.5	m/min	Total fluid dis	carded (m <sup>3</sup> )		0.0	0.0
Low "n" value		0.70	slope	Ann. Vel. D.C	<sup>#</sup> 1	94.5	m/min					
Low "K" value		1.63	dyn-sec/cm <sup>2</sup>									
High "n" value		0.68	slope	REMARKS								
High "K" value		1.87	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	ka/m <sup>3</sup>									
Drill Solids		3	ka/m <sup>3</sup>									
Hi Grov Solida		4	kg/m <sup>3</sup>									
PHPA Content		+ 70	kg/m <sup>3</sup>	Presently	Drilling abo	ad						
Materials II	sod 9	Since Las	t Report	RECON								
Motorial	300 i	Dria-	Coot	RECON		10110	1					
Iviaterial	Amt.	Price	Cost									
Baro seal M		\$37.41	\$0.00		IODAY							
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 45-50 S/L	with n-dril (	cello size)				•
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.		
Baracarb		\$43.05	\$0.00				When volu	me req' use m	ud from green ta	ank and water fi	rom brown ta	nk (50/50)
Bicarbonates		\$43.05	\$0.00				Add 2 sx. E	Bicarb. @ 30 m	in./sk. To keep	calcium in cont	rol.	
Barite		\$24.20	\$0.00				Run centrif	fuge full time e	xcept when mixi	ing product		
CW 8551		\$280.70	\$0.00			Thanx Llov	d					
GYP		\$14.06	00.00 00 02				-					
XI Defeamer	2	\$306 EF	¢610.00									
	2	φ300.55	οτιστο Φοιος									
IN-VIS PIUS		\$∠40.47	\$U.00	1								
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd		
Daily Cost			\$ 1,608.10	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost			\$ 21,807.84	Phone:					Phone:			
Total Cost \$			\$ 23,415.94	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	o#2		Date:				06/20/2013
	mvc		ergy	Dia #:	Foragaz	42 42		Soud Date:				00/23/2013
L.S.D.: Peport For:	Vict			Rig #. Report For:	Grea Ma	# J cKinnon		Report * :	15	Total Dave:	131/	
	FLU		DTIES	Report For.					15	BIT DAT	1014	
	FLU							<b>D</b> 12			•	
		7:00	24nr.	o	OD mm	ID mm	Length m	Bit #	3	Depth In	940.0	meters
Depth M.D.		1,587		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,583	meters	D.P.	102.0	85.0	1440.0	Туре	Hughes	Hours Run		hrs.
Density		1095	kg/m³	jars	121.0	57.0	6.6	RPM	39	Noz Vel.	626.0	m/sec
Funnel Viscosity		47	sec/L	39	121.0	57.0	119.0	Weight dN	8.7	Bit HHP	15.1	ĸw
Fann 600		39			SURV	EYS	1	ROP	1.98	Jet Impact	10078.6	N
Fann 300		24		Depth (m)				Nozzles	4x12.7			mm
Fann 200		16		Survey °				Nozzles	2x8.7			mm
Fann 100		9		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		2			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		1		<sup>#</sup> 1	165.0	216.0	95	13.16	68	895.1	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	n	1	Ра	<sup>#</sup> 2			100	19.90		0.0	895.1	0.90
10 Min. Gel Strength		2	Ра	CIF	CULATIN	G SYSTE	Ń		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min. Gel Strength		2	Pa	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		29.7	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		15	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		4.5	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		3.4	ml/30 min	String Canacit	v	86	m <sup>3</sup>	FOUI	PMENT	ka/m <sup>3</sup>	ka/m <sup>3</sup>	l /min
Filter Coke		0.4	mm 00 mm	String Diaples	y 	0.0	<sup>3</sup>	Centrifuge #1		1080.0	1750.0	750.0
Filter Cake		0.5	mm	String Displac	ement	4.4	m 3	Centrifuge #1		1080.0	1730.0	730.0
pH Strip / Meter		9	scale	Casing Ann V	blume	5.3	m <sup>°</sup>	Centiliuge #2		na	na	0.0
Alkalinity pF		0.1	ml	Annular Volum	ie	12.8	m°	Desander		na	na	
Alkalinity mF		0.2	ml	Total Volume		56.4	m°	Desilter		na	na	
Chloride		45000	mg/L	Bottoms Up		20.3	min.	Other		na	na	
Calcium		440	mg/L	Surface to Bit		9.6	min.		-			
Carbonates		135.96	mg/L	Circulation Ti	me	63.0	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	17004.5	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		7.0	kg/m <sup>3</sup>	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )		0.0	0.0
Sand Content		0.5	%	EC Density		1169.4	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	
Oil Content		0.500	vol frac	Ann. Vel. D.F	<b>.</b>	76.6	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	8.0	0.0
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csq.	69.1	m/min	Total fluid add	led (m <sup>3</sup> )		3.0	0.0
Solids Content		0.050	vol frac	Ann. Vel. HWI	)P	107.1	m/min	Total fluid dise	carded (m <sup>3</sup> )		8.0	0.0
Low "n" value		0.69	slope	Ann, Vel, D.C	<sup>#</sup> 1	107.1	m/min		( )			
Low "K" value		1.66	dyn-sec/cm <sup>2</sup>									
High "n" value		0.70	slope	REMARKS								1
High "K" value		1 56	$d_{\rm VD}  {\rm soc}/{\rm cm}^2$									
		1.50										
A.S.G.		2.0	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		7.0	kg/m³	Presently:	Drilling and	ead	1					
Materials U	sed	Since Las	t Report	RECOM	IMENDAI	IONS						
Material	Amt.	Price	Cost									
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 45-50 S/L	with n-dril (	cello size)				•
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.		
Baracarb	2	\$43.05	\$86.10			If volume re	eq'd (less th	an 22 m3) add	water slowly			
Bicarbonates		\$43.05	\$0.00				Add 2 sx. E	Bicarb. @ 30 m	in./sk. To keep	calcium in cont	rol.	
Barite		\$24.20	\$0.00				Run centrif	uge 4 Hrs. on/	4 hrs. off today			
CW 8551		\$280.70	\$0.00			Thanx Lloy	d					
GYP		\$14.06	\$0.00			,						
XI Defoamer	2	\$306 55	\$613.10									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		¢17 00	φ0.00 ¢0.00									
Salt 10 kg		\$11.90 \$2F 00	φ0.00 ¢0.00									
Sail 40 ky Engineering	1	\$35.80 \$005.00	φ0.00 ¢005.00	**Any problem			fool froo to	call anytime. T	hanke	Lloyd		
		ψ990.00	φσσυ.00	Field Derro	o, question			oan anyume. I	Warehouse	LIUYU		
Daily CUSL			φ 1,094.20	Phone:	analive:	Lioyu Anthe	лту		warenouse:			
				Fnone:		002 456 07	50		Fnone:	402 224 0482		
ι σται συστ Φ			Ψ ∠J, IIU. 14	Cilulai:		JUL 400 0/	54		Ligineer #:	700 201 9400		

Operator:	Invo	stean En	orav	Woll Name:	Hurrican	0 # 2		Data				06/20/2012
	inve		ergy		Faraga	モ# Z # つ		Date.				00/30/2013
L.J.D.: Denert Feri	Viet			Rig #: Denert Feri	Crog Mo	# J oKinnon		Spud Date:	16	Total Davia	15	
Report For:	VICU			Report For:				Report .	10	Total Days:	10	
DRILLING	FLU	ID PROPE	ERTIES	· · ·	IOLE GEO	JMEIRY	1		1	BII DAI	4	1
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	940.0	meters
Depth M.D.		1,618		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,614	meters	D.P.	102.0	85.0	1440.0	Туре	Hughes	Hours Run		hrs.
Density		1090	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	38	Noz Vel.	42.3	m/sec
Funnel Viscosity		47	sec/L	39	121.0	57.0	119.0	Weight dN	13.2	Bit HHP	16.2	КW
Fann 600		38			SURV	EYS		ROP	2.7	Jet Impact	727.8	N
Fann 300		24		Depth (m)				Nozzles	3x15.9			mm
Fann 200		16		Survey °				tfa	594.0			mm
Fann 100		9		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Forn 6		2			Linormm	Stroke mm		L / stroke	Strokog/min	l /min	Total	Total
Fann 3		1		# 1	165.0	216.0	05	12.16	72	2/11111. 060.0		m <sup>3</sup> /min
		4	De	# 2	105.0	210.0	95 400	10.00	75	900.9	L / IIIII.	0.00
10 Sec. Gel Strengtr	1	1	Pa D-				100	19.90			960.9	0.96
10 Min. Gei Strength		2	Ра	CIR	CULATIN	GSTSIE			FLOWLINE	CLEANERS	- 1112311 3	263
30 Min. Gel Strength		2	Pa	Hole Enlargen	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		30.8	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		14	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		5	Ра	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		3.6	ml/30 min	String Capacit	у	9.0	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
Filter Cake		0.5	mm	String Displace	ement	4.5	m <sup>3</sup>	Centrifuge #1		1085.0	1720.0	750.0
nH Strin / Meter		8	scale	Casing Ann V		53	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkolinity nE		01	ml	Appular Volum		12.1	m <sup>3</sup>	Desander		na	na	0.0
		0.1			le	13.1		Desilter		na	110	
Alkalinity mF		0.2	mi	l otal volume		58.2	m'	Desilier		lia	lla	
Chloride		42000	mg/L	Bottoms Up		19.2	min.	Other		na	na	
Calcium		400	mg/L	Surface to Bit		9.4	min.					
Carbonates		135.96	mg/L	Circulation Ti	me	60.6	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	17258.3	kPa	Premix addec	l (m <sup>3</sup> )			
Methylene Blue		7.0	kg/m <sup>3</sup>	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )		0.0	0.0
Sand Content		0.5	%	EC Density		1165.7	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	
Oil Content		0.500	vol frac	Ann. Vel. D.F	».	82.2	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	8.0	0.0
Water Content		0.950	vol frac	Ann Vel D.P.	Csa	74.2	m/min	Total fluid add	, ted (m <sup>3</sup> )	,	3.0	0.0
Solids Content		0.050	vol frac	Ann Vel HWI	פטק. סר	115.0	m/min	Total fluid dis	carded (m <sup>3</sup> )		8.0	0.0
		0.000	alana		# 1	115.0	m/min				0.0	0.0
Low "K" value		1.66	dyn-sec/cm <sup>2</sup>	Ann. vei. D.C	1	115.0						
		1.00	alana									
nigh n value		0.00	siope	KEWIAKKS								
High "K" value		1.97	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		6.0	kg/m³	Presently:	Drilling ahe	ad						
Materials U	sed	Since Las	t Report	RECON	IMENDAT	IONS	Ī					
Material	Amt.	Price	Cost				8					
Baro seal M		\$37 41	\$0.00	1	ΤΟΠΑΥ							
	2	¢01.41	¢402.00		Maintain	e 15.50 e/	with p dril (					
	2	ψ∠ 11.90 ¢ 70.00	φ+20.92 Φ0.00			5		uning across	oo fino co no:	blo		•
		\$78.33	\$0.00		Maintain w	l. as low as		using screens	as line as possi			
Baracarb		\$43.05	\$0.00				If volume r	eq'd use water	from brown tan	k.		
Bicarbonates	2	\$43.05	\$86.10				Run centri	uge 4hrs. On/	4 hrs. off			
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	uge is off			
CW 8551		\$280.70	\$0.00			Thanx Lloy	d					
GYP		\$14.06	\$0.00									
XL Defoamer	1	\$306.55	\$306.55									
N-Vis Plus	1	\$240.47	\$240.47									
Salt 20 kg		\$17 90	\$0.00									
Salt 40 kg		\$25 QO	¢0.00									
Engineering	1	\$005.00 \$005.00	φ0.00 \$005.00	**Any problem	s question	s or concore	feel free to	call anvtime. T	hanks	Lloyd		
		ψ330.00	¢ 0.050.00		o, queonon			oan anyume. I	Marah	Lioyu		
			φ 2,052.04     φ	rield keprese	mative:	Lioya Anthe	uny		warenouse:			
			\$ 25,110.14	Phone:		000 15- 1			Phone:	100 001		
i otal Cost \$			\$ 27,162.18	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

										Trambu	rton -	Daroiu
Operator:	Inve	stcan Ene	ergy	Well Name:	Hurrican	e#2		Date:				07/01/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Vict	or Leroux		Report For:	Greg Ma	cKinnon		Report # :	17	Total Days:	16	
DRILLING	FLU	ID PROPE	RTIES		HOLE GE	OMETRY				BIT DATA		A second parts
Time	1	7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	940.0	meters
Depth M.D.		1,673		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,669	meters	DP	102.0	85.0	1547 5	Type	Hughas	Hours Pup		hre
Density		1100	ka/m <sup>3</sup>	iars	121.0	57.0	66	PDM	27	Not Val	10.0	mis.
Funnel Viscosity		47	sec/l		121.0	57.0	110.0	Moight dN	140	Dit LIUD	42.0	ITI/SEC
Fann 600		40			SURV	EVS	1. 110.0	POP	1 97	Lot Immont	6744	N
Fann 300		25		Dopth (m)			T	Nor	1.07	Jer impaci	074.1	IN
Fann 200		10		Survey °	1.5.58	182.02		Nozzies	3x15.9			mm
Fann 100		10		DUND				IFA	594.0			mm
Fann 100		10				#1 PUMP:		-	#2 PUMP:			
Fann 6		2		#.	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		1		- 1	165.0	216.0	95	13.16	67	881.9	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	า	1	Pa	*2	1000003	10003)	100	19.90		0.0	881.9	0.88
10 Min. Gel Strength	ı	2	Pa	CIF	RCULATIN	G SYSTEM	Λ		FLOWLINE	CLEANERS	- MESH SI	ZES
30 Min. Gel Strength	ı	2	Pa	Hole Enlargem	nent	0.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		28.2	m <sup>3</sup>	Shaker #2			12000	
Plastic Viscosity		15	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		5	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		3.4	ml/30 min	String Capacit	v	9.3	m <sup>3</sup>	FOL	PMENT	ka/m <sup>3</sup>	ka/m <sup>3</sup>	L /min
Filter Cake		0.75	mm	String Displace	oment	4.6	m <sup>3</sup>	Centrifuge #1		1090.0	1200.0	750.0
nH Strip (Mater		7.5		Cooling App V		4.0		Centrifuge #1		1090.0	1800.0	750.0
Alkalinity nE		7.5	scale	Casing Ann V	biume	5.3	m 3	Centriluge #2		na	na	0.0
Alkalinity pr	TH.	0.1	lmi	Annular Volum	ne	14.6	m- 3	Desander		na	na	
Alkalinity m-		0.2	m	Total Volume		57.4	m	Desilter		na	na	
Chloride	15 1	42000	mg/L	Bottoms Up		22.6	min.	Other		na	na	
Calcium	164	480	mg/L	Surface to Bit		10.5	min.			166.000		
Carbonates		135.96	mg/L	Circulation T	me	65.1	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates	4	0	mg/L	Hydrostatic Pro	essure	18010.2	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		7.0	kg/m <sup>3</sup>	Mud Gradient		10.8	kPa/m	Water added	(m <sup>3</sup> )	in luna	0.0	0.0
Sand Content		0.5	%	EC Density		1176.6	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		0.0	14
Oil Content		0.500	vol frac	Ann. Vel. D.F	<b>)</b>	75.5	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	8.0	0.0
Water Content	111	0.940	vol frac	Ann. Vel. D.P.	Csg.	68.1	m/min	Total fluid add	led (m <sup>3</sup> )	Baligia di	30	0.0
Solids Content		0.055	vol frac	Ann Vel HWI	)P	105.5	m/min	Total fluid disc	arded (m <sup>3</sup> )		8.0	0.0
Low "n" value		0.70	slope	Ann. Vel. D.C	#1	105.5	m/min			W 24 1 1 1	0.0	0.0
Low "K" value	Q. 7	1.63	dyn-sec/cm <sup>2</sup>			100.0						
High "n" value	-	0.68	slope	PEMARKS				L				
High "K" volue		4.07	dup coolom <sup>2</sup>	Titempartito								
	- 45	1.07	Gyr-Secron									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids	50	3	kg/m³									
Drill Solids	S. [	3	kg/m³									
HI-Grav Solids	집답답	4	kg/m³									
PHPA Content	- 17	6.0	kg/m³	Presently:	Drilling ahe	ad						
Materials U	sed s	Since Last	Report	RECOM	MENDAT	IONS						
Material	Amt.	Price	Cost		12		. Mar 1					
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo	2	\$211.96	\$423.92		Maintain vi	s 45-50 S/L	with n-dril (d	cello size)				
Barabuf		\$78.33	\$0.00		Maintain w	as low as p	oossible by	using screens a	as fine as possib	ole.		
Baracarb		\$43.05	\$0.00				If volume re	eo'd use water	from brown tank			
Bicarbonates		\$43.05	\$0.00				Run centrit	uge 4hrs On/	4 hrs. off			
Barite		\$24 20	\$0.00				Mix produc	te while centrifi				
CW 8551		\$280 70	\$0.00			Thany Llow						
GYP		\$1/ 06	\$0.00	1482451		TIGHT LIUY						
XI Defeamer		\$200 EF	00.00									
	2	\$305.55 6040 4T	\$613.10									
IN-VIS PIUS	1	\$240.47	\$240.47									
Salt 20 kg	•	\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	or concers	feel free to a	call anytime. Th	anks	Lloyd		
Daily Cost			\$ 2,272.49	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost			\$ 27,162.18	Phone:					Phone:			
Total Cost \$			\$ 29,434.67	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				2/7/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Vict	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	18	Total Days:	17	
DRILLING	FLU	ID PROPE	RTIES	ł	IOLE GEO	DMETRY				BIT DAT/	4	
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	940.0	meters
Depth M.D.		1,722		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,718	meters	D.P.	102.0	85.0	1492.4	Туре	Hughes	Hours Run		hrs.
Density		1095	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	0	Noz Vel.	42.3	m/sec
Funnel Viscosity		53	sec/L	DC	121.0	57.0	119.0	Weight dN	14.6	Bit HHP	21.4	KW
Fann 600		49			SURV	EYS		ROP	1.45	Jet Impact	711.1	N
Fann 300		32		Depth (m)				Nozzles	3x15.9			mm
Fann 200		22		Survey °				TFA	594.0			mm
Fann 100		13		PUMP [	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		2		<sup>#</sup> 1	165.0	216.0	95	13.16	71	934.6	L/min.	m <sup>3</sup> / min.
10 Sec. Gel Strength	n	1	Ра	<sup>#</sup> 2			100	19.90		0.0	934.6	0.93
10 Min. Gel Strength	I	3	Ра	CIR		G SYSTEN	Л		FLOWLINE	E CLEANERS	- MESH S	ZES
30 Min. Gel Strength	I	3	Ра	Hole Enlargem	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		34.8	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		17	mPa-sec	Circulating Pre	essure:	0	kPa					
Yield Point		7.5	Ра	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		3.0	ml/30 min	String Capacit	v	9.3	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
Filter Cake		0.5	mm	String Displace	ement	4.6	m <sup>3</sup>	Centrifuge #1		1085.0	1780.0	750.0
nH Strip / Meter		8	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity nE		0.2	ml	Appular Volum		13.7	m <sup>3</sup>	Desander		na	na	
Alkalinity p		0.2	ml	Total Volume		63.1	m <sup>3</sup>	Desilter		na	na	
		40000	ma/l	Rottoms Lin		20.4	min	Other		na	na	
Calcium		40000	mg/L	Surface to Bit		10.0	min.	ouloi		na	na	
Carbonates		0	mg/L	Circulation Ti	me	67.5	min.		COUNTING		0.00-15.00	12.00-24.00
Diagrhanataa		0	mg/L			40454.7	kDe		(m <sup>3</sup> )		0.00 12.00	12.00 24.00
Bicarbonates		0	mg/L	Hydrostatic Pro	essure	18454.7	кра	Premix added	(m <sup>-</sup> )			
Methylene Blue		7.0	kg/m	Mud Gradient		10.7	KPa/m	water added	(m <sup>-</sup> )		6.0	6.0
Sand Content		0.5	%	EC Density		1196.3	кg/m²	Volume disca	raea (m²)	3,	0.0	
Oil Content		0.500	vol frac	Ann. Vel. D.F	·.	80.0	m/min	Solids equipm	ient underflow (	m°)	2.0	2.0
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csg.	72.1	m/min	I otal fluid add				6.0
Solids Content		0.050	vol frac	Ann. Vel. HWI	DP #	111.8	m/min	Total fluid disc	carded (m°)			2.0
Low "n" value		0.60	slope	Ann. Vel. D.C	‴ 1	111.8	m/min					
Low "K" value		3.83	uyn-sec/cm	DEMARKO								
Hign "n" value		0.61	siope	REMARKS								
High "K" value		3.55	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		6.0	kg/m³		Presently	sliding	-					
Materials U	sed	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost									
Baro seal M		\$37.41	\$0.00		TODAY							
N-Dril Lo	2	\$211.96	\$423.92		Maintain vi	s 45-50 S/L	with n-dril (d	cello size)				
Barabuf	1	\$78.33	\$78.33		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.		
Baracarb		\$43.05	\$0.00				If volume re	eq'd use water	from brown tan	k.		
Bicarbonates		\$43.05	\$0.00				Run centrif	uge 4hrs. On/	4 hrs. off			
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	uge is off			
CW 8551		\$280.70	\$0.00			Thanx Lloy	d	Do not run wa	ter on shakers,	we will have to	use more de	foamer.
barathin	4	\$102.59	\$410.36									
XL Defoamer	1	\$306.55	\$306.55									
N-Vis Plus	3	\$240.47	\$721.41									
Salt 20 kg	Ĩ	\$17 90	\$0.00									
Salt 40 kg	ĺ	\$35.80	\$0.00 \$0.00									
Engineering	1	\$995.00	\$995 00	**Anv problem	s. questions	S OF CONCERS	feel free to	call anvtime T	hanks	Llovd		
Daily Cost		<b>4000.00</b>	\$ 2 925 57	Field Repress	ntative.	Llovd Anthe			Warehouse	Lioyu		
Previous Cost			ψ <u>2</u> ,300.07 \$ 20.424.67	Phone:	manve.		лту		Phone:			
Total Cost \$			\$ 32,370,24	Cellular:		902 456 67	52		Engineer #	403 231 9483		

Operator:	Inve	stcan En	ergy	Well Name: Hurricane # 2				Date: 3/7/201					
L. <b>S</b> .D.:				Rig #: Foragaz # 3				Spud Date:					
Report For: Victor Leroux				Report For: Greg MacKinnon Rep					19	Total Days:	18		
DRILLING	ID PROPE			HOLE GEO	DMETRY				BIT DAT	4	•		
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	5	Depth In	1731.0	meters	
Depth M.D.		1,731		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters	
Depth T.V.D.		1,727	meters	D.P.	102.0	85.0	1500.4	Туре	Hughes	Hours Run		hrs.	
Density		1095	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	0	Noz Vel.	33.0	m/sec	
Funnel Viscosity		55	sec/L	DC	121.0	57.0	119.0	Weight dN	14.6	Bit HHP	0.0	KW	
Fann 600		49			SURV	EYS		ROP	1.45	Jet Impact	0.0	Ν	
Fann 300		32		Depth (m)				Nozzles	5x12.7			mm	
Fann 200		21		Survey <sup>o</sup>				TFA	760.0			mm	
Fann 100		12		PUMP I	DATA	#1 PUMP:			#2 PUMP:				
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	Total	
Fann 3		2		<sup>#</sup> 1	165.0	216.0	95	13.16		0.0	L/min.	m <sup>3</sup> / min.	
10 Sec. Gel Strength	ı	1	Ра	# 2			100	19.90		0.0	0.0	0.00	
10 Min. Gel Strength	1	3	Ра	CIF	RCULATIN	G SYSTE	N		FLOWLINE	E CLEANERS	- MESH S	IZES	
30 Min. Gel Strength		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175		
Apparent Viscosity			mPa-sec	Tank Volume		33.3	m <sup>3</sup>	Shaker #2					
Plastic Viscosity		17	mPa-sec	Circulating Pressure: 0		kPa							
Yield Point		7.5	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		3.1	ml/30 min	String Capacity		9.4	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.	
Filter Cake		0.5	mm	String Displacement		4.6	m <sup>3</sup>	Centrifuge #1		1085.0	1800.0	750.0	
pH Strip / Meter		8	scale	Casing Ann Volume		5.3	m <sup>3</sup>	Centrifuge #2	- Centrifuge #2		na	0.0	
Alkalinity pF		0.2	ml	Annular Volume		13.8	m <sup>3</sup>	Desander		na	na		
Alkalinity mF		0.3	ml	Total Volume		61.8	m <sup>3</sup>	Desilter		na	na		
Chloride		40000	ma/l	Bottoms Lin		#DIV/0!	min	Other		na	na		
Calcium		360	mg/L	Surface to Bit		#DIV/0!	min.						
Carbonates		0	mg/L	Circulation Time		#DIV/0!	min.	FLUID ACCOUNTING			0:00-12:00	12:00-24:00	
Bicarbonates		0	mg/l	Hydrostatic Pr	ASSIIRA	18551 3	kPa	Premix added	(m <sup>3</sup> )				
Methylene Blue		70	kg/m <sup>3</sup>	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )		6.0	6.0	
Sand Content		0.5	%	EC Density		1118 1	$ka/m^3$	Volume disca	$(m^3)$		0.0	0.0	
		0.5 +r	vol frac			0.0	m/min	Solids equipment underflow $(m^3)$			2.0	2.0	
Water Content		04 500	vol frac	Ann. Vel. D.I Ann. Vel. D.R	Cca	0.0	m/min	Total fluid added $(m^3)$			2.0	2.0	
Solids Contont		94.500	vol frac	Ann. Vel. U.F.	usy. סר	0.0	m/min	Total fluid dig	$(m^3)$			0.0	
		0.033			# 1	0.0	m/min		calded (III )			2.0	
Low "K" value		3.83	dvn-sec/cm <sup>2</sup>	Ann. vei. D.C	I	0.0							
High "n" value		0.61	slope	REMARKS									
High "K" value		2 55	dun aca/am <sup>2</sup>		1								
		3.55											
A.S.G.		2.0	Spec.Grav.										
Lo-Grav Solids		3	kg/m <sup>3</sup>										
		3	kg/m²										
HI-Grav Solids		4	kg/m <sup>3</sup>										
PHPA Content Materials II	cod 9	0.0 Sinco Las	kg/m <sup>s</sup>	RECON									
Waterial	Seu .			RECOM		10113	l						
Material	Amt.	Price	Cost										
Baro seal M		\$37.41	\$0.00		TODAY								
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 45-50 S/L	with n-dril (	cello size)				•	
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.			
Baracarb		\$43.05	\$0.00				If volume r	eq'd use water	from brown tan	k.			
Bicarbonates		\$43.05	\$0.00				Run centrif	uge 4hrs. On/	4 hrs. off				
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	<u>uge is off</u>				
CW 8551		\$280.70	\$0.00					Do not run wa	iter on shakers,	we will have to	use more de	foamer.	
barathin		\$102.59	\$0.00					Add 2 sx. BAF	RABUF to raise	PH @ 1 Hr./sk			
XL Defoamer	1	\$306.55	\$306.55	5			Thanx Lloy	ď					
N-Vis Plus		\$240.47	\$0.00										
Salt 20 kg		\$17.90	\$0.00	)									
Salt 40 kg		\$35.80	\$0.00										
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 1,301.55	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				
Previous Cost			\$ 32,370.24	Phone:					Phone:				
Total Cost \$			\$ 33,671.55	Cellular:		902 456 67	52		Engineer #:	403 231 9483			

Operator:	Investcan Energy			Well Name: Hurricane # 2				Date: 4/7/2013					
L.S.D.:				Rig #: Foragaz # 3				Spud Date:					
Report For: Victor Leroux			Report For: Greg MacKinnon Report *: 20 T						Total Days: 19				
DRILLING	ID PROPE	ERTIES	ŀ	HOLE GEO	OMETRY				BIT DAT	4			
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	1731.0	meters	
Depth M.D.		1,784		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters	
Depth T.V.D.		1,780	meters	D.P.	102.0	85.0	1492.4	Туре	Hughes	Hours Run		hrs.	
Density		1095	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	47	Noz Vel.	33.0	m/sec	
Funnel Viscosity		49	sec/L	DC	121.0	57.0	119.0	Weight dN	11.5	Bit HHP	19.5	KW	
Fann 600		46			SURV	EYS		ROP	0.91	Jet Impact	554.7	N	
Fann 300		29		Depth (m)				Nozzles	5x12.7			mm	
Fann 200		20		Survey				TFA	760.0			mm	
Fann 100		12		PUMP I	DATA	#1 PUMP:			#2 PUMP:				
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	Total	
Fann 3		2		# 1	165.0	216.0	95	13.16	71	934.6	L/min.	m <sup>3</sup> / min.	
10 Sec. Gel Strength	n	1	Pa	# 2			100	19.90		0.0	934.6	0.93	
10 Min. Gel Strength	I	3	Pa	CIR	CULATIN	G SYSTE	N		FLOWLINE	<b>CLEANERS</b>	- MESH S	ZES	
30 Min. Gel Strenath		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175		
Annarent Viscosity		-	mPa-sec	Tank Volume		28.8	m <sup>3</sup>	Shaker #2	-	-	-		
Plastic Viscosity		17	mPa-sec	Circulating Pre	essure:	12 390	kPa						
Yield Point		6	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		32	ml/30 min	String Canacit	v	9.6	m <sup>3</sup>	FOUI	PMENT	ka/m <sup>3</sup>	ka/m <sup>3</sup>	l /min	
Filter Coke		0.5	mm	String Diaplace	y omont	4.0	m <sup>3</sup>	Centrifuge #1		1085.0	1820.0	750.0	
		0.5				4.0	3	Contrifugo #2		1000.0	1020.0	0.0	
pH Strip / Meter		9	scale		biume	5.3	m <sup>3</sup>	Centilidge #2		na	na	0.0	
		0.2	mi		ie	14.4	m <sup>3</sup>	Desiltor		na	na		
Alkalinity mF		0.3	mi "	Total Volume		58.1	m²	Desilier		na	na		
Chloride		38000	mg/L	Bottoms Up		21.1	min.	Other		na	na		
		400	mg/L	Surface to Bit		10.3	min.				0.00.40.00	10.00.01.00	
Carbonates		U	mg/L	Circulation 1	me	62.2	min.	FLUID AC			0:00-12:00	12:00-24:00	
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	19120.7	kPa	Premix added	l (m <sup>s</sup> )				
Methylene Blue		7.0	kg/m³	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )				
Sand Content		0.5	%	EC Density		1184.7	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )		2.0		
Oil Content		0.500	vol frac	Ann. Vel. D.F	Р.	80.0	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	2.0	2.0	
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csg.	72.1	m/min	Total fluid add	ded (m <sup>3</sup> )			0.0	
Solids Content		0.050	vol frac	Ann. Vel. HWI	OP	111.8	m/min	Total fluid dise	carded (m <sup>3</sup> )			2.0	
Low "n" value		0.58	slope	Ann. Vel. D.C	<sup>#</sup> 1	111.8	m/min						
Low "K" value		3.96	dyn-sec/cm <sup>2</sup>										
High "n" value		0.67	slope	REMARKS									
High "K" value		2.34	dyn-sec/cm <sup>2</sup>		_								
A.S.G.		2.6	Spec.Grav.										
Lo-Grav Solids		3	kg/m³										
Drill Solids		3	kg/m³										
Hi-Grav Solids		4	ka/m³										
PHPA Content		6.0	kg/m <sup>3</sup>		Presently	Drilling ahe	ad						
Materials U	sed	Since Las	t Report	RECOMMENDATIONS									
Material	Amt.	Price	Cost										
Baro seal M		\$37.41	\$0.00	1	TODAY								
N-Dril Lo	2	\$211.96	\$423.92		Maintain vi	s 45-50 S/I	with n-dril (	cello size)					
Barabuf	-	\$78.33	\$0.00		Maintain w	t as low as	nossible by	using screens	as fine as nossi	ihle		•	
Baracarb		\$43.05	\$0.00		Walltain W		If volume r	ea'd use water	from brown tan	k			
Bicarbonates		\$43.05	\$0.00				Run centrif	uge dbrs Op/	A bre off	к.			
Barito		¢24.20	\$0.00 \$0.00				Mix produce	ts while contrif	ugo is off				
		φ24.20 ¢290.70	\$0.00			Thenyllow					una mara da	former	
CVV 8551		\$280.70 \$100.50	\$0.00			Thanx Lloy	u	Do not run wa	aler on snakers,	we will have to	use more de	ioamer.	
barathin		\$102.59	\$0.00										
XL Defoamer	1	\$306.55	\$306.55										
N-Vis Plus		\$240.47	\$0.00										
Salt 20 kg		\$17.90	\$0.00										
Salt 40 kg		\$35.80	\$0.00										
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	teel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 1,725.47	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				
Previous Cost			\$ 33,671.55	Phone:					Phone:				
Total Cost \$			\$ 35,396.82	Cellular:		902 456 67	52		Engineer #:	403 231 9483			

Operator:	Investcan Energy			Well Name: Hurricane # 2				Date: 5/7/2013					
L.S.D.:				Rig #: Foragaz # 3				Spud Date:					
Report For: Victor Leroux			Report For:	Greg Ma	cKinnon		Report * :	21	19				
DRILLING	FLU	ID PROPE	RTIES	I	IOLE GEO	DMETRY				BIT DAT/	4		
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	1731.0	meters	
Depth M.D.		1,786		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters	
Depth T.V.D.		1,782	meters	D.P.	102.0	85.0	1492.4	Туре	Hughes	Hours Run		hrs.	
Density		1095	kg/m³	jars	121.0	57.0	6.6	RPM	47	Noz Vel.	33.0	m/sec	
Funnel Viscosity		53	sec/L	DC	121.0	57.0	119.0	Weight dN	11.5	Bit HHP	0.0	КW	
Fann 600		47			SURV	EYS	1	ROP	0.91	Jet Impact	0.0	N	
Fann 300		30		Depth (m)				Nozzles	5x12.7			mm	
Fann 200		22		Survey				TFA	760.0			mm	
Fann 100		12		PUMP	ΟΑΤΑ	#1 PUMP:	1	1	#2 PUMP:				
Fann 6		3		# .	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total	
Fann 3		2	_	" 1 # 0	165.0	216.0	95	13.16	0	0.0	L/min.	m°/min.	
10 Sec. Gel Strength	1	1	Pa	<sup>2</sup> 2			100	19.90		0.0	0.0	0.00	
10 Min. Gel Strength		3	Ра	CIR	CULATIN	GSYSTEM	VI		FLOWLINE	CLEANERS	- MESH S	ZES	
30 Min. Gel Strength		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175		
Apparent Viscosity			mPa-sec	Tank Volume		26.8	m³	Shaker #2					
Plastic Viscosity		17	mPa-sec	Circulating Pre	essure:	12,390	kPa						
Yield Point		6.5	Ра	Adjusted Hole	Size	159.0	mm 3	SOLIDS	REMOVAL	Over Flow		Flow	
Fluid Loss		3.2	ml/30 min	String Capacit	y	9.6	m	EQUI	PMENT	kg/m*	kg/m	L/min.	
Filter Cake		0.5	mm	String Displace	ement	4.8	m <sup>3</sup>	Centrifuge #1		0.0	0.0	0.0	
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	5.3	m³	Centrifuge #2		na	na	0.0	
Alkalinity pF		0.2	ml	Annular Volum	e	14.4	m³	Desander		na	na		
Alkalinity mF		0.3	ml	Total Volume		60.9	m³	Desilter		na	na		
Chloride		38000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na		
Calcium		400	mg/L	Surface to Bit		#DIV/0!	min.						
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00	
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	19142.2	kPa	Premix added	(m <sup>3</sup> )				
Methylene Blue		7.0	kg/m <sup>3</sup>	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )				
Sand Content		0.5	%	EC Density		1116.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )				
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>.</b>	0.0	m/min	Solids equipm	nent underflow (	m³)			
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0	
Solids Content		0.050	vol frac	Ann. Vel. HWI	)P	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0	
Low "n" value		0.59	slope	Ann. Vel. D.C	# 1	0.0	m/min						
Low "K" value		3.92	dyn-sec/cm <sup>-</sup>										
High "n" value		0.65	slope	REMARKS									
High "K" value		2.71	dyn-sec/cm <sup>2</sup>										
A.S.G.		2.6	Spec.Grav.										
Lo-Grav Solids		3	kg/m³										
Drill Solids		3	kg/m³										
Hi-Grav Solids		4	kg/m³										
PHPA Content		6.0	kg/m³	DEGO	Presently	Fishing for	packer						
Materials U	sed	Since Las	t Report	RECON	IMENDAI	IONS	l						
Material	Amt.	Price	Cost										
Baro seal M		\$37.41	\$0.00		TODAY								
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 45-50 S/L	with n-dril (	cello size)					
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.			
Baracarb		\$43.05	\$0.00				If volume r	eq'd use water	from brown tan	k.	,		
Bicarbonates		\$43.05	\$0.00				Run centrif	uge 4hrs. On/	4 hrs. off				
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	<u>uge is off</u>				
CW 8551		\$280.70	\$0.00			Thanx Lloy	d	Do not run wa	iter on shakers,	we will have to	use more de	foamer.	
barathin		\$102.59	\$0.00										
XL Defoamer		\$306.55	\$0.00										
N-Vis Plus		\$240.47	\$0.00										
Salt 20 kg		\$17.90	\$0.00										
Salt 40 kg		\$35.80	\$0.00										
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				
Previous Cost			\$ 35,396.82	Phone:					Phone:				
Total Cost \$			\$ 36,391.82	Cellular:		902 456 67	52		Engineer #:	403 231 9483			

Operator:	Investcan Energy			Well Name: Hurricane # 2				Date: 6/7/2013					
L.S.D.:				Rig #: Foragaz # 3				Spud Date:					
Report For: Victor Leroux			Report For:	Greg Ma	cKinnon		Report * :	22	Total Days:	20			
DRILLING	ID PROPE		ł	IOLE GEO	DMETRY				BIT DAT/	4			
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	1731.0	meters	
Depth M.D.		1,786		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters	
Depth T.V.D.		1,782	meters	D.P.	102.0	85.0	1492.4	Туре	Hughes	Hours Run		hrs.	
Density		1095	kg/m³	jars	121.0	57.0	6.6	RPM	47	Noz Vel.	33.0	m/sec	
Funnel Viscosity		55	sec/L	DC	121.0	57.0	119.0	Weight dN	11.5	Bit HHP	0.0	КW	
Fann 600		54			SURV	EYS	1	ROP	0.91	Jet Impact	0.0	Ν	
Fann 300		35		Depth (m)				Nozzles	5x12.7			mm	
Fann 200		25		Survey				TFA	760.0			mm	
Fann 100		14		PUMP	ΟΑΤΑ	#1 PUMP:	1	1	#2 PUMP:			1	
Fann 6		3		# .	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total	
Fann 3		2		" 1 # 0	165.0	216.0	95	13.16	0	0.0	L/min.	m°/min.	
10 Sec. Gel Strength	ר	1	Pa	<sup>2</sup> 2			100	19.90		0.0	0.0	0.00	
10 Min. Gel Strength	1	3	Pa	CIR	CULATIN	GSYSTEM	VI		FLOWLINE	CLEANERS	- MESH S	IZES	
30 Min. Gel Strength	1	3	Pa	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175		
Apparent Viscosity			mPa-sec	Tank Volume		26.4	m³	Shaker #2					
Plastic Viscosity		19	mPa-sec	Circulating Pre	essure:	12,390	kPa						
Yield Point		8	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		3.1	ml/30 min	String Capacit	у	9.6	m	EQUI	PMENT	кg/m	кg/m	L/min.	
Filter Cake		0.5	mm	String Displace	ement	4.8	m³	Centrifuge #1		0.0	0.0	0.0	
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	5.3	m³	Centrifuge #2		na	na	0.0	
Alkalinity pF		0.2	ml	Annular Volum	ie	14.4	m³	Desander		na	na		
Alkalinity mF		0.3	ml	Total Volume		60.5	m³	Desilter		na	na		
Chloride		38000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na		
Calcium		400	mg/L	Surface to Bit		#DIV/0!	min.						
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00	
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	19142.2	kPa	Premix added	(m <sup>3</sup> )				
Methylene Blue		7.0	kg/m³	Mud Gradient		10.7	kPa/m	Water added	(m³)				
Sand Content		0.5	%	EC Density		1119.4	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )				
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>.</b>	0.0	m/min	Solids equipm	nent underflow (	m³)			
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0	
Solids Content		0.050	vol frac	Ann. Vel. HWI	DP "	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0	
Low "n" value		0.62	slope	Ann. Vel. D.C	<i>"</i> 1	0.0	m/min						
Low "K" value		3.71	ayn-sec/cm	DEMARKO									
High "n" value		0.63	slope	REMARKS									
High "K" value		3.62	dyn-sec/cm <sup>2</sup>										
A.S.G.		2.6	Spec.Grav.										
Lo-Grav Solids		3	kg/m³										
Drill Solids		3	kg/m³										
Hi-Grav Solids		4	kg/m³		<b>D</b> (1	<b>-</b> :							
PHPA Content	lood	6.0 Since Lea	kg/m <sup>3</sup>										
Waterial	Amt			RECON		10113	l						
	Amt.	Price	COSI	4	TODAY								
Baro seal M		\$37.41	\$0.00										
N-Dril Lo		\$211.96	\$0.00		Maintain vi	S 50 - 55 S/I	_ with cellos	ize @ I Hr./Sk.	(	1-1-			
Barabur		\$78.33	\$0.00		Maintain w	t. as low as		using screens	as fine as possi	Die.			
Baracaro		\$43.05	\$0.00				If volume r	eq d use water	from brown tan	к.			
Bicarbonates		\$43.05	\$0.00				Run centrii	uge 4nrs. On/	4 nrs. off				
Barite		\$24.20	\$0.00			<b>T</b> h and 1 law	IVIIX produc	De met mur	uge is off			(	
		\$280.70	\$0.00			I nanx Lloy	a	Do not run wa	iter on snakers,	we will have to	use more de	roamer.	
baratnin		\$102.59	\$0.00										
	1	\$306.55	\$306.55										
IN-VIS PIUS		\$240.47	\$0.00										
Salt 20 kg		\$17.90	\$0.00										
Salt 40 Kg	4	\$35.80	\$0.00	** Any proble	e aucotion	or concer-	fool from to	coll on time T	banke	ا المرا ا			
		<sup>4</sup> 992.00	\$9995.00	Field Dame	s, questions			can anyume. I	Marah	Lioyd			
Daily COSt Provious Cost			<ul> <li>ψ 1,301.55</li> <li>Φ 26.204.00</li> </ul>	Phone:	intative:	Lioya Antha	ліу		warenouse:				
Total Cost ¢			\$ 37 602 27	Cellular		902 456 67	52		Filone: Engineer #	403 231 0/82			
			$\varphi = 0.000.01$	Jonalai .			~-		gισσι <i>π</i> .				
Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				7/7/2013	
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L.S.D.:				Rig #:	Foragaz	#3		Spud Date:					
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	23	Total Days:	21		
DRILLING	FLU	ID PROPE	RTIES	ł	IOLE GEO	DMETRY				BIT DAT/	4		
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	4	Depth In	1731.0	meters	
Depth M.D.		1,786		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters	
Depth T.V.D.		1,782	meters	D.P.	102.0	85.0	1492.4	Туре	Hughes	Hours Run		hrs.	
Density		1095	kg/m³	jars	121.0	57.0	6.6	RPM	47	Noz Vel.	33.0	m/sec	
Funnel Viscosity		53	sec/L	DC	121.0	57.0	119.0	Weight dN	11.5	Bit HHP	0.0	КW	
Fann 600		54			SURV	EYS	1	ROP	0.91	Jet Impact	0.0	N Triplay	
Fann 300		33		Depth (m)				Nozzles	5x12.7				
Fann 200		24		Survey				TFA	760.0				
Fann 100		14		PUMP	ΟΑΤΑ	#1 PUMP:	1	1	#2 PUMP:				
Fann 6		3		# .	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.			O Duplex	
Fann 3		2	_	" 1 # 0	165.0	216.0	95	13.16	0	0.0	L/min.	m°/min.	
10 Sec. Gel Strength	1	1	Pa -	<i>"</i> 2		0.01/0751	100	19.90		0.0	0.0	0.00	
10 Min. Gel Strength		3	Pa	CIR	CULATIN	G SYSTEM	M		FLOWLINE	CLEANERS	- MESH S	IZES	
30 Min. Gel Strength		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175		
Apparent Viscosity			mPa-sec	Tank Volume		29.3	m³	Shaker #2					
Plastic Viscosity		21	mPa-sec	Circulating Pre	essure:	12,390	kPa						
Yield Point		6	Ра	Adjusted Hole	Size	159.0	mm 3	SOLIDS	REMOVAL	Over Flow	Under	Flow	
Fluid Loss		3.0	ml/30 min	String Capacit	у	10.2	m	EQUI	PMENT	kg/m*	кg/m*	L/min.	
Filter Cake		0.5	mm	String Displace	ement	4.5	m <sup>3</sup>	Centrifuge #1		0.0	0.0	0.0	
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0	
Alkalinity pF		0.2	ml	Annular Volum	ne	15.8	m <sup>3</sup>	Desander		na	na		
Alkalinity mF	ļ	0.3	ml	Total Volume		60.6	m <sup>3</sup>	Desilter		na	na		
Chloride	i	38000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na		
Calcium		440	mg/L	Surface to Bit		#DIV/0!	min.						
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00	
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	19142.2	kPa	Premix added	(m <sup>3</sup> )				
Methylene Blue		7.0	kg/m <sup>3</sup>	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )				
Sand Content		0.5	%	EC Density		1095.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )				
Oil Content		tr	vol frac	Ann. Vel. D.F	Р.	0.0	m/min	Solids equipm	nent underflow (	m³)			
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0	
Solids Content		0.050	vol frac	Ann. Vel. HWI	DP	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0	
Low "n" value		0.61	slope	Ann. Vel. D.C	<sup>#</sup> 1	0.0	m/min						
Low "K" value		3.79	dyn-sec/cm <sup>-</sup>										
High "n" value		0.71	slope	REMARKS									
High "K" value		2.01	dyn-sec/cm <sup>2</sup>										
A.S.G.		2.6	Spec.Grav.										
Lo-Grav Solids		3	kg/m³										
Drill Solids		3	kg/m³										
Hi-Grav Solids		4	kg/m³										
PHPA Content		6.0	kg/m³	DEGO	Presently	POH with p	backer?						
Materials U	sed	Since Las	t Report	RECON	IMENDAI	IONS	]						
Iviaterial	Amt.	Price	COST	4	TOP								
Baro seal M		\$37.41	\$0.00		TODAY								
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 50 - 55 S/l	L with cellos	ize @ I Hr./Sk.				•	
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as possi	ble.			
Baracarb		\$43.05	\$0.00				If volume re	eq'd use water	from brown tan	k.			
Bicarbonates		\$43.05	\$0.00				Run centrif	uge 4hrs. On/	4 hrs. off				
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	uge is off				
CW 8551		\$280.70	\$0.00			Thanx Lloy	d	Do not run wa	iter on shakers,	we will have to	use more de	foamer.	
barathin		\$102.59	\$0.00										
XL Defoamer		\$306.55	\$0.00										
N-Vis Plus		\$240.47	\$0.00										
Salt 20 kg		\$17.90	\$0.00										
Salt 40 kg		\$35.80	\$0.00										
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	teel free to	call anytime. T	hanks	Lloyd			
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Antho	ony		Warehouse:				
Previous Cost			\$ 37,693.37	Phone:					Phone:	100.5-			
i otal Cost \$			\$ 38,688.37	Cellular:		902 456 67	52		Engineer #:	403 231 9483			

Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				8/7/2013
L. <b>S</b> .D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	24	Total Days:	22	
DRILLING	FLU	ID PROPE			HOLE GEO	OMETRY	•			BIT DAT/	4	
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	5	Depth In	1786.0	meters
Depth M.D.		1,808		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,804	meters	D.P.	102.0	85.0	1682.4	Туре	Hughes	Hours Run		hrs.
Density		1090	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	40	Noz Vel.	42.3	m/sec
Funnel Viscosity		49	sec/L	DC	121.0	57.0	119.0	Weight dN	13.1	Bit HHP	18.3	KW
Fann 600		44			SURV	EYS		ROP	1.55	Jet Impact	687.9	N Pump I
Fann 300		28		Depth (m)				Nozzles	3x15.9			O Duplex
Fann 200		20		Survey				TFA	594.0			
Fann 100		12		POMPI		#1 PUIVIP:			#2 PUIVIP:			
Fann 6		3		# 1	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Duplex     Duplex     Duplex
Fann 3		2	De	# 2	165.0	216.0	95	13.16	69	908.3	L / min.	0.01
10 Sec. Gel Strengtr	1	2	Pa			C SVSTEI	100	19.90			908.3	0.91
10 Min. Gel Strength		Э	Га				<b>vi</b>	Choker #1	475		- WIEGH 3	
30 Min. Gei Strength		3	Ра		hent	3.0	% 3	Shaker #1	175	175	175	
Apparent Viscosity		40	mPa-sec	Tank Volume		27.9	m°	Shaker #2				
Plastic Viscosity		16	mPa-sec	Circulating Pre	essure:	12,390	кра				المواد	
Tield Point		0			Size	159.0	m <sup>3</sup>	SOLIDS		Ver Flow	ka/m <sup>3</sup>	FIOW
		3.0	mi/30 min	String Capacit	у	10.6	3	EQUI Contrifuero #1		1085.0	1700.0	L/min.
Filter Cake		0.5	mm	String Displace	ement	5.1	m <sup>v</sup>	Centrifuge #1		1085.0	1780.0	750.0
pH Strip / Meter		8.5	scale	Casing Ann V	olume	5.3	m ĭ	Centrifuge #2		na	na	0.0
Alkalinity pF		0.2	ml	Annular Volum	ne	17.5	m <sup>v</sup>	Desander		na	na	
Alkalinity mF		0.3	ml	Total Volume		61.3	m°	Desilter		na	na	
Chloride		37000	mg/L	Bottoms Up		25.1	min.	Other		na	na	
		440	mg/L	Surface to Bit	-	11.7	min.		COLINITING		0.00 10.00	12:00 24:00
Carbonales		U	mg/L		me	67.5	min.				0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	19290.0	kPa	Premix added	(m°)			
Methylene Blue		10.5	kg/m²	Mud Gradient		10.7	kPa/m	water added	(m <sup>-</sup> )			
Sand Content		0.5	%	EC Density	_	1090.0	kg/m°	Volume disca	rded (m°)	3		
Oil Content		tr	vol trac	Ann. Vel. D.H	·.	//./	m/min	Solids equipm		m²)		
Water Content		0.950	vol trac	Ann. Vel. D.P.	Csg.	70.1	m/min	Total fluid add	led (m <sup>-</sup> )			0.0
Solids Content		0.050	vol frac	Ann. vel. Hwi	JP #.	108.7	m/min	I otal fluid dise	carded (m <sup>-</sup> )			0.0
Low "n" value		0.57	slope	Ann. vel. D.C	1	108.7	m/min					
Low R value		4.01	slope	REMARKS								
		0.05	slope	ILMARKS	1							
High "K" value		2.46	ayn-sec/cm									
A.S.G.		2.6	Spec.Grav.									
LO-GIAV Solids		3	kg/m²									
		3	kg/m²									
PHPA Content		4 60	kg/m³		Presently	Fishing for	nacker					
Materials U	sed 9	Since Las	t Report	RECON		IONS	packer					
Material	Amt	Price	Cost				<u>_</u>					
Baro seal M	,	\$37.41	20.02		τοραγ							
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 50 - 55 S/	l with cellos	ize @ I Hr /Sk				
Barabuf		\$78.33	\$0.00		Maintain w	t as low as	nossible by	using screens	as fine as noss	ihle		
Baracarb		\$13.05	00.0¢		maintain w		If volume r		from brown tan	k		
Bicarbonates		\$43.05	\$0.00				Run centrif	uge 4hrs On/	4 brs off	к.		
Barite		\$24.20	00.0¢				Mix produc	ts while centrif				
CW 8551		\$280.70	\$0.00			Thany I lov	d	Do not run wa	iter on shakers	we will have to	use more de	foamer
barathin		\$102.59	\$0.00				u	Do not run we	lior on onakoro,			
XI Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17 QA	00.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s. questions	s or concers	feel free to	call anvtime T	hanks	Llovd		
Daily Cost		#####	\$ 995.00	Field Represe	entative:	Llovd Anth	onv	,	Warehouse:	2.070		
Previous Cost		#####	\$ 38.688.37	Phone:		.,	,		Phone:			
Total Cost \$		#####	\$ 39,683.37	Cellular:		902 456 67	/52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				9/7/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Vict	or Leroux		Report For:	Greg Ma	cKinnon		Report " :	25	Total Days:	23	
DRILLING	i FLU	ID PROPE			HOLE GEO	OMETRY			1	BIT DAT/	4	1
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	5	Depth In	1786.0	meters
Depth M.D.		1,851		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,846	meters	D.P.	102.0	85.0	1682.4	Туре	Hughes	Hours Run		hrs.
Density		1095	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	40	Noz Vel.	42.3	m/sec
		62	sec/L	DC	121.0	57.0	119.0	weight div	12.5	BITHHP	21.3	KVV
Fann 600		58			SURV		1	ROP	0.82	Jet Impact	631.0	N Fump 1
Fann 300		36		Depth (m)				Nozzles	3x15.9			O_Duplex
Fann 200 Fann 100		20			٨٣٨	#1 DI IMD		IFA	594.0 #2 DLIMD:			Pump 2
		10						L / staslas	#2 FUIVIF.	1 /	Tetal	
Fann 6 Fann 3		3		<sup>#</sup> 1	Liner mm	Stroke mm	05	L / Stroke	Strokes/min.	L / min.	I Otal	Duplex     min
10 Sec. Gel Strength	<b>`</b>	1	Pa	# 2	105.0	210.0	95 100	10.00	03	0.0	820.3	0.83
10 Min. Gel Strength	1	3	Ра		CULATIN	G SYSTE	100 M	19.90	ELOWLINE		- MESH S	0.03
20 Min. Gel Strength		2	Pa			20	0/.	Shakor #1	175	175	- ML3113	
So win. Ger Strengt	1	3	га D		lent	3.0	70 <sup>3</sup>		175	175	175	
Apparent Viscosity		22	mPa-sec	Tank Volume		34.3	m' kDe	Shaker #2				
Viald Doint		7	mPa-sec	Adjusted Hole	Size	12,390	кра			Over Flow	Lindor	Flow
	I	20	ra ml/20 min	Adjusted Hole	Size	10.9	m <sup>3</sup>	EOUI		kg/m <sup>3</sup>	ka/m <sup>3</sup>	FIOW
		2.9	mi/30 min		у.	10.8	3	Contrifuce #1		1085.0	1910.0	L/min.
Filter Cake		0.5	mm	String Displace	ement	5.2	m° 3	Centrifuge #1		1085.0	1810.0	750.0
pH Strip / Meter		9.5	scale	Casing Ann Vo	olume	5.3	m	Centrifuge #2		na	na	0.0
Alkalinity pF		0.4	ml	Annular Volum	ne	18.0	m°	Desander		na	na	
Alkalinity mF		0.7	ml	Total Volume		68.4	m°	Desilter		na	na	
Chloride		36000	mg/L	Bottoms Up		28.1	min.	Other		na	na	
Calcium		560	mg/L	Surface to Bit		13.0	min.					
Carbonates		0	mg/L	Circulation Ti	me	82.5	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	19829.6	kPa	Premix added	l (m <sup>3</sup> )			
Methylene Blue		10.5	kg/m³	Mud Gradient		10.7	kPa/m	Water added	(m <sup>3</sup> )		4.0	
Sand Content		0.5	%	EC Density		1095.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>.</b>	71.0	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	1.0	
Water Content		0.950	vol frac	Ann. Vel. D.P.	Csg.	64.0	m/min	Total fluid add	ded (m <sup>3</sup> )			0.0
Solids Content		0.050	vol frac	Ann. Vel. HWI	OP	99.2	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
Low "n" value		0.63	slope	Ann. Vel. D.C	<sup>#</sup> 1	99.2	m/min					
Low "K" value		3.67	dyn-sec/cm <sup>2</sup>									
High "n" value		0.69	slope	REMARKS								
High "K" value		2.52	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		6.0	kg/m³		Presently	Drilling ahe	ead					
Materials U	sed \$	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost									
Soda Ash	4	\$29.55	\$118.20		TODAY							
N-Dril Lo	2	\$211.96	\$423.92		Maintain vi	s 50 - 55 S/	L with cellos	size @ I Hr./Sk.				
Barabuf		\$78.33	\$0.00		Maintain w	t. as low as	possible by	using screens	as fine as poss	ible.		
Baracarb		\$43.05	\$0.00				If volume re	eq'd use water	from brown tan	k.		
Bicarbonates		\$43.05	\$0.00				Run centrif	fuge 4hrs. On/	4 hrs. off			
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	uge is off			
CW 8551		\$280.70	\$0.00			Thanx Lloy	d	Do not run wa	ter on shakers,	we will have to	use more de	foamer.
barathin		\$102.59	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	s or concers	feel free to	call anytime. T	hanks	Llovd		
Daily Cost	•	#####	\$ 1.537.12	Field Represe	entative:	Llovd Anthe	onv		Warehouse:	.,.		
Previous Cost		#####	\$ 39.688.37	Phone:		.,	,		Phone:			
Total Cost \$		#####	\$ 41,225.49	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e # 2		Date:				10/7/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report " :	26	Total Days:	25	
DRILLING	FLU	ID PROPE		ł	HOLE GEO	OMETRY			1	BIT DAT/	4	1
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	7	Depth In	1854.0	meters
Depth M.D.		1,876		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,871	meters	D.P.	102.0	85.0	1750.0	Туре	Hughes	Hours Run		hrs.
Density		1090	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	25	Noz Vel.	30.4	m/sec
		52	sec/L	DC	121.0	57.0	119.0	weight dN	9.0	BITHHP	21.1	KVV
Fann 600		52			50RV	E13	1	ROP	3.96	Jet Impact	486.6	Triplex
Fann 300		33		Depth (m)				Nozzles	5x12.7	2x11.1		Q_Duplex
Fann 200 Fann 100		22				#1 DUMD:		IFA	827.0 #2 DUMD:			Pump 2
		14		POMPT		#TFUIVIF.		L / staslas	#2 F OIVIF .	L ( min	Tetal	
Fann 6 Fann 3		3		# 1	Liner mm	Stroke mm	EFF. %	L / Stroke	Strokes/min.	L / min.	I otal	Duplex     min
10 Sec. Gel Strength		1	Pa	# 2	105.0	210.0	100	10.00	08	0.0	895.1	0.90
10 Min. Gel Strength		3	Pa		CULATIN	G SYSTE	<b>N</b>	13.30			- MESH S	ZFS
30 Min. Gel Strength		3	Pa	Hole Enlargen		3.0	%	Shaker #1	175	175	175	
Apparent Viscosity		•	mPa soc	Topk Volumo		33.0	m <sup>3</sup>	Shakor #2	110	110	175	
Plastic Viscosity		19	mPa-sec	Circulating Pre	essure.	12,390	kPa	Sliakel #2				
Yield Point		7	Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss	1	3.0	ml/30 min	String Capacit	v	11.0	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	l /min
Filter Cake	I	0.5	mm	String Displace	ement	5.3	m <sup>3</sup>	Centrifuge #1		1085.0	1800.0	750.0
nH Strip / Meter		9	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity nE		0.5	ml	Appular Volum		18.3	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		67.6	m <sup>3</sup>	Desilter		na	na	
Chloride		36000	ma/l	Bottoms Up		26.4	min	Other		na	na	
Calcium	ĺ	440	mg/L	Surface to Bit		12.2	min.					
Carbonates		0	mg/L	Circulation Ti	me	75.5	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/l	Hydrostatic Pr	essure	20006 4	kPa	Premix addec	l (m <sup>3</sup> )			
Methylene Blue		10.5	ka/m <sup>3</sup>	Mud Gradient	000010	10.7	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1090.0	ka/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann Vel DF	<b>b</b>	76.6	m/min	Solids equipre	nent underflow (	′m <sup>3</sup> )	0.5	
Water Content		0 950	vol frac	Ann Vel D.P.	Csa	69.1	m/min	Total fluid add	$(m^3)$	,	0.0	0.0
Solids Content		0.050	vol frac	Ann Vel HWI	DP	107.1	m/min	Total fluid dis	carded (m <sup>3</sup> )			0.0
Low "n" value		0.61	slope	Ann Vel D.C.	# 1	107.1	m/min		ouraou ( )			0.0
Low "K" value		3.79	dyn-sec/cm <sup>2</sup>		•							
High "n" value		0.66	slope	REMARKS								
High "K" value		2.83	dvn-sec/cm <sup>2</sup>		8							
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m <sup>3</sup>									
Drill Solids		3	kg/m <sup>3</sup>									
Hi-Grav Solids		4	kg/m <sup>3</sup>									
PHPA Content		6.0	kg/m³		Presently	Drilling ahe	ad					
Materials U	sed	Since Las	t Report	RECON	MENDÁT	IONS						
Material	Amt.	Price	Cost									
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo	1	\$211.96	\$211.96		Maintain vi	s 50 - 55 S/I	with cellos	ize @ I Hr./Sk.				
Barabuf	2	\$78.33	\$156.66		Maintain w	t. as low as	possible by	using screens	as fine as poss	ible.		
Baracarb		\$43.05	\$0.00				If volume r	eq'd use water	from brown tan	k.		
Bicarbonates	4	\$43.05	\$172.20				Run centrif	uge 4hrs. On/	4 hrs. off			
Barite		\$24.20	\$0.00				Mix produc	ts while centrif	uge is off			
CW 8551		\$280.70	\$0.00					Do not run wa	ater on shakers,	we will have to	use more de	foamer.
barathin	2	\$102.59	\$205.18				PH is good	l, all properties	OK, use defoar	mer sparingly a	nd only if req'	d.
XL Defoamer	1	\$306.55	\$306.55				Thanx Lloy	rd				
N-Vis Plus		\$240.47	\$0.00				,					
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	<u>\$99</u> 5.00	\$995.00	**Any problem	is, questions	s or concers	feel free to	<u>call anyti</u> me. T	hanks	Lloyd		
Daily Cost		#####	\$ 2,047.55	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost		#####	\$ 41,225.49	Phone:					Phone:			
Total Cost \$		#####	\$ 43,272.99	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Operator:	Inve	stcan End	ergy	Well Name:	Hurrican	e # 2		Date:				11/7/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	27	Total Days:	26	
DRILLING	FLU	ID PROPE	ERTIES	ŀ	IOLE GEC	OMETRY			-	BIT DAT/	4	-
Time		7:30	24hr.		OD mm	ID mm	Length m	Bit #	8	Depth In	1882.0	meters
Depth M.D.		1,882		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,877	meters	D.P.	102.0	85.0	1827.0	Туре	Hughes	Hours Run		hrs.
Density		1150	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	18	Noz Vel.	42.3	m/sec
Funnel Viscosity		53	sec/L	DC	121.0	57.0	46.8	Weight dN	9.0	Bit HHP	20.8	КW
Fann 600		54			SURV	EYS		ROP		Jet Impact	683.7	N Pump 1
Fann 300		34		Depth (m)				Nozzles	3x15.9	2x11.1		Mm_Triplex
Fann 200		24		Survey °				TFA	593.5			O Duplex mm
Fann 100		14		PUMP [	DATA	#1 PUMP:			#2 PUMP:			Pump 2
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	Total
Fann 3		2		<sup>#</sup> 1	165.0	216.0	95	13.16	65	855.6	L/min.	Duplex m <sup>3</sup> /min.
10 Sec. Gel Strength	า	1	Ра	<sup>#</sup> 2			100	19.90		0.0	855.6	0.86
10 Min. Gel Strength		3	Ра	CIR	CULATIN	G SYSTE	N		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min. Gel Strenath		3	Ра	Hole Enlargerr	ient	3.0	%	Shaker #1	175	175	175	
Annarent Viscosity			mPa-sec	Tank Volume		29.6	m <sup>3</sup>	Shaker #2	-	-	-	
Plastic Viscosity		20	mPa-sec	Circulating Pre	essure.	12,390	kPa					
Yield Point			Pa	Adjusted Hole	Size	159.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss	1	26	ml/30 min	String Capacit	V	11.0	m <sup>3</sup>	FOUI	PMENT	ka/m <sup>3</sup>	ka/m <sup>3</sup>	L/min
	1	2.0	mi/30 min	String Capacity	<i>y</i>	5.0	3	Contrifugo #1		1085.0	1920.0	750.0
Filter Cake		0.5	mm	String Displace	ement	5.3	m '	Centrifuge #1		1085.0	1030.0	730.0
pH Strip / Meter		9	scale	Casing Ann Vo	olume	5.3	m <sup>-</sup>	Centriluge #2		na	na	0.0
Alkalinity pF		0.5	ml	Annular Volum	IE	18.3	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		67.6	m°	Desilter		na	na	
Chloride		50000	mg/L	Bottoms Up		27.6	min.	Other		na	na	
Calcium		440	mg/L	Surface to Bit		12.8	min.		-			
Carbonates		0	mg/L	Circulation Ti	me	79.0	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pre	essure	21175.4	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		14.0	kg/m <sup>3</sup>	Mud Gradient		11.3	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1150.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann. Vel. D.F	).	73.2	m/min	Solids equipm	nent underflow (	m <sup>3</sup> )	0.5	
Water Content		93.500	vol frac	Ann. Vel. D.P.	Csg.	66.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0
Solids Content		6.500	vol frac	Ann. Vel. HW[	)P	102.4	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
Low "n" value		0.62	slope	Ann. Vel. D.C	<sup>#</sup> 1	102.4	m/min					
Low "K" value		3.75	dyn-sec/cm <sup>2</sup>									
High "n" value		0.67	slope	REMARKS								•
High "K" value		2.71	dyn-sec/cm <sup>2</sup>		1							
		26	Spec Grav									
h.u.u.		2.0	kg/m <sup>3</sup>									
Drill Solido		3	kg/m²									
		3	kg/m²									
HI-Grav Solids		4	kg/m <sup>3</sup>		Dresently	Week to be						
Materials II	lead 9	0.0 Since Las	t Report	PECON			Juom					
Waterial	Amt	Drice Las	Cost	RECON								
	Amt.	Price	Cosi	4								
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Maintain vis	s 50 - 55 S/L	_ with cellos	ize @ I Hr./Sk.				•
Barabuf		\$78.33	\$0.00		Maintain wt	ι. @ 1150 kợ	g/m3 or as r	eq'd with SALT	-			
Baracarb		\$43.05	\$0.00									
Bicarbonates		\$43.05	\$0.00									
Barite	96	\$24.20	\$2,323.20									
CW 8551		\$280.70	\$0.00					Do not run wa	iter on shakers,	we will have to	use more de	foamer.
barathin		\$102.59	\$0.00				PH is good	, all properties	OK, use defoar	mer sparingly a	nd only if req'	d.
XL Defoamer	1	\$306.55	\$306.55				Thanx Lloy	d				
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg	70	\$17.90	\$1,253.00									
Salt 40 kg		\$35.80	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Lloyd			
Daily Cost		#####	\$ 4.877.75	Field Represe	entative:	Llovd Antho	onv	,	Warehouse:			
Previous Cost		#####	\$ 43 272 99	Phone:		,	,		Phone:			
Total Cost \$		#####	\$ 48,150.74	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Operator:	Inve	estcan En	ergy	Well Name:	Hurrican	e # 2		Date:				12/7/2013
L.S.D.:				Rig #:	Rig #:   Foragaz # 3   S     Depart For:   Grog Mackinnon   R							
Report For:	Vict	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	28	Total Days:	27	
DRILLING	i FLU	ID PROPE	ERTIES	ŀ	HOLE GEO	DMETRY	-			BIT DAT	4	•
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #	8	Depth In	1882.0	meters
Depth M.D.		1,937		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Depth T.V.D.		1,932	meters	D.P.	102.0	85.0	1827.0	Туре	Hughes	Hours Run		hrs.
Density		1160	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM	22	Noz Vel.	42.3	m/sec
Funnel Viscosity		51	sec/L	DC	121.0	57.0	46.8	Weight dN	13.6	Bit HHP	12.0	KW
Fann 600		46			SURV	EYS		ROP	1.06	Jet Impact	477.4	N Pump 1
Fann 300		28		Depth (m)				Nozzles	3x15.9			
Fann 200		20		Survey °				TFA	593.5			mm <sup>Duplex</sup>
Fann 100		12		PUMP I	ΟΑΤΑ	#1 PUMP:	1		#2 PUMP:			
Fann 6		3		# .	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Duplex
Fann 3		2		" 1 # -	165.0	216.0	95	13.16	45	592.3	L/min.	m°/min.
10 Sec. Gel Strength	ו	1	Pa -	<i>"</i> 2			100	19.90		0.0	592.3	0.59
10 Min. Gel Strength	1	3	Pa	CIR	CULATIN	G SYSTE	M		FLOWLINE	E CLEANERS	- MESH S	IZES
30 Min. Gel Strength	1	3	Pa	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		25.0	m³	Shaker #2				
Plastic Viscosity		18	mPa-sec	Circulating Pre	essure:	12,390	kPa					
Yield Point		5	Pa	Adjusted Hole	Size	164.0	mm 3	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.5	ml/30 min	String Capacit	у	11.3	m	EQUI	PMENT	kg/m²	kg/m²	L/min.
Filter Cake		0.5	mm	String Displace	ement	5.4	m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.5	ml	Annular Volum	ie	19.0	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		66.0	m <sup>3</sup>	Desilter		na	na	
Chloride		55000	mg/L	Bottoms Up		41.1	min.	Other		na	na	
Calcium		440	mg/L	Surface to Bit		19.1	min.					
Carbonates		0	mg/L	Circulation Ti	me	111.4	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	21985.4	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		14.0	kg/m <sup>3</sup>	Mud Gradient		11.4	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1160.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>.</b>	50.7	m/min	Solids equipm	ent underflow (	m <sup>3</sup> )		
Water Content		93.000	vol frac	Ann. Vel. D.P.	Csg.	45.7	m/min	Total fluid add	led (m <sup>3</sup> )			0.0
Solids Content		7.000	vol frac	Ann. Vel. HWI	DP	70.9	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
Low "n" value		0.57	slope	Ann. Vel. D.C	<sup>#</sup> 1	70.9	m/min					
Low "K" value		4.01	dyn-sec/cm <sup>-</sup>									
High "n" value		0.72	slope	REMARKS								
High "K" value		1.65	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		8.0	kg/m³	DEGO	Presently	Wash to be	ottom					
Materials U	sed	Since Las	tReport	RECON	IMENDAI	IONS	J					
Material	Amt.	Price	Cost									
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Maintain vi	s 50 - 55 S/	L with cellos	ize @ I Hr./Sk.	_			•
Barabuf		\$78.33	\$0.00		Maintain w	t. @ 1150 k	g/m3 or as r	eq'd with SALT	-			
Baracarb		\$43.05	\$0.00		If volume re	eq'd add cer	ment water f	rom brown tan	k.			
Bicarbonates		\$43.05	\$0.00		Today add	2 sx cellosi:	ze and 1 sk	barathin to boo	st rheology.			
Barite		\$24.20	\$0.00		Lloyd							
CW 8551		\$280.70	\$0.00									
barathin	_	\$102.59	\$0.00									
XL Defoamer	2	\$306.55	\$613.10									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
Salt 40 kg		\$35.80	\$0.00	** *					<b>-</b>			
Engineering	1	\$995.00	\$995.00	^*Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Lloyd			
Daily Cost		######	\$ 1,608.10	Field Represe	entative:	Lloyd Anthe	ony		Warehouse:			
		######	\$ 48,150.74 \$ 40,750.01	Phone:		000 450 65	150		Phone:	400 004 0 400		
Total Cost \$		₩₩₩₩₩	⊅ 49,108.84	cenular:		JUZ 456 6/	υZ		⊏ngineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name	Hurrican	e#2		Date:				07/13/2013
			olgy	Rig #·	Foradaz	# 3		Soud Date:				07710/2010
Report For	Victo	or Leroux		Report For	Grea Ma	<sup>#</sup> CKinnon		Report # :	29	Total Davs:	28	
DRILLING	FLU		RTIES	nopontion	HOLE GEO	OMETRY			20	BIT DAT	4	
Timo		7.00	24hr	-			Longth m	Dit #	0	Dopth In	1992.0	motoro
		1070 TD	24111.	Cooling	222.0	164.0	222.0	Sizo mm	9	Depth III	1002.0	meters
Depth M.D.		19/010		Casing	222.0	164.0	323.0	Size mm	159.0	Depth Out		meters
Deptn I.V.D.		1,965	meters	D.P.	102.0	85.0	1916.6	Туре	Hughes	Hours Run	10.0	nrs.
Density		1155	kg/m°	jars	121.0	57.0	6.6		23	Noz Vel.	42.3	m/sec
		55	sec/L	DC	121.0	57.0	46.8	vveight div		BITHHP	19.9	KVV
Fann 600		50			SURV	EYS		ROP	3.24	Jet Impact	697.2	N Pump 1
Fann 300		32		Depth (m)				Nozzles	3x15.9			
Fann 200		22		Survey °				TFA	593.5			mm <sup>Duplex</sup>
Fann 100		14		PUMP I	DATA	#1 PUMP:			#2 PUMP:			
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Total
Fann 3		2		# 1	165.0	216.0	95	13.16	66	868.8	L/min.	° m³∕min.
10 Sec. Gel Strength	n	1	Ра	<sup>#</sup> 2			100	19.90		0.0	868.8	0.87
10 Min. Gel Strength		3	Ра	CIF	CULATIN	G SYSTE	М		FLOWLIN	E CLEANERS	- MESH S	IZES
30 Min. Gel Strength		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		26.8	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		18	mPa-sec	Circulating Pre	essure:	12,390	kPa					
Yield Point		7	Pa	Adjusted Hole	Size	164.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.8	ml/30 min	String Capacit	v	11.5	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	l /min
Filtor Cako		0.5	mm	String Displace	omont	5.5	m <sup>3</sup>	Centrifuge #1		na	na	0.0
		0.5				5.5	3	Contrifugo #2		na	na na	0.0
pH Strip / Meter		9	scale	Casing Ann V	olume	5.3	m' 3	Centinuge #2		lia	lla	0.0
Alkalinity pF		0.5	ml	Annular Volum	ne	19.4	m	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		63.0	m°	Desilter		na	na	
Chloride	1	52000	mg/L	Bottoms Up		28.5	min.	Other		na	na	
Calcium		400	mg/L	Surface to Bit		13.2	min.		-			
Carbonates		0	mg/L	Circulation Ti	me	72.5	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	22264.5	kPa	Premix addec	l (m <sup>3</sup> )			
Methylene Blue		14.0	kg/m <sup>3</sup>	Mud Gradient		11.3	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1155.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>.</b>	74.3	m/min	Solids equipm	nent underflow (	(m <sup>3</sup> )	0.5	
Water Content		93.500	vol frac	Ann. Vel. D.P.	Csq.	67.1	m/min	Total fluid add	ded (m <sup>3</sup> )			0.0
Solids Content		6.500	vol frac	Ann. Vel. HWI	DP OP	103.9	m/min	Total fluid dis	carded (m <sup>3</sup> )			0.0
Low "n" value		0.60	slope	Ann. Vel. D.C	<sup>#</sup> 1	103.9	m/min		( )			
Low "K" value		3.83	dyn-sec/cm <sup>2</sup>		•							
High "n" value		0.64	slope	REMARKS								
High "K" value		2.06	$dvn soc/cm^2$	_								
		2.50										
A.S.G.		2.0	Spec.Glav.									
LO-Grav Solids		3	kg/m²									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m <sup>3</sup>				-					
PHPA Content		8.0	kg/m³	55001	Presently	POH to LO	G					
Materials U	sed	Since Las	t Report	RECOM	IMENDAI	IONS						
Material	Amt.	Price	Cost									
Soda Ash		\$29.55	\$0.00	)	TODAY							
N-Dril Lo	1	\$211.96	\$211.96	5	TD'd well, I	POH to log,	no mixing re	eq'd today.				
Barabuf		\$78.33	\$0.00	)	Hole in goo	od condition	for logging	!				
Baracarb		\$43.05	\$0.00	)	Thanx Lloy	ď						
Bicarbonates		\$43.05	\$0.00	)								
Barite		\$24.20	\$0.00	)								
citric acid	1	\$190.57	\$190.57	,								
barathin	3	\$102.59	\$307.77	-								
XI Defoamer	-	\$306.55	\$0.00	)								
		\$240.47	\$0.00									
		¢47.00	φ0.00									
Sait 20 kg	2	\$17.90 \$400 FO	ΦC 44 00									
	3 4	\$180.56	\$541.68 ¢005.00	** \ n) / n = n = h	o question		orno placa -	coll on time	Thony Lloud			
	1	φaa2.00	\$995.0U		s, questions		erns piease	call allyline				
Dally Cost		###### ##₽₩₽	\$ 2,246.98	Field Represe	entative:	Lloyd Anthe	ony		warehouse:			
Previous Cost		######	\$ 49,758.84	Phone:					Phone:			
i otal Cost \$		#####	\$ 52,005.82	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e#2		Date:				07/14/2013
L.S.D.:			55	Rig #:	Foragaz	#3		Spud Date:				
Report For:	Vict	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	30	Total Days:	29	
DRILLING	FLU	ID PROPE	RTIES	ŀ	IOLE GEO	OMETRY				BIT DAT	4	
Time		7:00	24hr.		OD mm	ID mm	Length m	Bit #		Depth In	1882.0	meters
Depth M.D.		1970 TD		Casing	222.0	164.0	323.0	Size mm		Depth Out		meters
Depth T.V.D.		1,965	meters	D.P.	102.0	85.0	1916.6	Туре		Hours Run		hrs.
Density		1150	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM		Noz Vel.		m/sec
Funnel Viscosity		54	sec/L	DC	121.0	57.0	46.8	Weight dN		Bit HHP	0.0	ĸw
Fann 600		53			SURV	EYS		ROP		Jet Impact	0.0	NPump 1
Fann 300		34		Depth (m)				Nozzles				Mm <sup>Triplex</sup>
Fann 200		24		Survey °				TFA				O Duplex mm
Fann 100		14		PUMP I	DATA	#1 PUMP:			#2 PUMP:			Pump 2
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Iriplex     Total
Fann 3		2		<sup>#</sup> 1	165.0	216.0	95	13.16	0	0.0	L/min.	m <sup>3</sup> /min.
10 Sec. Gel Strength	I .	1	Ра	<sup>#</sup> 2			100	19.90		0.0	0.0	0.00
10 Min. Gel Strength		3	Ра	CIR	CULATIN	G SYSTE	M		FLOWLINE	E CLEANERS	- MESH S	IZES
30 Min. Gel Strength		3	Pa	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		26.8	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		19	mPa-sec	Circulating Pre	essure:	12,390	kPa					
Yield Point		7	Pa	Adjusted Hole	Size	164.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.6	ml/30 min	String Capacit	у	11.5	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
Filter Cake		0.5	mm	String Displace	ement	5.5	m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.5	ml	Annular Volum	ne	19.4	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		63.0	m <sup>3</sup>	Desilter		na	na	
Chloride		52000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium		440	mg/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	22168.1	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		14.0	kg/m <sup>3</sup>	Mud Gradient		11.3	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1150.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann. Vel. D.F	».	0.0	m/min	Solids equipm	ent underflow (	(m <sup>3</sup> )	0.5	
Water Content		93.500	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0
Solids Content		6.500	vol frac	Ann. Vel. HWI	DP .	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
Low "n" value		0.62	slope	Ann. Vel. D.C	<sup>#</sup> 1	0.0	m/min					
Low "K" value		3.75	dyn-sec/cm <sup>2</sup>									
High "n" value		0.64	slope	REMARKS								
High "K" value		3.21	dyn-sec/cm <sup>2</sup>		-							
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		8.0	kg/m³		Presently	logging						
Materials U	sed (	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost				_					
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo	1	\$211.96	\$211.96		Logging, no	o additions r	eq'd					
Barabuf		\$78.33	\$0.00		Stripping s	olids from rig	g tanks with	centrifuge				
Baracarb		\$43.05	\$0.00		Thanx Lloy	d						
Bicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190.57	\$0.00									
barathin		\$102.59	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus	1	\$240.47	\$240.47									
Salt 20 kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Lloyd			
Daily Cost	_	#####	\$ 1,447.43	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost		#####	\$ 49,758.84	Phone:					Phone:			
Total Cost \$		#####	\$ 51,206.27	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e # 2		Date:				07/15/2013
L.S.D.:				Ria #:	Foragaz	#3		Spud Date:				01710/2010
Report For:	Victo	or Leroux		Report For:	Grea Ma	cKinnon		Report # :	31	Total Davs:	30	
DRILLING	FLU	ID PROPE	RTIES		HOLE GEO	OMETRY				BIT DAT	4	
Time		7.00	24br			ID mm	Length m	Bit #		Denth In	1882.0	meters
Denth M D		1970 TD	24111.	Casing	222.0	164.0	323.0	Size mm		Depth Out	1002.0	meters
Depth T.V.D		1 965	motors		102.0	85.0	1016.6			Hours Run		hre
Deptil 1.V.D.		1,505	ka/m <sup>3</sup>	D.F.	121.0	57.0	66	гуре РОМ		Noz Vol		m/soc
Eunnel Viscosity		54	kg/m sec/l		121.0	57.0	0.0 46.8	KEIVI Weight dN		Bit HHP	0.0	K/W
Fann 600		53	300/L	20	SURV	FVS	40.0			let Impact	0.0	N Pump 1
		33		Darath (ar)	00111		1			Jet impact	0.0	OTriplex
Fann 300 Fann 200		34		Deptn (m) Survey <sup>o</sup>								mm Q_Duplex
Fann 100		24 14			ΔΤΔ	#1 DI IMD·		ПА	#2 PLIMP			Pump 2
		14		FOMF		#TFUIVIF.			#2 F UIVIF.		Track	
Fann 6 Fann 2		3		# 1	Liner mm	Stroke mm	EFF. %	L / Stroke	Strokes/min.		l otal	Duplex m3 / min
Fann 3		2	De	# 2	165.0	216.0	95	13.10	0	0.0		0.00
10 Sec. Gel Strength		2	га Ро			C SVSTE	100	19.90				0.00
10 Min. Gel Strength		3	га			GSISIE		Oh alsa a #4				
30 Min. Gei Strength		3	Pa		ient	5.0	% 3	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		19.9	m°	Shaker #2				
Plastic Viscosity		19	mPa-sec	Circulating Pre	essure:	12,390	кРа					
Yield Point		1	Pa	Adjusted Hole	Size	167.0	mm m <sup>3</sup>	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.6	ml/30 min	String Capacit	У		m	EQUI	PMENI	kg/m	kg/m	L/min.
Filter Cake		0.5	mm	String Displace	ement		m³	Centrifuge #1				
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	6.8	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.5	ml	Annular Volum	ne	34.6	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		61.3	m <sup>3</sup>	Desilter		na	na	
Chloride		52000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium		440	mg/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	22168.1	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		14.0	kg/m <sup>3</sup>	Mud Gradient		11.3	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1150.0	kg/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>.</b>	0.0	m/min	Solids equipm	ent underflow (	(m <sup>3</sup> )	0.5	
Water Content		93.500	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0
Solids Content		6.500	vol frac	Ann. Vel. HWI	OP	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
Low "n" value		0.62	slope	Ann. Vel. D.C	<sup>#</sup> 1	0.0	m/min					
Low "K" value		3.75	dyn-sec/cm <sup>2</sup>									
High "n" value		0.64	slope	REMARKS								
High "K" value		3.21	dyn-sec/cm <sup>2</sup>		•							
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	ka/m³									
Drill Solids		3	ka/m <sup>3</sup>									
Hi-Grav Solids		4	ka/m <sup>3</sup>									
PHPA Content		8.0	kg/m³		Presently	logging						
Materials U	sed S	Since Las	t Report	RECOM	IMENDÁT	IONS						
Material	Amt.	Price	Cost				4					
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril I o		\$211.96	\$0.00			n additions r	b'na:					
Barabuf		\$78.33	\$0.00		Hole volum		ey u ad with oper	bole and 5%	washout			
Barabarb		¢12.05	\$0.00		Thony Llow		su with oper		washout			
Dalacalu		\$43.05 ¢42.05	\$0.00 \$0.00		THATIX LIUY	u						
Dicalbullates		\$43.00 ¢04.00	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190.57	\$0.00									
barathin		\$102.59	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Lloyd			
Daily Cost		#####	\$ 995.00	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost		#####	\$ 53,453.25	Phone:					Phone:			
Total Cost \$		#####	\$ 54,448.25	Cellular:		902 456 67	'52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	erav	Well Name:	Hurrican	e # 2		Date:			07/16/201	3
L.S.D.:			3)	Ria #:	Foragaz	#3		Spud Date:				-
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	32	Total Days:	31	
DRILLING	FLU	ID PROPE	ERTIES	· ·	HOLE GEO	OMETRY				BIT DAT	4	
Time		7:00	24hr.		OD mm	ID mm	Lenath m	Bit #		Depth In	1882.0	meters
Depth M.D.		1970 TD		Casing	222.0	164.0	323.0	Size mm		Depth Out		meters
Depth T.V.D.		1.965	meters	D.P.	102.0	85.0	1916.6	Tvpe		Hours Run		hrs.
Density		1150	kg/m <sup>3</sup>	jars	121.0	57.0	6.6	RPM		Noz Vel.		m/sec
Funnel Viscosity		56	sec/L	DC	121.0	57.0	46.8	Weight dN		Bit HHP	#DIV/0!	ĸw
Fann 600		54			SURV	EYS	•	ROP		Jet Impact	0.0	N Pump 1
Fann 300		35		Depth (m)				Nozzles				mm <sup>Triplex</sup>
Fann 200		24		Survey °				TFA				O Duplex
Fann 100		14		PUMP I	DATA	#1 PUMP:	•		#2 PUMP:	•		Pump 2
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	
Fann 3		2		<sup>#</sup> 1	165.0	216.0	95	13.16	0	0.0	L/min.	Duplex m / min.
10 Sec. Gel Strength	1	1	Pa	<sup>#</sup> 2			100	19.90		0.0	0.0	0.00
10 Min. Gel Strength		3	Ра	CIR	CULATIN	G SYSTE	M		FLOWLINE	CLEANERS	- MESH S	IZES
30 Min. Gel Strength		3	Pa	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		07/16/2013	3 m <sup>3</sup>	Shaker #2				
Plastic Viscosity		19	mPa-sec	Circulating Pre	essure:	12,390	kPa					
Yield Point		8	Pa	Adjusted Hole	Size	164.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.8	ml/30 min	String Capacit	y	11.5	m³	EQUI	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
Filter Cake	1	0.5	mm	String Displace	ement	5.5	m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		9	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.5	ml	Annular Volum	ne	19.4	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.8	ml	Total Volume		63.0	m <sup>3</sup>	Desilter		na	na	
Chloride		53000	ma/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium	1	400	mg/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	ma/L	Hvdrostatic Pr	essure	22168.1	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		14.0	ka/m <sup>3</sup>	Mud Gradient		11.3	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.5	%	EC Density		1150.0	ka/m <sup>3</sup>	Volume disca	rded (m <sup>3</sup> )			
Oil Content		tr	vol frac	Ann Vel DF	<b>b</b>	0.0	m/min	Solids equipm	nent underflow (	′m <sup>3</sup> )		
Water Content		93,500	vol frac	Ann Vel D.P.	Csa	0.0	m/min	Total fluid add	led (m <sup>3</sup> )	,		0.0
Solids Content		6.500	vol frac	Ann. Vel. HWI	DP	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
l ow "n" value		0.00	slope	Ann Vel D.C.	<sup>#</sup> 1	0.0	m/min		,			
Low "K" value		178.85	dyn-sec/cm <sup>2</sup>		·	0.0						
High "n" value		0.63	slope	REMARKS								
High "K" value		3.62	dvn-sec/cm <sup>2</sup>									
ASG		2.6	Spec Grav									
Lo-Grav Solids		3	kg/m <sup>3</sup>									
Drill Solids		3	kg/m <sup>3</sup>									
Hi-Gray Solids		4	ka/m <sup>3</sup>									
PHPA Content		8.0	kg/m³		Presently	logaina						
Materials U	sed \$	Since Las	t Report	RECOM	MENDAT	IONS						
Material	Amt.	Price	Cost				4					
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo	2	\$211.96	\$423.92		Logging, n	o additions r	rea'd					
Barabuf		\$78.33	\$0.00		Added 2 s	. N-Drill to r	ia tanks.					
Baracarb		\$43.05	\$0.00		Thanx I lov	rd	.g					
Bicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190.57	\$0.00									
barathin		\$102.59	\$0.00									
XI Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineerina	1	\$995.00	\$995.00	**Anv problem	s, question	ns or conce	erns please	call anvtime	Thanx Llovd			
Daily Cost	· ·	,	\$ 1 418 92	Field Represe	entative:	Llovd Anth	onv	,	Warehouse:			
Previous Cost			\$ 54.448.25	Phone:					Phone:			
Total Cost \$			\$ 55,867.17	Cellular:		902 456 67	/52		Engineer #:	403 231 9483		

a .	1				I.I. and a set							
Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e#2		Date:				07/18/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	34	Total Days:	33	
DRILLING	FLU	ID PROPE	ERTIES	ŀ	HOLE GEO	OMETRY				BIT DAT	A	
Time		6:45			OD mm	ID mm	l enath m	Bit #		Depth In	1882.0	meters
		1070 TD		Casing	222.0	164.0	222.0	Sizo mm		Dopth Out	1002.0	motors
		13/010			222.0	05.0	020.0					ineleis
Depth I.V.D.		1,965	meters	D.P.	102.0	85.0	1916.6	Туре		Hours Run		hrs.
Density		1145	kg/m³	jars	121.0	57.0	6.6	RPM		Noz Vel.		m/sec
Funnel Viscosity		55	sec/L	DC	121.0	57.0	46.8	Weight dN		Bit HHP	0.0	KW
Fann 600		58			SURV	EYS		ROP		Jet Impact	0.0	NPump 1
Fann 300		37		Depth (m)				Nozzles				m Triplex
Fann 200		26		Survev <sup>°</sup>				TFA				ODuplex
Fann 100		15		DIMD	۸Τ۸	#1 DLIMD:			#2 DLIMD:			Pump 2
		15		FONT		#IFUNIF.	1	1	#2 F UIVIF.			
Fann 6		3		# .	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Duplex
Fann 3		2		<i>"</i> 1	165.0	216.0	95	13.16	0	0.0	L/min.	m³/min.
10 Sec. Gel Strength	1	1	Ра	<sup>#</sup> 2			100	19.90		0.0	0.0	0.00
10 Min. Gel Strength		3	Pa	CIR		G SYSTE	M		FLOWLINE	<b>CLEANERS</b>	- MESH S	IZES
30 Min. Gel Strenath		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Annarant Viacasity		-	mDo ooo	Tank Valuma		22.6	3	Chaker #2				
		~	mPa-sec			33.0	m	Snaker #2				
Plastic Viscosity		21	mPa-sec	Circulating Pre	essure:	12,390	кРа					
Yield Point		8	Ра	Adjusted Hole	Size	164.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.8	ml/30 min	String Capacit	у	0.0	m	EQUI	PMENT	kg/m°	kg/m°	L/min.
Filter Cake		0.75	mm	String Displace	ement	5.5	m <sup>3</sup>	Centrifuge #1		na	na	0.0
nH Strin / Meter		8	scale	Casing Ann Vo	olume	53	m <sup>3</sup>	Centrifuge #2		na	na	0.0
		0.5	ml	Appular Value		10.4	m <sup>3</sup>	Desander		na	na	
		0.5			le	19.4	3	Desilter		na	na	
Alkalinity mF		0.8	ml	Total Volume		59.0	m°	Desilter		na	na	
Chloride		51000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium		440	mg/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	ma/l	Hydrostatic Pr	essure	22071.8	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		10.5	ka/m <sup>3</sup>	Mud Cradient	000010	11.0	kDo/m	Water added	$(m^3)$			
		10.5	kg/111			11.2	KF d/11		(11)			
Sand Content		0.75	%	EC Density		1145.0	kg/m°	Volume disca	rded (m°)	0		
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>)</b> .	0.0	m/min	Solids equipm	ent underflow (	m³)	0.5	
Water Content		94.000	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0
Solids Content		6.000	vol frac	Ann. Vel. HWI	OP	0.0	m/min	Total fluid dise	carded (m <sup>3</sup> )			0.0
Low "n" value		0.63	slope	Ann. Vel. D.C	<sup>#</sup> 1	0.0	m/min					
Low "K" value		3 64	dvn-sec/cm <sup>2</sup>									
High "n" value		0.65	slope	REMARKS								
nigh n value		0.05	Slope	KEMANIO								
High "K" value		3.32	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	ka/m³									
Hi-Gray Solids		4	ka/m <sup>3</sup>									
		9 O	kg/m <sup>3</sup>		Procontly	tosting						
Materiale II	cod (	Sinco Las	t Bonort	BECON								
	seu .		скероп	RECOM	INENDAT	10113						
Material	Amt.	Price	Cost									
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Today							
Barabuf		\$78.33	\$0.00		No addition	ns reg'd toda	v.testina.					
Baracarb		¢42.05	\$0.00		Thony Llow	d	.,,					
		\$43.00 \$40.05	\$0.00 \$0.00		THAT'S LIUY	u						
Bicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190.57	\$0.00									
barathin		\$102.59	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N Vic Pluc		¢240.47	\$0.00									
		ψ2-7U.4/	φ0.00 Φο.οο									
Salt 20 Kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Lloyd			
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost			\$ 57,286.09	Phone:					Phone:			
Total Cost \$			\$ 58,281.09	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Onereter	Invo	otoon En	orau	Well Nemer	Hurricon	o # 0		Deter				07/40/0040
Operator:	inve	SICAL EL	ergy	wen name:		e#2						07/19/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:	~ -			
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report :	35	Total Days:	34	
DRILLING	FLU	ID PROPE	ERTIES	ŀ	HOLE GEO	OMETRY				BIT DAT	4	
Time		7;00			OD mm	ID mm	Length m	Bit #		Depth In	1882.0	meters
Depth M.D.		1970 TD		Casing	222.0	164.0	323.0	Size mm		Depth Out		meters
Depth T.V.D.		1,965	meters	D.P.	102.0	85.0	1916.6	Туре		Hours Run		hrs.
Densitv		1140	ka/m <sup>3</sup>	iars	121.0	57.0	6.6	RPM		Noz Vel.		m/sec
Funnel Viscosity		56	sec/L	DC	121.0	57.0	46.8	Weight dN		Bit HHP	0.0	KW
Fann 600		57			SURV	EYS		ROP		Jet Impact	0.0	N Pump 1
Forn 200		27		Dopth (m)				Nozzlas				Triplex
Fann 200		26		Survey °								O Duplex
Fann 200		20				#1 DLIMD:		IFA	#2 DUMD:			Pump 2
		15		FOMF		#IFUIVIF.			#2 FUIVIF.			
Fann 6		3		# 4	Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L / min.	Total	Duplex
Fann 3		2		" 1 "	165.0	216.0	95	13.16	0	0.0	L/min.	m <sup>*</sup> /min.
10 Sec. Gel Strength	i –	1	Ра	<i>"</i> 2			100	19.90		0.0	0.0	0.00
10 Min. Gel Strength		3	Ра	CIR	CULATIN	G SYSTE	N		FLOWLINE	E CLEANERS	- MESH S	IZES
30 Min. Gel Strength		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		31.7	m <sup>3</sup>	Shaker #2				
Plastic Viscosity		20	mPa-sec	Circulating Pre	essure:	12,390	kPa					
Yield Point		8.5	Ра	Adjusted Hole	Size	164.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.9	ml/30 min	String Canacit	v	0.0	m³	FOU	PMENT	kg/m <sup>3</sup>	kg/m <sup>3</sup>	I /min
Filter Calco		0.75		String Displace	,	5.5		Centrifuge #1		na	na	0.0
Filter Cake		0.75	mm	String Displace	ement	5.5	m' 3	Centrifuge #1		na	na	0.0
pH Strip / Meter		8	scale	Casing Ann Vo	olume	5.3	m	Centrifuge #2		na	na	0.0
Alkalinity pF		0.4	ml	Annular Volum	ne	19.4	m°	Desander		na	na	
Alkalinity mF		0.7	ml	Total Volume		61.9	m <sup>3</sup>	Desilter		na	na	
Chloride		48000	mg/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium		360	mg/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	ma/L	Hvdrostatic Pr	essure	21975.4	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		10.5	ka/m <sup>3</sup>	Mud Gradient		11.2	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.75	%	EC Density		1140.0	$ka/m^3$	Volume disca	rded (m <sup>3</sup> )			
		4-			, ,	0.0	kg/m	Solido oquipre	ant underflow (	m <sup>3</sup> )		
		u 04.000	vornac		0	0.0	····			(11.)		0.0
water Content		94.000	vol frac	Ann. vel. D.P.	Usg.	0.0	m/min					0.0
Solids Content		6.000	vol frac	Ann. Vel. HWI	л ЧС	0.0	m/min	I otal fluid dise	carded (m°)			0.0
Low "n" value		0.63	slope	Ann. Vel. D.C	‴ 1	0.0	m/min					
Low "K" value		3.64	dyn-sec/cm-									
High "n" value		0.62	slope	REMARKS								
High "K" value		3.88	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	ka/m <sup>3</sup>									
Hi-Gray Solids		4	ka/m <sup>3</sup>									
PHPA Content		- 80	kg/m <sup>3</sup>		Presently	testing						
Materials II	s has	Since Las	t Report	RECON								
Material	Arest			RECON			1					
	Amt.	Price	Cosi									
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Today							•
Barabuf		\$78.33	\$0.00		No addition	ns req'd toda	vy,testing.					
Baracarb		\$43.05	\$0.00		Thanx Lloy	d						
Bicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190 57	\$0.00									
barathin		\$102.50	00.00 00 02									
		¢206.55	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-VIS Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Lloyd			
Daily Cost			\$ 995.00	Field Represe	entative:	Lloyd Antho	ony		Warehouse:			
Previous Cost			\$ 58,281.09	Phone:					Phone:			
Total Cost \$			\$ 59,276.09	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

Operator:	Inve	stcan En	ergy	Well Name: Hurricane # 2   D				Date: 07/20/2013				
L.S.D.:			- 37	Ria #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	36	Total Days:	35	
DRILLING	FLU	ID PROPE	ERTIES	I	IOLE GEO	DMETRY				BIT DAT	4	
Time		7:00			OD mm	ID mm	Length m	Bit #		Depth In	1882.0	meters
Depth M.D.		1970 TD		Casing	222.0	164.0	323.0	Size mm		Depth Out		meters
Depth T V D		1 965	meters	D P	102.0	85.0	1916.6			Hours Run		hrs
Density		1135	ka/m <sup>3</sup>	iars	121.0	57.0	66	RPM		Noz Vel		m/sec
Funnel Viscositv		54	sec/L	DC	121.0	57.0	46.8	Weight dN		Bit HHP	0.0	KW
Fann 600		52			SURV	EYS		ROP		Jet Impact	0.0	N Pump 1
Fann 200		24		Dopth (m)	00111			Nozzlaa		oot impaot	0.0	©_Triplex
Fann 200		34 22		Survey °				TEA				Duplex
Fann 100		13			ΔΤΔ	#1 DI IMD·		ПA	#2 PLIMP			Pump 2
Fann C								L / staslas			Tetal	
Fann 6 Fann 2		3		# 1	Liner mm	Stroke mm	EFF. %	L / Stroke	Strokes/min.		I otal	Duplex m3 / min
Fann 3		2	D-	# 2	165.0	216.0	95	13.16	0	0.0		0.00
10 Sec. Gel Strength	1	1	Pa D-				100	19.90			0.0	0.00
10 Min. Gei Strength		3	Pa -		CULATIN	GSTSIE			FLOWLING		- 1112311 3	12E3
30 Min. Gel Strength		3	Ра	Hole Enlargen	nent	3.0	%	Shaker #1	175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		23.1	m³	Shaker #2				
Plastic Viscosity		18	mPa-sec	Circulating Pre	essure:	12,390	kPa					
Yield Point		7	Ра	Adjusted Hole	Size	164.0	mm	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.8	ml/30 min	String Capacit	у	0.0	m	EQUI	PMENT	kg/m <sup>°</sup>	kg/m°	L/min.
Filter Cake		0.75	mm	String Displace	ement	2.0	m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		8	scale	Casing Ann Vo	olume	5.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.4	ml	Annular Volum	ne	36.0	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.7	ml	Total Volume		64.4	m <sup>3</sup>	Desilter		na	na	
Chloride		47000	ma/L	Bottoms Up		#DIV/0!	min.	Other		na	na	
Calcium		400	mg/L	Surface to Bit		#DIV/0!	min.					
Carbonates		0	mg/L	Circulation Ti	me	#DIV/0!	min.	FLUID AC	COUNTING		0:00-12:00	12:00-24:00
Bicarbonates		0	mg/l	Hydrostatic Pr	essure	21879.0	kPa	Premix added	(m <sup>3</sup> )			
Methylene Blue		10.5	ka/m <sup>3</sup>	Mud Gradient	ooouro	11 1	kPa/m	Water added	(m <sup>3</sup> )			
Sand Content		0.75	%	FC Density		1135.0	ka/m <sup>3</sup>	Volume disca	$(m^3)$			
		0.70 tr	vol frac		, ,	0.0	m/min	Solids equipre	ant underflow (	m <sup>3</sup> )	0.5	
Water Content		u 04.000	vol frac	Ann. Vel. D.P.	Cea	0.0	m/min	Total fluid add	$(m^3)$		0.5	0.0
Solido Content		54.000 6.000	vol frag	Ann. Vel. D.F.	usy. ac	0.0	m/min	Total fluid dia	$mathemath{E}$			0.0
		0.000		Ann. Vel. HWI	JF # م	0.0	////////	Total Ilulu dise	Saided (III.)			0.0
Low n value		0.02	siope	Ann. vei. D.C	I	0.0	m/min					
Low K value		3.75	slopo	DEMARKS								
		0.01		KEMAKKS								
High "K" value		3.81	dyn-sec/cm <sup>2</sup>									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		8.0	kg/m³		Presently	POH to run	csg.					
Materials U	sed a	Since Las	t Report	RECON	IMENDAT	IONS						
Material	Amt.	Price	Cost									
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Today							
Barabuf		\$78.33	\$0.00		no addition	s req'd tod	ay, wiper tr	ip, POH sidew	ays to run csg.			
Baracarb		\$43.05	\$0.00		Thanx Lloy	d						
Bicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190.57	\$0.00									
barathin		\$102.59	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s. questions	ns or conce	erns please	call anytime	Thanx I love			
Daily Cost		<i>\$200.00</i>	\$ 995.00	Field Represe	entative.	Llovd Anthe			Warehouse			
Previous Cost			\$ 59.276.00	Phone:	manve.		511y		Phone:			
Total Cost \$			\$ 60.271.09	Cellular:		902 456 67	52		Engineer #:	403 231 9483		

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Operator:	Inve	stcan En	ergy	Well Name:	Hurrican	e#2		Date:				07/21/2013
L.S.D.:				Rig #:	Foragaz	#3		Spud Date:				
Report For:	Victo	or Leroux		Report For:	Greg Ma	cKinnon		Report * :	37	Total Days:	36	
DRILLING	FLU	ID PROPE	RTIES	ŀ	IOLE GEO	OMETRY				BIT DAT	4	
Time		7.00			OD mm	ID mm	Length m	Bit #		Depth In		meters
		1070 TD		Casing	222.0	164.0	222.0	Sizo mm		Dopth Out		motors
Depth W.D.		197010	matara		102.0	05.0	1016.6					hre
		1,965	meters	D.P.	102.0	85.0	1916.6	Type		Hours Run		nrs.
Density		1135	kg/m°	jars	121.0	57.0	6.6			Noz Vel.		m/sec
Funnel Viscosity		55	SEC/L	DC	121.0	57.0	46.8	weight div		Bit HHP	0.0	KW
Fann 600		53			SURV	EYS		ROP		Jet Impact	0.0	
Fann 300		34		Depth (m)				Nozzles				
Fann 200		22		Survey °				TFA				mm
Fann 100		13		PUMP [	DATA	#1 PUMP:			#2 PUMP:			Pump 2
Fann 6		3			Liner mm	Stroke mm	EFF. %	L / stroke	Strokes/min.	L/min.	Total	
Fann 3		2		<sup>#</sup> 1	165.0	216.0	95	13.16	0	0.0	L/min.	m <sup>3</sup> /min.
10 Sec. Gel Strength		1	Ра	# 2			100	19.90		0.0	0.0	0.00
10 Min. Gel Strength		3	Pa	CIR	CULATIN	G SYSTE	M		FLOWLINE	CLEANERS	- MESH S	ZES
30 Min. Gel Strength		3	Pa	Hole Enlargem		30	0/_	Shaker #1	175	175	175	
		5			ient	0.0	3		175	175	175	
Apparent Viscosity			mPa-sec	Tank Volume		25.9	m	Shaker #2				
Plastic Viscosity		20	mPa-sec	Circulating Pre	essure:	12,390	кРа					
Yield Point		6.5	Ра	Adjusted Hole	Size	164.0	mm 3	SOLIDS	REMOVAL	Over Flow	Under	Flow
Fluid Loss		2.6	ml/30 min	csg. capacity		19.5	m	EQUI	PMENT	kg/m*	kg/m*	L/min.
Filter Cake		0.75	mm	csg. Displacen	nent	5.5	m <sup>3</sup>	Centrifuge #1		na	na	0.0
pH Strip / Meter		8.5	scale	Casing Ann Vo	olume	3.3	m <sup>3</sup>	Centrifuge #2		na	na	0.0
Alkalinity pF		0.4	ml	Annular Volum	e	16.7	m <sup>3</sup>	Desander		na	na	
Alkalinity mF		0.7	ml	Total Volume		62.1	m <sup>3</sup>	Desilter		na	na	
Chloride		45000	ma/l	Bottoms Up		#DIV/0!	min	Other		na	na	
Calcium		400	mg/L	Surface to Bit		#DIV/0	min					
Carbonates		-00	mg/L	Circulation Ti	me	#DIV/0	min		COUNTING		0.00-15.00	12.00-24.00
Carbonates		•	ing/∟		IIIC	#010/0:					0.00-12.00	12.00-24.00
Bicarbonates		0	mg/L	Hydrostatic Pr	essure	21879.0	кРа	Premix added	(m°)			
Methylene Blue		10.5	kg/m°	Mud Gradient		11.1	kPa/m	Water added	(m°)			
Sand Content		0.75	%	EC Density		1135.0	kg/m³	Volume disca	rded (m <sup>3</sup> )	_		
Oil Content		tr	vol frac	Ann. Vel. D.F	<b>)</b> .	0.0	m/min	Solids equipm	ent underflow (	m <sup>3</sup> )	0.5	
Water Content		94.000	vol frac	Ann. Vel. D.P.	Csg.	0.0	m/min	Total fluid add	led (m <sup>3</sup> )			0.0
Solids Content		6.000	vol frac	Ann. Vel. HW[	)P	0.0	m/min	Total fluid disc	carded (m <sup>3</sup> )			0.0
Low "n" value		0.62	slope	Ann. Vel. D.C	<sup>#</sup> 1	0.0	m/min					
Low "K" value		3.75	dyn-sec/cm <sup>2</sup>									
High "n" value		0.64	slope	REMARKS								
High "K" value		3 21	dyn-sec/cm <sup>2</sup>									
		3.21	Creve Creve									
A.S.G.		2.0	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m³									
Hi-Grav Solids		4	kg/m³									
PHPA Content		8.0	kg/m³		Presently	Run csg.						
Materials Us	sed S	Since Las	t Report	RECON	IMENDAT	IONS						
Material /	Amt.	Price	Cost									
Soda Ash		\$29.55	\$0.00		TODAY							
N-Dril Lo		\$211.96	\$0.00		Today							
Barabuf		\$78.33	\$0.00		no addition	s rea'd tod	av Run cs	a				
Baracarb		¢12.05	\$0.00		Thony Lloy	d	ay. Run oo	9.				
Biastonataa		¢42.05	\$0.00 \$0.00			u						
Dicarbonates		\$43.05	\$0.00									
Barite		\$24.20	\$0.00									
citric acid		\$190.57	\$0.00									
barathin		\$102.59	\$0.00									
XL Defoamer		\$306.55	\$0.00									
N-Vis Plus		\$240.47	\$0.00									
Salt 20 kg		\$17.90	\$0.00									
EZ Mud		\$180.56	\$0.00									
Engineering	1	\$995.00	\$995.00	**Any problem	s, questions	ns or conce	erns please	call anytime	Thanx Llovd			
Daily Cost		,	\$ 995.00	Field Repress	ntative	Llovd Anthe	nv	,	Warehouse			
Previous Cost			\$ 60 271 00	Phone:			,		Phone:			
			\$ 61 266 00	Cellular:		002 456 67	52		Engineer #	103 221 0402		
1 JIAI UUSI Ø			ψ 01,200.09	Cenulai.		JUL 400 0/	52		Lingineer #:	-100 201 9403		

RILLING FU		REPO	ORT							пашьш		Durora
ALLING I L	octoon	Energy		Vell Name:	Hurricane	#2		Date:				07/22/2013
erator: Inv	esican	LINEI		la #:	Foragaz #	3		Spud Date:			07	
S.D.: Vic	torler		F	eport For:	Greg Mac	Kinnon		Report # :	38	Total Days:	3/	
POR FOR: VIC		OPERT	IES	ŀ	OLE GEO	METRY				BIT DATA		<u> </u>
DRILLING FL				1	OD mm	ID mm	Length m	Bit #		Depth In	1882.0	meters
ne	1,1			asing	222.0	164.0	323.0	Size mm		Depth Out		meters
pth M.D.	1970				102.0	85.0	1916.6	Туре		Hours Run		hrs.
pth T.V.D.	1,9	965 m	eters L	J.P.	102.0	57.0	6.6	RPM		Noz Vel.		m/sec
nsity	11	<b>35</b> Kg	/m- j	ars	121.0	57.0	46.8	Weight dN		Bit HHP	0.0	KW
nnel Viscosity	4	4 se	c/L L		SURV	EVS		ROP		Jet Impact	0.0	N <sup>Pump 1</sup>
nn 600	4	12	H		30111			Nozzles				In Triplex
nn 300	2	24		Depth (m)				TFA				I Duplex
nn 200	1	18	l l			#1 DI IMD			#2 PUMP:			
nn 100		9	- I	PUMPL		#TFOWF.		1 / stroke	Strokes/min.	L/min.	Total	Total
nn 6		2	1	# 4	Liner mm	Stroke mm	EFF. %	13.16	0	0.0	L/min.	m min.
nn 3		1	1	# 0	165.0	216.0	90	10.10		0.0	0.0	0.00
Sec. Gel Strength		1 P	a	" 2			100	19.30	ELOWLINI	CLEANERS	- MESH S	IZES
Min. Gel Strength	1	2 P	а	CI	RCULATIN	GSYSTEN		Chalear #1	175	175	175	
Min. Gel Strength		2 P	a	Hole Enlargen	nent	5.0	3	Ohaline #0				
parent Viscosity		n	Pa-sec	Tank Volume			lm <sup>-</sup>	Shaker #2				
astic Viscosity		<b>18</b> n	Pa-sec	Circulating Pr	essure:	12,390	кРа	001100	DEMOV/AL	Over Flow	Unde	er Flow
eld Point		3 F	'a	Adjusted Hole	Size	164.0	mm 3	SOLIDS	DMENT	ka/m <sup>3</sup>	kg/m <sup>3</sup>	L/min.
uid Loss		2.6 n	nl/30 min	String Capaci	ty	0.0	Im Š	EQU	FWENI	1100.0	2040.0	750.0
Iter Cake		0.75 n	nm	String Displac	ement		m°	Centrifuge #1		1100.0	0.0	0.0
→ Strip / Meter		8 9	cale	Casing Ann \	/olume		m³	Centrifuge #2	2	1d	110	
		0.4	nl	Annular Volu	me		m <sup>3</sup>	Desander		na	110	_
Indinity p		0.7	nl	Total Volume			m³	Desilter		na	IId	
	I	82000 r	na/l	Bottoms Up		#DIV/0!	min.	Other		na	na	
nionde	1	400 1	ma/L	Surface to Bi	t	#DIV/0!	min.					10:00 24:00
		0	ma/l	Circulation '	Гime	#DIV/0!	min.	FLUID A	CCOUNTING		0:00-12:00	) 12:00-24.00
arbonales		0	mg/L	Hydrostatic F	ressure	21879.0	kPa	Premix adde	d (m <sup>3</sup> )			
Bicarbonates		70	rig/L	Mud Gradier	t	11.1	kPa/m	Water added	1 (m³)			
lethylene Blue		7.0	kgzin	EC Density		1135.0	kg/m <sup>3</sup>	Volume disc	arded (m <sup>3</sup> )			
Sand Content		0.5	70	App Vel D	P	0.0	m/min	Solids equip	ment underflow	r (m <sup>3</sup> )	0.5	
Dil Content		tr		Ann Vel D	⊃ Csn	0.0	m/min	Total fluid ad	dded (m <sup>3</sup> )			0.0
Nater Content	9	6.000	Vol frac	Ann. Vel. D.		0.0	m/min	Total fluid di	scarded (m <sup>3</sup> )			0.0
Solids Content		4.000	vol trac	Ann. Vel. Th	c #1	0.0	m/min				1	
_ow "n" value		0.69	slope	Ann. vei. D.	0 .	0.0				C. Littlewood M. Market		
Low "K" value		1.66		DEMARK								
High "n" value		0.81	siope	KEIMANNA	1							
High "K" value		0.80	dyn-sec/cm									
A.S.G.		2.6	Spec.Grav.									
Lo-Grav Solids		3	kg/m³									
Drill Solids		3	kg/m <sup>3</sup>									
Hi-Grav Solids		4	kg/m <sup>3</sup>		Drocast		nlete					
PHPA Content		8.0	kg/m³	DEC	OMMEND	ATIONS						
Materials U	sed Sir	nce Las	Report	REC								
Material	Amt.	Price	Cost	-	TODAY							
Soda Ash		\$29.55	\$0.0	0	TODAY							
N-Dril Lo		\$211.96	\$0.0	0	Today		الايت بين ال	complete mus	transferred to r	emote tanks.		
Barabuf		\$78.33	\$0.0	0	no addit	ions req'd to	u ay, wel	complete, muc				
CW 8551	2	\$280.70	\$561.4	ю	Thanx L	loyd	Approx	. ou mo.	hav for tomorrow	(July 23)		
Bicarbonates		\$43.05	\$0.0	00	2 days e	engineering o	charged, to	day and travel (	ady for tornorrov	( ( UGIY 20 )		
Barite		\$24.20	\$0.0	00								
citric acid		\$190.57	\$0.0	00								
barathin	6	\$102.59	\$615.	54								
XI Defoamer		\$306.5	\$0.	00								
		\$240.4	\$0.	00								
Colt 20 kg	220	\$17 9	\$4 099	10								
	220	\$180.5	5 \$0	00								
	2	\$995.0	\$1.990.	00 **Any prob	lems, quest	tions ns or co	ncerns ple	ase call anytime	e Thanx Llo	yd		
	1-1	2000.0	\$ 7 266 (	4 Field Rep	resentative	: Lloyd A	nthony		Warehous	e:		
Daily Cost			¢ 61.260.0	Phone					Phone:			
Duri inna Orant										bench and a second seco		



# **APPENDIX J: Wellbore & Wellhead Schematics**

Number of pages : 1

**Summary of the content:** The figure summarizes the final wellbore and wellhead configuration on Hurricane#2



APPENDIX J: Wellbore & Wellhead Schematics

WELLBORESC	HEMATIC		ā	HURRICAN	E#2 (WHIP#1	)REENTRY		8	8
8 10 8	BlindFlange	Investeen Energy Corp	100% Working	Interest				EP	03-107
				ELEVATIONS	& RIGSPECS			Triales Denne 1	W-1-5 660115
	Tubing Head	Ground Level	145.7 m	Forageiz	3	Fump	1	Dealer W2r	wencierce doubly
	W Casing Bowl	Number of leads(wister)	18	Rated cepth	140.65 -	Hund Texts	2 (C) = 4	60	m3
				POPLAT	ONTOD?	mag tank	2126		
	- ( <u>-</u> )		m 33	mKB TVD	mXBMD	Thk	k⊉ a	Max grad	Equiv MW
	200 -	Friers Cove		788.81	790.00	622			
• 8	Hole 311.1 mm	Stakes Bight		1411.13	1415.0	95		-	
- 5	Cosing 244.5mm	Kennels Brook		1505.93	1510.00	459	12500	8.1 kPalm	822.1 kg/m²
**	Sec @ 15mmb	TD		1965.30	1970.00				
	Hele 345 Gener								
300	Casire 177.8mm				EL BEADDA	T.4			
120	Set@323mMD	Casing Bowl: Weatherfor	d Type W9 (22)	18mm-20.7 MPa	) x 177.8mm Sig	oon Weld e <i>i</i> w t	we 50.8mm	n line pipe side ou	e le ta
400		Tubing Head: Weatherfor	d Type B (228.8	mm-20.7 MPa) s	(179mm-20.7 )	(IPa) chv two 50	amm line	pipe side outlets	
(2)	8	Blind Flange: 179mm-13	.8MPa						
<b>20</b>				0	ASING DESIG	av av			
	2		Con du ctor	Surface	Hole (Drilled)	Production			
		Hole Size	311.0 mm	216 -219 mm	139.0 mm	139.0 mm			
• <b>3</b>	2	Hole Depth TVD	19 m TVD	323 m TVD	935 m TVD	1965 m TVD			
	-	Hole Depth MD	19 mMD	323 mMD	935 mMD	1970 mMD			
8		Chaing Size	244.5 mm	177.8 mm		127.0 mm			
	3	Defe	222.6 mm	162.9 mm		105.4 mm			
100	Aire ady Drilled to	Chaing Weight Chaing Grade	33.00 kgm J-55	25.30 kgm H-40		20.79 kgm L-80			
12 9	935m MD	Coupling	SRd Short	SRd Short		LT&C			
*** 8		Make up Tongue	5340 N-m	1650 N-m		5400 N-m			
#20 B	5	Burst Pressure	24,000 kPs	16,000 kPa		70,000 kP =			
100	6	Collapse Pressure Joint Strength	14,000 EPE 175,000 &N	10,000 kPa 54,000 deN		12,000 B/s 167,000 AN			
	8				DRILL BITS				
azo. 8		Milled Toeth Bit	117	159 mm	D/O CMT Plags				
200		PDC / Insert Bits	M333/537	159 mm	935-1970m				
110	8			D	RILLING FLU	D			
800		Section	Internal	MadSystem					
		Dendertion	0-935	Chy Free Polyn	107				
	2		1000 0000		CEMENT				
		Section	Coment	Density	CLALIN	Addie	194		Excess
100 B		Load Surry: 0-1100	ClassG	1600.0 kg/m <sup>2</sup>	0.5% Halad 344	, 21.8 kg/ms Ber	nt en ite		30%
<u>ě</u>	5	Tail Shary: 1100-1970	Class G	1895.0 kg/m <sup>2</sup>		0.5% Hab	ad 344		30%
700 B			_	FORM	ATION EVALU	IATION			
		Cores	No						
***	Hole 139 mm	DST (mMD)	s lifuidd	#2: 1666-1680.5	=3:0163-071	= 6:1090-1125.5		0-000 mmm	
100 Barrier 100 Ba	Set@1967m MD	Logs (Baker Hughes)	MIDDIL, CAL, 210	· · · · · · · · · · · · · · · · ·	1040 0 1000 I UKA	1, 020, 21,400, 00 1, 020, 21,400, 00	1221.0.1	1000 B 1100 0	
1.4.6 (9) 20 (9)	7	rout (mout)	1473.5, 1473.6	ADDET:0	TOWALL TOPOLO	1522.5, 12455,	1221.0,1	1115, 1105.5	
1963 30m TVD	)	SBT from 0 to 323 m		ADDITIC	MAL NOR	MATION			
4	Inv	estcan Energy Corpo	ration		Drama By:		M	Kouzehgar	
INVESTCAN	Hurricane#2 (Whit	#1) Re-Entry Term	ination Con	figuration	Date:			24-Sep-13	
Energy Corp		,,			Draming No:		њ	a#2RE Tean Re	n#0



# **APPENDIX K : Geological Reports**

Number of pages :28Summary of the content:Geological reports of Hurricane#2.

à		DAI				<b>-</b>	N 10		4	Date :	06,	/20/2	013	
	VESTC	AN DAI	LY GEOL	UGIC	AL REPO	JRI	IN		T	Well:	Hurricar	1e #2	Re-Entry	
	Energy C	orp								Rig :	FO d·	aragaz	2 <b>#3</b> 854	
			WSG :	Jonatha	an Taylor/Pea	rce Bra	dley			NAD 2	27	5347	7195	
MD KB @ 24h	940.54m	TVD ss @ 24h	790.57	m	24 Hrs Progress (m)		4.5							
Spud date	16/06/13	Last casin at MD	g 323.2n	1	Hole size (in)		6 1/4			Avera ROI	nge P _		2.0m/hr	
KB - ASL	149.97m	GL - ASL	145.7		Mud type	Gel b	ased polyme	er		MV	v <u>-</u>	1	075kg/m3	
Formatio	on @ 24h	Fria	rs Cove		Prog	nosed ne	xt marker			Snake	s Bight @ ′	~1050m	1	
DEPTH II	NTERVAL	-		Des	cription / SI	nows	/ Remark	s					Av ROP m/h	
Top MD (m)	Base MD (m)				•									
935.2	940.5	Silty Sandstone 70%	: whitish to light g	rey, commo	on orange pink	stained	grains, uppe	r fine to	lower mediur	n			2	
		grained, common up	per medium and	occasional l	lower coarse gr	ains, qu	artzitic with !	5% med	ium grey lithic					
		grains, trace to mino	r micaceous flake	s, rare to tr	ace pyrite, in pa	art argill	aceous and I	kaoliniti	c matrix,					
		subangular to angula	ir grains, in part ro	ounded gra	iins, moderately	to poo	rly sorted, sil	liceous	and common					
		calcitic cement, com	mon loose grains,	in part fair	grain relief, tig	nt to po	or intergranu	ualr por	osity (0-3%),					
		minor yellow fluores	cence, no cut; Silt	stone(30%	): light grey grad	ding to r	nedium grey	, gritty 1	textured, silice	ous				
	cement, argillaceous in part, in part grading to lower very fine grained sandstone, tight. From midnight to 6 am													
940.5	P40.5         945         Silty Sandstone 100%: as above         2.7													
		CAS DATA							CI ID//	VDATA				
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	)	Azimuth (°)		TVD ss		DLS (°/30m)	
940	22100	11700	10400	BGG										
942	75000	62700	12300	POG					From midn	ight to 6 am				
941	55900	44000	11900	TG										
Legend: BGG=backg	round gas; FG=Form	ation Gas; PCG=Pipe con	nection Gas; TG=Tri	p Gas; STG =										
	Short Trip Gas; S	N=Swab gas; POG=Pump	s Off Gas		Bit type	Hugh	nes- STX-1	in	936 <b>o</b> i	it 94	10.5	footage	e 4.5	
				OP	ERATION SUM	MARY								
		Continue PC	DOH to P/U BHA. RI	H and ream	old hole to 820m	Tag Sof	t cement @ 82	20m and	hard cement at	830m.				
			Drill ne	w fromation	from 936m to 94	0.5m. P	OH for BHA a	mua. and bit.						
				P/U BHA	and RIH to drill a	head 15	9mm hole.							
				Continu	From midnight	to 6 an	n ry ~56m.							
					Drill ahead to	947.7m.								
	Slide to correct deviation.													
Planned operati	Planned operations Drill ahead 159mm hole.													
Recorded Temper	Recorded Temperature													
Others		Recorded sign	ificant gas reading	gs while rea	ming old hole a	nd betv	veen 2nd and	d 3rd ce	ment plugs (>1	.0000units) w	vith water ir	n open h	ole.	

	WESTC		LY GEO		AL REPO	ORT	N#	2 \	Date: 2: Well: Hurrica	1/06/2 ane #2	2013 Re-Entry			
	Energy							-	Rig: F	oraga	z#3			
	Lifergy C	010	WSG :	Jonatha	an Taylor/Pea	rce Bra	dley		Coord: NAD 27	375 534	854 7195			
MD KB @ 24h	1049m	TVD ss @ 24h	-898.3	3m	24 Hrs Progress (m)		108.5							
Spud date	16/06/13	Last casin at MD	ng 323.2	m	Hole size (in)		6 1/4		Average ROP		5.3m/hr			
KB - ASL	149.97m	GL - ASL	. 145.	7	Mud type	Gel ba	ased polymer		MW		1100 kg/m3			
Formati	ion @ 24h	Silty Sandstones	interbedded w/	/ shales	Progr	nosed ne	xt marker	Sr	nakes Bight Limest	tones @	???m			
DEPTH	INTERVAL			Des	cription / Sł	nows	<sup>7</sup> Remarks				Av ROP m/h			
Top MD (m)	Base MD (m)									-				
940.5	1005	<b>SS(70%):</b> It and m gy	grdg occly to off	wh, L and U	vf gr to U f gr, c	om L m	grs and occ U m gr	s, ip grdg to sdy			5.9			
-		sitst, qtzc with tr ith	c grs, mnr Pyr thr	ru, tr mics, co	om arg and sity	mtx, ip k	ao mtx, a and sr g	s, occ R fros qtz						
		grs, mod to p srt, sild	tox sile and cale	cont arg in	a p intgran por(	U-3%), ti	r m yei flor, n cut; :	6LISI(30%): It and						
1005	1049	SS(70%): wh to It gy	Land U vf gr co	m grdg to sit	st atzs to sub a	rk arga	nd sltv. calc. mica	tr pyr and cal yns			5.9			
1005	1043	tt. no shows: SH(30%	6): m gy occ dk gy	v. blkv and m	nr sbfis, micmic	a. sltv. S	H is more abnt in	c grd ctgs.			5.5			
	From midnight to 6 am													
1049	1049         1085         SS#1(60%): like the above ss, (ie slty and tt, sub ark).         6.5													
		SH(20%): m - dk gy, s	sub fis, blky, mic											
		SS#2(10%)(ie @ 106	0-1070m)- f - m g	gred, qtztc, m	odly srt, p intgr	n por (0	-3%), abnt lse grs,	no s.						
		LS(10%): chlky - crm,	, occ wh, sft, tt, r	no s. Assumed	d to be LS string	ers.								
		GAS DATA			1			SURVEY D	ATA					
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	Azimuth (°)	TVD ss		DLS (°/30m)			
971	93300	71100	22200	FG	1012	.6	7.4	357.3	-860.98		2.7			
974	66700	50900	15800	FG	1022.	02	8.3	359.8	-870.32		3.06			
998	43500	30100	13400	FG	1031.	48	9.8	13	-879.66		8.09			
1036	23000	n midnight to 6 am 15600	7400	FG	1040.	94	10.5	From midnigh	t to 6 am -888.97		4.54			
1056	23000	15900	7100	FG		-		-						
Legend: BGG=back	ground gas; FG=Form	ation Gas; PCG=Pipe cor	nnection Gas; TG=T	rip Gas; STG =										
	Short Trip Gas; S\	N=Swab gas; POG=Pump	os Off Gas		Bit type	Hughe	s QD406FX in	940.5 <b>out</b>	XXX	footag	ge xxx			
				ОР	ERATION SUM	MARY								
		r	Drill from 940 5m	RIH to 1049m si	w/ mud motor	and nev stand au	v bit. ad sliding to correc	t deviation						
		-	5 m n om 540.5n	10 10 - 511 3	urveying every	stanta ai								
				Dri	From midnight ill from 1049m t	to 6 am o 1088.	5m							
Planned operat	ions			Drill a	ahead 159mm h	ole, eva	luating formation	for core point						
Recorded Tempe	Recorded Temperature													
Others					Background	as is ab	0.01 100.001ts (1000	() ()						
Stillis					Sacingi Juniu g									

									Date: 22	2/06/2013
	VESTC		LY GEO	LOGIC	AL REPO	ORT	N#	3	Well : Hurrica	ane #2 Re-Entry
	Energy								Rig: F	oragaz#3
	Lifergy C	orp	WSG :	Jonath	an Tavlor/Pea	rce Bra	dlev		Coord:	375854
MD KB @ 24h	1190m	TVD ss @ 24h			24 Hrs Progress (m)		151		NAD 27	5347195
Spud date	16/06/13	Last casir at MD	ng 323.2	2m	Hole size (in)		6 1/4		Average ROP	6.7
KB - ASL	149.97m	GL - ASL	. 145	.7	Mud type	Gel ba	sed polymer		MW	1120 kg/m3
Formatio	on @ 24h	Friars Cove- in	ntrbd ss, sltst w	v/ sh	Prog	nosed nex	t marker	S	nakes Bight Limest	ones @ ???m
DEPTH II	NTERVAL			_						
Top MD (m)	Base MD (m)			Des	cription / Sr	iows /	Remarks			Av ROP m/h
1049	1123	Interbedded sandsto	ones and shales v	with trace lim	estone stringer	s.				7.2
1123	1163	Increasing amounts	of medium grey	shale and ligh	ht grey siltstone	s. Siltsto	ne rarely grade to	a very fine		5.8
		grained silty sandsto	one.							
1163	1190	Silty sandstones and	l shales, with san	nples from 11	175-1185m displ	aying a f	aint dull brown flu	orescence		6.2
		(<10% cuttings), no o	cu; and roughne	ck reporting s	seeing "oil" at sh	akers, b	ut no gas response	2.		
1190	1225	Interhedded silty sa	ndstone and sha	les Sandston	From midnight	to 6 am	a grained well cer	nented with		73
	1225	calcareous coment		d no shows		verynni	e graineu, weir cer	nenteu with		7.5
		calcareous cement,		iu no snows.						
		GAS DATA						SURVEY	DATA	
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	Azimuth (°)	TVD ss	DLS (°/30m)
1067	21700	14800	6900	FG	1135.	97	5.4	53.1	-982.63	6.29
	6200	4000	2200	BGG	1145.	06	4.4	65.2	-991.69	4.73
	From	n midnight to 6 am			1154.	98	3.8	76 From midnig	-1001.59	2.95
1200.5	25600	20500	5100	FG	1183.4	41	3.3	69.3	-1029.96	0.96
	5400	3000	2400	BGG	1202.	43	3.4	61.4	-1048.95	0.67
Legend: BGG=backg	round gas; FG=Form	ation Gas; PCG=Pipe cor	nnection Gas; TG=1	Trip Gas; STG =						
	Short Trip Gas; S\	N=Swab gas; POG=Pump	os Off Gas		Bit type	Hughes	QD406FX in	940.5 out	ХХХ	footage xxx
				OP	PERATION SUM	MARY				
			Drill from 104	49m to 1190n	n, surveying eve	ery stand	and sliding to re	duce inc.		
					From midnight	to 6 am				
			Bum	D p test gas det	rill from 1190m tector @ 02:05;	to 1225 good re:	m sponse (157 units)			
							,			
Planned operati	ons			Drill	ahead 159mm h	ole, eva	uating formation	for core point		
Recorded Temper	ature									
Others					Backgrour	nd gas is	~ 60 units (6000pp	om)		

	<b>VESTC</b> Energy C	AN DAII	LY GEOL	OGIC	AL REP	<b>ORT</b>	N#	<b>4</b>	Date : 23/0 Well : Hurricano Rig : For Coord: NAD 27	06/2013 e #2 Re-Entry ragaz#3 <sup>375854</sup> 5347195			
MD KB @ 24h	1317m	TVD ss @ 24h	-1163.33	3m	24 Hrs Progress (m)		127						
Spud date	16/06/13	Last casing at MD	323.2n	n	Hole size (in)		6 1/4		Average ROP	5.8			
KB - ASL	149.97m	GL - ASL	145.7		Mud type	Gel ba	ased polymer		MW	1130 kg/m3			
Formatic	on @ 24h	Friars Cove- int	erbedded ss, sl	tst	Prog	nosed ne:	kt marker	Sn	akes Bight Limestone	es @ 1410m			
DEPTH I	NTERVAL	-		Des	cription / S	hows /	<sup>7</sup> Remarks			Av ROP m/h			
1190	1317	Interbedded silty san	dstone and siltso	ones with m	ninor shales. Sa	ndstone	verv fine to fine	grained.		5.8			
	-	well cemented with c	alcareous cemer	nt. poor por	rosity and no sh	ows. Mir	nor Limestone @ 2	L274.5m-1276m.					
		Siltstones are light gr	ev to medium gre		nally light brow	nish grev	hard calcareous	cement					
		with calcareous string	vers and/or veinle	ets		lish Brey	, nara, calcarcous	cement,					
From midnight to 6 am													
1317     1323     Interbedded silty sandstone and siltsones.     5.8													
1323	1325	Sandstone with poor	intergranular poi	rosity (0-3%	%), 20% of cuttir	igs show	bluish green fluor	escence, no cut.		7.5			
1325	1343	Interbedded tight har	d silty sandstone	e and siltso	nes.					3.9			
		GAS DATA						SURVEY D	ΔΤΑ				
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth N	ID (m)	Inc. (°)	Azimuth (°)	TVD ss	DLS (°/30m)			
1200.5	25600	20500	5100	FG	1278	.68	3.4	77.5	-1125.06	1.65			
					1288	5.1	3.3	87.8	-1134.46	1.94			
					1297	.53	2.7	111.1	-1143.88	4.28			
1224	Fror	n midnight to 6 am	2200	50	1210	12	1.0	From midnigh	it to 6 am	2.04			
1324	13900	10600	3300	FG	1310.	43	1.0	150.9	-1162.77	2.84			
Legend: BGG=backg	round gas; FG=Form Short Trip Gas; S\	hation Gas; PCG=Pipe conr W=Swab gas; POG=Pumps	ection Gas; TG=Tri Off Gas	p Gas; STG =	Bit type	Hughe	s QD406FX in	940.5 out	ххх	footage xxx			
				OF	PERATION SUM	MARY							
			Dri	ill from 11	90m to 1317m,	surveyir	g every stand.						
					From midnight	to 6 am	m						
Planned operation	ons			Drill	ahead 159mm l	nole, eva	luating formation	for core point					
Recorded Temper	ature												
Others					Backgrou	nd gas is	~ 35 units (3500p	om)					

	<b>VESTC</b> Energy C	AN DAI	LY GEOL	.OGIC/	AL REPO	DRT	N#	5 v	Pate : 24 Vell : Hurrica Rig : F Coord:	1/06/2 ne #2 oraga	2013 Re-Entry z#3	
MD KB		TVD ss	W3G :	Jonatha	24 Hrs	гсе вга			NAD 27	534	7195	
@ 24h	1355	@ 24h			Progress (m)		38					
Spud date	16/06/13	Last casin at MD	g 323.2n	n	Hole size (in)		6 1/4		Average ROP		4.2	
KB - ASL	149.97m	GL - ASL	145.7		Mud type	Gel b	ased polymer		MW	:	1120 kg/m3	
Formatio	on @ 24h	Friars cove	- intrbd ss, sltst		Prog	nosed ne	xt marker	Sna	akes Bight Limesto	ones @	1410m	
DEPTH II	NTERVAL			Des	cription / St	nows	/ Remarks				Av ROP m/h	
Top MD (m)	Base MD (m)			DCS		10113	, Kemarka				,.	
1317	1323	Interbedded silty sa	ndstone and silts	ones.							5.8	
1323	1325	Sandstone with poor	r intergranular po	rosity (0-3%	6), 20% of cuttin	gs show	v bluish green flour	escence, no cut.			7.5	
1325	1339	Interbedded tight ha	rd silty sandston	e and siltsor	nes.						3.9	
1339	1355	Medium to coarse g	rained pebbly san	<b>dstone</b> , qua	artz and chert ri	ch, poo	rly sorted, no show	vs.			3.7	
					From midnight	to 6 am						
1355	1370	Medium to coarse g	rained pebbly san	dstone, qua	artz and chert ri	ch, poo	' rly sorted, no shov	vs.			4.5	
1370	1375	Medium to dark grey	/ siltstone, micace	eous, calcar	eous, tt.		·				3.9	
										1		
		GAS DATA		T =			. (4)	SURVEY D	ATA			
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	Azimuth (°)	TVD ss		DLS (°/30m)	
1524	13900	10000	30500	FG	1510.	45	1.0	150.9	-1102.77		2.04	
1240	53200	42700	20500	IG FC								
1349	54400 Fror	n midnight to 6 am	14000	FG				From midnigh	t to 6 am			
1369	35200	23500	11700	FG								
Legend: BGG=backg	round gas; FG=Form	ation Gas; PCG=Pipe con	nection Gas; TG=Tri	ip Gas; STG =								
	Short Trip Gas; S	N=Swab gas; POG=Pump	s Off Gas		Bit type	Hughe	s QD406FX in	940.5 out	XXX	foota	ge xxx	
				ОР	PERATION SUMI	MARY						
Drill from 1317m to 1344.5m Pull out of hole for slow ROP / wiper trip. M/U new BHA with gamma, RIH w/ same bit. Wash down last 3 stands, resume drilling. Drill from 1344.5 to 1355m												
					From midnight	to 6 an	1					
	Drill from 1355m to 1378m.											
Planned operati	ons			Drill a	ahead 159mm h	ole, eva	luating formation	for core point				
Recorded Temper	ature											
Others												

						. <sub>N#</sub>	с 6 у	vate : 25/06	/2013 t2 Re-Entry						
	VESTC	AN DAI				1117	0 0	Rig: Forag	az#3						
	Energy C	orp	WSG :	Jonathai	n Taylor/Pearce Br	adley		Coord: 3 NAD 27 5	75854 347195						
MD KB @ 24h	1426	TVD ss @ 24h	-1272r	m	24 Hrs Progress (m)	71									
Spud date	16/06/13	Last casin at MD	g 323.2n	n	Hole size (in)	6 1/4		Average ROP	3.3						
KB - ASL	149.97m	GL - ASL	145.7		Mud type Gel b	based polymer		MW	1120 kg/m3						
Formati	on @ 24h	Snakes Bight- i	ntrbd ss, sltst ar	nd Is	Prognosed n	ext marker	Core Po	int - Snakes Bight Sands	stone @ ???m						
DEPTH I	NTERVAL	-		Desc	ription / Shows	/ Remarks			Av ROP m/h						
Top MD (m)	Base MD (m)								4.5						
1355	1370	Medium to coarse gi	rained pebbly san	dstone, quar	tz and chert rich, poc	orly sorted, no show	/S.		4.5						
1370	1380	Medium to dark grey	e and very fine gr	ained sandsto	ous, tt.				2.7						
1400	1426	Interbedded siltsone	and very fine gra	ined sandsto	nes primarily in wash	ed and dried samp	es		2.7						
		although, somewhat	chalky, muddy sa	amples were o	observed at shakers.	Trace to 10% of cut	tings in dried								
-		samples were cream	ı to light brown, m	nicro-crystalli	ine, <b>limestone</b> . PDC b	it is believed to be p	oulverizing LS								
	cuttings, thus explaining poor returns to shakers. (Reduce in ROP, and difficult for directional to steer.)														
	From midnight to 6 am       1426     1438     Interbedded siltsone and very fine grained sandstones primarily in washed and dried samples     1.9														
1426	1426     1438     Interbedded siltsone and very fine grained sandstones primarily in washed and dried samples     1.9														
	although, somewhat chalky, muddy samples were observed at shakers. Trace to 10% of cuttings in dried														
		cuttings thus explain	ning noor returns	to shakers (F	Reduce in ROP and di	ifficult for direction	al to steer )								
			ing poor recurso												
	<b>-</b>	GAS DATA				. (0)	SURVEY D	ATA							
1369	35200	23500	C3 ppm	FG	1392 01	Inc. (*)	Azimuth (*)	-1238 34	DLS (*/30m) 3 17						
1396	27400	17300	10100	FG?	1401.41	2.7	336	-1247.73	3.89						
	22100	12000	10100	BGG	1410.78	3.6	337.5	-1257.09	2.89						
	Fron	n midnight to 6 am					From midnigh	t to 6 am							
	6500	3000	3500	BGG	1420.25	3.2	341.5	-1266.54	1.47						
Legend: BGG=back	ground gas; FG=Form	ation Gas; PCG=Pipe cor	nnection Gas; TG=Tri	ip Gas; STG =		00.0000	0405		·						
	Short Trip Gas; SV	V=Swab gas; POG=Pump	os Off Gas		Bit type Hugh	es QD406FX in	940.5 <b>out</b>	XXX foo	tage xxx						
				OPE	RATION SUMMARY										
Drill from 1355m to 1426m. Believe to have intersected top of Limestone @ ~ 1414m															
				F	From midnight to 6 ar	n									
	Continue drilling from 1426m to 1438m, sliding to correct deviation.														
Planned operat	ons		Drill ahead 15	59mm hole, e	evaluating formation	for core point (ROP,	gas, oil shows, coa	rse sandstone)							
11															
Recorded Temper	ature			Recorded Temperature Others											

	VESTC		LY GEO	LOGIC	AL REP	ORT	N#	۔ 7 ۱	Date : 26 Nell : Hurrica	/06/2013 ne #2 Re-Entry				
	VESIC							-	Rig: F	oragaz#3				
	Energy C	orp	WSG :	lonath	an Taylor/Pea	arce Bra	dlev		Coord:	375854				
MD KB @ 24h	1484m	TVD ss @ 24h	-1338	3m	24 Hrs Progress (m)		58		NAD 27	5347195				
Spud date	16/06/13	Last casin at MD	ig 323.2	?m	Hole size (in)		6 1/4		Average ROP	2.3				
KB - ASL	149.97m	GL - ASL	. 145.	7	Mud type	Gel ba	ased polymer		MW	1135 kg/m3				
Formatio	on @ 24h	Limestone, w	ith interbeds o	f ss	Prog	nosed ne:	xt marker	Core Pc	int - Snakes Bight :	Sandstone @ ???m				
DEPTH I	NTERVAL			Des	scription / S	hows /	Remarks			Av ROP m/h				
Top MD (m)	Base MD (m)													
1426	1484	Interbedded siltsone	e and very fine gr	rained sands	tones primarily	in washe	ed and dried samp	les		2.3				
		although, somewhat	t chalky, muddy s	samples wer	e observed at sh	akers. Ti	race to 10% of cut	tings in dried						
		samples were cream	to light brown,	micro-crysta	alline, <b>limestone</b>	. PDC bit	is believed to be	pulverizing LS						
		cuttings, thus explain	ning poor return	s to shakers.	(Reduce in ROP	)								
	From midnight to 6 am													
1484	1495	Interbedded siltston	es and sandston	es, with min	or limestones (a	is describ	oed above)			2.05				
	Appears to be <b>transitioning out of limestone</b> environment, although sandstones and siltstone are still													
		quite calcareous.												
		•			- I I I I I I I I I I I I I I I I I I I					<u>۱</u>				
Donth MD (m)	Total ppm	GAS DATA	(2 nnm	Tuno	Dopth N	1D (m)	Inc. (?)	SURVEY E		DIS (°/20m)				
1448	24600	15200	9400	FG	1439	41	17	Azimuti ( )	-1293 44	2 29				
1461 5	23800	15800	8000	FG	1448	81	2	4.8	-1302 84	1.05				
@24600	6000	2100	2000	RCC	1450	22	20	255 7	-1212.22	2.79				
@241100	Fror	n midnight to 6 am	2900	BOO	1450		2.8	From midnigh	t to 6 am	2.75				
@ 6h00	6000	3000	3000	BGG										
Legend: BGG=back	round gas; FG=Form Short Trip Gas; S\	aation Gas; PCG=Pipe cor N=Swab gas; POG=Pump	nnection Gas; TG=T os Off Gas	rip Gas; STG =	Bit type	Hughe	s QD406FX in	940.5 <b>out</b>	ххх	footage xxx				
				01	PERATION SUM	MARY								
				Drill a	nd slide from 14	26m to :	1484m.	_						
		Believ	ve to have inters	ected top of	f Limestone @ ^	1414m;	evaluating sampl	es for core point.						
					From midnight	: <u>to 6</u> am								
	Drill ahead 159mm section, evaluating formation for core point													
Planned operati	ons	D	rill ahead 159mr	m hole, evalu	uating formation	) for core	e point (ROP,gas, c	oil shows, medium	to coarse sandstone)	1				
Recorded Temper	ature													
Others				В	ump test gas de	tector @	04h30, service ga	as detector.						

à									Date :	27/06/2	2013		
	VESTC	AN DAI	LY GEOL	OGIC	AL REP	ORT	N#	8	Well: Hurr	icane #2	Re-Entry		
	Energy C	orp							Rig :	Foraga	z#3		
			WSG :	Jonath	an Taylor/Pea	arce Bra	dley		Coord: NAD 27	37! 534	5854 17195		
MD KB @ 24h	1509.5m	TVD ss @ 24h	-1355r	n	24 Hrs Progress (m)		25.5						
Spud date	16/06/13	Last casin at MD	g 323.2n	n	Hole size (in)		6 1/4		Average ROP		2.09		
KB - ASL	149.97m	GL - ASL	145.7		Mud type	Gel b	ased polymer		MW	1140	kg/m3 @ 10h00		
Formatio	n @ 24h	Interbeds	of ss and sltst,		Prog	nosed ne	xt marker	Core Po	int - Snakes Bigh	it Sandstor	ne # 2 @ ???m		
DEPTH II	NTERVAL			Des	cription / S	hows ,	/ Remarks				Av ROP m/h		
Top MD (m) 1484	Base MD (m) 1495	Interbedded siltston	es and sandstone	s, with min	or limestones (a	as descri	bed above)				2.05		
		Appears to be <b>transi</b> t	tioning out of lim	estone env	vironment, altho	ugh san	dstones and silts	one are still					
		quite calcareous.											
1495	1509.5	Interbedded siltston	es and sandstone	<b>s,</b> generally	increasing grai	n size wi	th depth.				2.11		
		Sandstone is medium	n to very coarse g	rained (rar	e pebble fragme	ents of v	aricolored quartz	and other lithic					
		moderate to bright	rganular porosity	vescence	with a faint resid	brown o	te cut. Dark Brow	ne grains, trace					
		inoderate to slight		inescence, i	From midnight	to 6 am							
1509.5	1515	Conglomerate - m to	coarse to pebble	e size (inferi	red from grain f	ragment	s), predominatel	y of varicolored			4.48		
		quartz and chert, vol	canics and other	lithic fragm	ents. Matrix is i	nferred	to be light grey a	rgillaceous and					
		sandy material.											
		GAS DATA						SURVE	/ DATA				
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth N	1D (m)	Inc. (°)	Azimuth (°)	TVD	SS	DLS (°/30m)		
1502	19800	14900	4900	FG									
1505.5	11100	7500	3600	FG									
1511	11800	n midnight to 6 am	3000	FG	1/96	91	53	From midni 347.8	-13/3	07	1 31		
1911	11000	5500	5000		1450	.91	5	547.6	1545.	,	1.51		
Legend: BGG=backg	round gas; FG=Form Short Trip Gas; S\	ation Gas; PCG=Pipe con N=Swab gas; POG=Pump	nection Gas; TG=Tri s Off Gas	p Gas; STG =	Bit type	Hughe	s QD406FX in	940.5m <b>ou</b>	t 1509.5m	foota	<b>ge</b> 569m		
				OF	PERATION SUM	MARY							
	Drill ahead 159mm section from 1484m-1509.5m, evaluating formation (for core point??) POOH to change bit/motor. Lay down old BHA, M/U new BHA. Slip and cut 19m drilling line. RIH with new bit and new motor. Trouble shoot rig pump.												
					From midnight	to 6 am	1						
		Drill ah	Conti ead 159mm secti	nue to trou ion from 15	bleshoot rig pu 509.5 to 1518m	mp. Wa sliding),	sh down last STD evaluating form	). ation for core poin	nt				
Planned operati	ons	D	rill ahead 159mm	hole, evalu	uating formation	n for cor	e point (ROP,gas,	oil shows, mediur	n to coarse sandst	one)			
Recorded Temper	ature												
Others				N	o trip gas, bump	test gas	s detector @4h50	), good tests.					

	<b>VESTC</b> Energy C	AN DAI	LY GEOL	OGICA	L REPORT	N#	D 9 w	ate : 28/ /ell : Hurrican Rig : Fo	/06/2013 ne #2 Re-Entry ragaz#3					
			WSG :	Jonatha	n Taylor/Pearce Bra	dley		NAD 27	5347195					
MD KB @ 24h	1573	TVD ss @ 24h	-1419	)	24 Hrs Progress (m)	63.5								
Spud date	16/06/13	Last casin at MD	g 323.2n	n	Hole size (in)	6 1/4		Average ROP	3.53					
KB - ASL	149.97m	GL - ASL	145.7		Mud type Gel ba	ased polymer		MW _	1080 kg/m3 @ 10h00					
Formatic	on @ 24h	Conglomerat	te - Snakes Bight	t?	Prognosed ne:	kt marker	Core Point	: - Snakes Bight San	ndstone # 2 @ ???m					
DEPTH II	NTERVAL			Desci	ription / Shows /	Remarks			Av ROP m/h					
Top MD (m)	Base MD (m)			2000	, ,,									
1509.5	1573	Conglomerate - med	lium to coarse to	pebble size (i	nferred from grain fra	gments), predomii	nately of		3.53					
		varicoloured quartz	and chert, volcani	cs and other	lithic fragments. Matri	x is inferred to be	light grey							
	argillaceous and sandy material, weakly calcareous, becoming predominately sandy matrix downhole         <5% of cuttings exhibit pale to dull mineral fluorescence.													
<														
Conglomerate seems to grade to and from medium to coarse grained pebbly sandstone with similar														
		composition (varicol	ored clasts of qua	rtz,chert and	other lithic fragments	) as above conglo	merate.							
		Formation is conside	ered to have poor	porosity, no	oil shows.									
1572	1595	Constante as a	have	F	rom midnight to 6 am									
1573	1985	Congiomerate - as a	bove											
	<u> </u>	GAS DATA												
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Type	Depth MD (m)	Inc. (°)	Azimuth (°)	TVD ss	DLS (°/30m)					
1511	11800	8800	3000	FG	1524.79	3	39.4	-1370.85	7.96					
1544	28200	22200	6000	FG	1534.2	2.7	49.4	-1380.25	1.85					
1548	23500	17600	5900	FG	1543.58	3.8	82.5	-1389.61	6.81					
	Froi	m midnight to 6 am					From midnight	to 6 am						
	3300	1800	1500	BGG	1553.17	4.1	109.5	-1399.18	5.84					
Legend: BGG=backg	ground gas; FG=Form	nation Gas; PCG=Pipe cor	nnection Gas; TG=Tri	p Gas; STG =	Dia trus a livera		1500 F out	ххх	footage xxx					
Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas Bit type Hughes QD406FX in 1509.5 out xxx footage xxx														
	Short Trip Gas; S	w-Swab gas, r OG-r amp		OPE	RATION SUMMARY		1309.3 <b>Out</b>							
	Short Trip Gas; S	w-Jwab gas, FOO-Fullp	Conti	OPE nue to troubl	RATION SUMMARY	sh down last STD.	1509.5 <b>Out</b>							
	Snort Trip Gas; Si	Drill ahead 159m	Contin m section from 15	OPE nue to troubl	RATION SUMMARY eshoot rig pump. Was m (sliding to correct d	sh down last STD. eviation), evaluat	ing formation for c	ore point.						
	Snort Trip Gas; Si	Drill ahead 159mi	Conti m section from 15	OPE nue to troubl	RATION SUMMARY leshoot rig pump. Was	sh down last STD. eviation), evaluat	ing formation for c	ore point.						
	Snort Trip Gas; S	Drill ahead 159m	Conti m section from 15	OPE nue to troubl	RATION SUMMARY leshoot rig pump. Was m (sliding to correct d	sh down last STD.	ing formation for c	ore point.						
	Snort Trip Gas; Si	Drill ahead 159m	Conti m section from 15	OPE nue to troubl 509.5 to 1573 Feection from	RATION SUMMARY eshoot rig pump. Was m (sliding to correct d	sh down last STD. eviation), evaluat	ing formation for c	ore point.						
	Snort Trip Gas; S	Drill ahead 159m	Conti m section from 15	OPE nue to troubl 509.5 to 1573 F section from	RATION SUMMARY eshoot rig pump. Was m (sliding to correct d rom midnight to 6 am 1573m to 1586m, eva	sh down last STD. eviation), evaluat	ing formation for c	ore point.						
Planned operation	ons	Drill ahead 159m Drill ahead 159m	Conti m section from 15	OPE nue to troubl 509.5 to 1573 Fection from valuating form	RATION SUMMARY eshoot rig pump. Wa: m (sliding to correct d rom midnight to 6 am 1573m to 1586m, eva	sh down last STD. eviation), evaluat luating formation	ing formation for c	ore point.	istone)					
Planned operation	ons	Drill ahead 159m Drill ahead 159m	Contin m section from 15 ill ahead 159mm s	OPE nue to troubl 509.5 to 1573 F section from	RATION SUMMARY eshoot rig pump. Was m (sliding to correct d rom midnight to 6 am 1573m to 1586m, eva	sh down last STD. eviation), evaluat luating formation ROP,gas, oil shows	ing formation for c	pre point.	istone)					
Planned operation	ons ature	Drill ahead 159m Drill ahead 159m	Conti m section from 15	OPE nue to troubl 509.5 to 1573 F section from valuating form	RATION SUMMARY eshoot rig pump. Was m (sliding to correct d rom midnight to 6 am 1573m to 1586m, eva nation for core point ( Rain overnight,	sh down last STD. eviation), evaluat luating formation ROP,gas, oil shows	ing formation for c for core point s, medium to coarse s.	pre point.	lstone)					

									Date :	29/06	/2013			
	VESTC	AN DAI	LY GEOL	.OGICA	L REPO	ORT	N#	10	Well : H	- - lurricane #	#2 Re-Entry			
	Eneray (	orp							Rig :	Fora	gaz#3			
	2		WSG :	Jonathan	Taylor/Pea	rce Bra	dley		Coord	l: 3	- 375854 			
MD KB @ 24h	1604	TVD ss @ 24h	-1450	) (	24 Hrs Progress (m)		31		NAD 2	<u>/</u>	5547135			
Spud date	16/06/13	Last casin at MD	g 323.2r	n	Hole size (in)		6 1/4		Avera ROP	ge	1.9			
KB - ASL	149.97m	GL - ASL	145.7	,	Mud type	Gel ba	ised polymer		MW		1090 kg/m3			
Formatio	on @ 24h	Conglomerat	e - Snakes Bight	:??	Prog	nosed ne:	kt marker	Core P	oint - Snakes	s Bight Sandst	one # 2 @ ???m			
DEPTH I	NTERVAL			Descr	iption / Sl	nows /	' Remarks				Av ROP m/h			
Top MD (m)	Base MD (m)						<b>6</b> • • • •				1.0			
1573	1604	variceloured quarta	num to coarse to	pebble sized +	+ (inferred fr	om grair	n tragments), pre	o light grov			1.9			
		argillaceous and san	dy material weak			edomina	tely sandy matri							
			uy material, wear	ty calcaleous,	becoming pr	euomina		x downhole.						
Conglomerate seems to grade to and from medium to coarse grained pebbly sandstone with similar														
composition (varicolored clasts of quartz,chert and other lithic fragments) as above conglomerate.														
Formation is considered to have poor porosity, no oil shows.														
1604	1615	Conglomorato, as at	201/0	Fr	om midnight	to 6 am					2			
1004	1015	1615     Conglomerate, as above.     2												
	ļ				·									
	<b></b>	GAS DATA				<u></u>	. (0)	SURVE	Y DATA					
Depth MD (m)	I otal ppm	C1 ppm	C3 ppm	всс	Depth M	D (m)	Inc. (*)	Azimuth (*)		IVD ss	DLS (*/30m)			
1597.6*	65100	49100	16000	TG										
after trip	20000	10000	10000	BGG	1581.	36	4.8	137	-	-1427.29	1.82			
	Froi	n midnight to 6 am						From midn	ight to 6 am					
					1600.	53	5.5	139.2	-	-1446.38	1.14			
Legend: BGG=back	ground gas; FG=Form Short Trip Gas; S	nation Gas; PCG=Pipe cor W=Swab gas; POG=Pump	nection Gas; TG=Tr s Off Gas	ip Gas; STG =	Bit type	Hughe	s QD406FX in	1509.5 or	ut x	xx foo	otage xxx			
				OPER		MARY								
			Drill 159mm secti	ion from 1573	m to 1597.6n	n, evalua	ting formation f	or core point						
			POOH for slov	w penetration Drill f	rate. RIH w/ from 1597.6n	tricone 1 to 1604	to drill out congl 1m.	omerate.						
				Fr	om midnight	to 6 am								
				Drill 159mm	section fron	1604m	to 1615m							
Diannod anarst	ions	Drillahaa	d 159mm bala	valuating form	nation for cor	a noint (		vs. medium to co	arca arainad -	orous condete:	ne)			
rianned operati	013		u 1091111 1101e, e			e point (	NOF, gas, UII SHOV	və, meulum to co	arse granned p	iorous sariustor				
Recorded Temper	ature				Rain ov	ernight,	lows of 18 degre	es.						
Others		Slight oil cli	rk at shakers and	on mud tanks	observed aft	er trin /r	ecycled oil in mu	d?? Mud Retort s	uggests no in	crease of oil in	mud)			
Others		Singlit Oil Sill	an at shakets dilu	on muu (dHKS	observeu alti		ceycieu oli ili ili iliu	a.: wide Netort S	aggests IIU III	si case or on min	maaj			

À									Date: 3	80/06/	2013			
	VESTC	AN DAI	LY GEOL	.OGICA	L REP	ORT	N#	11	Well: Hurric	ane #2	2 Re-Entry			
	Energy C	orp							Rig :	Foraga	iz#3			
			WSG :	Jonatha	n Taylor/Pea	rce Brad	dley		Coord:	37	5854			
MD KB @ 24h	1661.5	TVD ss @ 24h	-1502.4	1m	24 Hrs Progress (m)		57.5		NAD 27		47133			
Spud date	16/06/13	Last casin at MD	ig 323.2i	n	Hole size (in)		6 1/4		Average ROP		2.4			
KB - ASL	149.97m	GL - ASL	145.7	,	Mud type	Gel ba	sed polymer		MW		1090 kg/m3			
Formatio	on @ 24h	Conglomerate	e - Snakes Bight	??	Prog	nosed nex	t marker	Core Poi	nt - Snakes Bight	Sandstor	ne # 2 @ ???m			
DEPTH II	NTERVAL			Doco	rintion / SI		Pomarke				Av POP m/h			
Top MD (m)	Base MD (m)			Desc	ription / Si	iows /	Remarks				AV KOP III/II			
1604	1661.5	Conglomerate - med	lium to coarse to	pebble sized	++ (inferred fr	om grain	fragments), prec	lominately of		_	2.4			
		varicoloured quartz	and chert, volcan	ics and other	lithic fragmen	ts. Matrix	x is inferred to be	light grey						
		argillaceous and san	dy material, weal	dy calcareous	s, becoming pr	edomina	tely sandy matrix	downhole.						
	Conglomerate seems to grade to and from medium to coarse grained pebbly sandstone, with cleaner													
composition (predominately sub rounded to sub angular quartz grains with only minor lithic fragments)														
	Formation is considered to have poor porosity, no oil shows.													
	For midnight to 6 am													
1661.5	1672	Conglomerate, as at	oove.								1.8			
		GAS DATA						SURVEY	ΔΤΔ					
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Type	Depth M	D (m)	Inc. (°)	Azimuth (°)	TVD ss		DLS (°/30m)			
	7100	3100	4000	BGG	1600.	53	5.5	139.2	-1446.3	8	1.14			
					1619	39	5.3	136.7	-1465.1	5	0.49			
					1638	15	4.9	136.9	-1483.84	4	0.64			
	Fror	n midnight to 6 am		-				From midnig	nt to 6 am		1			
					1656.	98	4.6	138.2	-1502.6	1	0.51			
Legend: BGG=backg	round gas; FG=Form	hation Gas; PCG=Pipe cor	nnection Gas; TG=Tr	ip Gas; STG =	Bit type	Hughes	STY-35DY in	1597.6 out		foota				
	Short Trip Gas, St	v-swab gas, rod-rump			Dir type	Indgries	51X-550X III	1357.0 000	~~~	10018				
				OPE	RATION SUM	MARY								
			Drill 159mm sect	ion from 1604	4m to 1661.5n	ı, evalua	ting formation fo	r core point						
							0	•						
				Drill 150mm	From midnight	to 6 am	to 1672m							
						1001.50	10107211							
Planned operati	ons	Drill ahea	ad 159mm hole, e	valuating form	mation for cor	e point (F	ROP,gas, oil show	s, medium to coar	se grained porous s	andstone	)			
Recorded Temper	ature				Downhole	Tempera	ature of 27.5 degr	ees						
Others			Ное	epfully visiting	g basement ou	tcrop to	take Mag reading	s to tie-in to Mag	survey.					

	<b>VESTC</b> Energy C	AN DAI	LY GEOL	.OGICA	AL REPORT	N#	12 v	ate : 01/07 Vell : Hurricane # Rig : Forag Coord: 3 NAD 27	/2013 #2 Re-Entry gaz#3 175854 1342195					
MD KB @ 24h	1708	TVD ss @ 24h	-1553r	n	24 Hrs Progress (m)	46.5		101027	547155					
Spud date	16/06/13	Last casing at MD	g 323.2n	n	Hole size (in)	6 1/4		Average ROP	1.99					
KB - ASL	149.97m	GL - ASL	145.7		Mud type Gel ba	ased polymer		MW	1090					
Formatio	n @ 24h	Conglomerate	e - Snakes Bight	??	Prognosed ne	xt marker	Core Poin	t - Snakes Bight Sandsto	one # 2 @ ???m					
DEPTH IN	ITERVAL			Dece	wintion / Shows	Domorka			Au DOD m /b					
Top MD (m)	Base MD (m)			Desc	inpuon / Shows /	Remarks			AV KOP III/II					
1661.5     1679     Polymictic clast supported conglomerate with varicolored clasts as seen from last two days of reports.														
		Conglomerate seem:	s to grade to and	from mediu	m to coarse grained <b>pe</b>	bbly sandstone, w	ith cleaner							
	composition (predominately sub rounded to sub angular quartz grains with only minor lithic fragments) Formation is considered to have poor porosity, no oil shows.													
	Formation is considered to have poor porosity, no oil shows.       1679     1687       Pebbly sandstone, medium grained sub litharenite, sub rounded, slightly calcareous, trace to 3%     2.11													
1679	1687	Pebbly sandstone, m	nedium grained su	ub litharenite	e, sub rounded,slightly	calcareous, trace to	o 3%		2.11					
		interganular porosity	r, no oil shows. Sl	ight increase	in gas (513 units over	~300 BGG)								
1687	1708	Conglomerate , as at	oove.						2.04					
1708	1721	Interbedded conglor	merate and sands	stone (rathe	From midnight to 6 am	nerate to pebbly sa	ndstone). Inferred		1.98					
tight to poor porosity. In unwashed samples straight from the shakers, grey clay content was noted and														
		increase in quartz in	, sample 1715m (s	and from ma	atrix or medium to very	coarse grained sa	ndstone??)							
							,							
		GAS DATA		-		. (0)	SURVEY D	ATA						
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth MD (m)	Inc. (°)	Azimuth (°)	-1502 61	DLS (°/30m)					
@10600	33100	18100	15000	BGG	1676.01	4.0	130.2	-1521 58	0.64					
1686	54600	33300	21300	EG?	1685 33	2.4	157.4	-1530.89	6.63					
1000	0.000		21000		FG? 1685.33 2.4 157.4 -1530.89 6.65									
-	From	m midnight to 6 am	From midnight to 6 am											
@06h00	Froi 12200	m midnight to 6 am 5800	6400	BGG	1694.75	1.1	From midnight 272.7	to 6 am -1540.3	9.67					
@06h00	Fror 12200	n midnight to 6 am 5800	6400	BGG	1694.75 1704.35	1.1 2.2	From midnight 272.7 282.9	t to 6 am -1540.3 -1549.9	9.67					
@06h00 Legend: BGG=backg	Fron 12200 round gas; FG=Form Short Trip Gas; S'	n midnight to 6 am 5800 nation Gas; PCG=Pipe con W=Swab gas; POG=Pump;	6400 nection Gas; TG=Tri s Off Gas	BGG ip Gas; STG =	1694.75 1704.35 Bit type Hughe	1.1 2.2 s STX-35DX in	From midnight 272.7 282.9 1597.6 out	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54					
@06h00 Legend: BGG=backg	Froi 12200 round gas; FG=Form Short Trip Gas; S'	n midnight to 6 am 5800 hation Gas; PCG=Pipe con W=Swab gas; POG=Pump	6400 nection Gas; TG=Tri s Off Gas	BGG ip Gas; STG = OPE	1694.75 1704.35 Bit type Hughe	1.1 2.2 s STX-35DX in	From midnight 272.7 282.9 1597.6 out	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54					
@06h00 Legend: BGG=backg	From 12200 round gas; FG=Form Short Trip Gas; S	n midnight to 6 am 5800 hation Gas; PCG=Pipe con W=Swab gas; POG=Pump	6400 nection Gas; TG=Tri s Off Gas Drill 159mm secti NOV s	BGG ip Gas; STG = OPE on from 166 ystem down	1694.75 1704.35 Bit type Hughe RATION SUMMARY 1.5m to 1708m, evaluation for 0.75 hrs. Troubles	1.1 2.2 s STX-35DX in ating formation for hoot gas detector.	From midnight 272.7 282.9 1597.6 out	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54 tage xxx					
@06h00 Legend: BGG=backg	Fror 12200 round gas; FG=Form Short Trip Gas; S	n midnight to 6 am 5800 Iation Gas; PCG=Pipe con W=Swab gas; POG=Pump;	6400 nection Gas; TG=Tri s Off Gas Drill 159mm secti NOV s	BGG ip Gas; STG = OPt on from 166 ystem down	1694.75 1704.35 Bit type Hughe RATION SUMMARY 1.5m to 1708m, evaluation for 0.75 hrs. Troubles	1.1 2.2 s STX-35DX in ating formation for hoot gas detector.	From midnighi 272.7 282.9 1597.6 out	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54 tage xxx					
@06h00 Legend: BGG=backg	From 12200 round gas; FG=Form Short Trip Gas; S	n midnight to 6 am 5800 hation Gas; PCG=Pipe con W=Swab gas; POG=Pump;	6400 nection Gas; TG=Tri s Off Gas Drill 159mm secti NOV s	BGG ip Gas; STG = OPE on from 166 ystem down Drill 159m	1694.75 1704.35 Bit type Hughe ERATION SUMMARY 1.5m to 1708m, evaluation for 0.75 hrs. Troubles	1.1 2.2 s STX-35DX in ating formation for hoot gas detector.	From midnighi 272.7 282.9 1597.6 out	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54					
@06h00 Legend: BGG=backg	From 12200 round gas; FG=Form Short Trip Gas; St	n midnight to 6 am 5800 hation Gas; PCG=Pipe con W=Swab gas; POG=Pump	6400 nection Gas; TG=Tri s Off Gas Drill 159mm secti NOV s	BGG ip Gas; STG = OPE on from 166 ystem down Drill 159m	1694.75         1704.35         Bit type       Hughe         ERATION SUMMARY         1.5m to 1708m, evaluation for 0.75 hrs. Troubles         From midnight to 6 and m section from 1708m         mation for core point (	1.1         2.2         s STX-35DX       in         ating formation for         hoot gas detector.         to 1721m         ROP,gas, oil shows	From midnighi 272.7 282.9 1597.6 out	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54 tage xxx					
@06h00 Legend: BGG=backg	From 12200 round gas; FG=Form Short Trip Gas; ST Short Trip Ga	n midnight to 6 am 5800 hation Gas; PCG=Pipe con W=Swab gas; POG=Pump	6400 nection Gas; TG=Tri s Off Gas Drill 159mm secti NOV s	BGG ip Gas; STG = OPE on from 166 ystem down Drill 159m	1694.75 1704.35 Bit type Hughe ERATION SUMMARY 1.5m to 1708m, evaluation for 0.75 hrs. Troubles From midnight to 6 and m section from 1708m	1.1         2.2         s STX-35DX         in         ating formation for         hoot gas detector.         ito 1721m         ROP,gas, oil shows         rature of 27 degree	From midnight 272.7 282.9 1597.6 out r core point	: to 6 am -1540.3 -1549.9 xxx foo	9.67 3.54 tage xxx					

À								ſ	Date :	02/07/	2013		
in 👔	VESTC	AN DAI	LY GEOL	.OGICA	L REPC	DRT	N#	13	Well: H	urricane #2	2 Re-Entry		
	Energy C	orp							Rig :	Foraga	az#3		
			WSG :	Jonathar	n Taylor/Pear	ce Brac	lley		NAD 27	37 53	5854 47195		
MD KB @ 24h	1731.1	TVD ss @ 24h			24 Hrs Progress (m)		23.3						
Spud date	16/06/13	Last casir at MD	ng 323.2n	n	Hole size (in)		6 1/4		Average ROP	e			
KB - ASL	149.97m	GL - ASL	. 145.7	,	Mud type	Gel bas	sed polymer		MW		1090		
Formatio	on @ 24h	RED BEDS ·	- Snakes Bight??	,	Progn	osed next	Bight Sandsto	ne # 2 @ ???m					
DEPTH II	NTERVAL			Desci	ription / Sh		Av ROP m/h						
Top MD (m)	Base MD (m)				• •								
1708	1730	Interbedded conglo	merate and sands	stone (rather	grading from co	onglome	erate to pebbly sa	ndstone). Inferred			1.91		
		tight to poor porosit	y. In unwashed sa	amples straigh	nt from the sha	kers, gre	ey clay content w	as noted and					
		increase in quartz in	sample 1715m (sa	and from mat	trix or medium	to very	coarse grained sa	ndstone??)					
1730	1731	Bottom's Up sample	revealed redmud	l at the shake	rs, unwashed s	ample is	red (rather then	grey), after			1.8		
		washing most red cl	ays are removed.	Interbedded	red beds, siltst	ones an	d very fine graine	d sandstones.					
				F	rom midnight t	0 6 am							
						.0 0 am							
		ļ											
Double MD (m)	Tatalaan	GAS DATA	62	Tours	Denth M	2 (112)	la a (8)	SURVEY [		10	DIC (8/20m)		
@06h00	12600	6000	6600	BGG	1694 7	5 (m)	1 1	Azimuth (*)	-	VD SS	9 67		
1730	19400	10200	9200	FG??	1704.3	5	2.2	282.9	-	1549.9	3.54		
1,00	10100	10200	5200		1713 7	7	2.4	286.1	-	1559 2	0.76		
	From	n midnight to 6 am			1/10//			From midnigh	nt to 6 am				
Legend: BGG=backg	round gas; FG=Form Short Trip Gas; SV	ation Gas; PCG=Pipe cor V=Swab gas; POG=Pump	nnection Gas; TG=Tri os Off Gas	ip Gas; STG =	Bit type	Hughes	STX-35DX in	1597.6 <b>out</b>	1731	1 foota	age 133.5		
				OPE	RATION SUMM	IARY							
			Drill 159mm sect	tion from 170	)8m to 1731m.	evaluati	ing formation for	core point	_	_			
			2000 2000 0000	POOH for b	oit/ Pressure te	st BOP.	Test OK.						
				F RIH with n	rom midnight t new bit (PDC-H	o 6 am ughes Ω	D405FX)						
							,						
Planned operation	ons	Drill ahea	ad 159mm hole, ev	valuating form	mation for core	point (F	OP,gas, oil show	s, medium to coars	e grained po	rous sandstone	2)		
Recorded Tempera	ature				Downhole	Temper	ature of 27 degre	es					
						pei							
Others													

									Date :	03/07	/2013		
	VESTC	AN DAI	LY GEOL	.OGICA	AL REPO	ORT	N#	14	Well: H	urricane #	2 Re-Entry		
	Energy (	Corp							Rig :	Forag	az#3		
	27		WSG :	Jonatha	n Taylor/Pea	rce Bra	dley		Coord: NAD 27	3	75854 347195		
MD KB @ 24h	1773m	TVD ss @ 24h	-1617	m	24 Hrs Progress (m)		42						
Spud date	16/06/13	Last casin at MD	g 323.2r	n	Hole size (in)		6 1/4		Averag ROP	<u> </u>	2.94		
KB - ASL	149.97m	GL - ASL	145.7	,	Mud type	Gel ba	ased polymer		MW		1090 kg/m3		
Formatio	on @ 24h	Conglomerate	e - Snakes Bight	(?)	Prog	nosed ne:	kt marker	Core Poi	nt - Snakes	Bight Sandsto	one # 2 @ ???m		
DEPTH I	NTERVAL			Doco	rintion / SI		Bomarke				Av POP m/b		
Top MD (m)	Base MD (m)			Desc		iows /	Remarks				AV KOP III/II		
1731	1765	Conglomerate- poly	mictic, with sandy	/ matrix, (mat	trix supported	??), vario	olored (pink,orar	ige, white, cream, bi	uff		3.16		
		to brown, clear and	green grey) fragn	nents of quart	tz and chert, w	ith lesse	r fragments of pe	bbles from other					
		lithic fragments. Poc	orly sorted, mode	rately to well	cemented (or	infilled	with green grey cl	ay) with					
		calcareous and silice	ous cement, poo	r porosity, no	o oil shows								
1765	1773	Conglomerate- poly	mictic, absence o	f sandy matri	x (grey clay wa	shed aw	ay?? clast suppor	ted??),			2.27		
		varicolored (pink,ora	ange,white,cream	,buff, rare gre	een grey) fragr	nents of	granitic material	(quartz, k-spar					
		and plagioclase) with	n less other lithic	fragments. Po	oor porosity, n	o shows							
1772	1794 E	Constances ask	miatia with cand	F	From midnight	to 6 am	alarad (pink arar	aa wikita araana ku	.66	<u> </u>	1 70		
1//5	1764.5	Congiomerate- poly	mictic, with sandy	/ matrix, (mat				ige, white, cream, bi	ווג		1.79		
	to brown, clear and green grey) fragments of quartz and chert, with lesser fragments of pebbles from other												
		lithic fragments. Incr	ease in "sandsto	ne" cuttings (	(sandy matrix o	or pebbly	y sandstone inter	beds??). Poor por	osity				
		no shows.											
		GAS DATA						SURVEY	DATA				
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	Azimuth (°)	1	VD ss	DLS (°/30m)		
@15h30	15700	5500	10200	BGG	1732	.8	1.4	43.1	-1	.578.34	1.93		
					1742.	44	0.9	122	-1	.587.98	4.7		
					1751.	88	0.6	138.3	-1	.597.42	1.16		
	Fro	m midnight to 6 am				1		From midnig	ht to 6 am				
@02h30	7100	3000	4200	BGG	1761.	36	0.6	337.4	-1	606.89	3.74		
Legend: BGG=back	ground gas; FG=Forr Short Trip Gas; S	nation Gas; PCG=Pipe cor W=Swab gas; POG=Pump	nnection Gas; TG=Tr os Off Gas	ip Gas; STG =	Bit type	Hughe	sQD405FX in	1731.1 out	xxx	( foo	tage xxx		
				005									
				UPE	KATION SOM	VIART							
			Rill/Slide 159mm	IH w/ new bit	t and mud mo	tor (Hug Sm. eval	hes QD405FX)	for core point					
		Di	iny side 155mm	Section non	1/5111 (0 1//.	Jili, eval							
				F	From midnight	to 6 am							
		ľ	Drill 159mm secti	on from 1773	3m to 1784.5m	i, evalua	ting formation fo	r core point.					
Planned operati	ions	Drill ahea	id 159mm hole, e	valuating for	mation for cor	e point (	ROP,gas, oil show	s, medium to coar	se grained po	rous sandston	ne)		
Recorded Temper	rature				Downhole	Temper	ature of 25.8 deg	rees					
							-0						
Others				Gamma co	onfirms small ((	).5m-1.0	m) shaley red bed	d @ 1730m-1731m					

	<b>VESTC</b> Energy C	AN DAI	LY GEOL	OGICA	AL REPOR	T N#	<b>15</b>	Date : 04/ Vell : Hurrican Rig : Fo	/07/2013 ne #2 Re-Entry ragaz#3			
			WSG :	Jonatha	in Taylor/Pearce I	Bradley		Coord: NAD 27	375854 5347195			
MD KB @ 24h	1786.4m	TVD ss @ 24h	-1630r	n	24 Hrs Progress (m)	13.4						
Spud date	16/06/13	Last casing at MD	323.2n	n	Hole size (in)	6 1/4		Average ROP	1.85			
KB - ASL	149.97m	GL - ASL	145.7		Mud type Ge	l based polymer		MW _	1090 kg/m3			
Formatio	on @ 24h	Conglomerate	- Snakes Bight	??	Prognosed	next marker	Core Poin	t - Snakes Bight San	dstone # 2 @ ???m			
DEPTH I	NTERVAL			Desc	cription / Show	s / Remarks			Av ROP m/h			
Top MD (m)	Base MD (m)	Conglomerate- polyn	victic with sandy	matrix (ma	trix supported??) v	aricolored (pink ora	nge white cream huf	f	1.85			
	1,0011	to brown, clear and g	reen grev) fragm	ents of quar	tz and chert. with le	sser fragments of pe	ebbles from other					
lithic fragments. Increase in "sandstone" cuttings (sandy matrix or pebbly sandstone interbeds??). Poor porosity												
		no shows.			(,							
					From midnight to 6	am						
		GAS DATA					SURVEY D	ATA				
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth MD (m	) Inc. (°)	Azimuth (°)	TVD ss	DLS (°/30m)			
	4000	1700	2300	BGG	1761.36	0.6	337.4	-1606.89	3.74			
					1770.76	0.8	340.1	-1616.29	0.65			
	Fror	m midnight to 6 am					From midnigh	t to 6 am				
Legend: BGG=back	ground gas; FG=Form Short Trip Gas; S\	nation Gas; PCG=Pipe con N=Swab gas; POG=Pumps	nection Gas; TG=Tri Off Gas	p Gas; STG =	Bit type Hu	ghesQD405FX in	1731.1 out	1786.4	footage 55.3			
						,						
				OPI	ERATION SUMMARY							
		D	rill 159mm sectio Set etrieve Packer. N	on from 177 POOH for bi Packer and Not there. RI	3m to 1784.5m, eva t and to pressure te pressure test blind H with tubing and 1	luating formation fo st Blind Rams. rams. Good test. 'AM overshot to ret	or core point. rieve packer.					
			Continue	to RIH with 1	From midnight to 6 tubing and TAM ove	am ershot to retrieve pa	icker.					
		e	96h00hrs they ar	e currently a	at bottom of hole ar	nd attempting to ret	rieve packer.					
Planned operati	ions		Retrieve packer,	, POOH with	tubing, RIH with trie	cone, drill ahead 159	mm section to core	point/basement.				
Recorded Temper	rature				Downhole Tem	perature of 25.8 deg	rees					
Others												
otiers												

	<b>VESTCA</b> Energy Co	DAI	LY GEOL	OGIC/	AL REP(	ORT	N#	ł	16 v	Date : 0 Vell : Hurric Rig : Coord:	5/07/2 ane #2 Foraga	2013 Re-Entry z#3 <sup>8854</sup>
MD KB @ 24h	1786.4m	TVD ss @ 24h	-1630n	n	24 Hrs Progress (m)		0			NAD 27	534	
Spud date	16/06/13	Last casin at MD	g 323.2m	ı	Hole size (in)		6 1/4			Average ROP		
KB - ASL	149.97m	GL - ASL	145.7		Mud type	Gel b	ased polyme	er		MW		1095
Formatio	on @ 24h	Conglomerate	e - Snakes Bight?	??	Prog	nosed ne	xt marker		Core Poin	t - Snakes Bight S	Sandston	e # 2 @ ???m
DEPTH I	NTERVAL Base MD (m)			Des	cription / Sł	nows	/ Remark	S				Av ROP m/h
					From midnight	to 6 am	l					
		GAS DATA		I -		- ( )		<u>,                                     </u>	SURVEY D	АТА		
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	)	Azimuth (°)	TVD ss		DLS (°/30m)
	From	midnight to 6 am							From midnigh	t to 6 am		
Legend: BGG=back	ground gas; FG=Format Short Trip Gas; SW:	tion Gas; PCG=Pipe con =Swab gas; POG=Pump	nection Gas; TG=Trij s Off Gas	p Gas; STG =	Bit type	Hughe	esQD405FX	in	1731.1 out	1786.4	footag	<b>ge</b> 55.3
				ОР		MARY						
		F	Continue to RIH 200H with oversh POOH wi	with tubing lot on tubin th modified	g and TAM over ng. No Fish. Moo I overshot on tu	shot to dify Ove Ibing (a	retrieve pac ershot and R ttempt # 2).	ker (att IH for a No Fish	ttempt #1) ttempt #2. 1.			
		I	Modify overshot a	again and R	From midnight IH on tubing to	to 6 am attemp	t to retrieve	e fish (at	ttempt #3)			
Planned operati	ons		Retrieve pack	er, POOH tu	ubing, RIH with I	tricone,	drill ahead 1	159mm	section to core po	pint/basement.		
Recorded Temper	ature				Downhole	Temper	ature of 25.8	8 degre	es			
Others												

	<b>VESTCA</b> Energy Co	DAI	LY GEOLO	DGIC/ Jonathan	AL REP(	DRT	N# Matteo	-	Date : 06/07/2013 Well : Hurricane #2 Re-Entry Rig : Foragaz#3 Coord: 375854 NAD 27 5347195					
MD KB @ 24h	1786.4m	TVD ss @ 24h	-1630m		24 Hrs Progress (m)		0							
Spud date	16/06/13	Last casin at MD	g 323.2m		Hole size (in)		6 1/4			Average ROP				
KB - ASL	149.97m	GL - ASL	145.7		Mud type	Gel b	ased polyme	er		MW		1095		
Formatio	on @ 24h	Conglomerate	e - Snakes Bight?	?	Prog	nosed ne	xt marker		Core Poir	nt - Snakes Bight	Sandston	e # 2 @ ???m		
DEPTH I	NTERVAL			Des	cription / Sł	nows	/ Remark	s				Av ROP m/h		
Top MD (m)	Base MD (m)													
					From midnight	to 6 an	1							
	· · ·	GAS DATA							SURVEY	ΔΤΔ				
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	)	Azimuth (°)	TVD ss	S	DLS (°/30m)		
	From	midnight to 6 am							From midnigh	it to 6 am				
Legend: BGG=backg	ground gas; FG=Format	ion Gas; PCG=Pipe con	nection Gas; TG=Trip	Gas; STG =										
	Short Trip Gas; SW=	-Swab gas; POG=Pump	s Off Gas		Bit type	Hughe	esQD405FX	in	1731.1 out	1786.4	footag	ge 55.3		
				OP	ERATION SUM	/IARY								
		Modify o	overshot again and Run overshot/TAN Fish (single set p	l RIH on 2- A tool in o packer) is la	3/8" tubing to a n drill pipe (att atched on but ir	attempt empt #4 nflated.	to retrieve 4). Wash dov Attempt to	fish (at wn to t deflate	tempt #3). No fish op of fish. e packer.	ι.				
					From midnight	to 6 an								
				Continu	ie to attempt to	deflate	e packer.							
Planned operati	ions		Retrieve pa	icker, POO	H, RIH with trico	one, dri	l ahead 159r	nm seo	ction to core point	/basement.				
Recorded Temper	rature				Downhole	Tempe	ature of 25.8	8 degre	ees					
Others														

									Date :	07,	/07/2013	
	VESTC	AN DAI	LY GEO	OLOGIC	AL REP	ORT	N#	18	Well :	Hurricar	ne #2 Re-	Entry
	Eneray (	orp							Rig :	Fo	oragaz#3	-
	Lincigy	.012	WSG :	Jonatha	n Taylor / Mar	ine Di N	Aatteo		Co	ord:	375854	
MD KB @ 24h	1801.2	TVD ss @ 24h	-16	545m	24 Hrs Progress (m)		14.8		NA	5.27	3347133	
Spud date	16/06/13	Last casin at MD	g 32	3.2m	Hole size (in)		6 1/4		Ave R	erage OP	2.3	31
KB - ASL	149.97m	GL - ASL	1	45.7	Mud type	Gel ba	ased polymer		N	/w	1095 k	g/m3
Formatic	on @ 24h	Conglomerate	e - Snakes Bi	ght (?)	Prog	nosed ne	xt marker	Core Po	int - Snal	kes Bight Sar	ndstone # 2	@ ???m
Top MD (m)	Base MD (m)	1		Des	scription / S	hows /	/ Remarks				Av R	OP m/h
1786	1801	Conglomerate - poly	mictic with sa	andy calcareou	s matrix, estima	ted 40%	vcol pbl frags rar	ging from orange			2	2.31
		pink , brown, buff, li	ght grey, light	, green, dark gr	een, estimated 6	50% sand	ly calcareous ma	trix, predominately	,			
		clear and translucen	t quartz grain	s with estimate	ed 10-20% lithic	grains, (s	ub litharenite??	, medium to fine				
		grains, abundant und	consolidated s	sub-rounded gr	ains, minor rour	nded fros	sted grains, poorl	y sorted, tight,				
		very faint flourescen	ice in part, vei	ry faint residua	l cut. Red brow	<b>n mud</b> at	shakers betwee	n 1788m and 1795	m			
		but is washed out in	cleaning proc	ess, some red	staining on som	e cutting	s (red clays? Or s	iderite?).				
1801	1807		mictic with s	andy matrix s	From midnight	to 6 am	arily of quartz an	d foldspar			1	1.02
1001	1801         1807         Conglomerate - polymictic, with sandy matrix, sample is composed primarily of quartz and feldspar           fragments with lesser amounts of lithic fragments. Occasional red brown mud chalvers. Else conglomerate.         Conglomerate - polymictic, with sandy matrix, sample is composed primarily of quartz and feldspar											
		is like above		intine indgineti		u biowii	indu shukers. Ele					
		is like above.										
		GAS DATA						SURVEY	DATA			
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth N	1D (m)	Inc. (°)	Azimuth (°)		TVD ss	[	DLS (°/30m)
	1500	600	900	BGG	1780	.17	1.1	333.1		-1625.7		1.02
1786	7900	6100	1800	TG								
	Fro	m midnight to 6 am			_			From midnig	pht to 6 ar	n		
	1800	1000	800	BGG	1789	.59	1.3	336.4		-1635.12		0.67
Legend: BGG=backg	round gas; FG=Form Short Trip Gas; S <sup>1</sup>	nation Gas; PCG=Pipe cor W=Swab gas; POG=Pump	nnection Gas; To os Off Gas	G=Trip Gas; STG	= Bit type	Hughe	s STX-40DX in	1786.4 out		ххх	footage	ххх
				0		MADY						
				0								
		<b>RIH</b> with trico	Conti ne mudmotor	nue to attemp	t to retrieve pac	ker, pac	ker retrieved, PC	10H. n from 1786 4m to	1801m			
		Kin with theo	ine mudmoto		ay, wash hole, t	ann anec	iu 199mm sectio	in nom 1760.4m te	1001111.			
				D	From midnight	to 6 am	A to 100-					
				Drill ahead 3	159mm section	from 180	01m to 1807m					
Planned operation	ons				Drill ahead 159r	nm secti	on to core point,	basement.				
Recorded Temper	ature				Downhole	Temper	ature of 24.6 deg	rees				
Others												
MD KB       1841.3       TVD ss @ 24h       24 Hrs @ 24h       40.3         Spud date       16/06/13       Last casing Last casing       323.2m       Hole size Hole size       6 1/4       Average	irricane #2 Re-Entry											
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MD KB     1841.3     TVD ss @ 24h     24 Hrs @ 24h     40.3       Spud date     16/06/13     Last casing USE     323.2m     Hole size Hole size Hole size     6 1/4     Average												
WSG :     Jonathan Taylor / Marine Di Matteo     Coord: NAD 27       MD KB @ 24h     1841.3     TVD ss @ 24h     24 Hrs Progress (m)     40.3       Spud date     16/06/13     Last casing Last casing     323.2m     Hole size (in the size)     6 1/4     Average	Foragaz#3											
MD KB         1841.3         TVD ss         24 Hrs         40.3           @ 24h	375854 5347195											
Spud date 16/06/13 Last casing 323.2m Hole size 6 1/4 Average												
(in) ROP	2.2											
KB - ASL         149.97m         GL - ASL         145.7         Mud type         Polymer         MW	1095 kg/m3											
Formation @ 24h Conglomerate - Snakes Bight (?) Prognosed next marker Core Point - Snakes B	ight Sandstone # 2 @ ???m											
DEPTH INTERVAL Description / Shows / Remarks	Av ROP m/h											
100 MD (m) Base MD (m)  1801  1801  1802  Interhedded conglements with conditions and red siltstenes and claustenes, conglements ranges from being	2.2											
1001 1042 Interbeuded Congromerate with satustones and red sitistones and claystones - Congromerate ranges from being												
to a rod <b>city claytone</b> before having more clast supported deposited <b>conglements</b> on ton. Clasts in												
condomerate are dominated by angular fragments of clear to white quartz and lesser feldenars, with												
minor lithic clasts (volcanics (rhyolite??) and green to dark green metasediments)												
From midnight to 6 am												
1842 1851 Conglomerate - clast supported, clasts are dominated by quartz and feldspars with minor volcanics and	1.84											
metasediments.												
GAS DATA SURVEY DATA												
Depth MD (m)         Total ppm         C1 ppm         C3 ppm         Type         Depth MD (m)         Inc. (°)         Azimuth (°)         Type	/D ss DLS (°/30m)											
1800 1000 800 BGG 1798.98 1.3 337.8 -16	44.51 0.1											
1841.3 5500 4400 1100 STG 1808.47 1.4 343.3	0.52											
1817.87 1.4 342.8 -16	63.39 0.04											
From midnight to 6 am From midnight to 6 am	72.83 0.2											
From midnight to 6 am         From midnight to 6 am           @05h30         2700         2000         800         BGG         1827.31         1.4         340.2         -16           1030 S4         1.2         244.5         162         163         163         163	82.20 0.7											
From midnight to 6 am         From midnight to 6 am           @05h30         2700         2000         800         BGG         1827.31         1.4         340.2         -16           Legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG =         Image: Content of Content o	.82.36 0.7											
From midnight to 6 am         @05h30       2700       2000       800       BGG       1827.31       1.4       340.2       -16         Legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       Image: Strate of the strat	62.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG       1827.31       1.4       340.2       -16         Legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       Image: STX-40DX i	682.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         1827.31       1.4       340.2       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         Bit type Hughes STX-40DX in 1786.4 out xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m	62.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         Legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       1827.31       1.4       340.2       -16         Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.	682.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         1827.31       1.4       340.2       -16         1836.84       1.2       344.5       -16         1836.84       1.2       344.5       -16         Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.	62.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         1827.31       1.4       340.2       -16         Legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY       Drill ahead 159mm section from 1801m to 1841.3m       Rig service - brakes on draw works.	62.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       1827.31       1.4       340.2       -16         Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.	582.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       1827.31       1.4       340.2       -16         legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m Rig service - brakes on draw works.         From midnight to 6 am         Drill ahead 159mm section from 1841.3m to 1851m	60.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       1827.31       1.4       340.2       -1f         Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.	60.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         legend: BGG=background gas; FG=Formation Gas; PG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       1827.31       1.4       340.2       -16         Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.         Planned operations         Drill ahead 159mm section from 1841.3m to 1851m	\$2.36 0.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       1827.31       1.4       340.2       -16         Bit type       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.         From midnight to 6 am         Drill ahead 159mm section from 1801m to 1841.3m         Planned operations         Drill ahead 159mm section from 1841.3m to 1851m	60.7											
From midnight to 6 am       From midnight to 6 am         @05h30       2700       2000       800       BGG         legend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       Its27.31       1.4       340.2       -16         Itegend: BGG=background gas; FG=Formation Gas; PCG=Pipe connection Gas; TG=Trip Gas; STG = Short Trip Gas; SW=Swab gas; POG=Pumps Off Gas       Ittype       Hughes STX-40DX       in       1786.4       out       xxx         OPERATION SUMMARY         Drill ahead 159mm section from 1801m to 1841.3m         Rig service - brakes on draw works.         Planned operations         Drill ahead 159mm section from 1841.3m to 1851m         Planned operations         Drill ahead 159mm section from 25 degrees	\$2.36 0.7											

2								Date : 09	/07/20	)13
	VESTC	AN DAI	Y GEOI	LOGICA	L REPOR	I N#	20	Well: Hurrica	ne #2 F	Re-Entry
	Energy C	orp						Rig: Fo	oragazi	#3
			WSG :	Jonathan Ta	aylor / Marine [	Di Matteo		Coord: NAD 27	3758 5347	54 195
MD KB @ 24h	1854.5	TVD ss @ 24h	-170	9 F	24 Hrs Progress (m)	13.2				
Spud date	16/06/13	Last casing at MD	323.2	m	Hole size (in)	6 1/4		Average ROP		1.39
KB - ASL	149.97m	GL - ASL	145.7	7	Mud type	Polymer		MW	10	95 kg/m3
Formatic	on @ 24h	Conglomerate	e - Kennels Bro	ook	Prognosec	l next marker		Basement @ ~	1930m.	
DEPTH II	NTERVAL			Descr	iption / Show	vs / Remarks				Av ROP m/h
Top MD (m)	Base MD (m)									4.00
1841.3	1854.5	Interbedded conglon	erate with sand	dstones and ree	d siltstones and cl	aystones - conglom	erate ranges from b	eing		1.39
		clast supported to sa	nd matrix suppo	rted, probably	grading (uphole) t	o pebbly sandstone	layers, and even			
		conglomerate are do	minated by ang	lar fragments	of clear to white c	wartz and lesser felo	Ispars with			
		minor lithic clasts (vo	Icanics (rhyolite	??) and green t	o dark green met	asediments.				
				Fr	om midnight to 6	am				
1854.5	1866	As above - but with in	creasing red be	ds downhole, e	especially below 1	861m.				3.59
		(1865m sample hadn	t lagged up at ti	me of report b	ut ROP has increa	sed, along with WOE	3)			
		GAS DATA					SURVEY [	ОАТА		
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth MD (m	) Inc. (°)	Azimuth (°)	TVD ss		DLS (°/30m)
@05h30	2700	2000	800	BGG	1827.31	1.4	340.2	-1672.83		0.2
1854	8300	6800	1500	TG	1836.84	1.2	344.5	-1682.36		0.7
	Fror	n midnight to 6 am					From midnigh	nt to 6 am		
@06h00	2700	2000	700	BGG	1854.47	1	349.2	-1690.99		0.76
Legend: BGG=backg	round gas; FG=Form	ation Gas; PCG=Pipe con	nection Gas; TG=T	rip Gas; STG =						
	Short Trip Gas; S\	N=Swab gas; POG=Pumps	Off Gas		Bit type Hu	ghes STX-40DX in	1786.15 out	1854.78	footage	68.63
				OPER	ATION SUMMAR	Y				
			<b>D-</b>	ill ahead 150m	m section from 10	341 3m to 1854 Em				
			Di	PC	DOH for mud mot	or.				
				Rig BILI with a	service - draw w	orks.				
						nu PDC Dit.				
				Fr	om midnight to 6	am				
			Di	Continue to R rill ahead 159m	IH with new mud nm section from 1	motor and bit. .854.5m to 1866m				
Planned operation	ons				Drill ahead 159	mm section to base	nent.			
Recorded Temper	ature				Downhole Ten	nperature of 22 deg	ees			
						-0				
Others			Pleas	se see Strip Log	for updated fluor	escence, cut and sho	ows from previous s	ections.		

									Date :	10/07/3	2013
	IVESTC	AN DAI	LY GEOL	OGICA	L REPO	RT	N#	21	Well: Hu	rricane #2	2 Re-Entry
	Eneray C	orp							Rig :	Foraga	az#3
	Literyy c		WSG :	Jonathan T	aylor / Marin	e Di Matte	90		Coord:	37	5854
MD KB @ 24h	1882.44	TVD ss @ 24h	-1737	m	24 Hrs Progress (m)	27.9	)		NAD 27		47135
Spud date	16/06/13	Last casin at MD	g 323.2r	m	Hole size (in)	6 1/4	4		Average ROP		1.77
KB - ASL	149.97m	GL - ASL	145.7	7	Mud type	Polym	er		MW		1150 kg/m3
Formati	ion @ 24h	Conglomerat	e - Kennels Bro	ok	Progno	osed next mar	ker		Basemer	וt @ ~ 1930n	n.
DEPTH	INTERVAL			Desci	ription / Sho	ows / Rei	marks				Av ROP m/h
Top MD (m)	Base MD (m)				•						
1854.5	1882.44	Interbedded conglor	nerate with sand	dstones and re	ed siltstones and	d claystones	s - conglome	rate ranges from b	eing		1.77
		clast supported to sa	nd matrix suppo	rted, probably	rading (uphol	e) to <b>pebbly</b>	sandstone	ayers, and even			
		to a red silty claysto	ne, before having	g more clast su	upported depos	ited <b>conglor</b>	nerate on to	p. Clasts in			
		conglomerate are do	minated by roun	ided fragment	s of clear to wh	ite quartz ar	nd lesser felo	lspars, with			
		minor lithic clasts (vo	lcanics (rhyolite	??) and green	to dark green m	netasedimer	nts. Slight inc	rease in			
		frequency of mafic m	inerals within cla	asts and as fra	gments. Red m	ud noted in	several cong	lomerate			
		cuttings - red mud at	shakers can be a	attributed to r	ed mud in matr	ix rather the	en grading to	mudstone.			
				F	rom midnight to	o 6 am					
		GAS DATA						SURVEY	DATA		
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth MD	(m)	Inc. (°)	Azimuth (°)	T∨	/D ss	DLS (°/30m)
@06h00	2700	2000	700	BGG	1854.93	1	1	349.2	-17	00.42	0.76
					1863.69	9	1.2	0.3	-17	/09.2	0.31
		n midnight to Com						From midnig			
	From	n midnight to 6 am						From midnig	it to 6 am		
Legend: BGG=back	ground gas; FG=Form	ation Gas; PCG=Pipe con	nection Gas; TG=Tr	rip Gas; STG =							
	Short Trip Gas; SV	V=Swab gas; POG=Pump	s Off Gas		Bit type	Hughes STX-4	10DX in	1786.15 out	1854.7	8 foota	age 68.63
				OPE	RATION SUMM	ARY					
				Continue to F	RIH with new m	ud motor a	nd bit.				
			Dril	l ahead 159m	m section from	1854.5m to	1882.44m				
		C	ondition mud ar	nd circulate, in	crease mud we	eight and att	tempt to reg	ain rotation.			
			DIL	F H with tricons	rom midnight to	o 6 am	ess & DCI				
			NI	si	ip and cut drilli	ng line.	ess a DCJ.				
					Continue to R	IH.					
Planned operat	tions				Drill ahead 1	159mm secti	ion to basem	ent.			
Recorded Tempe	erature				Downhole -	Temperature	e of 23 degre	ees			
Others											
Others											

À							[	Date : 11/	07/2013
	VESTC	AN DAI	LY GEO	LOGIC	AL REPOF	RT N#	<b>22</b> \	Vell : Hurrican	e #2 Re-Entry
	Eneray C	orp						Rig : Foi	ragaz#3
			WSG :	Jonathan	Taylor / Marine	Di Matteo		Coord:	375854 5347195
MD KB @ 24h	1917	TVD ss @ 24h			24 Hrs Progress (m)	34.6			<u> </u>
Spud date	16/06/13	Last casin at MD	g 323.2	m	Hole size (in)	6 1/4		Average ROP	2.42
KB - ASL	149.97m	GL - ASL	145.	7	Mud type	Polymer		MW	1150 kg/m3
Formatio	on @ 24h	Conglomerate, Lin	nestone and Sa	ndstone	Prognose	d next marker		Basement @ ~ 1	960m.
DEPTH I	NTERVAL								
Top MD (m)	Base MD (m)	-		Desc	cription / Show	vs / Remarks			Av ROP m/h
1882	1901	Conglomerate- poly	mictic, clast supp	oorted, with c	only minor (estimat	ed <10%) sandy matr	x with occasional		2.07
		red mud matrix as ee	en on several cut	ttings and red	l mud intermittentl	y at shakers. Clasts ar	e composed of		
		granites, gabbros, vo	lcanics (rhyolite	s and basalts	??) and metasedim	ents. Rare clasts of ch	ert.		
1901	1903	Limestone- buff to c	ream colored, m	icrocrystallin	e, tight to poor por	osity, no flourescence	e, no cut.		2.43
		Best observed in spo	t sample taken a	at 1903.5m. T	race amounts of oi	l observed at shakers	just below this.		
1903	1917	Sandstone and cong	lomerate - (ss) q	uartz arenite	, clear to white, fin	e to medium grained,	rare coarse grained	l,	3.18
		predominately unco	nsolidated sub a	ngular to sub	rounded quartz gra	ains, minor kspar and	lithic fragments		
		(cont'd) Poorly co	emented with ca	lcareous and	siliceous cement, r	noderately sorted, 3-	5% porosity		
		(local to 1912m to 1	914m) inferred f	rom unconso	lidated grains, and	increase in ROP, spot	ty brown oil stain		
		on trace cuttings, tra	ce dull orange n	nineral fluore	scence (DOL??), sp	otty faint yellow dired	t fluorecence on		
		trace quartz grains,v	ery faint residua	l bluish white	e cut. Sandstone gra	ades to and from <b>poly</b>	mictic conglomerat	e.	
		•			1				
Depth MD (m)	Total ppm	GAS DATA	C3 ppm	Type	Depth MD (r		SURVEY E		DIS (°/30m)
@12h00	2200	1400	800	BGG	1863.69	1.2	0.3	-1709.2	0.31
1882	4600	3600	1000	TG	1877.05	1.3	3.4	-1722.56	0.27
1913.5	3800	2800	1000	FG	1886.48	1.7	5.8	-1731.99	1.29
	Fror	m midnight to 6 am					From midnigh	t to 6 am	
@3h30	2600	1800	1000	BGG	1895.94	2	15.1	-1/41.44	1.34
Legend: BGG=back	ground gas; FG=Form	nation Gas; PCG=Pipe cor	nection Gas; TG=T	rip Gas; STG =	1905.34	2.1	12.7	-1750.84	0.42
	Short Trip Gas; S	N=Swab gas; POG=Pump	s Off Gas		Bit type He	ughes STX-30DX in	1882 out	ххх	footage xxx
				OP	ERATION SUMMA	RY			
			RI	H with tricon	e and straight muc	l motor, (less 8 DC).			
				5	Slip and cut drilling	line.			
		Circulate	e hole clean and	drill ahead 1	59mm section to 1	917m, assessing forn	nation for basemen	t.	
					Fugure maislest-late -				
			D	orill ahead 15	9mm section, from	am 1917m to 1935m.			
Planned operati	ions				Drill ahead 15	omm section to baser	nent.		
Recorded Temper	rature				Downhole Ten	nperature of 25.3 deg	rees		
Others		No room	on report for lith	nology after n	nidnight - please se	e strip log for update	to 06h00 hrs. In ger	ieral - interbedded ss a	and cgl

à						_			Date :	12/07/2	2013
in in	VESTC	AN DAI	LY GEOI	LOGIC	AL REPO	DRT	N#	23	Well : Hurri	cane #2	Re-Entry
	Energy C	orp							Rig :	Foraga	z#3
			WSG :	Jonathar	n Taylor / Mari	ne Di M	atteo		Coord:	375	5854 17195
MD KB @ 24h	1950.8	TVD ss @ 24h			24 Hrs Progress (m)		33.8		1010 27		
Spud date	16/06/13	Last casin at MD	g 323.2	m	Hole size (in)		6 1/4		Average ROP		2.65
KB - ASL	149.97m	GL - ASL	145.7	7	Mud type	P	olymer		MW		1150 kg/m3
Formatio	on @ 24h	Conglomerat	te and Sandsto	ne	Progr	iosed next	t marker		Basement @	o ~ 1960m	l.
DEPTH II	NTERVAL			Dec	crintian / Sh		Bomarks				Au POP m/b
Top MD (m)	Base MD (m)			Des	scription / Sn	iows /	Remarks				AV KOP III/II
1917	1950.8	Conglomerate- polyr	mictic, clast supp	orted to ma	atrix supported, <	:10% to >	>25% sandy matri	x with occasional			2.65
		red mud matrix as se	en on several cu	ttings and r	ed mud intermitt	ently at	shakers. Clasts ar	e composed of			
		granites, gabbros, vo	lcanics (rhyolites	s and basalts	s??) and metased	liments.	Rare clasts of che	ert. Grades to			
		medium grained peb	bly sandstone up	ohole (interi	mittently). Pebbl	y Sandst	one is fine to me	dium grained,			
		with rare coarse to p	bebble sized clast	s of similar	material found ir	o conglon	nerate. On rare q	uartz grains,			
		a spotty dark brown	to black oil stain	can be obse	eved, which has a	spotty c	dull yellow to whi	te fluorescence			
		and a faint to duil res	sidual (very very	slow) cut.	From midnight	to 6 am					
1950.8	1970	Interbedded conglor	merate and sand	stones (or a	a sandy conglome	erate/pe	bbly sandstone).	As above.			3.84
	- 	GAS DATA						SURVEY	ΤΑΤΑ		
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Type	Depth MI	D (m)	Inc. (°)	Azimuth (°)	TVD s	s	DLS (°/30m)
					1895.9	94	2	15.1	-1741.4	14	1.34
@20h00	1800	1100	700	BGG	1905.3	34	2.1	12.7	-1750.8	84	0.42
	Froi	m midnight to 6 am				1		From midnig	ght to 6 am		
@05h00	2100	1400	700	BGG							
Legend: BGG=backg	round gas; FG=Form Short Trip Gas; S <sup>1</sup>	nation Gas; PCG=Pipe con W=Swab gas; POG=Pump	nection Gas; TG=T s Off Gas	rip Gas; STG =	= Bit type	Hughes	STX-30DX in	1882 out	: 1936.6	foota	ge 54.6
				0	PERATION SUMN	//ARY					
			Dr	ill ahead 15	9mm section, fro	om 1917ı	m to 1936.6m.				
		POOH to	change mud mo Dril	otor/bit.P/	U and RIH with s mm section. fro	lower m m 1936.6	ud motor and ne 5m to 1957.8m.	w bit (tri-cone 53	37).		
					From midnight	to 6 am					
			Dr	ill ahead 15	9mm section, fro	om 1957. m's un	.8m to 1970m.				
						in s up.					
Planned operation	ons				Drill ahead	159mm	section to basem	ent.			
Recorded Temper	ature				Downhole	Tempera	ture of 24.1 degr	ees			
Others											

λ									Date	: 1	3/07/2	2013
	VESTC	AN DAI	LY GEOI	LOGIC	AL REPO	DRT	N#	24	Well	: Hurric	ane #2	Re-Entry
	Energy C	orp							Rig :	: I	Foraga	z#3
			WSG :	Jonathan	Taylor / Mari	ne Di N	Matteo			Coord: NAD 27	375 534	854 7195
MD KB @ 24h	1970	TVD ss @ 24h	-1815.4	17m	24 Hrs Progress (m)		19.2					
Spud date	16/06/13	Last casin at MD	g 323.2	m	Hole size (in)		6 1/4			Average ROP		3.84
KB - ASL	149.97m	GL - ASL	145.7	7	Mud type		Polymer			MW		1150 kg/m3
Formatio	on @ 24h	Conglomera	te and Sandstor	ne	Progr	nosed ne	xt marker			TD @ 19	70m	
DEPTH II	NTERVAL			Des	cription / Sh	iows ,	/ Remarks					Av ROP m/h
Top MD (m)	Base MD (m)		· .· .			400()						2.04
1950.8	1970	Conglomerate - poly	mictic, clast supp	ported to ma	itrix supported,	<10% to	>25% sandy ma	atrix with increa	sing			3.84
		red mud matrix dow	nnoie (to ID) as s	seen on cutti	and intermi	ttentiy	Baue electro of a	s are composed	I OT			
		granites, gabbros, vo	bly sandstone ur	and basaits	eittontly) Robb	liments	topo is fine to p	nert. Grades to				
		with rare coarse to r	hebble sized clast	s of similar n	material found in		omerate On rare	e quartz grains	,			
		a spotty dark brown	to black oil stain	can be obse	ved, which has a	a spotty	dull yellow to w	hite fluorescen	ce			
		and a faint to dull re	sidual (very very	slow) cut.		. ,	,					
					From midnight	to 6 am	1					
											_	
					_							
		GAS DATA						SUI	RVEY DATA			
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	Azimuth	(°)	TVD ss		DLS (°/30m)
@05b00	2100	1400	700	BGG	1945.	30	1.5	335.6		-1709.44		0.12
6051100	2100	1400	700	500	1970	)	1.4	333.8		-1815.47		0
	From	n midnight to 6 am						From m	dnight to 6	5 am		-
Legend: BGG=backg	ground gas; FG=Form Short Trip Gas; SV	ation Gas; PCG=Pipe cor /=Swab gas; POG=Pump	nection Gas; TG=Ti s Off Gas	rip Gas; STG =	Bit type	Hughe	s STX-30DX in	1936.6	out	1970	foota	<b>ge</b> 34.4
					J L							
				OP	ERATION SUMM	/IARY						
			Drill ahea	ad 159mm se	ection, from 195	7.8m to	o 1970m(TD) @ (	)5h12				
			Alerted wi	ireline loggei	Circulate botto : s and perform	m's up. LOSTD v	viper trip before	РООН.				
		Rig ir	wireline and RIF	H with Log Ru	un # 1 (TTRM/DO	GR/SP/C	CAL/ORIT/XMAC,	/CN/ZDL/ML/HI	DIL)			
			Trou Logge	ibles with ZD er's On botto	0L, POOH and ch om (1968.93m N	ange οι 1D) @ 2	it tool with spar 2:35 (repeat pas	e. is)				
		Repeat Section f	rom TD up to ~ 18	800m. Main	pass from TD (@	23:15)	to casing. High	Res from 1500	n to 935m	MD.		
				Cont	inue to wireline	log Ru	n # 1.					
			Rig out Ru	Logging In #1 tools a	nd Rig in Run #1 @	surface 2 (TTRN	e @ 04:40 1/GR/STAR/ORI	T/CBIL)				
Planned operati	ons				Cor	tinue w	vireline logging					
Recorded Temper	ature											
Others												

	VESTCA Energy Cor	DAIL	Y GEOL	OGIC	AL REPC	DRT	N# Natteo		25 v	vate : Vell : Hurri Rig : Coord: NAD 27	14/07/2 icane #2 Foraga 375 534	2013 2 Re-Entry 1z#3 5854 47195
MD KB @ 24h	1970	TVD ss @ 24h	-1815.4	17	24 Hrs Progress (m)							
Spud date	16/06/13	Last casing at MD	323.2m	ı	Hole size (in)		6 1/4			Average ROP		
KB - ASL	149.97m	GL - ASL	145.7		Mud type	ļ	Polymer			MW	1150	) kg/m3 (in hole)
Formati	on @ 24h				Progr	nosed ne	xt marker					
DEPTH I	NTERVAL			Des	cription / Sh		Remarks	•				Av ROP m/h
Top MD (m)	Base MD (m)			Des		10103 /	Remarks	5				AV NOT 11/11
					From midnight	to 6 am						
		<b>ΞΔ</b> ς ματα							SURVEY D	ΔΤΔ		
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)		Azimuth (°)	TVD s	s	DLS (°/30m)
	From m	hidnight to 6 am			_				From midnigh	to 6 am		
Legend: BGG=back	ground gas; FG=Formatic Short Trip Gas; SW=S	on Gas; PCG=Pipe conn wab gas; POG=Pumps	ection Gas; TG=Tri Off Gas	p Gas; STG =	Bit type	Hughe	s STX-30DX	in	1936.6 <b>out</b>	1970	foota	<b>ge</b> 34.4
				OP	PERATION SUMM	/IARY						
			Rig out Run Rig out	Cont Logging n #1 tools a Run #2 too	tinue to wireline Tools Run #1 @ nd Rig in Run #2 ols and Rig in Ru	e log Ru surface (TTRM n #3 (T	n # 1. : @ 04:40 /GR/STAR/O IRM/GRSL/N	DRIT/CB MREX).	ц).			
					From midnight Continue Logging	to 6 am g Run #	3.					
Planned operat	ions		Continue w	vireline logg	ging (Run#3) fror	n TD to	CSG. Repeat	section	(100m over zone	of interest)		
Recorded Temper	rature				25.9 degrees	at botto	om of hole as	s per log	gers			
Others					Selecting inter	vals for	FMT with ch	ief geol	ogist.			

					<b>NRT</b>	N#	26 v	Date: 1	5/07/2 ane #2	2013 2 Re-Entry
	VESTCA					INΠ	20	Rig:	Foraga	z#3
	Energy Cor	P	WSG : Jonatha	n Taylor / Mariı	ne Di Mat	teo		Coord:	37	5854
MD KB @ 24h	1970	TVD ss @ 24h	-1815.47	24 Hrs Progress (m)				NAD 27		*/193
Spud date	16/06/13	Last casing at MD	323.2m	Hole size (in)	6	1/4		Average ROP		
KB - ASL	149.97m	GL - ASL	145.7	Mud type	Poly	vmer		MW	1150	) kg/m3 (in hole)
Formatio	on @ 24h			Progn	iosed next m	narker				
DEPTH I	NTERVAL									
Top MD (m)	Base MD (m)		Des	scription / Sh	iows / R	emarks				Av ROP m/h
				From midnight	to 6 am					
				2						
	G	AS DATA					SURVEY D	ATA		
Depth MD (m)	Total ppm	C1 ppm	С3 ррт Туре	Depth MI	D (m)	Inc. (°)	Azimuth (°)	TVD ss		DLS (°/30m)
	From m	idnight to 6 am					From midnigh	t to 6 am		[
		0 000 0								
Legend: BGG=back	Short Trip Gas; SW=S	n Gas; PCG=Pipe conn wab gas; POG=Pumps	Off Gas	= Bit type	Hughes ST	X-30DX in	1936.6 <b>out</b>	1970	foota	<b>ge</b> 34.4
			0	PERATION SUMM	/IARY					
	Reboot s	Continue vstem and run off b	Logging Run #3. Main Con back computers, but must	nputer in logging return to TD and	shack cras recommer	hed at 1420m Ice NMR log (s	when logging NMF aved from TD to 14	t. 120m as repeat run	)	
		, Wireli	ine log NMR from TD to ca	sing shoe. Rig ou	it NMR (Ru	in # 3) and rig	up FMT (Run#4)	·		
					Kull #4)					
				From midnight	to 6 am					
		Perform 8 tests	Commence "Ic	From midnight ( bgging" FMT with	to 6 am first targe	t @ 1475.8m	to cacing to test r	acker		
		Perform 8 tests	Commence "Ic (see attached sheet for de	From midnight : ogging" FMT with etails). Test 9 and	to 6 am first targe 10 had no	t @ 1475.8m seal. Come u	o to casing to test p	acker.		
Planned operati	ons	Perform 8 tests	Commence "Ic (see attached sheet for do	From midnight : gging" FMT with stails). Test 9 and Finish FMT	to 6 am first targe I <b>10 had no</b> (run #4). F	t @ 1475.8m seal. Come up Perform wiper	o to casing to test p	acker.		
Planned operati Recorded Temper	ons ature	Perform 8 tests	Commence "Ic (see attached sheet for de	From midnight a ogging" FMT with atails). Test 9 and Finish FMT 25.9 degrees a	to 6 am first targe 10 had no (run #4). F at bottom	t @ 1475.8m seal. Come up Perform wiper of hole as per	o to casing to test p trip loggers	acker.		

	VESTCAN	DAIL	Y GEOLOGIC	AL REPO	ORT	N#	27	Date Well	e: 1 I: Hurric	.6/07/2 ane #2	2013 ? Re-Entry
	Energy Corp	, V	NSG · Ionathan	Taylor / Mari	ne Di N	Vatteo		Rig	: Coord:	Foraga 37	<b>z#3</b> 5854
MD KB @ 24h	1970	TVD ss @ 24h	-1815.47	24 Hrs Progress (m)					NAD 27	534	47195
Spud date	16/06/13	Last casing at MD	323.2m	Hole size (in)		6 1/4			Average ROP		
KB - ASL	149.97m	GL - ASL	145.7	Mud type		Polymer			MW	1150	) kg/m3 (in hole)
Formatic	on @ 24h			Progr	nosed ne	xt marker					
DEPTH II	NTERVAL		Des	cription / Sł	nows	/ Remarks					Av ROP m/h
Top MD (m)	Base MD (m)				,						·
				From midnight	<u>to 6 am</u>	1					
										_	
				_							
Dopth MD (m)	GAS	C1 ppm		Dopth M	D (m)	Inc. (°)	SU	RVEY DATA	TVD cc		DIS (°/20m)
Depth ND (III)		CI ppill		Deptilin	D (III)	iiic. ( )	Azimuti	()	100 33		DE3 (73011)
	From midr	night to 6 am					From m	idnight to	6 am		
Legend: BGG=backg	ground gas: FG=Formation G	Gas: PCG=Pipe conne	ction Gas: TG=Trip Gas: STG =								
	Short Trip Gas; SW=Swal	b gas; POG=Pumps C	Off Gas	Bit type	Hughe	s STX-30DX in	1936.6	out	1970	foota	<b>ge</b> 34.4
			OP	ERATION SUM	MARY						
	Packer si	eemed good. Test	Commence "log Perform 8 tests. Test 9 and against casing. Test good. I POOH with Wireline Log Perform RIH to perfor M/U DST to	gging" FMT with I 10 had no seal Return to attem ging Run # 4. Rig n BOP pressure prm 10 STD wipe pols on drill strir	i first tai Come pt test i g out win test. Go er trip p ng assen	rget @ 1475.8m up to casing to te interval 9 and 10 reline logging eq bod test. rior to DSTs. nbly and RIH	est packer. . Still no seal. M uipment.	Nove to te	st 11 and 12.		
		Continue	to M/U DST tools on drill s	From midnight string assembly	to 6 am and RII	H to test DST # 1	(1444.0 to 148	0.5m)			
Planned operation	ons			Pe	erform [	OST #1 and #2					
Recorded Temper	ature			25.9 degrees	at botto	om of hole as per	rloggers				
Others				No	trip gas	s on wiper trip.					

	VESTCA Energy Co	DAIL	Y GEOL	OGIC/	AL REPO	ORT	N#		28	Date : Well : Hurr Rig : <sub>Coord:</sub>	17/07/2 Ficane #2 Foraga	2013 ? Re-Entry 1z#3 5854
MD KB	1070	TVD ss	WSG :	Jonathan	24 Hrs	ne Di N	latteo			NAD 27	53	47195
@ 24h	1970	@ 24h	-1815.4	/	Progress (m)							
Spud date	16/06/13	Last casing at MD	323.2m		Hole size (in)		6 1/4			Average ROP		
KB - ASL	149.97m	GL - ASL	145.7		Mud type		Polymer			MW	1150	) kg/m3 (in hole)
Formatio	on @ 24h				Prog	nosed ne	xt marker					
DEPTH I	NTERVAL			Deer	anintian (Ch		/ Demende	_				Au DOD //-
Top MD (m)	Base MD (m)			Desc	cription / Sr	iows j	Remarks	S				AV KOP M/N
					From midnight	to 6 am	1					
	1	GAS DATA		-					SURVEY	DATA		1
Depth MD (m)	Total ppm	C1 ppm	C3 ppm	Туре	Depth M	D (m)	Inc. (°)	)	Azimuth (°)	TVD	SS	DLS (°/30m)
	From r	midnight to 6 am							From midnig	ht to 6 am		
Legend: BGG=backg	ground gas; FG=Format Short Trip Gas; SW=	ion Gas; PCG=Pipe conn Swab gas; POG=Pumps	ection Gas; TG=Trip Off Gas	o Gas; STG =	Bit type	Hughe	s STX-30DX	in	1936.6 <b>out</b>	1970	foota	<b>ge</b> 34.4
				OP	ERATION SUM	MARY						
		Continue Test # Checł	e to M/U DST too 1 failed (mud lea < tools, notice pro	ols on drill s Comme aked into dr otective sle Wait on t	string assembly ence DST # 1 @ rill string from : seve is missing i cool to be flowr	and RIH 9:45 (SI somewh n one o n in fron	H to test DST hut-in) . here). POOH f pressure to n Ontario.	to che	144.0 to 1480.5m ck tool @ 11:05 o spare on site.	)		
			Cont	inue to wa	From midnight it on tool to be	to 6 am flown i	n from Ontai	rio.				
		Tool arrived	, replace tool. RII	H with test	string on drill p	pipe to r	e-try DST int	terval #	‡1 (144.0 to 1480	.5m)		
Planned operati	ons					Perfor	m DST #1					
Recorded Temper	rature				25.9 degrees	at botto	om of hole as	s per lo	ggers			
Others			Per	rform QA/0	QC on samples	over zor	nes of interes	st, com	pare to log respo	onse.		



## **APPENDIX L : DST Summary**

Number of pages :6Summary of the content:The DST Reports & Results for Hurricane#2



APPENDIX L : DST Summary

#### HOLLAND TESTERS LTD.

			R.R	. #3 Wheat	ley, Ont	ario	NOP 2	PO 1	-519-825-3	680		
Customer	INV	ESTCA	N ENER	GY CORPOR/	ATION	Cus	stomer l	tep.	MR. VICTOR	RY LEROUX		
Location	HU	RRICAN	IE #2 ( \	NHIP #1) EI	PO3 - 107	7						
Interval	144	44-148	0.5	Total Depth 1	970 MKE	B For	rmation	SN/	AKES BIGHT			
Test Number	TW	0		_		- T	ester	DEF	RRICK HOLLA	ND		
Test Type	DU	AL STR			IAN	KB	Elevatio	0 1	49.97 m	Gro	und Elevation	145.7 m
Test Date	100	Y 18. 2	013.			Botto	m Hole	Temp	erature (C)	21.2		245.7 11
rest bute		. 10, 1				-		. cinp			-	
RECOVERY:	12.2	Metre	s Total Fl	uid					Sampl	er#	#	
		Metre	es of						SAMP	LED AT:		
		Metre	es of								10.00	Metres
	12.2	Metre	es of		DRILLIN	G FLU	JID				1.52	Metres
		Metre	es of							BOTTOM H	OLE SAMPLER	
		Metre	es of									-
			_									-
REMARKS: OF	PEN FO	R PRE-F	LOW, H	AD WEAK INI	TIAL PUFF	. 1" IN		E PAI	L. STEADY TH	ROUGH	TOOL	TALLY
		WEAK	ΙΝΙΤΙΔΙ	PLIEE 2" IN B			FCREAS	INGT	O DEAD IN 20	MIN	1002	
SHUT-IN AFTER 3	0 MIN.	NO G/	AS TO SU	IRFACE. MUL	HELD TH	IROUG	GH OUT		0 02/10 11 20		PO Sub	0.305
											Becorder	1.524
											Shut-In	1.650
				GAS RE	ADINGS						Sampler	0.930
TIME PRESS	5	TEMP	ORIFIC	E RATE	TIME	PR	RESS	TEM	IP ORIFICE	RATE	Sampler	
min. kPa		С	mm	m3/d	min	k	(Pa	C	mm	m3/d	Hydraulic	1.720
						<u> </u>					Jars	2.030
						+					E/Record	1.524
						-					Temp Rec	1.024
											By-pass	
											Safety Jt	0.610
											Packer	2.340
						<u> </u>				_	Packer	1.524
						<u> </u>					Upper Packer	1443.94
Gas Samples: #			#	Sen	t to:	I					depth	1445.54
Gas Measured by:											Packer	0.305
DOWNHOLE PRESSU	REDAT	A (KPAG	i) Test Ti	mes: PF	10	ISN	120	VO	30 ES	N 240	Perfs	5.795
DOWNINGLE PRESSO		A (NFA)	1 105011	10000		1314	100			10105	By-pass	
Recorder Number		40	270	40386			403	20	40389	40405	M/Record	1.524
Clock Hour-Emp		F	MP	FMP			#13	P	FMP	FMP	X Over	1.524
Depth - Metres		143	0.698	1438.552			1450	.65	1450.955	1485.516	DP/DC	27.650
Position of		+									X Over	
Pressure Port		FL	UID	INSIDE	INSID	E	OUTS	DE	OUTSIDE	OUTSIDE	Blank	0.305
Initial Hydrostatic	(A)	<u> </u>							16314	17052	Packer	0.915
Start First Flow	(B) (P1)								323		Lower Packer	1490 42
First Shut-In	(01)	+	112			-+		-+	831		ueptii	1400.45
Start Second Flow	(D)	+				-+		-+	303		Packer	0.915
End Second Flow	(E)								341		Packer	2.340
Second Shut-In	(F)		105						850		Perfs	1.220
Start Third Flow	(H)					$-\top$					Recorder	1.524
End Third Flow	(1)										X Over	492.050
Final Hydrostatic	(0)					-+		-+	16299	16685	X Over	482.960
TEST IS:	(9)			Misrun:	I		)		Sati	sfactory	Bullnose	0.610
Started in hole @	043	0 HR	Ope	ned tool @	0730 HR	Out	t of hole	. @	1700 HR	1	Total Depth	1970.00
DP size (mm)		101.6	Wei	ght (kg/m)	20.87	Ma	in hole	size (m	im) 1	59	Total Interval	36.494
DP length (m)	14	438.28	DCs	ize ID (mm)		DC	above t	ool (m	)		Total Tail Pipe	489.569
Mud weight (kg/mi	3)	1145	Visc	(s/L)	2.8	Wa	ater loss	(cm3)		2.8	Tool Make up	2.25
PACKER RUBBER S	IZE (MN	1)		139.70 вот	TOM HOL	e coke	E (MM)	19	9.05		Time	Hr



## APPENDIX L: DST Summary







APPENDIX L: DST Summary

#### HOLLAND TESTERS LTD.

			R.R	. #3 Wheat	ley, Onta	ario NOP 2	2PO 1	-519-825-3	680					
Customer	1	NVEST	CAN ENER	GY CORPOR/	ATION	Customer	Rep.	MR. VICTOR	LEROUX					
Location HURRICANE #2 (WHIP #1) EP03 - 107														
Interval	1	1316.5	-1371	Total Depth 1	970 MKB	Formation	FRI	AR'S COVE /	SNAKES BIG	HT				
Test Number	r T	HREE		_		Tester	DEF	RICK HOLLA	ND					
Test Type	0	UAL S		CONVENTIO	NAL	K. B. Elevatio	n 1	49.97 m	Gro	und Elevation	145.7 m			
Test Date	J	ULY 18	3, 2013.			Bottom Hole	Tempe	erature (C)	19.47					
	-		,							-				
RECOVERY:	2	. <u>5</u> M	etres Total Fl	uid				Sampl	er#					
		M	letres of					SAMPI	ED AT:					
		M	etres of								Metres			
	2	. <u>5</u> M	letres of		DRILLIN	G MUD				2.00	Metres			
		M	letres of								Metres			
		м	letres of								Metres			
							Bott	om hole sample	er		Above Tool			
REMARKS:	OPEN	FOR PF	RE-FLOW, H	AD FAINT BLO	W IN BUE	BLE HOSE V	VITH 1	/8" IN BUBBLI	E PAIL.	TOOL	TALLY			
DEAD IN 5 MI	NS. NO	) GAS T	O SURFACE							PO Sub	0.305			
OPEN FOR VA	LVE OP	'EN, HA	D WEAK IN	ITIAL PUFF, W	/ITH 3" IN	BUBBLE PA	L. DEC	CREASING THE	OUGH	DP/X Over	0.305			
OUT. DEAD IN	N 40 MI	NS. NO	O GAS TO SI	JRFACE. MU	D HELD TH	ROUGHOU	Γ.	50		Recorder	1.524			
RECOVERD A (	GAS SA	MPLE	-ROM BOTT	OM HOLE SAI	MPLER. N	O FLUID IN	SAMPI	ER.		Shut-In	1.650			
				GAS RE	ADINGS					Sampler	0.930			
GAS READINGS         Sampler         0.930           TIME         PRESS         TEMP         ORIFICE         RATE         TIME         PRESS         TEMP         ORIFICE         RATE         Sampler         0.930           min.         kPa         C         mm         m3/d         min         kPa         C         mm         m3/d         1.720           Jars         2.030         Jars         2.030         Jars         2.030														
min. K	сРа	C	mm	m3/d	min	кра	C	mm	m3/d	Hydraulic	2.030			
min.         kPa         C         mm         ms/d         min         kPa         C         mm         ms/d         Hydraulic         1.720           Image: Second Seco														
Imm         KPa         C         Imm         MPa         C         Imm         Mpaalite         1.720           Imm														
M/Record         E/Record         1.524           Image: Second seco														
E/Record         1.524           Image: Constraint of the second secon														
Temp Rec           By-pass           Safety Jt         0.610           By-pass														
										Packer	1.524			
										Upper Packer	2.024			
										depth	1316.69			
Gas Samples:	#		#	Sen	t to:									
Gas Measured b	by: _									Packer	0.305			
DOWNHOLE PRES	SSURE D	DATA (K	PAG) Test Ti	mes: PF	10	ISN 125	VO	60 FS	N 360	Perts	5.182			
Recorder Numb	ber		40411	40386		403	67	40389	40405	M/Record				
Recorder Range	9		41370	41370		413	70	41370	41370	E/Record	1.524			
Clock Hour-Emp	p		EMP	EMP		EN	IP	EMP	EMP	X Over				
Depth - Metres		1	1303.432	1311.306		1322	486	1322.791	1381.716	DP/DC	46.22			
Position of			ELLIP	INCIDE	INCIDA		IDE	OUTSIDE	OUTSIDE	X Over Black	0.305			
Initial Hydrostat	tic (A	)	FLOID	INSIDE	INSIDE	. 0015	NDE	14770	OUTSIDE	Packer	0.915			
Start First Flow	(B	)						1073		Lower Packer				
End First Flow	(B	1)						1387		depth	1371.14			
First Shut-In	(C	)						1774			0.015			
Start Second Flo	ow (D	)						195		Packer	0.915			
End Second Flow	W (E)		22					251		Packer	6.706			
Start Third Flow	(F (H)		~~					755		Recorder	1.524			
End Third Flow	(1)									X Over				
Third Shut-In	(L)									DP/DC	586.76			
Final Hydrostati	ic (G)							14769		X Over				
TEST IS:		020.02		Misrun;	2455 115	0.1.0	X	Satis	factory	Bullnose	0.61			
Started in hole (	@ 1	930 HF	C Ope	ned tool @ abt (ka/m)	2155 HR	Out of hol Main hole	e@ size.(m	0945 HK	59	Total Depth	54 451			
DP length (m)	-	1306	.5 Wei	ize ID (mm)	20.07	DC above	tool (m	)	55	Total Tail Pine	598.85			
Mud weight (kg	(/m3)	11	145 Visc	(s/L)	2.8	Water loss	(cm3)	2	.8	Tool Make up				
PACKER RUBBE	R SIZE (	MM)		139.70 BOT	том ноч	E COKE (MM)	10	9.05		Time	1.00 Hr			
- Hench NOODE	an once (			200.70 00	. on nou	- conce (minut)	1							



### APPENDIX L: DST Summary







#### HOLLAND TESTERS LTD.

				R.R	. #3 Wheat	ley, Onta	ario NOP	2P0 1	1-519-825-3	680		
Customer INVESTCAN ENERGY CORPORATION Customer Rep. MR. VICTOR LEROUX												
Location HURRICANE #2 (WHIP #1) EP03 - 107												
Interval 1090-1125.5 Total Depth 1970 MKB Formation FRIAR'S COVE												
Test Number FOUR Tester DERRICK HOLLAND												
Test Type DIJAL STRADDIE CONVENTIONAL & B Elaustice 149.97 m Ground Elaustice 145.7 m												
Test D	ype		IV 10 2	013			16.95	und clevation	145.7 11			
RECOVERY:		1.52	Metre	s Total Fl	uid				Samp	ler#	1	ŧ
			Metre	es of					SAM	PLED AT:		
		1 5 2	Motro			DRILLIN		Motros				
		1.52				Metres						
			Metre	is of				Metres				
			Metre	is of								Metres
Metres of												Metres
Above Tool												
REMARKS: OPEN FOR PRE-FLOW, HAD WEAK INITIAL PUFF IN BUBBLE PAIL 3". STEADY TOOL TALLY												
THOUGH OUT, NO GAS TO SURFACE, OPEN FOR VALVE OPEN, HAD WEAK INITIAL PUFF IN												0.305
BUBBLE P	AIL 2".	SLOV	VLY DEC	REASING	, DEAD IN 40	MINS. NO	O GAS TO S	URFAC	E.		DB/X Over	0.505
MUD HELD	D THRO	UGH	OUT.								Recorder	1.524
		Shut-In	1.650									
	Sampler	0.930										
TIME	PRESS		TEMP	ORIFIC	E RATE	TIME	PRESS	TEN	AP ORIFICE	RATE	Sampler	
min.	kPa		с	mm	m3/d	min	kPa	C	mm	m3/d	Hydraulic	1.720
											Jars	2.030
		$\rightarrow$									M/Record	
		$\rightarrow$									E/Record	1.524
											Temp Rec	
											By-pass Safety It	0.610
		-									Packer	2.340
		-						-			Packer	1.524
		+						+			Upper Packer	
											depth	1090.05
Gas Sample	es: #			#	Sen	t to:						
Gas Measur	red by:										Packer	0.305
DOWNHOLE	PRESSU	RE DA	TA (KPAG	i) Test Ti	mes: PF	10	ISN 120	VO	60 F	SN 360	Perfs	4.877
Decender M					40396		40	267	40290	40405	By-pass	
Recorder N	ange		40	370	40380		40	307	40385	40405	E/Record	1 524
Clock Hour-	-Emp			MP	EMP			MP	EMP	EMP	X Over	1.524
Depth - Me	tres		107	6.787	1084.661		109	5.841	1096.146	1136.196	DP/DC	27.65
Position of											X Over	
Pressure Po	ort		FI	UID	INSIDE	INSIDE	ou	SIDE	OUTSIDE	OUTSIDE	Blank	0.305
Initial Hydro	ostatic	(A)							12250		Packer	0.915
Start First F	low	(B)							205		Lower Packer	
End First Flo	ow	(81)							234		depth	1125.63
First Shut-In	n H Eleve	(C)	_	11.5					620		Daskar	0.015
Start Secon	I Flow	(0)							100		Packer	2.340
End Second	t-low	(E) (E)	_	65					235		Packer	6.706
Start Third	Flow	(H)		0.5					331		Recorder	1.524
End Third F	low	(1)					_				X Over	1.524
Third Shut-	In	(J)									DP/DC	832.28
Final Hydrostatic (G)								1224			X Over	
TEST IS: Misrun; X Satisfactory											Bullnose	0.61
Started in hole @ 1345 HR Opened tool @ 1529 HR Out of hole @ 0300 HR												1970.00
DP size (mm) 101.6 Weight (kg/m) 20.87 Main hole size (mm) 159									159	Total Interval	35.576	
DP length (	m)		1079.87	DC s	ize ID (mm)		DC abov	tool (m	ı)		Total Tail Pipe	844.375
Mud weight (kg/m3)         1145         Visc (s/L)         2.8         Water loss (cm3)         2.8         Tool Make up												
PACKER RUBBER SIZE (MM) 139.70 BOTTOM HOLE COKE (MM) 19.05											1.50 Hr	



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# **APPENDIX M : Geological Strip Log**

Number of pages :20Summary of the content:This appendix presents the geological strip<br/>log recorded during Hurricane#2<br/>operations.



BELLOY PETROLEUM CONSULTING LTD. SUITE 102, 902 – 9TH AVENUE S.E. CALGARY, ALBERTA T2G 0S4

GARY, ALBERTA TZG 054

24 Hrs. Bus: (403) 237-8700 Fax: (403) 265-6947



EAST ROCK GEOCONSULTING 36 PINEGROVE DRIVE PARADISE, NL A1L 1B8 Bus: (709) 770-3187



INVESTCAN ENERGY CORP. 335 DUCKWORTH STREET ST. JOHN, NL A1C 1G9 Bus: (709) 740-3390

Scale 1:240 (5"=100') Metric Measured Depth Log

Well Name:	HURRICANE #2 RE-ENTRY
Location:	U.W.I. # Not provided
License Number:	EP 03-107
Spud Date:	2005-11-24 / Re-Entry-2013-06-17-1200
Surface Coordinates:	Northing 5347195.57
	Easting 375854.54
Bottom Hole Coordinates:	Northing 5347200.87
	Easting 375858.93
Ground Elevation (m):	145.70
Logged Interval (m):	935.20 To: 1970.00
Formation:	Friar's Cove, Snake's Bight and Kennel's Brook
Type of Drilling Fluid:	Polymer
_	

Region: Flat Bay Drilling Completed: 2013-07-13-0512

K.B. Elevation (m): 149.97 Total Depth (m): 1970.00

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: INVESTCAN ENERGY CORPORATION. Address: 335 Duckworth Street St. John's, NL, A1G 1G9

### GEOLOGIST

Name:Pearce Bradley, P.Geol. / Jonathan Taylor / Marine Di MatteoCompany:Belloy / East Rock / InvestcanAddress:Suite 102, 902 - 9th Avenue S.E.Calgary, Alberta T2G 0S4403-237-8700

Holland Testing Ltd. RR#3 Wheatley, Ontario Operator: Derrick Holland DSTs

Comments

Contractor: Foragaz - Rig #3 Gas Detection equipment provided by: NOV Drilling Supervisor: Victor Leroux Ph No. 780-678-5108 Directional: Choice Directional Services Ltd.

ROCK TYPES														
	S Motor Button bit Pdc bit Casing Connection		Top (depth) Top (drilling) Normal fault Thrust fault Thrust fault 2 Isotube		Photo Rft / mdt Sidewall core HOLOGY Anhy	±10 <sup>40</sup> 0±1 0.00	Bent Brec Brec Cement Cht Cht Cht dk Clyst		Coal Congl Congl dk Congl dk Dol Gyp Igne		Lmst Meta T T Mrlst Salt Shale Sh blk	Sh brn Sh dkgy Sh gn Sh gy Sh red Sid		Sitst Sitst arg Ss Ss Ss arg Ss sity Till
		_		_			ACCES	SOR	IES	_		 _		
FOSSIL AI AI Ar Be Bi Bi Bi Bi Bi Ce Ci Ci Ci Ci Ci Ci Ci Ci Ci Ci	- gae nph elm oclst ach yozoa ephal oral in chin sh	NNT ■ N	Fossil Gastro Oolite Ostra Pelec Pellet Pisolite Plant Strom		Arg Arg 2 Bent Biot Bit Calc Calc 2 Carb Chlor Chlor Cht dk Cht gn Cht grs Cht It		Coal mtx Dol Dol 2 Feldspar Ferr pel Ferr Glau Glau 2 Granules Gyp Hvymin Kaol Marl		Mica Minxl Nodule Pebbles Phos Pyr Qtz grs Salt Sandy Sandy Sandy 2 Siderite Silt Red mud		Silt 2 Sil Sulphur Tuff Anhy Arg Bent Coal Coal Congl Dol Gyp	Ls Mrst Sltst Ss (TURE Boundst Chalky CryxIn Earthy FinexIn Grainst Lithogr	전 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MicroxIn Mudst Packst Wackest






































### **APPENDIX N : Final Geological Report**

Number of pages :68Summary of the content:This appendix presents the Final Geological<br/>Report.



BELLOY PETROLEUM CONSULTING LTD.

SUITE 102, 902 – 9TH AVENUE S.E. CALGARY, ALBERTA T2G 0S4 24 Hrs. Bus: (403) 237-8700 Fax: (403) 265-6947

East Rock

### EAST ROCK GEOCONSULTING

36 PINEGROVE DRIVE PARADISE, NL A1L 1B8 Bus: (709) 770-3187



INVESTCAN ENERGY CORP. 335 DUCKWORTH STREET ST. JOHN, NL A1C 1G9 Bus: (709) 740-3390

### **INVESTCAN ENERGY CORPORATION**

### **GEOLOGICAL REPORT**

HURRICANE #2 RE-ENTRY

N 5347195.57 / E 375854.54

Prepared for: Steve Emberly

-

A.F.E. #

License #: EP 03-107

Prepared by: Pearce Bradley, P. Geol. Jonathan Taylor Marine Di Matteo

### WELL DATA SUMMARY

Well Name:	HURRICA	NE #2	RE-ENT	RY				
<u>U.W.I.# :</u>	N/A					Province: N	ewfoun	dland
Licence #:	EP 03-10	7			Hole O	rientation: V	ertical	
Surface Location:	N 534719	5.57 / E	375854	.54				
Bottom Hole Location:								
Licensee: INVESTCAN E	NERGY CO	DRPORA	ATION		Field Nam	<u>e:</u> Flat Ba	ay (Bay	St. George)
Lahee Class:	NPW				<u>AFE# :</u>	-		
Elevation:	Ground:		14	45.70	m			
	Kelly Bus	hing:	14	19.97	m			
Surface Co-ordinates:	Northing \$	534719	5.57 Ea	asting 375	854.54			
Contractor:	Foragaz -	Rig #3						
Re-entry Date:	16-Jun-13	3 @	2 12:00			Re-	Entry W	/ell?: Yes
Hole Size: Surface: 210	6.00 mm	Int	ermediat	e: -	mm	Ма	in: 159	9.00 mm
Mud Type: Surface: Floc Wa	ter	Interme	ediate: -			Main: P	olymer	
Surface Casing:	Set at	323.20	m K.B.	177.80	mm Read	ched: 5-Dec	-05	@ 16:00
	Drilled Ou	ıt: 20 <sup>.</sup>	-Jun-13	@	15:00	Weigh	ıt 28.8	0 kg/m
Kickoff Point (KOP):	-	m	K.B.	Rea	ched: -	(	@ -	
Int. Casing (or Hz Heel) Point:	- 1	m K.B.	Reached	d: -	@	-	Monob	ore?
Int. Casing Size: -	mm	Weight	t: -	kg/m	Drilled	Out: -		@ -
Hz Leg 1 Start: -	m K.B.	Total De	pth Leg 1:	: -	m K.E	3		@ -
Hz Leg 2 Start: -	m K.B.	Total De	pth Leg 2:	-	m K.E	3		@ -
Hz Leg 3 Start: -	m K.B.	Total De	pth Leg 3:	-	m K.E	3		@ -
Production Casing:	- 1	mm	Weigh	nt: -	kg/m			
Total Depth:	1970.00	m	Reache	d: 13-Jul-	13	@ 5:12		
Cores cut: None	Formatior	ns corec	- :b					
	Intervals:	-						
Drill Stem Tests:	Friar's Co	ve and	Snakes E	Bight				
Open Hole Logs:	Baker Hu	ghes		Leduc,	Alberta			
<b>.</b>	То	р	Тор	Bottom	Bottom	•	Run	
Open Hole Logs Run Gamma-Spontanteous Potential- Calipe	M.I er-	D. I	.v.D.	M.D.	1.V.D.	Scales	#	Date Finished
Sonic-Neutron Porosity-Density-Minilog	- 202	00 2	22.00	1060 50	1060 50	1.240	1	14 10 12
Simultaneous Acoustic and Resistivity	323	.00 3	23.00	1969.50	1969.50	1.240	I	14-Jul-13
Imaging - Gamma ray	323	.00 3	23.00	1969.50	1969.50	1:240	2	14-Jul-13
Magnetic Resonance- Gamma Ray	323	.00 3	23.00	1969.50	1969.50	1:240	3	15-Jul-13
Directional Company: Choice	Directional	Service	s Ltd.	MWI	D/Gamma:	323.20 m	ı to	1970.00 m
Gas Detection Co.: MD Toto	0			<u>Ope</u>	rated from:	323.20 m	ı to	1970.00 m
Well Status:		Р	roductior	n Zone(s):	Snake's B	ight		
Ditch Samples: Every 5 m f	rom: 940	.00 to	1970.0	0 m E	very 10 m f	rom: 940.0	)0 to	1970.00 m
2.5 m samples over zon	es of intere	est?	No	Geoche	em / Isojar /	Isotube Sar	nples?	Yes
# of Sample \$	Sets for Cli	ent:	1	# of	Sample Se	ets for Gover	mment:	1

### GEOLOGICAL MARKERS

	K	.B. ELEVATION:	<u>149.97</u>	m				
Surface Casing Depth:	<u>323.20</u> m	Kickoff Point:	-	m	Intermediate C	asing Depth:	-	m
	Prognosis	Sample	Log		Log	Log	Diff.	From
Formation	<u>Subsea (m</u> )	<u>) M.D. (m)</u>	<u>M.D. (</u>	<u>m)</u>	<u>T.V.D. (m)</u>	<u>Subsea (m)</u>	<u>Pro</u>	<u>g (m)</u>

Prog Subsea Sample M.D. Log M.D. Log T.V.D. Log Subsea Difference

TOTAL DEPTH:

## DAILY MUD PROPERTIES

15-Jul-13	14-Jul-13	13-Jul-13	12-Jul-13	11-Jul-13	10-Jul-13	09-Jul-13	08-Jul-13	07-Jul-13	06-Jul-13	05-Jul-13	04-Jul-13	03-Jul-13	02-Jul-13	01-Jul-13	30-Jun-13	29-Jun-13	28-Jun-13	27-Jun-13	26-Jun-13	25-Jun-13	24-Jun-13	23-Jun-13	22-Jun-13	21-Jun-13	20-Jun-13	19-Jun-13	18-Jun-13	17-Jun-13	16-Jun-13	15-Jun-13		DATE	
1970	1970	1970	1937	1882	1876	1851	1808	1786	1786	1786	1784	1731	1722	1673	1618	1587	1522	1499	1440	1380	1344	1232	1093	959	940	584	329				(m)	DEPTH	
1150	1150	1150	1160	1150	1090	1095	1090	1095	1095	1095	1095	1095	1095	1100	1090	1095	1120	1130	1125	1120	1120	1120	1100	1075	1075	1015	1000	1000		1000	Kg/M3	DENSITY	
2.6	2.6	2.6	2.5	2.6	3.0	2.9	3.0	3.0	3.1	3.2	3.2	3.1	3.0	3.4	3.6	3.4	3.2	3.2	3.2	3.5	3.4	3.8	4.8	4.8	5.4		•		•		(cm3/30 min)	WATER LOSS	DAILY
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3						(mm)	FILTER CAKE	MUD PROPERTIE
8.5	8.5	8.5	8.5	9.0	9.0	9.5	8.5	8.5	8.5	8.5	9.0	8.0	8.0	7.5	8.0	9.0	9.0	9.0	9.5	9.5	10.0	11.0	12.0	12.0	12.5	12.0	12.0	10.0				pН	ö
54	54	54	51	53	52	62	49	53	55	53	49	55	53	47	47	47	47	47	46	46	47	47	42	35	37	32	32	32	32	32	(s/l)	VISCOSITY	
19/7	19/7	19/7	18/5	20/7	19/7	22/7	16/6	21/6	19/8	17/6.5	17/6	17/7.5	17/7.5	15/5	14/5	15/4.5	15/5	16/5	16/5	14/5	15/5	13/5	10/4	9/1.5	11/3							PV/YP	
ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	ω	2	2	2	2	2	2	2	2	2					•					GELS	

# DAILY MUD PROPERTIES (continued)

20-Jul-13	19-Jul-13	18-Jul-13	17-Jul-13	16-Jul-13		DATE
1970	1970	1970	1970	1970	(m)	DEPTH
1140	1140	1145	1150	1150	Kg/M3	DENSITY
2.8	2.9	2.8	2.7	2.8	(cm3/30 min)	WATER LOSS
0.8	0.8	0.8	0.5	0.5	(mm)	FILTER CAKE
8.0	8.0	8.0	8.0	9.0		рН
55	56	55	54	56	(S/I)	VISCOSITY
20/8.5	20/8.5	21/8	19/7.5	19/8		PV/YP
	ω	ω	ω	ω		GELS

### HURRICANE #2 RE-ENTRY - SURVEY RECORDS

Measured	Incl	Drift	True			Vertical	Dogleg	Subsea
Depth	Angle	Direction	Vertical	N-S	E-W	Section	Severity	TVD
Meters	Deg	Deg	Depth	Meters	Meters	Meters	Deg/30m	Meters
KB								
.00	.00	.00	.00	.00	.00	.00	.00	149.83
Ground								
4.13	.00	.00	4.13	.00	.00	.00	.00	145.70
Casing Shoe								1 - 0 1 -
323.00	.00	.00	323.00	.00	.00	.00	.00	-1/3.1/
Tie In Survey	2 60	186 80	240 45	<b>C</b> 1	0.4	<b>C</b> 1	<b>F F 4</b>	100 64
342.48	3.60	1/6./0	342.47	61	.04	61	5.54	-192.64
389.46	3.30	1/3.00	389.36	-3.43	.28	-3.43	.24	-239.53
446.17	3.30	178.30	445.98	-6.68	.53	-6.68	.16	-296.15
503.07	4.00	194.20	502.76	-10.24	.09	-10.24	.65	-352.93
559.57	5.10	208.10	559.09	-14.36	-1.57	-14.36	.82	-409.26
616.46	5.20	215.00	615.75	-18.71	-4.24	-18.71	.33	-465.92
672.98	4.30	221.60	672.07	-22.39	-7.12	-22.39	.56	-522.24
729 91	3 90	223 90	728 86	-25 38	-9.88	-25 38	23	-579 03
785 90	3 70	225 20	784 72	-28 03	-12 48	-28 03	12	-634 89
842.12	3.10	251.20	840.85	-29.79	-15.21	-29.79	.87	-691.02
899.25	3,30	303.10	897.90	-29.39	-18.05	-29.39	1.47	-748.07
918.03	3.30	317.00	916.65	-28.70	-18.87	-28.70	1.28	-766.82
936.94	3.70	329.10	935.52	-27.78	-19.55	-27.78	1.33	-785.69
946.44	3.70	329.90	945.00	-27.25	-19.86	-27.25	.16	-795.17
956.00	4.70	349.50	954.54	-26.60	-20.09	-26.60	5.45	-804.71
965.39	5.40	353.10	963.89	-25.78	-20.21	-25.78	2.45	-814.06
974.78	5.90	358.90	973.24	-24.86	-20.28	-24.86	2.42	-823.41
984.24	6.00	359.20	982.65	-23.88	-20.29	-23.88	.33	-832.82
993.71	6.40	356.40	992.06	-22.86	-20.33	-22.86	1.59	-842.23
1003.18	6.90	351.80	1001.47	-21.77	-20.45	-21.77	2.31	-851.64
1012.60	7.40	357.30	1010.81	-20.60	-20.56	-20.60	2.70	-860.98
1022.02	8.30	359.80	1020.15	-19.32	-20.59	-19.32	3.06	-870.32
1031.41	9.80	13.00	1029.42	-17.86	-20.41	-17.86	8.15	-879.59
1040.94	10.50	20.10	1038.80	-16.26	-19.93	-16.26	4.51	-888.97
1050 36	10 00	25 80	1048 07	-14 71	-19 28	-14 71	3 60	-898 24
1050.50	10.00	25.00	1057 36	-13 25	-18 54	-13 25	88	-907 53
1069 36	10.00	27.10	1066 78	-11 76	-17 77	-11 76	.00	-916 95
1078 81	10.20	26 60	1076 08	-10 25	-17 01	-10 25	.01	-926 25
1088.45	11.20	26.50	1085.55	-8.64	-16.20	-8.64	2.49	-935.72
1000 04	10.00		1004.00		15 05		0.65	0.45 1.0
1098.04	10.60	29.70	1094.96	-7.04	-15.35	-7.04	2.67	-945.13
1107.48	9.90	33.90	1104.25	-5.61	-14.4/	-5.61	3.25	-954.42
1116.92	8.90	37.70	1113.5/	-4.36	-13.5/	-4.36	3.74	-963./4
1126.55	7.20	45.60	1123.10	-3.35	-12.68	-3.35	6.31	-973.27
1135.97	5.40	53.10	1132.46	-2.67	-11.90	-2.67	6.29	-982.63
1145.06	4.40	65.20	1141.52	-2.26	-11.25	-2.26	4.73	-991.69
1154.98	3.80	76.00	1151.42	-2.02	-10.58	-2.02	2.95	-1001.59
1164.35	3.50	75.70	1160.77	-1.88	-10.00	-1.88	.96	-1010.94
1183.41	3.30	69.30	1179.79	-1.54	-8.93	-1.54	.67	-1029.96
1202.43	3.40	61.40	1198.78	-1.08	-7.92	-1.08	.74	-1048.95
1221.72	3.40	50.50	1218.04	44	-6.98	44	1.00	-1068.21
1240.60	3.70	44.90	1236.88	.35	-6.11	.35	.73	-1087.05
1250.42	3.60	49.90	1246.68	.77	-5.65	.77	1.02	-1096.85
1259.81	3.70	59.80	1256.05	1.11	-5.17	1.11	2.04	-1106.22
1269.27	3.20	69.20	1265.49	1.36	-4.66	1.36	2.39	-1115.66
1070 60	2 40		1074 00	1 - 1	A T A	1 - 1	1 65	1105 05
1200 10	3.40	//.50	1204 22	1.51	-4.14	1.51	1.05	-1124.46
T798.T0	3.30	87.80	1284.29	1.59	-3.59	1.59	1.94	-1134.46

### HURRICANE #2 RE-ENTRY - SURVEY RECORDS

Measured	Incl	Drift	True			Vertical	Dogleg	Subsea
Depth	Angle	Direction	Vertical	N-S	E - W	Section	Severity	TVD
Meters	Deg	Deg	Depth	Meters	Meters	Meters	Deg/30m	Meters
1007 50	2 70	111 10	1202 71	1 50	2 1 2	1 50	1 20	11/2 00
1216 12	2.70	150 00	1293.71	1.52	-3.12	1 12	2.20	-1143.00
1325 83	1.00	147 20	1312.00	1.13	-2.37	1.13	2.04	-1172 17
1323.03	1.20	147.20	1322.00	.95	-2.45	. 95	1.51	-11/2.1/
1335.24	1.00	140.80	1331.40	.78	-2.35	.78	.75	-1181.57
1354.13	.90	124.10	1350.29	.57	-2.12	.57	.47	-1200.46
1373.13	.40	152.50	1369.29	.43	-1.97	.43	.92	-1219.46
1382.56	.50	330.30	1378.72	.43	-1.97	.43	2.86	-1228.89
1392.01	1.50	329.70	1388.17	.58	-2.06	.58	3.17	-1238.34
1401.41	2.70	336.00	1397.56	.89	-2.21	.89	3.89	-1247.73
1410.78	3.60	337.50	1406.92	1.36	-2.41	1.36	2.89	-1257.09
1420.25	3.20	341.50	1416.37	1.88	-2.61	1.88	1.47	-1266.54
1429.96	2.20	345.10	1426.07	2.32	-2.74	2.32	3.13	-1276.24
1439.41	1.70	.60	1435.51	2.64	-2.79	2.64	2.29	-1285.68
1448.81	2.00	4.80	1444.91	2.94	-2.77	2.94	1.05	-1295.08
1458 30	2 80	355 70	1454 39	3 34	-2 78	3 34	2 79	-1304 56
1467 84	3 40	343 50	1463 92	3 84	-2.87	3 84	2 79	-1314 09
1486 80	4 90	345 70	1482 83	5 16	-3 23	5 16	2 39	-1333 00
1496 91	5 30	347 80	1492 90	6 04	-3 44	5.±0 6.04	1 31	-1343 07
1506.36	5.80	346.20	1502.30	6.93	-3.64	6.93	1.66	-1352.47
1515 00	4 00	C 20	1511 04	7 7 6	2 50	7 7 7	9 29	1260.01
1515.93	4.20	6.30	1511.84	/./5	-3./2	1.15	7.37	-1362.01
1524.79	3.00	39.40	1520.68	8.25	-3.54	8.25	7.96	-13/0.85
1534.20	2.70	49.40	1530.08	8.58	-3.21	8.58	1.85	-1380.25
1543.58	3.80	82.50	1539.44	8.77	-2.74	8.//	6.81	-1389.61
1553.17	4.10	109.50	1549.01	8.69	-2.10	8.69	5.84	-1399.18
1571.97	4.50	131.00	1567.76	7.99	91	7.99	2.63	-1417.93
1581.36	4.80	137.00	1577.12	7.46	36	7.46	1.82	-1427.29
1600.53	5.50	139.20	1596.21	6.18	.78	6.18	1.14	-1446.38
1619.39	5.30	136.70	1614.99	4.86	1.97	4.86	.49	-1465.16
1638.15	4.90	136.90	1633.67	3.64	3.11	3.64	.64	-1483.84
1656.98	4.60	138.20	1652.44	2.49	4.17	2.49	.51	-1502.61
1676.01	4.20	139.20	1671.41	1.39	5.13	1.39	.64	-1521.58
1685.33	2.40	157.40	1680.72	.96	5.43	.96	6.63	-1530.89
1694.75	1.10	272.70	1690.13	.78	5.41	.78	9.67	-1540.30
1704.35	2.20	282.90	1699.73	.82	5.14	.82	3.54	-1549.90
1713.77	2.40	286.10	1709.14	. 92	4.78	. 92	. 76	-1559.31
1723.33	1.00	20.70	1718.70	1.05	4.61	1.05	8.39	-1568.87
1732.80	1.40	43.10	1728.17	1.21	4.72	1.21	1.93	-1578.34
1742 44	90	122 00	1737 81	1 26	4 87	1 26	4 70	-1587 98
1751.88	.60	138.30	1747.25	1.18	4.96	1.18	1.16	-1597.42
1961 26	<b>C</b> 0	227 40	1756 70	1 10	4 0 0	1 10	2 74	1606 00
1770.36	.60	337.40	1756.72	1.19	4.98	1.19	3.74	-1606.89
1700.76	.80	340.10	1775 52	1.30	4.93	1.30	.65	-1616.29
1700.17	1.10	333.10	1704 05	1.44	4.8/	1.44	1.02	-1625.70
1/89.59	1.30	336.40	1/84.95	1.62	4.79	1.62	.6/	-1635.12
1798.98	1.30	337.80	1794.34	1.82	4.70	1.82	.10	-1644.51
1808.47	1.40	343.30	1803.83	2.03	4.63	2.03	.52	-1654.00
1817.87	1.40	342.80	1813.22	2.25	4.56	2.25	.04	-1663.39
1827.31	1.40	340.20	1822.66	2.47	4.49	2.47	.20	-1672.83
1836.84	1.20	344.50	1832.19	2.67	4.42	2.67	.70	-1682.36
1845.47	1.00	349.20	1840.82	2.83	4.39	2.83	.76	-1690.99
1854.91	1.20	356.00	1850.25	3.01	4.36	3.01	.76	-1700.42
1863.69	1.20	.30	1859.03	3.20	4.36	3.20	.31	-1709.20
1877.05	1.30	3.40	1872.39	3.49	4.37	3.49	.27	-1722.56

### HURRICANE #2 RE-ENTRY - SURVEY RECORDS

Measured	Incl	Drift	True			Vertical	Dogleg	Subsea
Depth	Angle	Direction	Vertical	N-S	E - W	Section	Severity	TVD
Meters	Deg	Deg	Depth	Meters	Meters	Meters	Deg/30m	Meters
1886.48	1.70	5.80	1881.82	3.73	4.39	3.73	1.29	-1731.99
1895.94	2.00	15.10	1891.27	4.03	4.45	4.03	1.34	-1741.44
1905.34	2.10	12.70	1900.67	4.36	4.53	4.36	.42	-1750.84
1914.83	2.10	5.90	1910.15	4.70	4.58	4.70	.79	-1760.32
1925.11	1.70	356.60	1920.42	5.04	4.59	5.04	1.47	-1770.59
1934.55	1.50	351.50	1929.86	5.30	4.57	5.30	.78	-1780.03
1943.96	1.30	337.20	1939.27	5.52	4.51	5.52	1.28	-1789.44
1956.00	1.40	333.80	1951.30	5.78	4.39	5.78	.32	-1801.47
1970.00	1.40	333.80	1965.30	6.09	4.24	6.09	.00	-1815.47

### BIT RECORD

9	8	7	6	СЛ	4	ω	Ν	-		BIT
159	159	159	159	159	159	159	159	159	(mm)	SIZE
Hughes	Hughes	Hughes	Hughes	Hughes	Hughes	Hughes	Hughes	Hughes		MAKE
STX-30DX	STX-30DX	DP307S	STX-30DX	QD405FX	STX-35DX	QD406FX	QD406FX	STX-1		TYPE
3 X 15.9	3 x 15.9	5x12.7 & 2x11.1	3 x 15.9	5x12.7	3 x 15.9	4x12.7 & 2x8.7	4x12.7 & 2x8.7	3 x 20	(mm)	JETS
5206281	5205268	7032500	5205268	7137507	5217719	7029738	7032271	5177714		SERIAL #
1936.6	1882.0	1854.8	1786.2	1731.1	1597.6	1509.5	940.5	323.0	(m)	DEPTH IN
33.4	54.6	27.2	68.6	55.0	133.5	88.1	569.0	617.5	(m)	DRILLED
5.00	54.60	14.00	34.25	21.50	56.50	30.25	122.25	66.00		HOURS
ω	ω	7	4	ი	4	N	4	N	⊒	
4	ດ	œ	00	σı	4	7	N	N	TOI	~
Ę	₹	RO	₹	₹	₹	₹	₹	₹	MDC	NON
Т	Þ	ა	Þ	Þ	Þ	ა	z	Þ	Б	DILIO
ω	4	×	ω	×	4	×	×	N	B/S	Q N
_	_	_	156	_	_	_	_		GAC	IAD
5	BT C	z	50	4	50 +	4	4	NO B		0
D	ŠF	R	P	R	力	R	R	ΗA	P	

### **Detailed Wireline Logging Report**

Logging Company : Logging Engineer :	Baker Hugh H. Munro / S	es 3. Shchipkov	Ba	ase: Leduc, Alberta
Elevations :	Ground : Kelly Bushi	145.70 i <b>ng :</b> 149.97		
Total Depth :	Drillers : Loggers :	1970.00 1969.50	Lic	ence # : EP 03-107
Hole Size:	159.00		Casing Depth:	323.70
Hole Orientation:	Vertical		Casing Size:	177.80
Maximum Deviation:	< 5 deg.		Casing Weight:	25.30
			Mud Parameters	
Mud Type : Polymer Density : 1.2 G/L Viscosity : 56.0 CP PH : 9.0 Fluid Loss : 2.8 Rmf @ Measured Te Bottom Hole Temp (B	m <b>p:</b> 0.10 <b>HT):</b> 25.9	ohm-m @ degrees C	23.7 degrees C	
		C	perations Summary	
Hole Condition Prior	to Logging :	Several trips	prior to drilling to TD, no ho	ble problems (fill, drag etc.)
Circulation time after	Wiper Trip :	2 hours	p	, p
Number of Wiper Tr	rips :	1		
Details of Wiper Tri	ps:	10 STD's		
Number of Runs in	the Hole :	4		
Succeeded : 4		Failed: 0	Total :	0
			Time Report	
Loggers Called for :	13-Jul-13	@ 12:00	Logging Completed :	16-Jul-13 @ 9:00
Loggers Arrived :	13-Jul-13	@ 12:00	Loggers Released :	16-Jul-13 @ 14:00
Loggers Rigged Up :	13-Jul-13	@ 14:00	Total Logging Time :	67 hours
Loggers On Bottom :	13-Jul-13	@ 22:35	Total Time on Site :	74 hours
Main Computer in loggir	ng shack had tr	oubles upon an	<u>Comments</u> rival. ZDL (density tool) had to b	e pulled out of hole and replaced on Run # 1
Tensioner tool had to be Future Casing Size :	pulled on Run 127mm	#2. Computer of	rashed while logging NMR in Ru	in #3. Returned to TD to recommence logging.

OPEN HOLE LOGS RUN (enter all tool names in			BOTTOM	BOTTOM		RUN	
full, text will wrap)	TOP M.D.	TOP TVD	M.D.	TVD	SCALES	#	DATE FINISHED
Gamma-Spontanteous Potential- Caliper-Sonic- Neutron Porosity-Density-Minilog-Induction	323.00	323.00	1969.50	1969.50	1:240	1	14-Jul-13
Simultaneous Acoustic and Resistivity Imaging - Gamma ray	323.00	323.00	1969.50	1969.50	1:240	2	14-Jul-13
Magnetic Resonance- Gamma Ray	323.00	323.00	1969.50	1969.50	1:240	3	15-Jul-13
Formation Multi tester - Gamma Ray	1103.90	1103.90	1475.80	1475.80	1:240	4	16-Jul-13

WELL NAME:	HURRICANE #2	RE-ENTRY		<u>DATE:</u> 1	8-Jul-13
<u>DST #:</u> 1	INTERVAL:	1443.94 to 1480	).43 m <u>F</u>	ORMATION	I: Snake's Bight
<u>Type of DST:</u> Dua	al Straddle Conven	tional			
Testing Company:	Holland Tester's L	imited	Operator:	Derrick Ho	lland
Preflow: 10 min	<u>I.S.I:</u> 120	min <u>V.O.:</u>	30 min	<u>F.S.I.:</u> 2	40 min
Blow Description:	Open for preflow,	had weak initial	puff, 1" in bubbl	le pail. Stead	ly through out 10 min
Final Blow: Val	ve open had weak	initial puff, 2" in b	oubble pail, dec	reasing to de	ead in 20 min. Shut-in
after 30 min. No g <u>Flow Rates:</u>	as to surface.				

Pressures:	<u>IHP:</u> 16314	<u>PF:</u> 323	<u>ISIP:</u> 831	
<u>IFP:</u> 303	<u>FF</u>	<u>P:</u> 341	<u>FSIP:</u> 850	<u>FHP:</u> 16299
Date and Ti	me Tool Opened:	13-07-18-0730	<u>BHT:</u> 21.2	
Fluid Recov	ery: 12.2 meters	s of drilling fluid		

Samples: Taken @ 10 meters and 1.52 meters and from bottom hole sampler

Shipped to:

<u>Remarks:</u> Test one over interval #1 failed (leaked fluid into drill stem). POOH to check tools. Noticed missing protective sleeve, waited on part to arrive from Ontario.

WELL NAME:	HURRICANE #2 RE	E-ENTRY		DATE:	19-Jul-13
<u>DST #:</u> 2	<u>INTERVAL:</u> 1	316.69 m to 137	1.14 m <u>F</u> 0	ORMATIC	<u>DN:</u> Friar's Cove
Type of DST: Dua	al Straddle Conventic	nal			
Testing Company	Holland Tester's Lir	nited	<u>Operator:</u>	Derrick H	folland
Preflow: 10 min	<u>I.S.I:</u> 125 n	nin <u>V.O.:</u>	60 min	<u>F.S.I.:</u>	360 min
Blow Description:	Open for pre-flow, h	ad faint blow in t	oubble hose w	ith 1/8" in	bubble pail. Dead in 5 min.
Final Blow: Ope	en for valve open, ha	d weak initial puf	f, with 3" in bu	bble pail,	decreasing through out,
Dead in 40 mins. <u>Flow Rates:</u>	No gas to surface				

Pressures:	<u>IHP:</u> 14770	<u>PF:</u> 1387	<u>ISIP:</u> 1774	
<u>IFP:</u> 195	FFF	<u>e:</u> 251	<u>FSIP:</u> 765	<u>FHP:</u> 14769
Date and Tin	ne Tool Opened:	13-07-18-2155	<u>BHT:</u> 19.47	
Fluid Recove	ery: 2.5 meters of	of drilling mud. Bottor	m hole sampler had no flu	uid but approximately
	100psi of ga	as trapped.		
<u>Samples:</u>	Fluid (drilling mu	d) taken @ 2.0m abo	ove sampler. Gas sample	recovered from sampler.
Shipped to:	Gas samples shi	pped to Maxxam Lal	bs in Edmonton.	

<u>Remarks:</u> No gas to surface. Test was satisfactory, although it looks like there may have been some plugging during preflow (pressures recorded do not match observations at bubbler. Overall the DST pressures recorded would suggest depletion and virtually no permeability

WELL NAME:	HURRICANE #2	RE-ENTRY		DATE:				
<u>DST #:</u> 3	INTERVAL:	1194.5 m to 125	50.0 m <u>F</u>	ORMATION:	Friar's Cove			
Type of DST: Dual Straddle Conventional								
Testing Compan	<u>y:</u> Holland Tester's L	₋imited	<u>Operator:</u>	Derrick Holla	nd			
Preflow:	<u>I.S.I:</u>	<u>V.O.:</u>		<u>F.S.I.:</u>				
Blow Description	<u>n:</u>							
Final Blow:								
Flow Rates:								
Pressures: IH	<u>P:</u>	<u>PF:</u>	<u>ISIP</u>	<u>.</u>				
IFP:	FFP:		<u>FSIP:</u>		FHP:			
Date and Time	Tool Opened:		BHT	<u>:</u>				
Fluid Recovery:								
Samples:								
Shipped to:								

<u>Remarks:</u> Cancelled - move to uppermost interval

WELL NAME:	HURRICANE #2 F	RE-ENTRY		DATE:	19-Jul-13		
<u>DST #:</u> 4	INTERVAL:	1090.05 m to 112	25.63m <u>F</u>	ORMATIO	<u>N:</u> Snake's Bight		
Type of DST: Dual Straddle Conventional							
Testing Company:	Holland Tester's L	imited	<u>Operator:</u>	Derrick H	lolland		
Preflow: 10	<u>l.S.l:</u> 120	<u>V.O.:</u>	60	<u>F.S.I.:</u>	360		
Blow Description:	Weak initial puff th	at was maintaine	d for the entire	ty of the 10	0 min test (at 3" level).		
Final Blow: Wea	ak initial puff at 2" I	evel. Slowly decre	easing to dead	in 40 min.	No gas to surface.		
Mud held through Flow Rates:	out test.						

Pressures:	<u>IHP:</u> 12250	<u>PF:</u> 234	<u>ISIP:</u> 620	0			
<u>IFP:</u> 188	FFF	<u>:</u> 235	<u>FSIP:</u> 951	<u>FHP:</u> 12244			
Date and Tin	ne Tool Opened:	13-07-19-1529	<u>BHT:</u> 16.	.85			
Fluid Recove	Fluid Recovery: 1.52 m of drilling mud above fluid bottom hole sampler.						
	One fluid sa	mple was caught from	bottom hole sample	er as well as a gas bomb.			
Samples:	Gas bomb (ques	tionable) and fluid (dri	lling fluid) from botto	m hole sampler			
Shipped to:	Gas bomb sent to Maxxam labs, Edmonton. Fluid samples testing facilitates TBD						
Remarks:	Test was satisfac	ctory.					

### DAILY PROGRESS SUMMARY REPORT

WELL NAME:	HURRICANE #2 RE-ENTRY
LOCATION:	N 5347195.57 / E 375854.54
OPERATOR:	INVESTCAN ENERGY CORPORATION

DATE	DAY	TIME	FROM	TO	DRILLED	OPERATIONS SUMMARY
13-Jun-13	1	23:59	323	323	0	W/O daylight. Move rig. Setup rig. W/O daylight.
14-Jun-13	2	23:59	323	323	0	W/O davlight. Rig up. W/O davlight.
15-Jun-13	3	23:59	323	323	0	W/O daylight. Rig up. Nipple up between sub and choke manifold. W/O daylight.
16-Jun-13	4	23:59	323	323	0	W/O daylight. Cut off existing csg bowl, weld on 9" 3000 lb
17-Jun-13	5	23:59	323	323	0	Continue to nipple up BOP's. Pressure test BOP's. Setup & drill mouse hole.
18-Jun-13	6	23:59	323	327	4	P/U BHA. RIH. Tag cmt @ 273 m. Drill cmt plug(273-327m). Circ. POOH. I /D stabilizer. P/U scraper. RIH. Circ. POOH.
19-Jun-13	7	23:59	327	597	270	Cmt bond log. RIH. Stuck in hole. POOH. L/D csg scraper. P/U BHA, RIH, Stuck in hole. POOH. L/D stab's & P/U motor.
20-Jun-13	8	23:59	597	941	344	POOH. P/U BHA. RIH. Ream & clean 579-830 m. Drill cmt fr 830-936m. Drill fr 936-940.54m. POOH. P/U dir tools. RIH.
21-Jun-13	9	23:59	941	1049	108	RIH. Repair hydraulic leaks. Drill fr 940.54 - 1049 m.
22-Jun-13	10	23:59	1049	1190	141	Drill ahead 159 mm main hole.
23-Jun-13	11	23:59	1190	1317	127	Drill ahead 159 mm main hole.
24-Jun-13	12	23:59	1317	1355	38	Drill ahead 159 mm main hole to 1344.5 m. POOH. P/U new directional tools. RIH. Resume drilling at 1344.5 m.
25-Jun-13	13	23:59	1355	1426	71	Drill ahead 159 mm main hole. Condition mud and circulate.
26-Jun-13	14	23:59	1426	1484	58	Drill ahead 159 mm main hole.
27-Jun-13	15	23:59	1484	1510	26	Drill ahead 159 mm main hole to 1509.50 m. POOH. Change bit 2-3 and P/U directional tools. RIH.
28-Jun-13	16	23:59	1510	1573	64	Drill ahead 159 mm main hole.
29-Jun-13	17	23:59	1573	1604	31	Drill ahead 159 mm main hole to 1597.60 m. POOH. Change bit 3-4 and RIH. Drill ahead 159 mm main hole.
30-Jun-13	18	23:59	1604	1662	58	Drill ahead 159 mm main hole.
01-Jul-13	19	23:59	1662	1708	47	Drill ahead 159 mm main hole.
02-Jul-13	20	23:59	1708	1731	23	Drill ahead 159 mm main hole. Circ. up bott. hole sample. POOH. Pressure test BOP's.
03-Jul-13	21	23:59	1731	1773	42	Finish pressure tests. RIH with Bit # 5. Drill ahead 159 mm main hole.
04-Jul-13	22	23:59	1773	1786	13	Drill ahead 159 mm main hole. POOH. Pressure test blind ram. Trip in hole to latch onto packer.
05-Jul-13	23	23:59	1786	1786	0	RIH to latch unto packer. POOH. No packer recovered. RIH on 2nd attempt with modified overshot.
06-Jul-13	24	23:59	1786	1786	0	RIH to latch unto packer (attempt 3). POOH. No packer recovered. RIH on DP (attempt #4) with modified overshot.
07-Jul-13	25	23:59	1786	1801	15	Continue to retrieve packer (inflated). POOH with fish. RIH with tri-cone and mud motor.

### DAILY PROGRESS SUMMARY REPORT (continued)

WELL NAME:	HURRICANE #2 RE-ENTRY
LOCATION:	N 5347195.57 / E 375854.54
OPERATOR:	INVESTCAN ENERGY CORPORATION

DATE	DAY	TIME	FROM	TO	DRILLED	OPERATIONS SUMMARY
08-Jul-13	26	23:59	1801	1843	42	Drill ahead 159mm hole. Rig Service on draw works
09-Jul-13	27	23:59	1843	1855	12	Drill ahead 159mm hole. POOH for mud motor. Change motor and bit and RIH. Rig service - draw works.
10-Jul-13	28	23:59	1855	1882	28	Continue to RIH with straight motor and PDC. Drill ahead 159mm section. Problems rotating. POOH for bit.
11-Jul-13	29	23:59	1882	1917	35	RIH with new bit (tri-cone); 8 less DC and a straight motor. Drill ahead 159mm section.
12-Jul-13	30	23:59	1917	1951	34	Drill ahead 159mm with tri-cone and straight motor.
13-Jul-13	31	23:59	1951	1970	19	Drill ahead 159mm section to TD. POOH (10 STD wiper trip) Rig up and RIH with Wireline Logging Run # 1.
14-Jul-13	32	23:59	1970			Rig out Run # 1 and Rig in Run # 2. Log from TD to CSG. Rig out Run#2 and Rig in Run # 3. Log from TD to CSG.
15-Jul-13	33	23:59				Continue Logging Run#3. Rig out Run  #3 and Rig up Run # 4. Perform FMT tests over several intervals
16-Jul-13	34	23:59				Continue FMT testing (Run#4). Rig out # 4. Perform BOP pressure test. RIH for clean out trip prior to DST.
17-Jul-13	35	23:59				Rig up DST tool string and run hole to test interval #1 (1444m- 1480.5m). Tool failed. POOH and wait on part.
18-Jul-13	36	23:59				Part arrived onsite at 04h00, RIH to perform DST #1. POOH for recorders and RIH for DST #2 (1316.5 to 1371.0).
19-Jul-13	37	23:59				Based on first two DST results, decision was made to skip third interval and test interval 4.
20-Jul-13	38	23:59				POOH DST interval 4, RIH to perform wiper trip, POOH and lay down drill pipe to prepare for RIH with CSG.

### SAMPLE DESCRIPTIONS

Depth (m)

935 - 940

- Sandstone (70%): light gray, grading slightly to off white, common orange pink stained grains, upper fine to lower medium grained, common upper medium and occasional lower coarse grains, quartzitic with 5% medium gray lithic grains, trace to minor micro flakes, rare to trace pyrite, in part argillaceous and kaolinitic matrix, subangular to angular grains, in part subrounded grains, moderately to poorly sorted, siliceous and common calcareous cement, common loose grains, in part fair grain relief, tight to poor intergranular porosity (0 to 3%), 20% patchy faint orange direct fluorescence, 5% uniform bright white mineral fluorescence, pale cut;
- <u>Siltstone (30%)</u>: light gray grading to medium gray, gritty texture, siliceous cement, argillaceous in part, in part grading to lower very fine grained sandstone, tight.

940 - 945

- Sandstone (90%): light gray, grading slightly to off white, very fine to fine grained, rare upper medium and occasional lower coarse grains, quartzitic with 10% medium gray lithic grains and 5% feldspar, trace pyrite, minor micro flakes, in part argillaceous and kaolinitic matrix, subrounded to subangular grains, moderately sorted, calcareous cement, tight, 10% patchy faint amber direct fluorescence, pale cut;
- <u>Siltstone (10%)</u>: light gray grading to medium gray, gritty texture, siliceous cement, argillaceous in part, in part grading to lower very fine grained sandstone, tight.

945 - 950

- Sandstone (80%): light gray, in part grading to off white and medium gray, minor to in part common orange pink to faint brown stained grains, variable upper very fine to lower medium grained, common upper medium and occasional lower coarse grains, quartzitic with trace medium gray lithic grains, trace micro flakes, rare pyrite, common argillaceous, silty and kaolinitic matrix, subangular to subrounded grains, moderately to poorly sorted, siliceous and calcareous cement, common loose grains, occasional fair grain relief, tight to trace poor intergranular porosity (0 to 3%), 30% patchy faint with pale amber direct fluorescence, dull with pale cut;
- <u>Siltstone (20%)</u>: light gray grading to medium gray, gritty texture, siliceous cement, argillaceous in part, commonly grading to lower very fine grained sandstone, tight.

950 - 955

Sandstone (70%): light and medium gray, trace orange pink to faint brown stained grains, variable upper very fine to lower medium grained, minor upper medium grains, quartzitic with trace medium gray lithic grains, trace micro flakes, rare pyrite, common argillaceous, silty and kaolinitic matrix, subangular to subrounded grains, moderately sorted, siliceous and calcareous cement, minor loose grains, trace fair grain relief,

### SAMPLE DESCRIPTIONS

### Depth (m)

tight to inferred trace poor intergranular porosity (0 to 3%), 10% patchy faint amber direct fluorescence, dull with pale cut;

<u>Siltstone (30%)</u>: light gray and medium gray, gritty texture, siliceous cement, argillaceous matrix, commonly grading to lower very fine grained sandstone, tight.

955 - 960

Sandstone (70%): light and medium gray, trace orange pink to faint brown stained grains, upper very fine to upper fine grained, in part lower medium grained, quartzitic with trace to 3% lithic grains, trace micro flakes, rare pyrite, common argillaceous, silty and kaolinitic matrix, subangular to subrounded grains, moderately sorted, siliceous and calcareous cement, minor loose grains, tight to inferred trace poor intergranular porosity (0 to 3%), 10% patchy faint amber direct fluorescence, dull with pale cut;

<u>Siltstone (30%)</u>: light and medium gray, occasionally grading to dark gray, gritty texture, siliceous cement, argillaceous matrix, in part micaceous, commonly grading to very fine grained sandstone, tight.

### 960 - 965

- <u>Sandstone (70%)</u>: light and medium gray, rare orange pink to faint brown stained grains lower fine to lower medium grained, in part upper very fine grained and minor upper medium grains, quartzitic with trace to 3% lithic grains, trace micro flakes, rare pyrite, common argillaceous, silty and kaolinitic matrix, subangular to subrounded grains, occasional frosted rounded grains, moderately sorted, siliceous and calcareous cement, common loose grains, tight to inferred poor intergranular porosity (0 to 3%), 5% patchy faint dark amber direct fluorescence, faint cut;
- <u>Siltstone (30%)</u>: light and medium gray, occasionally grading to slightly dark gray, gritty texture, siliceous cement, argillaceous matrix, in part micaceous, common very fine sandy, tight.

965 - 970

- Sandstone (70%): light gray, in part medium gray and occasionally off white, lower fine to lower medium grained, common upper very fine grained and minor upper medium grains, predominantly quartzitic with 15% medium gray lithic grains, trace micaceous, trace pyrite, subrounded and subangular grains, trace rounded frosted grains, moderately sorted, siliceous and calcareous cement, common loose grains, tight to inferred poor intergranular porosity (0 to 3%), trace patchy faint dark amber direct fluorescence, faint cut;
- <u>Siltstone (30%)</u>: light and medium gray, gritty texture, siliceous cement, in part calcareous cement, in part very fine sandy, tight.

### 970 - 975

Sandstone (70%): light and medium gray grading occasionally to off white, lower and upper very fine grained to upper fine grained, common lower medium grains and occasional upper medium grains, in part grading

### SAMPLE DESCRIPTIONS

### Depth (m)

to sandy siltstone, quartzitic with trace lithic grains, minor pyrite throughout, trace micaceous, common argillaceous and silty matrix, in part kaolinitic matrix, subangular and subrounded grains, occasional rounded frosted quartz grains, moderately to poorly sorted, siliceous and calcareous cement, tight to trace inferred poor intergranular porosity (0 to 3%), 5% spotty faint with pale amber direct fluorescence, faint cut;

<u>Siltstone (30%)</u>: light and medium gray, in part dark gray, gritty texture, siliceous and calcareous cement, argillaceous, in part shaly, in part sandy, tight.

### 975 - 980

- Sandstone (80%): light and medium gray, minor grading to off white, abundant clear and translucent quartz grains, in part frosted, upper fine to lower medium grained, in part lower fine and upper medium grains, trace micromicaceous flakes, common pyrite, common argillaceous and kaolinitic matrix, subangular to subrounded grains, in part angular, moderately sorted, siliceous and calcareous cement, inferred tight to poor intergranular porosity (0 to 3%), spotty dark brown oil stain, 15% spotty pale amber direct fluorescence, trace bright yellow white fluorescence, pale cut;
- <u>Siltstone (20%)</u>: medium gray, gritty, siliceous and calcareous cement, in part very fine sandy and common argillaceous, tight.

### 980 - 985

- Sandstone (80%): light and medium gray grading occasionally to off white, lower fine to upper medium grained, common upper very fine grained and minor lower coarse grains, quartzitic to 15% lithic grains, trace micromicaceous, common pyrite, common argillaceous and kaolinitic matrix, subangular to subrounded grains, occasional angular, moderately sorted, siliceous and calcareous cement, common quartz overgrowths, common loose grains, tight to inferred poor intergranular porosity (0 to 3%), spotty dark brown oil stain, 20% spotty pale with dull amber with dark yellow direct fluorescence, faint with pale cut;
- <u>Siltstone (20%)</u>: light and medium gray grading occasionally to dark gray, gritty texture, siliceous and calcareous cement, in part very fine sandy, tight.

985 - 990

Sandstone (100%): light to medium gray, upper fine to upper medium grained, minor lower fine and lower coarse grains, 80% clear, white, translucent and trace pink quartz and 20% medium gray lithic grains, in part slightly argillaceous and kaolinitic matrix, angular to subrounded grains, moderately sorted, siliceous and calcareous cement, common to abundant quartz overgrowths, common loose grains, tight to poor intergranular porosity (0 to 5%), spotty dark brown oil stain, 10% patchy bright yellow white direct fluorescence, trace bright with white mineral fluorescence, pale cut.

### SAMPLE DESCRIPTIONS

Depth (m)

990 - 995

- Sandstone (80%): light gray, minor medium gray, upper fine to upper medium grained, trace lower and upper coarse grains, common lower very fine to lower fine grained, in part grading to siltstone, 75% quartz and 25% medium gray chert, trace micromicaceous flakes, trace pyrite, minor argillaceous and kaolinitic matrix, subangular to subrounded grains, moderately sorted, siliceous and calcareous cement, common loose grains, tight to minor poor intergranular porosity (0 to 3%), spotty dark brown oil stain, 5% patchy bright yellow white direct fluorescence, trace bright with white mineral fluorescence, faint cut;
- <u>Siltstone (20%)</u>: light and medium gray, gritty texture, siliceous and calcareous cement, argillaceous, in part very fine sandy, tight.

995 - 1000

Sandstone (100%): light gray to occasionally medium gray and in part slightly faint brown, upper fine to upper medium grained, occasional lower coarse grains and trace upper coarse grains, 80% clear and translucent quartz and 20% medium gray lithic grains, trace micromicaceous flakes, argillaceous and kaolinitic, trace siltstone stringers, subangular to subrounded grains, trace frosted rounded grains, moderately sorted, siliceous and calcareous cement, minor quartz overgrowths, tight to poor intergranular porosity (0 to 5%), rare questionable speckled pyrobitumen, spotty dark brown oil stain, 10% patchy bright yellow white direct fluorescence, trace bright with white mineral fluorescence, trace very slow milky cut.

### 1000 - 1005

- Sandstone (75%): light to medium gray, upper very fine to lower fine grained, in part lower very fine grained and grading to siltstone, minor upper fine to upper medium grains as above, 80% quartz and 20% medium gray lithic grains, trace micromicaceous flakes, argillaceous and kaolinitic matrix, in part silty, subangular to subrounded grains, moderately sorted, siliceous and calcareous cement, tight with poor porosity, spotty dark brown oil stain, 10% patchy bright yellow white direct fluorescence, trace bright with white mineral fluorescence, dull cut;
- <u>Siltstone (25%)</u>: light to medium gray, gritty texture, siliceous and calcareous cement, sublithic, rare pyrite, in part very fine sandy, tight.

- Sandstone (50%): light to medium gray, lower and upper very fine grained grading slightly to lower fine grained and siltstone, sublithic, argillaceous, subrounded, moderately sorted, siliceous and calcareous cement, tight with poor porosity, spotty dark brown oil stain, 5% patchy bright yellow white direct fluorescence, trace bright with white mineral fluorescence, dull with bright cut;
- <u>Siltstone (50%)</u>: light and medium gray, gritty texture, siliceous and in part calcareous cement, in part very fine sandy, tight.

### SAMPLE DESCRIPTIONS

Depth (m)

1010 - 1015

- <u>Siltstone (55%)</u>: light and medium gray, gritty texture, siliceous and common calcareous cement, argillaceous and micromicaceous, in part grading to lower very fine grained sandstone, tight;
- Sandstone (30%): light to in part medium gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, micromicaceous, tight with poor porosity, rare spotty dark brown oil stain, 5% spotty bright yellow white direct fluorescence, trace bright white with blue mineral fluorescence, dull cut;
- Shale (15%): medium gray, blocky and minor subfissile, micromicaceous, silty.

1015 - 1020

Sandstone (80%): light to in part medium gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, micromicaceous, tight with poor porosity, trace spotty bright yellow white direct fluorescence, trace bright white with blue mineral fluorescence, dull cut;
Shale (20%): medium gray, blocky and minor subfissile, micromicaceous, silty.

1020 - 1025

- Sandstone (70%): light to in part medium gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, micromicaceous, tight with poor porosity, trace spotty bright yellow white direct fluorescence, trace bright white with blue mineral fluorescence, dull with bright cut;
- <u>Shale (30%):</u> medium gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings.

### 1025 - 1030

- Sandstone (60%): white to light gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, micromicaceous, tight with poor porosity, trace spotty bright yellow white direct fluorescence, trace bright white with blue mineral fluorescence, dull cut;
- <u>Shale (40%):</u> medium gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings.

- Sandstone (40%): white to light gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, calcareous, micromicaceous, trace pyritic and calcite veins, tight to poor intergranular porosity (0 to 3% inferred), trace spotty bright yellow white direct fluorescence, trace bright white with blue mineral fluorescence, dull cut;
- <u>Shale (60%):</u> medium gray occasional dark gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings.

### SAMPLE DESCRIPTIONS

Depth (m)

1035 - 1040

- Sandstone (70%): white to light gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, calcareous, micromicaceous, trace pyritic and calcite veins, tight with poor porosity, trace patchy pale with dull yellow direct fluorescence, trace unified bright white mineral fluorescence, pale cut;
- <u>Shale (30%):</u> medium gray occasional dark gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings.

1040 - 1045

- Sandstone (60%): white to light gray, lower and upper very fine grained, commonly grading to siltstone, sublithic, argillaceous and silty, calcareous, micromicaceous, trace pyritic and calcite veins, tight with poor porosity, trace patchy pale with dull yellow direct fluorescence, trace bright white mineral fluorescence, pale cut;
- <u>Shale (40%):</u> medium gray occasional dark gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings.

1045 - 1050

- Sandstone (70%): white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, argillaceous and silty, calcareous, micromicaceous, trace pyritic and calcite veins, tight with poor porosity, rare spotty dark brown oil stain, 10% patchy dull with bright yellow white direct fluorescence, trace bright white mineral fluorescence, pale with dull cut;
- <u>Shale (30%):</u> medium gray occasional dark gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings.

1050 - 1055

- Sandstone (70%): white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight with poor porosity, rare spotty dark brown oil stain, 20% patchy dull with bright yellow white direct fluorescence, 5% bright white mineral fluorescence, pale with dull cut;
- <u>Shale (20%):</u> medium gray occasional dark gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings;

Limestone (10%): chalky to cream, occasional white, soft, tight, no shows.

1055 - 1060

Sandstone (70%): white to light gray, lower and upper very fine grained, commonly grading to siltstone,

### SAMPLE DESCRIPTIONS

Depth (m)

quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight with poor porosity, 5% patchy dull with bright yellow white direct fluorescence, trace bright white mineral fluorescence, pale cut;

<u>Shale (20%):</u> medium gray occasional dark gray, blocky and minor subfissile, micromicaceous, silty, shale is more abundant in coarse grade cuttings;

Limestone (10%): chalky to cream, occasional white, soft, tight, no shows.

1060 - 1065

Sandstone (60%): clear to white, occasional light gray, abundant loose cuttings, fine to medium grained, quartzitic (<10% lithic grains), moderately sorted, subangular to angular, poor intergranular (0 to 3% inferred), abundant spotty dark brown oil staining, 50% spotty dull direct fluorescence, trace bright white mineral fluorescence, dull with bright cut;

<u>Silty Sandstone (20%):</u> white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight, no shows;

Shale (10%): medium to dark gray, silty, subfissile, subblocky, micromicaceous;

Limestone (10%): chalky to cream, occasional white to light brown, soft, tight, no shows.

1065 - 1070

Sandstone (60%): clear to white, occasional light gray, abundant loose cuttings, fine to medium grained, quartzitic (<10% lithic grains), moderately sorted, subangular to angular, poor intergranular (0 to 3% inferred), rare spotty dark brown oil staining, 10% spotty dull direct fluorescence, trace bright white mineral fluorescence, pale cut;

<u>Silty Sandstone (20%)</u>: white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight, no shows;

<u>Shale (10%):</u> medium to dark gray, silty, subfissile, subblocky, micromicaceous;

Limestone (10%): chalky to cream, occasional white to light brown, soft, tight, no shows.

- Sandstone (60%): clear to white, occasional light gray, abundant loose grains, fine to medium grained, quartzitic (<10% lithic grains), moderately sorted, subangular to angular, poor intergranular porosity (0 to 3% inferred), rare spotty dark brown oil staining, trace spotty dull direct fluorescence, trace bright white mineral fluorescence, pale with dull cut;
- <u>Silty Sandstone (20%)</u>: white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight, faint with pale cut;

### SAMPLE DESCRIPTIONS

### Depth (m)

<u>Shale (10%)</u>: medium to dark gray, silty, subfissile, subblocky, micromicaceous; <u>Limestone (10%)</u>: chalky to cream, occasional white to light brown, soft, tight, no shows.

### 1075 - 1080

<u>Silty Sandstone (70%)</u>: white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight, no shows;

- Silty Shale (20%): light to medium gray, silty, subfissile, subblocky, micromicaceous;
- Sandstone (10%): clear to white, occasional light gray, abundant loose grains, fine to medium grained, quartzitic (<10% lithic grains), moderately sorted, subangular to angular, poor intergranular porosity (0 to 3% inferred), trace spotty dull direct fluorescence, trace bright white mineral fluorescence, faint with pale cut.</p>

1080 - 1085

- <u>Silty Sandstone (70%)</u>: white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight with poor porosity, rare spotty dark brown oil staining, 10% spotty faint with pale yellow direct fluorescence, trace bright white with orange mineral fluorescence, dull with bright cut;
- <u>Silty Shale (20%):</u> light to medium gray, silty, subfissile, subblocky, calcareous, micromicaceous, dull with bright cut;

Limestone (10%): chalky to cream color, occasional white, soft, tight.

### 1085 - 1090

<u>Silty Shale (70%):</u> light to medium gray, silty, subfissile, subblocky, calcareous, grading to marlstone, micromicaceous;

Limestone (20%): chalky to cream color, occasional white, soft, tight;

<u>Silty Sandstone (10%)</u>: white to light gray, lower and upper very fine grained, commonly grading to siltstone, quartzose to subarkosic, <10% lithic fragments, argillaceous and silty, calcareous, tight with poor porosity, very rare spotty dark brown with black spotty oil stain (pyrobitumen?) on cuttings, 5% patchy dull yellow direct fluorescence, dull with bright cut.

- <u>Siltstone (45%):</u> light gray grading occasionally to medium gray, gritty texture, calcareous and in part siliceous cement, argillaceous, occasionally grading to silty shale, occasionally very fine sandy, tight;
- Sandstone (30%): light gray, lower and upper fine grained, in part grading to upper very fine and occasional lower medium grains, sublithic with 15% medium gray lithic grains, common argillaceous matrix, subrounded,

### SAMPLE DESCRIPTIONS

Depth (m)

moderately sorted, calcareous cement, in part siliceous cement, tight with poor porosity, very rare spotty dark brown with black spotty oil stain (pyrobitumen?) on cuttings, 5% spotty faint yellow direct fluorescence, bright cut;

<u>Shale (20%)</u>: medium and dark gray and occasionally gray brown, blocky, silty, occasionally calcareous, silty and occasionally grading to shaly siltstone;

Limestone (5%): cream and occasionally white, chalky texture, argillaceous and occasionally silty.

1095 - 1100

<u>Sandstone (65%):</u> light gray, lower and upper fine grained, in part grading to upper very fine grained and minor lower medium grains and trace upper medium grains, trace quartz pebble fragments, sublithic with 5 to 10% lithic grains, rare micromicaceous flakes, rare pyrite, common argillaceous and in part silty matrix, subrounded, moderately sorted, calcareous cement, in part siliceous cement, tight with poor porosity, very rare spotty dark brown with black spotty oil stain (pyrobitumen?) on cuttings, 5% patchy faint with pale yellow direct fluorescence, 5% bright yellow white mineral fluorescence, bright cut;

<u>Siltstone (20%):</u> light gray, gritty texture, calcareous and in part siliceous cement, argillaceous, in part very fine sandy, tight;

Shale (10%): dark gray to in part gray brown, blocky, in part silty, calcareous in part;

Limestone (5%): white to trace cream color, chalky in part, argillaceous, soft.

1100 - 1105

Sandstone (75%): light gray, upper very fine to upper fine grained, minor lower medium grained and lower very fine grained, occasional upper medium grains, 95% quartz and 5% gray lithic grains, trace pyrite and micromicaceous flakes, occasional limestone stringers, common argillaceous matrix, calcareous and in part siliceous cement, subrounded, moderately sorted, tight with poor porosity, very rare spotty dark brown with black spotty oil stain (pyrobitumen?) on cuttings, 5% patchy faint with pale yellow direct fluorescence, trace bright white mineral fluorescence, dull with bright cut;

<u>Siltstone (20%)</u>: light gray, gritty texture, calcareous cement, argillaceous, occasionally grading to lower very fine grained silty sandstone, tight;

Shale (5%): dark gray, blocky, silty, calcareous.

1105 - 1110

Sandstone (70%): light gray, upper very fine to upper fine grained, in part grading to lower very fine grained and siltstone, common lower medium grains, 90% quartz and 10% lithic grains, minor micromicaceous flakes disseminated throughout, argillaceous and in part silty, subrounded, moderately sorted, calcareous

### SAMPLE DESCRIPTIONS

### Depth (m)

and in part siliceous cement, tight with poor porosity, very rare spotty dark brown with black spotty oil stain (pyrobitumen?) on cuttings, 5% patchy pale yellow direct fluorescence, 5% bright white mineral fluorescence, pale with dull cut;

<u>Siltstone (30%)</u>: light gray, gritty texture, calcareous cement, argillaceous and in part very fine sandy, tight; <u>Shale (trace)</u>: medium to dark gray, blocky, calcareous.

1110 - 1115

- <u>Shale (55%):</u> dark gray grading occasionally to medium gray and gray brown, blocky and minor subfissile, micromicaceous, silty and occasionally grading to shaly siltstone, calcareous, trace calcareous stringers;
- Sandstone (30%): light gray, rare medium gray, lower and upper fine grained, minor lower medium and upper very fine grained, 95% quartz and 5% lithic grains, minor micromicaceous flakes, occasional calcareous stringers, argillaceous and silty matrix, subrounded, moderately sorted, calcareous cement, in part siliceous cement, tight, tight with poor porosity, trace spotty faint orange direct fluorescence, trace dull orange mineral fluorescence, faint cut;

Siltstone (15%): light to medium gray in part, gritty texture, calcareous cement, argillaceous, tight.

### 1115 - 1120

- Sandstone (75%): light gray, upper very fine to upper fine grained and in part lower very fine grained grading to siltstone, common lower and upper medium grained and quartz with chert pebble fragments, quartzose to sublithic, < 10% lithic grains, locally micromicaceous flakes, argillaceous and silty, subrounded, moderately sorted, calcareous cement, in part siliceous cement, tight with poor porosity, rare questionable pyrobitumen, trace spotty faint yellow direct fluorescence, trace brown with white mineral fluorescence, pale with dull cut;
- <u>Siltstone (20%)</u>: light gray, gritty texture, calcareous cement, in part siliceous cement, argillaceous and in part very fine sandy, tight;
- Shale (5%): medium and dark gray, blocky, silty, in part calcareous.

### 1120 - 1125

Sandstone (60%): light gray to in part off white, upper fine to lower medium grained, in part lower fine and occasional upper medium grains, quartzose to sublithic with trace to locally 5% lithic grains, trace micromicaceous flakes, rare pyrite, argillaceous and in part silty matrix, subrounded and subangular grains, moderately sorted, calcareous and siliceous cement, common loose grains, minor fair grain relief, tight to poor intergranular porosity (0 to 5%), trace to minor questionable pyrobitumen, trace spotty faint yellow direct fluorescence, trace brown with white mineral fluorescence, trace very faint milky white cut;

### SAMPLE DESCRIPTIONS

Depth (m)

- <u>Siltstone (30%)</u>: light gray grading occasionally to medium gray, gritty texture, siliceous and in part calcareous cement, argillaceous, tight;
- Shale (10%): medium and dark gray, blocky, in part micromicaceous, in part silty.

1125 - 1130

- <u>Siltstone (50%)</u>: medium gray, in part light gray, gritty texture, calcareous and siliceous cement, argillaceous, minor grading to silty shale, occasionally grading to lower very fine grained silty sandstone, tight;
- <u>Shale (45%):</u> medium gray, blocky and minor subfissile, in part micromicaceous, silty, trace calcareous stringers, minor grading to shaly siltstone;
- Sandstone (5%): light gray, upper very fine to lower fine grained, sublithic, argillaceous and silty, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, no direct fluorescence, trace bright orange mineral fluorescence, pale cut.

1130 - 1135

- <u>Siltstone (50%)</u>: medium to in part light gray, gritty texture, calcareous and siliceous cement, argillaceous, commonly grading to silty shale, rare pyrite, tight;
- <u>Shale (50%):</u> medium gray, blocky, in part micromicaceous, silty, trace calcareous stringers, commonly grading to shaly siltstone, no shows.

1135 - 1140

- <u>Shale (55%):</u> medium and dark gray, blocky, micromicaceous, silty, commonly grading to silty shale; <u>Siltstone (40%):</u> light to medium gray, gritty texture, calcareous and siliceous cement, argillaceous, commonly
  - grading to silty shale, tight;
- Sandstone (5%): light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to sublithic with 10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, trace dull orange mineral fluorescence, faint with pale cut.

- <u>Shale (70%):</u> medium and in part dark gray, blocky and occasional subfissile, micromicaceous, silty, trace calcareous stringers, commonly grading to shaly siltstone;
- <u>Siltstone (25%)</u>: light to medium gray, gritty texture, calcareous and siliceous cement, argillaceous, in part grading to silty shale, tight;
- Sandstone (5%): light gray, upper very fine to upper fine grained, sublithic, argillaceous and in part silty matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, trace dull orange mineral fluorescence, trace bright yellow white mineral fluorescence, pale with dull cut.

### SAMPLE DESCRIPTIONS

Depth (m)

1145 - 1150

<u>Shale (65%):</u> medium and dark gray, blocky and in part subfissile, micromicaceous, silty, trace calcareous stringers, minor grading to shaly siltstone;

<u>Siltstone (35%)</u>: light and medium gray, gritty texture, siliceous and calcareous cement, argillaceous, commonly grading to silty shale, tight;

Sandstone (trace): light gray, upper very fine to lower fine grained, in part upper fine grained, quartzose to sublithic, argillaceous and silty matrix in part, subrounded, moderately sorted, calcareous and siliceous cement, tight, trace dull orange mineral fluorescence, trace bright yellow white mineral fluorescence, dull with bright cut.

### 1150 - 1155

<u>Shale (65%):</u> medium and dark gray, blocky and occasional subfissile, micromicaceous, silty, trace calcareous stringers, minor grading to shaly siltstone;

Siltstone (30%): light to medium gray, gritty texture, siliceous and calcareous cement, tight;

Sandstone (5%): light gray, upper very fine to upper fine grained, quartzose to sublithic, in part micaceous, argillaceous and silty matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight, trace dull orange mineral fluorescence, trace bright yellow white mineral fluorescence, pale with dull cut.

### 1155 - 1160

<u>Shale (50%)</u>: medium and dark gray, blocky, micromicaceous, silty, commonly grading to silty shale; <u>Siltstone (10%)</u>: light to medium gray, gritty texture, calcareous and siliceous cement, argillaceous, commonly

grading to silty shale, tight;

Sandstone (40%): light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, trace dull orange mineral fluorescence, trace bright yellow white mineral fluorescence, pale with dull cut.

1160 - 1165

Shale (50%): medium and dark gray, blocky, micromicaceous, silty, commonly grading to silty shale;

Sandstone (50%): light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, trace spotty faint orange direct fluorescence, pale with dull cut.

### 1165 - 1170

Sandstone (90%): subarkosic, light gray, lower fine grained, in part upper very fine and upper fine grained,

### SAMPLE DESCRIPTIONS

Depth (m)

quartzose to subarkosic with <10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, trace faint orange direct fluorescence, trace dull orange mineral fluorescence, pale cut;

Shale (10%): medium gray, blocky, micromicaceous, silty, commonly grading to silty shale.

1170 - 1175

<u>Sandstone (90%)</u>: subarkosic, light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous and siliceous cement, tight, trace in fluorescence, pale cut;

Shale (10%): medium gray, blocky, micromicaceous, silty, commonly grading to silty shale.

1175 - 1180

Sandstone (90%): subarkosic, light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous, tight to poor intergranular porosity (0 to 3%), weak dark bluish fluorescence on <5% cuttings, trace mineral fluorescence, faint cut;

Shale (10%): medium gray, blocky, micromicaceous, silty, commonly grading to silty shale.

1180 - 1185

Sandstone (90%): subarkosic, light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous matrix, subrounded, moderately sorted, calcareous, tight to poor intergranular porosity (0 to 3%), 5% spotty faint orange with dark yellow direct fluorescence, faint cut;

Shale (10%): medium gray, blocky, micromicaceous, silty, commonly grading to silty shale.

1185 - 1190

Sandstone (80%) subarkosic, light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous to silty matrix, subrounded, moderately sorted, calcareous, tight, trace bright white mineral fluorescence, faint cut;

Shale (20%): medium gray, blocky, micromicaceous, silty, commonly grading to silty shale.

- Sandstone (80%) subarkosic, light gray, lower fine grained, in part upper very fine and upper fine grained, quartzose to subarkosic with <10% lithic grains, argillaceous to silty matrix, subrounded, moderately sorted, calcareous, tight, no shows;
- Shale (20%): medium gray, blocky, micromicaceous, silty, commonly grading to silty shale.

### SAMPLE DESCRIPTIONS

Depth (m)

1195 - 1200

<u>Silty Sandstone (50%)</u>: lithic subarkosic, very fine grained, grading to siltstone in part, silty matrix, medium cemented with calcareous cement, poor porosity, no shows;

Shale (50%): medium gray, blocky, subfissile, micromicaceous, silty, grading to siltstone in part.

1200 - 1205

<u>Silty Sandstone (50%)</u>: subarkosic, very fine grained, grading to siltstone in part, silty matrix, medium cemented with calcareous cement, tight to poor porosity (0 to 3%), trace unified light brown stain, dark brown spotty stain, 5% dull orange (mineral?) fluorescence, no cut;

Shale (50%): medium gray, blocky, subfissile, micromicaceous, silty, grading to siltstone in part.

1205 - 1210

<u>Silty Sandstone (50%)</u>: lithic subarkose, very fine grained, grading to siltstone in part, silty matrix, medium cemented with calcareous cement, poor porosity, trace bright white mineral fluorescence, no cut; <u>Shale (50%)</u>: medium gray, blocky, subfissile, micromicaceous, silty, grading to siltstone in part.

1210 - 1215

Shale (50%): medium gray, blocky, subfissile, micromicaceous, silty, grading to siltstone in part;

- <u>Silty Sandstone (40%)</u>: subarkosic, very fine grained, grading to siltstone in part, silty matrix, medium cemented with calcareous cement, poor porosity, no shows;
- <u>Conglomerate? (10%):</u> unconsolidated cuttings, predominantly fragments of quartz and chert, with minor lithic fragments.

1215 - 1220

<u>Shale (100%):</u> medium to dark gray, subfissile, subblocky, moderately hard; Trace silty sandstone.

1220 - 1225

<u>Shale (100%):</u> medium to dark gray, subfissile, subblocky, moderately hard, occasionally grading to argillaceous siltstone, calcareous, minor calcareous stringers or veins;

Trace silty sandstone.

- <u>Shale (45%):</u> medium and dark gray, blocky, micromicaceous, silty, in part calcareous, rare calcareous stringers, occasionally grading to shaly siltstone;
- Siltstone (40%): light gray, gritty texture, siliceous and calcareous cement, argillaceous, tight;

### SAMPLE DESCRIPTIONS

### Depth (m)

Sandstone (15%): light to medium gray, lower and upper fine grained occasional upper very fine grained and trace lower medium grained, quartzose with 5% lithic grains, argillaceous matrix in part, subrounded, moderately sorted, calcareous and siliceous cement, tight with poor porosity, pale cut.

### 1230 - 1235

<u>Siltstone (50%)</u>: light gray grading in part to medium gray, gritty texture, calcareous and siliceous cement, in part micaceous, argillaceous, in part grading to lower very fine grained sandstone, tight;

Shale (25%): medium to in part dark gray, blocky, micromicaceous, in part silty, calcareous;

Sandstone (25%): light gray, lower and upper very fine grained, commonly grading to siltstone and lower fine grained sandstone, quartzose, trace micromicaceous, rare pyrite, argillaceous matrix, calcareous and in part siliceous cement, tight with poor porosity, pale cut.

1235 - 1240

Siltstone (65%): light gray, gritty texture, calcareous and in part siliceous cement, tight;

Sandstone (35%): light gray, lower fine to lower medium grained, minor to in part common quartz and light to dark gray chert pebble fragments, argillaceous matrix in part, subrounded, moderately sorted, calcareous and siliceous cement, common loose grains, tight to inferred poor intergranular porosity (0 to 3%), pale cut.

### 1240 - 1245

Sandstone (90%): light gray, lower fine to lower medium grained, minor upper very fine grained and occasional upper medium grains, minor quartz and chert fragments, quartzose to 5 to 10% lithic grains, trace micromicaceous flakes, rare pyrite, argillaceous matrix in part, subangular to subrounded grains, moderately sorted, calcareous and in part siliceous cement, common loose grains, inferred tight to poor intergranular porosity (0 to 3%), no shows, trace dull yellow fluorescence, no cut;

<u>Siltstone (10%)</u>: light gray, gritty texture, calcareous and in part siliceous cement, argillaceous, tight; <u>Shale (trace)</u>: medium to dark gray, blocky and minor subfissile, micromicaceous, silty, calcareous;

- <u>Siltstone (80%)</u>: light gray grading in part to medium gray, gritty texture, calcareous and siliceous cement, argillaceous, tight;
- Sandstone (20%): light gray, upper fine to lower coarse grained, common lower fine grained and quartz and chert fragments, quartzose to 5% lithic grains, trace pyrite, argillaceous matrix in part, subangular to subrounded grains, moderately sorted, minor loose grains, tight, no shows.

### SAMPLE DESCRIPTIONS

Depth (m)

1250 - 1255

- <u>Siltstone (60%)</u>: medium gray grading in part to light gray, gritty texture, calcareous and siliceous cement, in part micaceous, tight;
- Sandstone (40%): light gray, lower and upper fine grained, minor lower medium grains, occasional quartz and chert fragments, quartzose, trace lithic grains, trace pyrite, argillaceous in part, calcareous cement, subangular to subrounded grains, moderately sorted, abundant loose grains, inferred tight to poor intergranular porosity (0 to 3%), no shows, no fluorescence, no cut.

1255 - 1260

- <u>Siltstone (100%)</u>: medium minor dark gray, gritty texture, siliceous and calcareous cement, argillaceous, in part slightly shaly, tight;
- Sandstone (trace): light gray, lower and upper fine grained, occasional lower medium grained, quartzose, trace lithic grains, trace micromicaceous flakes, subrounded, subangular to subrounded grains, moderately sorted, calcareous and siliceous cement, tight, no shows.

1260 - 1265

- <u>Siltstone (90%)</u>: light to medium gray, occasional medium to dark gray, gritty texture, siliceous and calcareous cement, argillaceous, tight;
- Sandstone (10%): off white to in part light gray, upper very fine to upper fine grained, trace lower medium grains, quartzose, trace lithic grains, rare pyritic, in part argillaceous matrix, subangular to subrounded grains, moderately sorted, calcareous and siliceous cement, tight, pale cut.

1265 - 1270

- <u>Siltstone (50%)</u>: light to in part medium gray, gritty texture, calcareous and siliceous cement, argillaceous in part, tight;
- Sandstone (50%): off white to light gray, variable lower fine to lower coarse grained, occasional very fine grained, minor quartz and chert fragments, quartzose, trace lithic grains, subrounded and trace rounded frosted grains, moderately and poorly sorted, calcareous and siliceous cement, common loose grains, inferred tight to poor intergranular porosity (0 to 3%), no shows, no fluorescence, pale cut.

- <u>Siltstone (85%):</u> light to medium gray, gritty texture, calcareous and siliceous cement, in part sublithic, argillaceous, trace pyrite, tight;
- Sandstone (15%): light gray, upper very fine to lower fine grained, quartzose, trace lithic grains, argillaceous in part, subangular to subrounded grains, moderately sorted, calcareous and siliceous cement, tight, pale cut.

### SAMPLE DESCRIPTIONS

Depth (m)

1275 - 1280

Siltstone (70%): light to medium gray, gritty texture, siliceous and calcareous cement, argillaceous, tight;

Limestone (30%): buff to pale gray brown and in part off white to cream, mudstone, massive texture, occasional

mottled texture, argillaceous in part, tight, no shows, dull yellow mineral fluorescence, pale cut.

1280 - 1285

<u>Siltstone (100%):</u> light to medium gray, gritty texture, siliceous and calcareous cement, minor calcareous veins, argillaceous, pale cut;

Limestone (trace): buff to gray brown, mudstone, massive texture, tight.

1285 - 1290

Siltstone (100%): light gray grading to medium gray, gritty texture, siliceous and calcareous cement, argillaceous, minor to common white calcareous stringers, tight, pale with dull cut.

1290 - 1295

<u>Siltstone (100%)</u>: light gray grading to medium gray, gritty texture, siliceous and calcareous cement, argillaceous, occasionally grading to silty sandstone, minor to common white calcareous stringers, tight, dull cut.

1295 - 1300

- <u>Siltstone (90%)</u>: light gray grading to medium gray, gritty texture, siliceous and calcareous cement, argillaceous, occasionally grading to silty sandstone, minor to common white calcareous stringers, tight;
- <u>Silty Sandstone (10%):</u> light gray, very fine grained, silty, argillaceous matrix, calcareous cement, moderately sorted, tight, dull cut.

1300 - 1305

- <u>Siltstone (80%)</u>: light gray grading to medium gray, gritty texture, siliceous and calcareous cement, argillaceous, occasionally grading to silty sandstone, tight;
- <u>Silty Sandstone (10%):</u> light gray, very fine grained, silty, argillaceous matrix, calcareous cement, moderately sorted, tight, no oil stain;

Shale (10%): medium to dark gray, platy, subfissile, moderately hard.

- <u>Siltstone (90%)</u>: light gray grading to medium gray, gritty texture, siliceous and calcareous cement, argillaceous, occasionally grading to silty sandstone, tight;
- <u>Silty Sandstone (10%):</u> light gray, very fine grained, silty, argillaceous matrix, calcareous cement, moderately sorted, tight, no oil stain.
# SAMPLE DESCRIPTIONS

Depth (m)

1310 - 1315

<u>Siltstone (90%)</u>: medium gray, gritty texture, siliceous and calcareous cement, argillaceous, shaly in part, occasionally grading to silty sandstone, tight;

<u>Silty Sandstone (10%):</u> light gray to buff, very fine grained, silty, argillaceous matrix, calcareous cement, moderately sorted, tight, faint cut.

1315 - 1320

<u>Siltstone (90%)</u>: medium gray, gritty texture, siliceous and calcareous cement, argillaceous, shaly in part, occasionally grading to silty sandstone, tight;

<u>Silty Sandstone (10%):</u> light gray to buff, very fine grained, silty, argillaceous matrix, calcareous cement, moderately sorted, tight, faint cut.

1320 - 1325

- Sandstone (80%): clear to white to light gray, lithic subarkosic, sample is composed of predominantly unconsolidated grains of angular to subangular quartz cuttings and lithic fragments, with minor feldspar, very fine to medium grained, poorly sorted, well cement with calcareous cement, trace pyrobitumen, poor intergranular porosity (0 to 3%), 20% of cuttings shows bluish green fluorescence, no cut;
- <u>Siltstone (20%)</u>: medium gray, gritty texture, siliceous and calcareous cement, argillaceous, shaly in part, occasionally grading to silty sandstone, tight.

1325 - 1330

- Sandstone (90%): clear to white to light gray, lithic subarkosic, very fine to fine grained, moderately sorted, well cemented with calcareous cement, trace pyrobitumen, poor porosity (0 to 3%), no shows;
- <u>Siltstone (10%)</u>: medium gray, gritty texture, siliceous and calcareous cement, argillaceous, shaly in part, occasionally grading to silty sandstone, tight.

1330 - 1335

- <u>Silty Sandstone (60%):</u> clear to white to light gray, lithic subarkosic, very fine to fine grained, moderately sorted, subangular to angular, well cemented with calcareous cement, tight to poor porosity, faint cut;
- <u>Siltstone (40%)</u>: medium gray, gritty texture, siliceous and calcareous cement, argillaceous, shaly in part, occasionally grading to silty sandstone, tight.

1335 - 1340

<u>Silty Sandstone (30%)</u>: white to light gray, lithic subarkosic, very fine to fine grained, moderately sorted, subangular to angular, well cemented with calcareous cement, tight to poor porosity, no shows;

# SAMPLE DESCRIPTIONS

# Depth (m)

<u>Siltstone (30%)</u>: medium gray, gritty texture, siliceous and calcareous cement, argillaceous, shaly in part, occasionally grading to silty sandstone, tight;

Sandstone/Conglomerate (40%): sample composed of platy cuttings or shards of glassy quartz, feldspar and rare blocky lithic fragments, inferred subangular lithic arkose to subarkose sandstone or possible subangular sandy conglomerate.

1340 - 1345

- Sandstone (90%): light gray, variable lower fine to upper coarse grained, minor to common very coarse grains and quartz fragments indicative of possible pebble size grains, 90% clear, translucent, white and trace smoky gray quartz and 10% chert fragments, minor white chalky grains possible kaolinitic, common pyrite throughout, trace micromicaceous flakes, in part very fine sandy matrix, subangular to subrounded grains, poorly sorted, siliceous and calcareous cement, abundant loose grains and fragments, inferred tight to poor intergranular porosity (0 to 3%), no shows, common dull to medium bright yellow mineral fluorescence, faint with pale cut;
- <u>Siltstone (10%)</u>: light gray to pale gray brown, gritty texture, siliceous and calcareous cement, argillaceous, in part grading to very fine grained sandstone, tight.

#### 1345 - 1350

- Sandstone (80%): light gray, variable lower fine to upper coarse grained, minor to common very coarse grains and quartz fragments indicative of possible pebble size grains, 90% clear, translucent, white and trace smoky gray quartz and 10% chert fragments, minor white chalky grains possible kaolinitic, common pyrite throughout, trace micromicaceous flakes, in part very fine sandy matrix, subangular to subrounded grains, poorly sorted, siliceous and calcareous cement, abundant loose grains and fragments, tight, faint with pale cut;
- Siltstone (20%): light gray to pale gray brown, gritty texture, siliceous and calcareous cement, argillaceous, in part grading to very fine grained sandstone, tight.

1350 - 1355

Sandstone (90%): clear to light gray, variable lower fine to upper coarse grained, minor to common very coarse grains and quartz fragments indicative of possible pebble size grains, sample composed of 90% unconsolidated cuttings, clear, translucent, white and trace smoky gray quartz with minor white chalky grains, trace micromicaceous flakes, in part very fine sandy matrix, subangular to subrounded grains, poorly sorted, siliceous and calcareous cement, tight, faint with pale cut;

<u>Siltstone (10%):</u> light gray, calcareous cement, argillaceous, tight.

# SAMPLE DESCRIPTIONS

Depth (m)

1355 - 1360

Sandstone (90%): clear to light gray, variable lower fine to upper coarse grained, minor to common very coarse grains and quartz fragments indicative of possible pebble size grains, sample composed of 90% unconsolidated cuttings, clear, translucent, white and trace smoky gray quartz with minor white chalky grains, trace micromicaceous flakes, in part very fine sandy matrix, subangular to subrounded grains, poorly sorted, siliceous and calcareous cement, tight, faint with pale cut;

Siltstone (10%): light gray, calcareous cement, argillaceous, tight.

1360 - 1365

Sandstone (95%): clear to light gray, variable lower fine to upper coarse grained, minor to common very coarse grains and quartz fragments indicative of possible pebble size grains, sample composed of 90% unconsolidated cuttings, clear, translucent, white and trace smoky gray quartz with minor white chalky grains, trace micromicaceous flakes, in part very fine sandy matrix, subangular to subrounded grains, poorly sorted, siliceous and calcareous cement, tight, faint cut;

Siltstone (5%): light gray, calcareous cement, argillaceous, tight.

1365 - 1370

Sandstone (95%): clear to light gray, variable lower fine to upper coarse grained, minor to common very coarse grains and quartz fragments indicative of possible pebble size grains, sample composed of 90% unconsolidated cuttings, clear, translucent, white and trace smoky gray quartz with minor white chalky grains, trace micromicaceous flakes, in part very fine sandy matrix, subangular to subrounded grains, poorly sorted, siliceous and calcareous cement, tight, faint cut;

Siltstone (5%): light gray, calcareous cement, argillaceous, tight.

1370 - 1375

- <u>Siltstone (90%)</u>: medium to dark gray, occasionally brownish gray, micromicaceous, subplaty cuttings, argillaceous, calcareous, minor calcareous veins;
- Sandstone (10%): light gray to brownish, very fine to fine grained, silty, calcareous and silica cement, tight, faint with pale cut.

1375 - 1380

<u>Siltstone (100%)</u>: medium and light gray, occasionally grading to dark gray, gritty texture, siliceous and calcareous cement, rare calcareous cement, trace pyrite, trace grading to lower very fine grained sandstone, tight, faint with pale cut.

# SAMPLE DESCRIPTIONS

Depth (m)

1380 - 1385

- Sandstone (70%): light gray to slightly off white in part, lower and upper very fine grained to lower fine grained, occasional upper fine and lower medium grains, rare medium gray very coarse to chert grains, 90% quartz and 10% medium gray lithic grains, rare micromicaceous flakes, rare pyrite, kaolinitic matrix, subangular to subrounded grains, moderately sorted, siliceous and calcareous, tight, faint cut;
- <u>Siltstone (30%)</u>: pale to medium gray to slightly gray brown, occasionally dark gray, gritty texture, siliceous and calcareous cement, minor pyrite, argillaceous, dark gray shale occasionally grading to silty shale, tight.

1385 - 1390

- <u>Siltstone (60%)</u>: pale to medium gray grading in part to slightly gray brown, gritty texture, siliceous and calcareous cement, argillaceous, occasionally grading to silty shale, tight;
- Sandstone (40%): light gray, lower and upper fine grained to lower coarse grained, minor to common upper coarse and lower very coarse grains, quartzose with predominantly clear, translucent with occasional white and smoky gray quartz grains and trace medium gray lithic grains (possible chert), rare disseminated pyrite, common kaolinitic matrix, trace calcareous veins, subangular to subrounded grains, occasionally rounded frosted quartz grains, moderately to poorly sorted, common to abundant loose grains, tight to inferred poor intergranular porosity (0 to 3%), no shows, minor medium and bright yellow mineral fluorescence, faint cut.

1390 - 1395

- <u>Siltstone (85%)</u>: medium gray grading in part to light gray and minor very faint brown, gritty texture, siliceous and calcareous cement, argillaceous, rare disseminated pyrite, trace micromicaceous flakes, occasionally grading to lower very fine grained sandstone, tight;
- Sandstone (15%): very light gray grading to off white, lower and upper very fine grained, quartzitic, kaolinitic matrix, trace calcareous stringers, subrounded, moderately sorted, siliceous and calcareous cement, tight, rare yellow fluorescence, faint with pale cut.

1395 - 1400

Sandstone (50%): very light gray to in part off white, lower and upper very fine grained grading occasionally to lower fine grained and trace to upper fine grained, quartzitic, trace lithic grains, trace micromicaceous flakes, kaolinitic, argillaceous in part, subrounded, moderately to well sorted, abundant calcareous cement, tight, trace yellow mineral fluorescence, faint with pale cut;

Siltstone (50%): medium to light gray, gritty texture, siliceous and calcareous cement, argillaceous in part, tight.

# SAMPLE DESCRIPTIONS

Depth (m)

1400 - 1405

- Sandstone (60%): light gray to off white and common buff to pale gray brown, lower and upper very fine grained grading to siltstone, argillaceous, possible kaolinitic, subrounded, moderately sorted, abundant calcareous cement and occasionally grading to sandy silty limestone, tight, trace bright white mineral fluorescence, faint with pale cut;
- <u>Siltstone (40%)</u>: buff and medium gray, gritty texture in part, abundant calcareous and in part siliceous cement, possibly grading to argillaceous silty limestone, tight, no shows.

1405 - 1410

- Sandstone (65%): light gray grading in part to buff, lower and upper very fine grained, commonly grading to siltstone and occasional lower fine grains, quartzose to sublithic, abundant calcareous cement, occasionally possibly grading to sandy to silty limestone, minor calcareous stringers, argillaceous, minor calcareous cement, tight with poor porosity, trace patchy light plus dark brown oil stain, trace patchy bright white direct fluorescence, dull with bright cut;
- <u>Siltstone (35%)</u>: medium to occasionally dark gray and in part gray brown, gritty texture in part, calcareous, occasionally possibly grading to silty limestone, tight.

1410 - 1415

Sandstone (50%): light gray grading slightly to faint gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, argillaceous and kaolinitic, trace pyrite, trace micromicaceous flakes, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous and occasionally grading to sandy to silty limestone, tight with poor porosity, no direct fluorescence, dull cut;

Siltstone (50%): pale gray brown and dark gray, gritty texture, in part very calcareous, possibly tight.

1415 - 1420

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (50%): light gray grading slightly to faint gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, trace micromicaceous flakes, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, common spotty brown oil stain, 15% patchy bright white direct fluorescence, bright cut;
- Siltstone (50%): pale gray brown and dark gray, gritty texture, very calcareous, in part grading to marlstone.

# SAMPLE DESCRIPTIONS

Depth (m)

1420 - 1425

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with <10% limestone cuttings;
- <u>Siltstone (50%)</u>: pale gray brown and dark gray, gritty texture, very calcareous, argillaceous in part grading to marlstone;
- Sandstone (40%): light gray to faint gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, trace patchy bright yellow white direct fluorescence, dull with bright cut;

Limestone (10%): whitish to cream, microcrystalline, poor porosity, no shows;

Possible PDC is grinding limestone into powder.

1425 - 1430

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with 15% limestone cuttings;
- <u>Siltstone (45%)</u>: pale gray brown and dark gray, gritty texture, very calcareous, argillaceous in part grading to marlstone;
- Sandstone (40%): light gray to faint gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, 5% patchy dull with bright yellow white direct fluorescence, dull with bright cut;
- Limestone (15%): whitish to cream, microcrystalline, poor porosity, no shows;

Possible PDC is grinding limestone into powder.

1430 - 1435

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (50%): light gray grading slightly to faint gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, trace micromicaceous flakes, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, trace patchy dull with bright yellow white direct fluorescence, dull with bright cut;
- Siltstone (50%): pale gray brown and dark gray, gritty texture, very calcareous, in part grading to marlstone.

1435 - 1440

Light gray, chalky muddy to limy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;

# SAMPLE DESCRIPTIONS

Depth (m)

- Sandstone (50%): light gray grading slightly to pale gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, trace micromicaceous flakes, minor calcareous stringers, subrounded, moderately sorted, common limestone stringers, tight with poor porosity, rare spotty brown oil stain, trace patchy faint with pale yellow white direct fluorescence, dull with bright cut;
- <u>Siltstone (50%)</u>: pale to medium gray and common dark gray, gritty texture, very calcareous, in part grading to marlstone, tight.

# 1440 - 1445

- Light gray, chalky muddy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (50%): light gray grading slightly to very faint gray brown, lower and upper very fine grained grading slightly to lower fine grained and sandy siltstone, quartzose with trace lithic grains, trace micromicaceous flakes, minor calcareous stringers, subrounded, moderately sorted, common limestone stringers, tight with poor porosity, trace patchy faint with pale yellow white direct fluorescence, pale cut;
- <u>Siltstone (50%)</u>: pale to medium gray and common dark gray, gritty texture, very calcareous, in part grading to marlstone, tight.

#### 1445 - 1450

- Light gray, chalky muddy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (50%): light gray grading slightly to very faint gray brown, lower and upper very fine grained grading slightly to lower fine grained and sandy siltstone, quartzose with trace lithic grains, trace micromicaceous flakes, minor calcareous stringers, subrounded, moderately sorted, common limestone stringers, tight, no direct fluorescence, dull with bright cut;
- <u>Siltstone (50%)</u>: pale to medium gray and common dark gray, gritty texture, very calcareous, in part grading to marlstone, tight.

1450 - 1455

- Light gray, chalky muddy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (65%): light gray, lower and upper very fine grained, minor upper fine grains, rare lower medium grains, in part silty, quartzose, trace lithic grains, common disseminated micromicaceous flakes and occasional micaceous partings, very rare coal grains, subrounded, moderately sorted, abundant calcareous cement, tight with poor porosity, no direct fluorescence, faint with pale cut;

# SAMPLE DESCRIPTIONS

# Depth (m)

Siltstone (25%): light gray, occasionally medium gray, gritty texture, calcareous and siliceous cement,

argillaceous, occasionally grading to silty shale and lower very fine grained silty sandstone, tight; Shale (10%): medium gray, blocky and subfissile, slightly calcareous and in part grading to marlstone.

## 1455 - 1460

- Light gray, chalky muddy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (65%): light gray, lower and upper very fine grained, minor upper fine grains, rare lower medium grains, in part silty, quartzose, trace lithic grains, common disseminated micromicaceous flakes and occasional micaceous partings, rare pyrite stringers, rare calcareous stringers, subrounded, moderately sorted, abundant calcareous cement, tight with poor porosity, no direct fluorescence, dull cut;
- <u>Siltstone (35%)</u>: light gray, occasionally medium gray, gritty, calcareous, argillaceous, occasionally grading to silty shale and lower very fine grained silty sandstone, tight.

1460 - 1465

- Light gray, chalky muddy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (60%): light gray grading slightly to faint gray brown, lower and upper very fine grained grading occasionally to upper fine grained, in part sandy silty, quartzose, trace lithic grains, common disseminated micromicaceous flakes and occasional micaceous partings, rare pyrite, rare calcareous stringers, subrounded, moderately sorted, abundant calcareous cement, tight with poor porosity, trace patchy dull with bright yellow white direct fluorescence, dull cut;
- <u>Siltstone (40%)</u>: light and medium gray, gritty texture in part, slightly calcareous, argillaceous, occasionally grading to silty shale and lower very fine grained silty sandstone, tight.

## 1465 - 1470

- Light gray, chalky muddy sample, after washing and drying sample, only very fine grained calcareous sandstone and siltstone remain with trace limestone cuttings;
- Sandstone (60%): light gray grading in part to medium gray, lower and upper very fine grained, commonly grading to siltstone, minor grading to lower fine and trace upper fine grained, very rare lower medium grains, quartzose, trace lithic grains, trace disseminated micromicaceous flakes, rare pyrite, common calcareous stringers, subrounded, moderately sorted, abundant calcareous cement, tight with poor porosity, trace patchy pale with dull yellow white direct fluorescence, bright cut;
- <u>Siltstone (40%)</u>: medium and common dark gray, gritty texture in part, slightly calcareous, argillaceous, minor calcareous cement, commonly grading to silty shale, tight.

# SAMPLE DESCRIPTIONS

Depth (m)

1470 - 1475

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with 15% limestone cuttings;
- <u>Siltstone (45%)</u>: pale gray brown and dark gray, gritty texture, very calcareous, argillaceous in part grading to marlstone;
- Sandstone (40%): light gray to faint gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, rare brown with dark brown spotty oil staining, 5% patchy pale with dull yellow white direct fluorescence, bright cut;
- Limestone (15%): mostly buff color, whitish to cream, microcrystalline, argillaceous, grading to silty marlstone, poor porosity, no shows;

Possible PDC is grinding limestone into powder.

1475 - 1480

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with only trace limestone cuttings;
- <u>Sandstone (70%)</u>: clear to light gray, occasionally gray brown, lower and upper very fine grained grading to sandy siltstone, rare medium grains, quartzose with trace lithic grains, sample composed primarily of very fine unconsolidated clear glassy quartz grains, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, rare brown with dark brown spotty oil staining, 5% patchy pale with dull yellow white direct fluorescence, bright cut;
- <u>Siltstone (30%)</u>: pale gray brown and dark gray, gritty texture, very calcareous, argillaceous in part grading to marlstone;

Possible PDC is grinding limestone into powder.

1480 - 1485

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain with only trace limestone cuttings;
- Sandstone (70%): clear to light gray, occasionally gray brown, lower and upper very fine grained grading to sandy siltstone, rare medium grains, quartzose with trace lithic grains, sample composed primarily of very fine unconsolidated clear glassy quartz grains, minor calcareous stringers, subrounded, moderately sorted, abundant calcareous limestone, tight with poor porosity, rare brown with dark brown spotty oil staining, 5% patchy pale with dull yellow white direct fluorescence, bright cut;
- <u>Siltstone (30%)</u>: pale gray brown and dark gray, gritty texture, very calcareous, argillaceous in part grading to marlstone;

Possible PDC is grinding limestone into powder.

# SAMPLE DESCRIPTIONS

Depth (m)

1485 - 1490

- Light gray, chalky muddy sample, poor cuttings recovered, after washing and drying sample, only very fine grained sandstone and siltstone remain;
- <u>Siltstone (70%)</u>: pale gray brown and dark gray, gritty texture, very calcareous, argillaceous in part grading to marlstone;
- Sandstone (30%): light gray, occasionally gray brown, lower and upper very fine grained grading to sandy siltstone, quartzose with trace lithic grains, minor calcareous stringers, subrounded, moderately sorted, poor porosity, rare brown with dark brown spotty oil staining, 5% patchy pale with dull yellow white direct fluorescence, bright cut.

1490 - 1495

- <u>Claystone (55%):</u> light gray and cream, occasional medium gray, in part massive texture, trace calcareous, trace silty, in part slightly micromicaceous, common waxy appearance, minor calcareous stringers, soft;
- Sandstone (20%): light gray, predominantly clear and translucent grains, lower fine to upper medium grains, quartzose, subrounded and subangular grains, trace rounded grains, moderately sorted, predominantly unconsolidated grains, inferred tight to poor intergranular porosity (0 to 3%), rare brown with dark brown spotty oil staining, 5% patchy pale with dull yellow white direct fluorescence, bright cut;

Siltstone (15%): light gray, gritty in part, common waxy clay matrix, in part very fine sandstone;

<u>Shale (10%):</u> medium and dark gray, common subfissile, micromicaceous, in part silty and occasionally grading to shaly siltstone, calcareous in part.

1495 - 1500

- <u>Siltstone (75%)</u>: light to medium gray and common dark gray, gritty to massive texture, argillaceous, occasionally grading to silty shale, trace calcareous stringers, in part grading to silty claystone, occasionally very fine sandy, tight;
- Sandstone (25%): light gray, upper very fine to lower fine grained, occasional upper fine grained and trace lower medium grained, quartzose, trace lithic grains, subrounded, moderately sorted, abundant calcareous cement, tight with poor porosity, very patchy brown oil stain, trace patchy bright white direct fluorescence, trace bright white mineral fluorescence, dull to bright cut.

1500 - 1505

<u>Sandstone (70%)</u>: light gray, lower medium to very coarse grained and occasional pebble size fragments,
80% quartz, clear, translucent, white, occasional smoky gray orange, slightly yellowish and purple color,
20% light to dark gray lithic grains and white quartzose grains, minor white and cream color limestone stringers, trace pyrite, subrounded to subangular grains, medium to poorly sorted, predominantly

# SAMPLE DESCRIPTIONS

# Depth (m)

unconsolidated grains and grain fragments, fine grained sand aggregates contain abundant calcareous cement, inferred poor intergranular porosity (3 to 5%), dark brown oil on shaker, very patchy brown oil stain, trace patchy bright white direct fluorescence, trace bright white mineral fluorescence, dull to bright cut;

<u>Siltstone (20%)</u>: medium gray, gritty, calcareous cement, tight; <u>Shale (10%)</u>: dark gray, blocky, silty.

# 1505 - 1510

Sandstone (55%): light gray, lower medium to upper coarse grained, minor very coarse grains, rare pebble size fragments trace upper very fine to upper fine grained, 85% varicolored quartz as above and 10% lithic grains, minor to in part common kaolinitic grains, subrounded to subangular grains, trace rounded frosted grains, moderately to poorly sorted, predominantly unconsolidated grains, inferred poor intergranular porosity (3 to 5%), brown to black oil on shaker, rare questionable spotty oil staining on grains, trace medium and bright yellow fluorescence in sample, trace white halo cut;

Shale (25%): dark gray, blocky and subfissile, micromicaceous, silty;

Siltstone (20%): light and medium gray gritty texture, calcareous cement, argillaceous, tight gritty texture tight.

## 1510 - 1515

<u>Conglomerate (100%)</u>: polymicritic, mud supported, varicolored (white, pink, clear, green, brown) fragments of 80% quartz, chert, volcanics and other lithographic, light gray argillaceous and coarse grained matrix, calcareous cement, poor intergranular porosity, trace questionable spotty oil staining on very few grains, faint yellow direct fluorescence, no cut.

# 1515 - 1520

<u>Conglomerate (100%)</u>: polymicritic, mud supported, varicolored (white, pink, clear, green, brown) fragments of 80% quartz, chert, volcanics and other lithographic, light gray argillaceous matrix, calcareous, no shows.

# 1520 - 1525

<u>Conglomerate (100%)</u>: polymicritic, possible clay to pebble supported, predominantly varicolored pebble fragments ranging from clear and translucent quartz orange pink (possible feldspar), light to dark gray, smoky gray, brown and trace green and purple lithic grains, occasional white quartzitic grains with abundant siderite speck, minor to in part common upper medium to upper very coarse frosted rounded unconsolidated quartz grains and trace chert grains, trace limestone grains, trace fine to medium grained sandy matrix, poorly sorted, inferred tight, no shows, trace dull yellow fluorescence, no cut.

# SAMPLE DESCRIPTIONS

Depth (m)

# 1525 - 1530

<u>Conglomerate (100%):</u> polymicritic, possible pebble supported with subangular clay matrix, predominantly varicolored pebble fragments ranging from light to dark gray orange pink, occasional yellow brown and smoky gray, common loose lower medium to lower very coarse frosted rounded quartz grains inferred matrix to conglomerate, minor white gray earthy limestone grains, inferred tight, rare dull yellow fluorescence, no cut.

# 1530 - 1535

<u>Conglomerate (100%):</u> polymicritic, pebble supported with clay with sandy matrix, varicolored lithic pebble fragments as above, ranging from light to medium gray, gray brown orange pink, occasional yellow brown, trace green and clear and translucent quartz, trace quartzitic and limestone grains, abundant lower medium to lower coarse loose frosted, rounded quartz grains, poorly sorted, trace siltstone grains, inferred tight, rare very dull yellow fluorescence, no cut.

# 1535 - 1540

- <u>Conglomerate (65%)</u>: polymicritic, clay with sandy matrix, varicolored lithic pebble fragments from light to medium gray orange yellow, gray brown and common clear and translucent quartz, trace quartzitic and limestone grains, poorly sorted, inferred tight, rare very dull yellow fluorescence, no cut;
- Sandstone (35%): light gray, upper fine to upper medium grained, common coarse grains, 75% quartz and 25% varicolored lithic grains, predominantly unconsolidated grains with occasional grain aggregates showing a pale gray green clay matrix, subangular to subrounded grains, moderately to poorly sorted, inferred tight to poor intergranular porosity (0 to 3%), no shows.

## 1540 - 1545

- Sandstone (55%): off white to light gray, upper fine to lower coarse grained, minor upper coarse grains, quartzose to sublithic with 10% predominantly dark gray and minor varicolored lithic grains, subangular to subrounded grains, moderately to poorly sorted, predominantly loose grains, inferred tight to poor intergranular porosity (0 to 4%), no shows, trace yellow fluorescence, no cut;
- <u>Conglomerate (45%):</u> polymicritic, clay with sandy matrix, varicolored lithic pebble fragments as above, trace siltstone grains, poorly sorted, inferred tight, rare very dull yellow fluorescence, faint cut.

1545 - 1550

Sandstone (60%): light gray, upper fine to upper coarse grained minor very coarse grains, minor upper very fair grains, some grains probable pebble fragments, 80% quartz and 20% varicolored lithic grains, predominantly loose grains, common clay matrix in grain aggregates, angular to subrounded grains,

# SAMPLE DESCRIPTIONS

# Depth (m)

minor rounded frosted grains, poorly sorted, inferred tight to poor intergranular porosity (0 to 3%), trace yellow fluorescence, no cut;

<u>Conglomerate (40%)</u>: polymicritic, clay with sandy matrix, varicolored lithic pebble fragments, light to medium gray orange yellow, gray brown and common clear and translucent quartz, minor quartzitic grains, trace siltstone, poorly sorted, inferred tight to trace poor intergranular porosity (0 to 3%), rare very dull yellow fluorescence, faint cut.

# 1550 - 1555

- <u>Conglomerate (50%)</u>: probable sand supported, polymicritic, clay with sandy matrix, varicolored pebble fragments, light gray, green gray orange pink, cream, buff to brown, yellowish and common white, clear and translucent, common quartzitic fragments, trace siltstone grains, poorly sorted, inferred tight;
- Sandstone (50%): probable sandy matrix in conglomerate, light gray, lower medium to lower coarse grained, common upper coarse and minor very coarse grains, 70% clear, translucent frosted quartz and 30% lithic grains, predominantly unconsolidated grains, common pale green gray clay matrix in part waxy appearance, subangular to subrounded grains common rounded frosted grains, moderately to poorly sorted, inferred tight.

#### 1555 - 1560

- <u>Conglomerate (70%)</u>: probable sand supported, polymicritic, clay with sandy matrix, varicolored pebble fragments as above, trace siltstone grains, poorly sorted, inferred tight;
- Sandstone (30%): probable sandy matrix in conglomerate, light gray, lower medium to lower coarse grained, common upper coarse and minor very coarse grains, 70% clear, translucent frosted quartz and 30% lithic grains, predominantly unconsolidated grains, common pale green gray clay matrix in part waxy appearance, subangular to subrounded grains common rounded frosted, grains, moderately to poorly sorted, inferred tight.

## 1560 - 1565

<u>Conglomerate (100%)</u>: probable clastic supported, polymicritic, varicolored (white, clear, light brown, pink, bluish to green, light gray, and rare red) clasts or fragments of clasts of predominantly quartz and chert with minor volcanics and other lithic fragments, clasts are inferred to be from medium grained sand up to boulder sized, probably grading to and from pebbly sandstone (feldspathic litharenite). medium to coarse grained, composition similar to conglomerate, tight to poor porosity, no shows.

# SAMPLE DESCRIPTIONS

Depth (m)

# 1565 - 1570

<u>Conglomerate (100%)</u>: probable clastic supported, polymicritic, varicolored (white, clear, light brown, pink, bluish to green, light gray, and rare red) clasts or fragments of clasts of predominantly quartz and chert with minor volcanics and other lithic fragments, clasts are inferred to be from medium grained sand up to boulder sized, probably grading to and from pebbly sandstone (feldspathic litharenite), tight to poor porosity, no shows.

# 1570 - 1575

<u>Conglomerate (100%)</u>: probable clastic supported, polymicritic, varicolored (white, clear, light brown, pink, bluish to green, light gray, and rare red) clasts or fragments of clasts of predominantly quartz and increasing chert, with minor volcanics and other lithic fragments, clasts are inferred to be from medium grained sand up to boulder sized, probably grading to and from pebbly sandstone (feldspathic litharenite), tight to poor porosity, <5% cuttings have pale to dull mineral fluorescence, no shows.

# 1575 - 1580

<u>Conglomerate (100%)</u>: probable clastic supported, polymicritic, varicolored (white, clear, light brown, pink, bluish to green, light gray, and rare red) clasts or fragments of clasts of predominantly quartz and increasing chert, with minor volcanics and other lithic fragments, clasts are from medium grained sand up to boulder sized inferred), probably grading to and from pebbly sandstone (feldspathic litharenite), as seen by cuttings of medium grained sandstone (matrix of conglomerate?) tight to poor porosity, no shows.

# 1580 - 1585

<u>Conglomerate (100%)</u>: probable clastic supported, polymicritic, varicolored (white, clear, light brown, pink, bluish to green, light gray, and rare red) clasts or fragments of clasts of predominantly quartz and increasing chert, with minor volcanics and other lithic fragments, clasts are from medium grained sand up to boulder sized inferred), probably grading to and from pebbly sandstone (feldspathic litharenite), as seen by cuttings of medium grained sandstone (matrix of conglomerate?) tight to poor porosity, no shows.

# 1585 - 1590

<u>Conglomerate (100%)</u>: probable sand with pebble supported, polymicritic, varicolored, predominantly clear, white orange pink, off white to cream, minor light gray, slightly green gray and occasional brown pebble fragments, common pink pebble fragments appear granitic like, minor chert, limestone and quartzitic pebble fragments, abundant lower medium to upper coarse grained subangular to rounded in part frosted

# SAMPLE DESCRIPTIONS

# Depth (m)

predominantly loose quartz grains, minor pale gray to gray green clay matrix infill in occasional visible sand aggregates, slightly calcareous matrix, sand and clay probable matrix infill between pebbles and larger size clasts, inferred tight, trace dull and rare bright yellow mineral fluorescence, no cut.

#### 1590 - 1595

<u>Conglomerate (100%)</u>: probable sand with pebble supported, polymicritic, varicolored, predominantly clear, white, orange pink, light to medium gray, slightly green gray, off white to buff and occasional brown and red brown pebble fragments, predominantly granitic like, minor chert, limestone and quartzitic pebble fragments, abundant lower medium to lower coarse grained subangular to rounded in part frosted predominantly loose quartz grains, minor to in part common pale gray to gray green clay matrix infill in sand aggregate cuttings, moderately calcareous matrix, sand and clay probable matrix infill between pebbles and larger size clasts, inferred tight, trace dull yellow mineral fluorescence, no cut.

# 1595 - 1600

<u>Conglomerate (100%)</u>: polymicritic, probable clast supported, varicolored (white, clear, pink orange, light gray, green gray, buff and brown) fragments of quartz, chert and lithographic fragments, increasing in lower medium to upper coarse sand grains in sample (grading to from pebbly sandstone or increasing in matrix?), weakly calcareous, poor porosity, no fluorescence, faint to pale cut.

## 1600 - 1605

<u>Conglomerate (100%)</u>: polymicritic, probable clast supported, varicolored (white, clear, pink orange, light gray, green gray, buff and brown) fragments of quartz, chert and lithographic fragments, increasing in lower medium to upper coarse sand grains in sample (grading to from pebbly sandstone or increasing in matrix?), weakly calcareous, poor porosity, no shows.

# 1605 - 1610

<u>Conglomerate (100%)</u>: polymicritic, probable clast supported, varicolored (white, clear, pink orange, light gray, green gray, buff and brown) fragments of quartz, chert and lithographic fragments (volcanics, metamorphics), lower medium to upper coarse sand grains in sample (grading to from pebbly sandstone or increasing in matrix?), weakly calcareous, poor porosity, no shows.

# 1610 - 1615

<u>Conglomerate (70%)</u>: polymicritic, probable clast supported, becoming matrix supported?, varicolored (white, clear, pink orange, light gray, green gray, buff and brown) fragments of quartz, chert and lithographic

# SAMPLE DESCRIPTIONS

# Depth (m)

fragments (volcanics, metamorphics ie. see photos). lower medium to upper coarse, subrounded to subangular sand grains in sample (grading to from pebbly sandstone or increasing in matrix?), weakly calcareous, poor porosity, no shows;

Sandstone (30%): questionable sandstone (matrix for matrix supported conglomerate or grading to pebble conglomerate?), increasing in lower medium quartz grains, (sublitharenite if sandstone), subrounded to subangular grains, moderately sorted, poor intergranular porosity, no oil stain.

# 1615 - 1620

<u>Conglomerate (100%)</u>: coarse cuttings sample, probable sand with pebble supported, polymicritic, varicolored, predominantly orange pink, white and clear, light to medium gray and occasional dark gray, minor red brown and gray brown pebble fragments, predominantly granitic like with occasional disseminated micromicaceous flakes, minor chert, quartzitic and rare limestone pebble fragments, common lower medium to upper coarse grained sandy matrix with occasional trace pale green gray clay like matrix, subangular to angular grains and rare rounded frosted coarse grained loose quartz grains, common calcareous matrix, inferred tight, rare medium yellow mineral fluorescence, no cut.

## 1620 - 1625

<u>Conglomerate (100%)</u>: coarse cuttings sample, probable sand with pebble supported, polymicritic, varicolored, predominantly orange pink, white and clear, light to medium gray and occasional dark gray, minor red brown and gray brown pebble fragments, predominantly granitic like with occasional disseminated micromicaceous flakes, minor chert, quartzitic and rare limestone pebble fragments, common lower medium to upper coarse grained sandy matrix with in part minor pale green gray clay like matrix, subangular to angular grains and rare rounded frosted coarse grained loose quartz grains, common calcareous matrix, inferred tight, no fluorescence, no cut.

# 1625 - 1630

- <u>Conglomerate (100%)</u>: probable sand with pebble supported, polymicritic, varicolored orange pink, light to medium gray and occasional dark gray, white and clear, minor red brown and gray brown pebble fragments, predominantly granitic like, minor chert, quartzitic and rare limestone (trace fossils) pebble fragments, common lower medium to lower coarse grained sandy matrix with in part minor pale green gray clay like matrix, angular to subrounded grains and minor to common rounded frosted medium and coarse grained loose quartz grains, common calcareous matrix, inferred tight, trace yellow fluorescence, no cut;
- Sandstone (trace): light gray, lower and upper very fine grained, occasionally grading to siltstone, quartzitic, trace lithic grains, siliceous and calcareous cement, tight.

# SAMPLE DESCRIPTIONS

# Depth (m)

# 1630 - 1635

<u>Conglomerate (100%)</u>: probable sand with pebble supported, polymicritic, varicolored, abundant white, clear and orange pink, minor light to medium gray and trace dark gray, minor red brown and gray brown pebble fragments, predominantly granitic like, minor chert, quartzitic and rare limestone pebble fragments, abundant medium grained to lower coarse and in part upper fine grained sand matrix interpreted as matrix material with occasional pale green gray clay like matrix infill, angular to subrounded grains and common rounded frosted medium and coarse grained loose quartz grains, common calcareous matrix, inferred tight, trace dull yellow mineral fluorescence, no cut.

## 1635 - 1640

<u>Sandstone (100%):</u> questionable matrix sand in subangular sand supported conglomerate with the coarse pebble fragments being collected on the coarse sieve, light gray, lower medium to lower coarse grained, minor upper coarse grains, minor very coarse grains and common varicolored pebble fragments as above, 70% clear, translucent and in part frosted quartz grains and 30% varicolored lithic grains ranging from pink, light and medium gray and red brown, same as color of pebble fragments in previous samples, could be possible pebble fragments, angular to subrounded grains and minor rounded grains, moderately to poorly sorted, predominantly unconsolidated grains, calcareous cement, inferred tight, rare yellow fluorescence, no cut.

#### 1640 - 1645

Sandstone (100%): questionable matrix sand in subangular sand supported conglomerate with majority of the coarse pebble fragments being collected on the coarse sieve, sand is light gray, lower medium to upper coarse grained, minor very coarse grains and common varicolored pebble fragments as above, 70% clear, translucent, frosted and trace purplish translucent quartz grains and 30% varicolored lithic grains ranging from pink, light gray, brown and red brown, same color of pebble fragments in previous samples, probable pebble fragments, angular to subrounded grains and common rounded grains, moderately to poorly sorted, predominantly unconsolidated grains, calcareous cement, inferred tight, rare yellow fluorescence, no cut.

# 1645 - 1650

<u>Conglomerate (100%)</u>: polymicritic, varicolored clasts (clear, white, pink, green gray, light gray orange, purplish), fragments of pebble clasts in conglomerate, fragments are subangular to angular though some rare rounded edges may be observed, majority of sample is lower medium to lower coarse sand, probably as matrix for conglomerate or grading to and from conglomerate, sandstone cuttings are predominantly clear to translucent quartz grains (sublithographic arenite if sandstone), upper fine to medium grains,

## SAMPLE DESCRIPTIONS

# Depth (m)

subrounded to subangular, moderately sorted, moderately cemented with calcareous and silica cement, poor porosity, no oil shows.

# 1650 - 1655

<u>Conglomerate (100%)</u>: polymicritic, matrix supported?, varicolored clasts (clear, white, pink, green gray, light gray orange, purplish), fragments of pebble clasts in conglomerate, fragments are subangular to angular though some rare rounded edges may be observed, majority of sample is lower medium to lower coarse clasts of quartz, probable as matrix for conglomerate or grading to and from conglomerate, slight increase in sandstone cuttings, predominantly clear to translucent quartz grains (sublithographic arenite if sandstone), upper fine to medium grains, subrounded to subangular, moderately sorted, moderately cemented with calcareous and silica cement, poor porosity, no oil shows.

## 1655 - 1660

<u>Conglomerate (100%):</u> polymicritic, matrix supported?, varicolored clasts (clear, white, pink, green gray, light gray orange, purplish), fragments of pebble clasts in conglomerate, fragments are subangular to angular though some rare rounded edges may be observed, majority of sample is lower medium to lower coarse clasts of quartz, probable as matrix for conglomerate or grading to and from conglomerate, slight increase in sandstone cuttings, predominantly clear to translucent quartz grains (sublithographic arenite if sandstone), upper fine to medium grains, subrounded to subangular, moderately sorted, moderately cemented with calcareous and silica cement, poor porosity, no oil shows.

# 1660 - 1665

<u>Conglomerate (100%)</u>: polymicritic, matrix supported?, varicolored clasts (clear, white, pink, green gray, light gray orange, purplish), fragments of pebble clasts in conglomerate, fragments are subangular to angular though some rare rounded edges may be observed, majority of sample is lower medium to lower coarse clasts of quartz, probable as matrix for conglomerate or grading to and from conglomerate, slight increase in sandstone cuttings, predominantly clear to translucent quartz grains (sublithographic arenite if sandstone, else matrix for conglomerate), upper fine to medium grains, subrounded to subangular, moderately sorted, moderately cemented with calcareous and silica cement, poor porosity, no oil shows.

## 1665 - 1670

<u>Conglomerate (100%)</u>: polymicritic, varicolored clasts (clear, white, pink, green gray, light gray orange, purplish), fragments of pebble clasts in conglomerate, fragments are subangular to angular though some rare rounded edges may be observed, majority of sample is lower medium to lower coarse clasts of quartz,

# SAMPLE DESCRIPTIONS

# Depth (m)

probable as matrix for conglomerate or grading to and from conglomerate, slight increase in sandstone cuttings, predominantly clear to translucent quartz grains (sublithographic arenite if sandstone, else matrix for conglomerate), upper fine to medium grains, subrounded to subangular, moderately sorted, moderately cemented with calcareous (sample in general is more calcareous than above) and silica cement, poor porosity, no oil shows.

# 1670 - 1675

<u>Conglomerate (100%)</u>: sand with pebble supported polymicritic conglomerate grading to pebbly sandstone, sample comprises 65% clear, translucent and occasional faint purplish quartz grains and 35% lithic fragments, fragments are predominantly pale orange pink with minor light to medium gray and occasional dark gray, red brown and brown pebble fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained with minor very coarse grained, quartz grains are predominantly upper fine to upper medium and occasional lower coarse grained, unconsolidated, subrounded to subangular with minor rounded frosted grains, moderately sorted, occasional grain aggregates shows minor pale green gray clay like matrix, calcareous in part, probable sublitharenite, inferred tight, no fluorescence, no cut.

#### 1675 - 1680

<u>Conglomerate (100%)</u>: sand with pebble supported polymicritic conglomerate grading to pebbly sandstone, sample comprises 70% clear, translucent and trace purplish quartz grains and 30% lithic fragments, fragments are predominantly pale orange pink with minor light to medium gray, trace dark gray, red brown, brown and rare purplish pebble fragments, trace chert like grains with fragments observed, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly upper fine to upper medium and occasional lower coarse grained, unconsolidated, subrounded to subangular, minor rounded frosted grains, moderately sorted, calcareous in part, probable sublitharenite, inferred tight.

## 1680 - 1685

<u>Conglomerate (100%)</u>: sand with pebble supported polymicritic conglomerate grading occasionally to pebbly sandstone, sample comprises 65% clear, translucent and trace purplish quartz grains and 35% lithic fragments, fragments are predominantly pale orange pink with minor light to medium gray, trace dark gray, light to dark brown and rare purplish pebble fragments, trace chert fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly upper fine to upper medium and occasional lower coarse

# SAMPLE DESCRIPTIONS

# Depth (m)

grained, predominantly unconsolidated, minor clay matrix, angular to subrounded grains, minor rounded frosted grains, moderately sorted, calcareous in part, probable sublitharenite, inferred tight, trace yellow fluorescence.

#### 1685 - 1690

<u>Conglomerate (100%)</u>: sand with pebble supported polymicritic conglomerate grading occasionally to possible pebbly sandstone, sample comprises 65% clear, translucent and trace purplish quartz grains and 35% lithic fragments, fragments are predominantly pale orange pink and yellow brown with minor light to medium gray, trace dark gray, light to dark brown, trace chert and quartz fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly upper fine to upper medium and occasional lower coarse, occasionally upper coarse grained, predominantly unconsolidated, minor to common green gray clay matrix, angular to subrounded grains, minor rounded frosted grains, moderately sorted, calcareous, inferred tight, trace dull yellow fluorescence, no cut.

#### 1690 - 1695

<u>Conglomerate (100%)</u>: sand with pebble supported polymicritic conglomerate grading occasionally to possible pebbly sandstone, sample comprises 65% clear, translucent and rare purplish quartz grains and 35% lithic fragments, fragments are predominantly pale orange pink, brown and gray as above, occasional chert and quartz pebble fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly lower to upper medium grained and occasional upper fine and lower coarse grained, predominantly unconsolidated grains, minor green gray clay matrix, angular to subrounded grains, minor rounded frosted grains, moderately sorted, calcareous, inferred tight, trace dull yellow fluorescence, no cut.

#### 1695 - 1700

<u>Conglomerate (100%):</u> unwashed coarse sample shows signs of gray clay plus very fine sand matrix, otherwise possible clast supported polymicritic conglomerate grading occasionally to pebbly sandstone, sample comprises 50% clear, translucent quartz grains and 50% lithic fragments, fragments are predominantly pale orange pink, brown and gray, occasional chert and quartz pebble fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly lower to upper medium grained and occasional upper fine and lower coarse grained, predominantly unconsolidated grains, poorly sorted, calcareous and silica cement, tight, no oil shows.

# SAMPLE DESCRIPTIONS

Depth (m)

# 1700 - 1705

<u>Conglomerate (100%):</u> unwashed coarse sample shows signs of gray clay plus very fine sand matrix, otherwise possible clast supported polymicritic conglomerate grading occasionally to pebbly sandstone, sample comprises 50% clear, translucent quartz grains and 50% lithic fragments, fragments are predominantly pale orange pink, brown and gray, occasional chert and quartz pebble fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly lower to upper medium grained and occasional upper fine and lower coarse grained, predominantly unconsolidated grains, poorly sorted, calcareous and silica cement, tight, no oil shows.

# 1705 - 1710

<u>Conglomerate (100%)</u>: unwashed coarse sample shows signs of gray clay plus very fine sand matrix, otherwise possible clast supported polymicritic conglomerate grading occasionally to pebbly sandstone, sample comprises 70% clear, translucent quartz grains and 30% lithic (increasing in limestone and gypsum?) fragments, fragments are predominantly pale orange pink, brown and gray, occasional chert and quartz pebble fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly lower to upper medium grained and occasional upper fine and lower coarse grained, predominantly unconsolidated grains, poorly sorted, calcareous and silica cement, tight, no fluorescence, faint cut.

# 1710 - 1715

<u>Conglomerate (100%):</u> unwashed coarse sample shows signs of gray clay plus very fine sand matrix, otherwise possible clast supported polymicritic conglomerate grading occasionally to pebbly sandstone, sample comprises 80% clear, translucent quartz grains (conglomerate matrix or medium to coarse grained sandstone?) and 20% lithic (increasing in limestone and gypsum?) fragments, fragments are predominantly pale orange pink, brown and gray, occasional chert and quartz pebble fragments, pebble fragments appear angular to subangular and lower medium to upper coarse grained size with minor very coarse grained, quartz grains are predominantly lower to upper medium grained and occasional upper fine and lower coarse grained, predominantly unconsolidated grains, poorly sorted, calcareous and silica cement, tight, no oil shows.

# 1715 - 1720

<u>Conglomerate (100%)</u>: unwashed coarse sample shows signs of gray clay plus very fine sand matrix, otherwise possible clast supported polymicritic conglomerate grading occasionally to pebbly sandstone, sample comprises 80% clear to translucent quartz grains (conglomerate matrix or medium to coarse grained

# SAMPLE DESCRIPTIONS

# Depth (m)

sandstone?) and 20% lithic (increasing in limestone and gypsum?) fragments, fragments are predominantly pale orange pink, brown and gray, occasional chert and quartz pebble fragments, pebble fragments appear angular to subangular, quartz grains are predominantly lower to upper medium grained and occasional upper fine and lower coarse grained, predominantly unconsolidated grains, poorly sorted, calcareous and silica cement, tight, no oil shows.

# 1720 - 1725

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 40% lithic and occasional quartz pebble fragments, fragments predominantly orange pink color, minor light to dark gray, buff to brown and occasionally clear quartz fragments, minor chert and limestone with dolomitic fragments, estimated 70% quartz grains and grain fragments, predominantly lower medium to lower coarse grained, occasional upper coarse and upper fine grained, predominantly unconsolidated grains, minor to common green gray clay matrix and minor white calcareous matrix, angular to subrounded grains, minor rounded to well rounded frosted grains, moderately sorted, calcareous, inferred tight to porosity intergranular porosity based on minor gas response (0 to 3%), rare dull yellow fluorescence, no cut.

## 1725 - 1730

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 30% lithic and occasional quartz pebble fragments, fragments predominantly orange and in part yellowish pink color, minor light to dark gray, buff, brown and occasionally clear quartz fragments, minor chert fragments present, estimated 60% quartz grains and grain fragments, predominantly lower medium to lower coarse grained, in part upper coarse and upper fine grained, predominantly unconsolidated grains, minor to common green gray clay matrix and minor white calcareous matrix, angular to subrounded grains, minor rounded frosted grains, moderately sorted, calcareous, inferred tight to porosity intergranular porosity based on minor gas response (0 to 3%), rare dull yellow fluorescence, no cut.

#### 1730 - 1735

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 60% varicolored pebble fragments, fragments predominantly orange and yellowish pink, light to dark gray, green gray, buff to brown and occasionally clear quartz fragments, minor chert fragments, estimated 40% quartz grains and grain fragments, clear and translucent, trace faint purple translucent, lower medium to lower coarse grained, in part upper fine and trace lower and upper coarse grains, predominantly unconsolidated grains, minor to common green gray clay grains, probable matrix, subangular to subrounded grains, minor rounded frosted grains, moderately to poorly sorted, calcareous, inferred tight, common dull to bright yellow fluorescence, faint to pale cut.

# SAMPLE DESCRIPTIONS

# Depth (m)

# 1735 - 1740

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 40% varicolored pebble fragments, fragments predominantly orange pink, clear and translucent quartz, light to dark gray, green gray, buff to brown and trace purple, minor chert, quartzose, trace red brown siltstone and limestone with dolomitic pebble fragments, estimated 60% quartz grains and grain fragments, clear and translucent, trace faint purple translucent, upper fine to lower coarse grained, minor upper coarse grained, abundant unconsolidated grains, minor to common green gray clay grains, probable matrix, subangular to subrounded grains, minor rounded frosted grains, poorly sorted, calcareous, inferred tight, common dull to bright yellow fluorescence, faint cut.

# 1740 - 1745

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 65% varicolored pebble fragments, fragments cream to buff and light gray, minor dark gray orange pink, red brown and brown, occasional white and clear quartz fragmental, minor chert, abundant white quartzitic fragments, trace limestone with dolomitic and rare reddish siltstone pebble fragments, estimated 35% quartz grains and grain fragments, clear and translucent, trace faint purple translucent, rare pyrite, lower medium to lower coarse grained, minor upper coarse and very coarse grains, abundant unconsolidated grains, minor pale green gray clay grains, probable matrix, subangular to subrounded grains, minor rounded frosted grains, poorly sorted, calcareous, inferred tight, trace dull yellow fluorescence, no cut.

# 1745 - 1750

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 45% varicolored pebble fragments, fragments cream to buff and light gray, rare dark gray, common white and occasional clear quartz, common faint to medium orange pink, slightly yellowish to yellow brown, minor chert, abundant white quartzitic fragments, trace limestone with dolomitic fragments, estimated 55% quartz grains and grain fragments, clear and translucent, trace faint purple translucent, rare pyrite, lower medium to lower coarse grained, minor upper coarse and very coarse grains, abundant unconsolidated grains, minor pale green gray clay grains, probable matrix, subangular to subrounded grains, minor rounded frosted grains, poorly sorted, calcareous, inferred tight, rare dull yellow fluorescence, no cut.

# 1750 - 1755

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 50% varicolored pebble fragments, fragments cream to buff and light gray to trace dark gray, common orange pink and yellowish to pale brown, common white to off white and occasionally clear quartz, minor chert, common white quartzitic fragments, trace limestone with dolomitic fragments, estimated 50% quartz grains and grain fragments,

# SAMPLE DESCRIPTIONS

# Depth (m)

clear and translucent, trace faint purple translucent, rare pyrite in pebbles, lower medium to lower coarse grained, minor upper fine and upper coarse to very coarse grains, abundant unconsolidated grains, minor to common pale green gray clay grains, probable matrix, subangular to subrounded grains, minor rounded frosted grains, poorly sorted, calcareous, inferred tight, no fluorescence, no cut.

# 1755 - 1760

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy matrix, estimated 40% varicolored pebble fragments, fragments predominantly cream to buff, white and translucent orange pink in part yellowish, light and medium gray with trace dark gray, pale brown, minor chert, common quartzitic fragments, trace limestone with dolomitic fragments, estimated 60% quartz grains and grain fragments, clear and translucent, trace faint purple translucent, lower medium to lower coarse grained, minor upper fine and upper coarse to very coarse grains, abundant unconsolidated grains, minor to common pale green gray clay grains, probable matrix, subangular to subrounded grains, minor rounded frosted grains, poorly sorted, tight, rare very dull yellow fluorescence, no cut.

#### 1760 - 1765

<u>Conglomerate (100%)</u>: polymicritic, clast supported, 100% varicolored pebble fragments (white, clear orange, pink, green gray) of quartz, chert, feldspar, and other lithic fragments (felsic volcanics? and metamorphic rocks?, limestone with dolomitic). All unconsolidated fragments, ie. no cuttings showing grain aggregates (clast supported with gray mud matrix??). Frags are subangular to angular, rare rounded on one side, poorly sorted, poor porosity inferred, trace dull orange mineral fluorescence, no cut.

# 1765 - 1770

<u>Conglomerate (100%)</u>: polymicritic, clast supported, 100% varicolored pebble fragments (white, clear orange, pink, green gray) of quartz, chert, feldspar, and other lithic fragments (felsic volcanics? and metamorphic rocks?, limestone with dolomite), all unconsolidated fragments, (ie. no cuttings showing grain aggregates (clast supported with gray mud matrix??), fragments are subangular to angular, rare rounded on one side, presence of kaolinite, slightly calcareous, calcareous and silica cement inferred, poorly sorted, poor porosity inferred, trace dull orange mineral fluorescence, no cut.

# 1770 - 1775

<u>Conglomerate (100%)</u>: polymicritic, clast supported, possible becoming more clast supported downhole, sample composed predominantly of medium to upper coarse varicolored (pink, white, clear orange, green gray, brown, cream, light brown) fragments of pebbles plus clasts, increasing quartz grains with fragments in this sample than two above (pebble sandstone bed or increasing in matrix%?), sandstone cuttings have subangular to subrounded grains, are medium to coarse grained, moderately to well cemented with silica and calcareous cement, poor porosity, no shows.

# SAMPLE DESCRIPTIONS

# Depth (m)

# 1775 - 1780

<u>Conglomerate (100%)</u>: polymicritic, clast supported, but with increasing matrix, sample composed of medium to upper coarse varicolored (pink, white, clear orange, green gray, brown, cream, light brown) fragments of pebbles plus clasts, increasing kaolinite, abundant quartz grains with fragments (pebble sandstone bed or increasing in matrix%?), sandstone cuttings have subangular to subrounded grains, are medium to coarse grained, moderately to well cemented with silica and calcareous cement, poor porosity, no oil shows, sample has <5% dull orange mineral fluorescence

## 1780 - 1785

<u>Conglomerate (100%)</u>: polymicritic, clast supported, but with increasing matrix, sample composed of medium to upper coarse varicolored (pink, white, clear orange, green gray, brown, cream, light brown) fragments of pebbles plus clasts, increasing kaolinite, abundant quartz grains with fragments (pebble sandstone bed or increasing in matrix%?), sandstone cuttings have subangular to subrounded grains predominantly of quartz with minor lithic grains (sublitharenite, similar in composition as conglomerate fragments), are medium to coarse grained, moderately to well cemented with silica and calcareous cement, poor porosity, no oil shows.

#### 1785 - 1790

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy calcareous matrix, estimated 40% varicolored pebble fragments ranging from orange pink, brown, buff, light gray, light green, dark green, estimated 60% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 10 to 20% lithic grains, in part sublitharenite, medium to fine grains, abundant unconsolidated grains, subrounded grains, minor rounded frosted grains, poorly sorted, tight, very faint fluorescence in part, very faint cut; Red mud spotted at shakers but not represented in washed sample.

#### 1790 - 1795

<u>Conglomerate (100%)</u>: polymicritic conglomerate with sandy calcareous matrix, estimated 30% varicolored pebble fragments ranging from white orange pink, brown, buff, light gray, light green, dark green, estimated 70% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 10 to 20% lithic grains, possibly grading to sublitharenite, medium to fine grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows; Red mud spotted at shakers but not represented in washed sample.

# 1795 - 1800

Conglomerate (100%): polymicritic conglomerate with sandy calcareous matrix, estimated 70% varicolored pebble

# SAMPLE DESCRIPTIONS

# Depth (m)

fragments ranging from white orange pink, brown, buff, light gray, light green, dark green, estimated 30% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 10 to 20% lithic grains, <10% feldspar, (possibly grading to sublitharenite), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows.

# 1800 - 1805

- <u>Conglomerate (100%)</u>: polymicritic conglomerate, becoming more clast supported with sandy calcareous matrix, estimated 80% varicolored pebble fragments ranging from white orange pink, brown, buff, light gray, light green, dark green, estimated 20% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 10 to 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows;
- Red mud spotted at shakers but not well represented in sample (<5% red siltstone cuttings, else spotty red staining on few quartz grains, siderite?)

#### 1805 - 1810

<u>Conglomerate (80%)</u>: polymicritic conglomerate, more clast supported with sandy calcareous matrix, estimated 80% varicolored pebble fragments ranging from white orange pink, yellow, brown, buff, light gray, light green, dark green, estimated 20% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 10 to 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (20%): red siltstone to claystone, spotty red staining on few quartz grains, (siderite?)

# 1810 - 1815

<u>Conglomerate (100%)</u>: polymicritic conglomerate, becoming more matrix supported? with sandy calcareous matrix, estimated 60% varicolored pebble fragments ranging from white orange pink, brown, buff, light gray, light green, dark green, estimated 40% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20 to 30% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows. trace red clay to silt.

## 1815 - 1820

<u>Conglomerate (100%)</u>: polymicritic conglomerate, matrix supported with sandy calcareous matrix, estimated 30% varicolored pebble fragments ranging from white orange, brown, buff, light gray, light green,

# SAMPLE DESCRIPTIONS

# Depth (m)

dark green, estimated 70% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 10% lithic grains, 30% feldspar, (possibly grading to lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows.

# 1820 - 1825

<u>Conglomerate (90%)</u>: polymicritic conglomerate, more matrix supported? with sandy calcareous matrix, estimated 40% varicolored pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 60% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 30% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows;

<u>Red Clay to Silt (10%):</u> red siltstone to claystone.

# 1825 - 1830

<u>Conglomerate (70%)</u>: polymicritic conglomerate, more matrix supported? with sandy calcareous matrix, estimated 40% varicolored pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 60% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (30%): red siltstone to claystone.

# 1830 - 1835

<u>Conglomerate (90%)</u>: polymicritic conglomerate, more matrix supported? with sandy calcareous matrix, estimated 30% varicolored pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 70% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (10%): red siltstone to claystone.

## 1835 - 1840

<u>Conglomerate (90%)</u>: polymicritic conglomerate, more matrix supported? with sandy calcareous matrix, estimated 30% varicolored pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray,

# SAMPLE DESCRIPTIONS

# Depth (m)

light green, dark green, estimated 70% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, abundant unconsolidated subrounded grains, minor rounded grains, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (10%): red siltstone to claystone.

# 1840 - 1845

<u>Conglomerate (90%)</u>: polymicritic conglomerate, more clast supported with only minor sandy calcareous matrix, estimated 80% varicolored angular to subangular pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 20% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% (of matrix) lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (10%): red siltstone to claystone, majority washed during cleaning of sample.

## 1845 - 1850

<u>Conglomerate (90%)</u>: polymicritic conglomerate, more clast supported with only minor sandy calcareous matrix, estimated 90% varicolored angular to subangular pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 10% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (10%): red siltstone to claystone, majority washed during cleaning of sample.

# 1850 - 1855

<u>Conglomerate (90%)</u>: polymicritic conglomerate, more clast supported with only minor sandy calcareous matrix, estimated 90% varicolored angular to subangular pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 10% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (10%): red siltstone to claystone, majority washed during cleaning of sample.

## 1855 - 1860

<u>Conglomerate (80%)</u>: polymicritic conglomerate, more clast supported with only minor sandy calcareous matrix, estimated 70% varicolored angular to subangular pebble fragments ranging from white orange, pink,

# SAMPLE DESCRIPTIONS

# Depth (m)

yellow, brown, buff, light gray, light green, dark green, estimated 30% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

<u>Red Clay to Silt (20%)</u>: red siltstone to claystone, majority washed during cleaning of sample, percentage estimated by looking at unwashed coarse cut.

## 1860 - 1865

<u>Conglomerate (80%)</u>: polymicritic conglomerate, more clast supported with only minor sandy calcareous matrix, estimated 70% varicolored angular to subangular pebble fragments ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 30% sandy calcareous matrix, predominantly clear and translucent quartz grains with estimated 20% lithic grains, 10% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (20%): red siltstone to claystone, majority washed during cleaning of sample, percentage estimated by looking at unwashed coarse cut.

#### 1865 - 1870

- <u>Conglomerate (90%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 90% varicolored angular to subangular gravel fragments? predominantly clear and translucent quartz grains, others ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 10% sandy calcareous matrix, clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), fine to medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;
- <u>Red Clay to Silt (10%)</u>: red siltstone to claystone, majority washed during cleaning of sample, percentage not representative of shakers red color.

1870 - 1875

- <u>Conglomerate (90%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 90% varicolored angular to subangular gravel fragments? ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 10% sandy calcareous matrix, clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;
- <u>Red Clay to Silt (10%)</u>: red siltstone to claystone, majority washed during cleaning of sample, percentage not representative of shakers red color.

# SAMPLE DESCRIPTIONS

Depth (m)

1875 - 1880

- <u>Conglomerate (95%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 95% varicolored angular to subangular gravel fragments? ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 5% sandy calcareous matrix which the majority is clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;
- <u>Red Clay to Silt (5%):</u> red siltstone to claystone, possible as matrix for conglomerate as seen in several cuttings or grading to red siltstone, majority is washed away.

1880 - 1885

<u>Conglomerate (95%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 95% varicolored angular to subangular gravel fragments? ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, estimated 5% sandy calcareous matrix which the majority is clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

<u>Red Clay to Silt (5%)</u>: red siltstone to claystone, majority is washed away.

1885 - 1890

- <u>Conglomerate (95%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 95% varicolored angular to subangular gravel fragments? ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, rare limestone clast, estimated 5% sandy calcareous matrix which the majority is clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;
- <u>Red Clay to Silt (5%)</u>: red siltstone to claystone, majority is washed away, matrix varies between red and crystallized.

1890 - 1895

<u>Conglomerate (95%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 95% varicolored angular to subangular pebble fragments? ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, rare limestone clast, estimated 5% sandy calcareous matrix which the majority is clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

# SAMPLE DESCRIPTIONS

# Depth (m)

<u>Red Clay to Silt (5%)</u>: red siltstone to claystone, majority is washed away, matrix varies between red and crystallized.

# 1895 - 1900

<u>Conglomerate (95%)</u>: polymicritic conglomerate, clast supported with only minor sandy calcareous matrix, estimated 95% varicolored angular to subangular pebble fragments? ranging from white orange, pink, yellow, brown, buff, light gray, light green, dark green, very common limestone clast, estimated 5% sandy calcareous matrix which the majority is clear and translucent quartz grains with estimated 20% lithic grains, 30% feldspar, (possibly grading to sublitharenite with lithographic subarkosic), medium grains, subangular to subrounded, poorly sorted, tight to poor porosity, no shows;

Red Clay to Silt (5%): red siltstone to claystone, majority is washed away.

1900 - 1905

- Sandstone (90%): subarkose to quartz arenite, clear to white, upper fine to upper medium, rare lower coarse grains, predominantly unconsolidated subrounded grains of clear to translucent quartz, 5% feldspar (associated with sandstone) <5% lithic fragments, poorly cemented with silica cement, moderately sorted, 3 to 5% porosity inferred (unconsolidated grains), trace spotty pale yellow direct fluorescence, no cut, oil spotted at shakers;
- Limestone (5%): cream to buff, microcrystalline, poor porosity, no shows, limestone not well represented in 1905.0 m sample, but was observed in spot sample at 1903.5 m;
- <u>Conglomerate (5%)</u>: polymicritic, clast supported, varicolored subangular fragments of various lithic fragments (granite, gabbro, metaseds).

# 1905 - 1910

- <u>Conglomerate (80%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar to chert, minor limestone and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- Sandstone (20%): subarkosic, clear to white, minor dark green, lower fine to upper medium, rare upper coarse grains, predominantly (90%) subrounded grains of clear to translucent quartz, 5% feldspar, <5% lithic fragments, poorly cemented with silica cement, moderately sorted, 0 to 3% porosity inferred (unconsolidated grains), trace dull orange mineral fluorescence (dolomite?), no cut.

# 1910 - 1915

Conglomerate (50%): polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert,

## SAMPLE DESCRIPTIONS

# Depth (m)

minor limestone? and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;

<u>Sandstone (50%)</u>: subarkose to quartz arenite, clear to white, minor dark green, lower fine to upper medium, rare upper coarse grains, predominantly (90%) subangular to subrounded grains of clear to translucent quartz, 5% feldspar, <5% lithic fragments, poorly cemented with silica cement, moderately sorted, 0 to 3% porosity inferred (unconsolidated grains), trace dull orange mineral fluorescence (dolomite?), faint cut.</li>

## 1915 - 1920

- Sandstone (70%): subarkosic, clear to white, minor dark green, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica and calcareous cement, moderately sorted, 0 to 3% porosity inferred (unconsolidated grains), trace dull orange mineral fluorescence (dolomite?), faint with pale cut;
- <u>Conglomerate (30%)</u>: polymicritic, matrix supported, varicolored subangular fragments of quartz, feldspar, chert, minor limestone? and various lithic fragments (granite, gabbro, metaseds), estimated 70% clasts, 30% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;

Trace black shale in sample.

# 1920 - 1925

- <u>Conglomerate (70%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, minor limestone? and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- Sandstone (30%): lithic subarkosic, clear to white, minor dark green and pink grains, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange mineral fluorescence (dolomite?), no shows.

# 1925 - 1930

<u>Conglomerate (50%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;

# SAMPLE DESCRIPTIONS

# Depth (m)

<u>Sandstone (50%)</u>: subarkosic, clear to white, minor dark green, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange mineral fluorescence (dolomite?), pale with dull cut;

Shale (trace): dark gray to black, fissile, <20 cuttings in sample, possibly from 1916.0 m.

# 1930 - 1935

<u>Conglomerate (100%)</u>: polymicritic, matrix supported?, estimated 60% clasts, clear, translucent quartzite, gray with whitish limestone, gray with whitish quartz clast, subangular to subrounded grains, moderately sorted, 40% sandy matrix, subrounded to rounded grains of clear to translucent quartz, pale cut.

#### 1935 - 1940

- <u>Conglomerate (50%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- <u>Sandstone (50%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

## 1940 - 1945

- <u>Conglomerate (50%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- <u>Sandstone (50%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

#### 1945 - 1950

Conglomerate (40%): polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert,

# SAMPLE DESCRIPTIONS

Depth (m)

and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;

<u>Sandstone (60%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

1950 - 1955

- <u>Conglomerate (30%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- <u>Sandstone (70%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

1955 - 1960

- <u>Conglomerate (50%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- <u>Sandstone (50%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

1960 - 1965

<u>Conglomerate (80%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and various lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;

# SAMPLE DESCRIPTIONS

Depth (m)

<u>Sandstone (20%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

1965 - 1970

- <u>Conglomerate (80%)</u>: polymicritic, clast supported, varicolored subangular fragments of quartz, feldspar, chert, and lithic fragments (granite, gabbro, metaseds), estimated 90% clasts, 10% medium to coarse sand grains and red mud for matrix, weakly calcareous, poorly sorted, well cemented with silica and calcareous cement;
- <u>Sandstone (20%)</u>: subarkosic, clear to white, minor dark green and pink, lower fine to upper medium, rare upper coarse grains, predominantly (80%) subangular to subrounded grains of clear to translucent quartz, 10% feldspar, 10% lithic fragments, poorly cemented with silica cement, poorly sorted, tight to porosity, trace dull orange and bluish mineral fluorescence (dolomite with limestone?), rare spotty oil stain on quartz grains with faint direct fluorescence with cut.

TOTAL DEPTH 1970.0 meters



# **APPENDIX O: Well Survey Report**

Number of pages : 6

**Summary of the content:** This appendix presents the Survey Report for Hurricane#2.




Choice Directional Services Ltd. 6633 - 45 Street Leduc, AB T9E-7E3

Phone: 780-986-8626 www.choicedirectional.ca

## Investcan Energy Corp.

Bay St. George, NFLD Hurricane #2 Hurricane #2 (Whip #1) Wellbore #1 UWI: License No: Job No: 13306

#### Survey Report

Design: As Drilled Final Surveys

13 July, 2013





CHOICE					CHOICE Directional Survey Report							ESTCAN
Directional	Servi	ces lta.										Energy Corp
Company: Project: Site: Well: Wellbore: Design: UWI: License No: Job No:	Investo Bay St Humca Humca Wellbo As Dril	Investcan Energy Corp. Bay St. George, NFLD Hurricane #2 Hurricane #2 (Whip #1) Wellbore #1 As Drilled Final Surveys 13306				Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:				Hurricane #2 (W @ 149.83m (Fo @ 149.83m (Fo um Curvature 5000.1 Single U	/hip #1) ragaz 3) ragaz 3) Jser Db	
Project B	lay St. G	eorge, NFLD										
Map System: Geo Datum: Map Zone:		Universal Tran NAD 1927 - Ca Zone 21N (60	isverse Mercato anada - Eastern W to 54 W)	r	Sy	stem Datu	m:	8	Mean Sea	Level		
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Well Position	ion +N/-S 0.00 m Northin +E/-W 0.00 m Easting Jncertainty 0.00 m Wellher			Northing: Easting: Wellhead El	evation:	5,347,195.57 m Latil 375,854.54 m Lon ion: m Gro			rtitude: 48° 16 ongitude: 58° 40' 2 round Level: 14			48° 16' 3.952 N 8° 40' 22.432 W 145.70 m
Wellbore		Wellbore #1										
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323.00	0.00	SHOE - SURF	ACE CASING 323.00	-173.17	-	0.00	0.00	0	00	0.000	0.00	0.00
342.48	3.60	176.70	342.47	-192.64		-0.61	0.04	-0	.61	5.544	5.54	0.00
389.46	3.30	173.00	389.36	-239.53		-3.43	0.28	4	.43	0.238	-0.19	-2.36
446.17	3.30	178.30	445.98	-296.15		6.68	0.53	-6	.68	0.161	0.00	2.80
503.07	4.00	194.20	502.76	-352.93		10.24	0.09	-1	1.24	0.645	0.37	8.38
616.46	5.20	215.00	615.75	-465.92		18.71	-4.24	-1	3.71	0.331	0.05	3.64
672.98	4.30	221.60	672.07	-522.24	-	22.39	-7.12	-2	2.39	0.558	-0.48	3.50
7/13/2013 10:2	29:22AM	0				Page 2					COMPAS	S 5000.1 Build 5



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Company: Project: Site: Vell: Vellbore: Design: JWI:	Investcan I Bay St. Ge Hurricane / Hurricane / Wellbore # As Drilled I	Energy Corp. orge, NFLD #2 #2 (Whip #1) 1 Final Surveys			Local G TVD Re MD Re North I Survey Databa	Co-ordinate Refer eference: ference: Reference: Calculation Methors:	ence: Well KBE KBE True Minim EDM	Hurricane #2 (V @ 149.83m (Fo @ 149.83m (Fo num Curvature 5000.1 Single (	vhip #1) ragaz 3) ragaz 3) Jser Db	
icense No: lob No:	13306									
Survey	100000	12.12		1.000000000		********	23 - A4- 52			
MD (m)	linc (°)	Azi (°)	TVD Vertical	SSTVD (m)	+N/-S (m)	*E/-W (m)	Vertical Section	D'Leg (*/30m)	Build (°/30m)	Tum (°/30m
729.91	3.90	223.90	728.86	-579.03	-25.38	-9.88	-25.38	0.228	-0.21	1.21
785.90	3.70	225.20	784.72	-634.89	-28.03	-12.48	-28.03	0.117	-0.11	0.70
842.12	3.10	251.20	840.85	-691.02	-29.79	-15.21	-29.79	0.873	-0.32	13.87
899.25	3.30	303.10	897.90	-748.07	-29.39	-18.05	-29.39	1.473	0.11	27.2
918.03	3.30	317.00	916.65	-766.82	-28,70	-18.87	-28,70	1.275	0.00	22.2
936.94	3.70	329.10	935.52	-785.69	-27.78	-19.55	-27.78	1.329	0.63	19.2
946,44	3.70	329.90	945.00	-795.17	-27.25	-19.86	-27.25	0.163	0.00	2.53
956.00	4.70	349.50	954.54	-804.71	-26.60	-20.09	-26.60	5.446	3.14	61.5
965.39	5.40	353.10	963.89	-814.06	-25.78	-20.21	-25.78	2.454	2.24	11.5
974.78	5.90	358.90	973.24	-823.41	-24.86	-20.28	-24.86	2.423	1.60	18.5
984.24	6.00	359.20	982.65	-832.82	-23.88	-20.29	-23.88	0.332	0.32	0.95
993.71	6.40	356.40	992.06	-842.23	-22.86	-20.33	-22.86	1.588	1.27	-8.8
1,003.18	6.90	351.80	1,001.47	-851.64	-21.77	-20.45	-21,77	2.313	1.58	-14.5
1,012.60	7.40	357.30	1,010.81	-860.98	-20.60	-20.56	-20.60	2.698	1.59	17.5
1,022.02	8.30	359.80	1,020.15	-870.32	-19.32	-20.59	-19.32	3.065	2.87	7.96
1.031.41	9.80	13.00	1.029.42	-879.59	-17.86	-20.41	-17.86	8.154	4.79	42.1
1.040.94	10.50	20.10	1.038.80	-888.97	-16.26	-19.93	-16.26	4.509	2.20	22.3
1,050.36	10.00	25.80	1,048.07	-898.24	-14.71	-19.28	-14.71	3.599	-1.59	18.1
1,059.79	10.00	27.40	1,057,36	-907.53	-13.25	-18.54	-13.25	0.884	0.00	5.09
1,069.36	10.20	27.20	1,066.78	-916.95	-11.76	-17.77	-11.76	0.637	0.63	-0.63
1 078 81	10.40	26.60	1 076 08	-926 25	-10.25	-17.01	-10.25	0 720	0.63	-1.90
1.088.45	11.20	26.50	1.085.55	-935.72	-8.64	-16.20	-8.64	2.490	2.49	-0.31
1,098.04	10.60	29.70	1,094.96	-945.13	-7.04	-15.35	-7.04	2.665	-1.88	10.0
1,107.48	9.90	33.90	1,104.25	-954.42	-5.61	-14.47	-5.61	3.253	-2.22	13.3
1,116.92	8.90	37.70	1,113.57	-963.74	-4.36	-13.57	-4.36	3,739	-3.18	12.0
1 126 55	7.20	45.60	1 123 10	.973 27	.3.35	-12 68	.3.35	6 307	-5 30	24 6
1 135 97	5.40	53 10	1 132 46	982 63	-2.67	-11 90	-2.67	6 291	-5.73	23.8
1,145.06	4.40	65.20	1,141.52	-991.69	-2.26	-11.25	-2.26	4,729	-3.30	39.9
1,154.98	3.80	76.00	1,151.42	-1,001.59	-2.02	-10.58	-2.02	2.950	-1.81	32.6
1,164.35	3.50	75.70	1,160.77	-1,010.94	-1.88	-10.00	-1.88	0.962	-0.96	-0.9
1 183 41	3 30	69 30	1 170 70	-1 029 98	-1.54	-8 03	-1.54	0.675	.0.31	-10.0
1,202,43	3.40	61.40	1,198,78	-1.048.95	-1.08	-7.92	-1.08	0.744	0.16	-12.4
1.221.72	3.40	50.50	1,218.04	-1.068.21	-0.44	-6.98	-0.44	1.004	0.00	-16.9
1,240.60	3,70	44.90	1,236.88	-1,087.05	0.35	-6.11	0.35	0.728	0.48	-8,90
1,250.42	3.60	49.90	1,246.68	-1,096.85	0.77	-5.65	0.77	1.019	-0.31	15.2
1 259 81	3 70	59.80	1 255 05	-1 106 22	1.11	-5.17	1.11	2 036	0.32	31 6
1,269,27	3.20	69.20	1,265,49	-1.115.66	1.36	-4.66	1.36	2 389	-1.59	29.8
1.278.68	3.40	77.50	1,274.89	-1,125.06	1.51	-4.14	1.51	1.649	0.64	26.4
1,288.10	3.30	87.80	1,284.29	-1,134.46	1.59	-3.59	1.59	1.940	-0.32	32.8
1,297.53	2.70	111.10	1,293.71	-1,143.88	1.52	-3.12	1.52	4.282	-1.91	74.1
1 316 43	1.60	150 90	1 312 60	-1 162 77	1.13	-2.57	1.13	2 844	-1.75	69.4
1.325.83	1.20	147 20	1.322.00	-1.172.17	0.93	-2.45	0.93	1.308	-1.28	-11.8
1.335.24	1.00	140.80	1,331.40	-1.181.57	0.78	-2.35	0.78	0.747	-0.64	-20.4
1,354.13	0.90	124.10	1,350.29	-1,200.46	0.57	-2.12	0.57	0.465	-0.16	-26.5
1,373.13	0.40	152.50	1,369.29	-1,219.46	0.43	-1.97	0.43	0.916	-0.79	44.8
1 382 58	0.50	330 20	1 378 72	1 228 80	0.43	-1.97	0.43	2 882	0.32	585 6
1.392.00	1.50	329 70	1 388 17	-1,220.09	0.58	-2.06	0.58	3.175	3.17	-1.90
1.401.41	2.70	336.00	1,397.56	-1.247 73	0.89	-2.21	0.89	3.894	3.83	20.1
1,410.78	3 60	337.50	1,406.92	-1,257.09	1.36	-2.41	1.36	2.893	2.88	4.80
1,420.25	3.20	341.50	1,416.37	-1,266.54	1.88	-2.61	1.88	1.473	-1.27	12.6
	2 20	345 10	1 426 07	-1 276 24	2 32	-2.74	2 2 2	3 133	-3.00	44.4
1 1 29 08		1041J. 1V	1.920.07	T1.470.29	100 C 100 C		1 1 1 A A	and the second se	100 C 10	1.1.1



<b>SHO</b> irectional	Services	Ltd.		CH	OICE Direct Survey Rep	c <b>tional</b> ort				ESTCA Energy Co
ompany: roject: ite: /ell: /ellbore: esign: WI: icense No:	any: Investcan Energy Corp. t: Bay St. George, NFLD Hurricane #2 Hurricane #2 (Whip #1) Vellbore #1 As Drilled Final Surveys se No:				Local C TVD R MD Re North I Survey Databa	Co-ordinate Reference eference: ference: Reference: Calculation Method: ise:	t Well KBE KBE True Minir EDM	Hurricane #2 (W @ 149.83m (Fo @ 149.83m (Fo num Curvature 5000.1 Single U	(hip #1) ragaz 3) ragaz 3) Jser Db	
UIVEY	10000									
MD (m)	Inc (°)	Azi (°)	TVD Vertical	SSTVD (m)	+N/-S (m)	*E/-W (m)	Vertical Section	D'Leg (*/30m)	Build (°/30m)	Tum (°/30m)
1,448.81	2.00	4.80	1,444.91	-1,295.08	2.94	-2.77	2.94	1.050	0.96	13.40
1,458.30	2.80	355.70	1,454.39	-1,304.56	3.34	-2.78	3.34	2.794	2.53	-28.77
1,467.84	3.40	343.50	1,463.92	-1,314.09	3.84	-2.87	3.84	2.794	1.89	-38,36
1,486.80	4.90	345.70	1,482.83	-1,333.00	5,16	-3.23	5.16	2.386	2.37	3.48
1,496.91	5.30	347.80	1,492.90	-1,343.07	6.04	-3.44	6.04	1.310	1.19	6.23
1,506.36	5.80	346.20	1,502.30	-1,352.47	6.93	-3.64	6.93	1.661	1.59	-5.08
1,515.93	3.00	39.40	1,520.68	-1.370.85	8.25	-3.54	8.25	7.959	-4.06	112.08
4 504 00	0.70	45.40	4 500 00	4.000.05	0.00		0.50	1.000	0.00	04.00
1,534.20	2.70	49.40	1,530,08	-1,380.25	8.00	-3.21	8.77	6.812	-0.96	31.66
1.553.17	4.10	109.50	1,549.01	-1,399,18	8.69	-2.10	8.69	5.837	0.94	84.46
1,571.97	4.50	131.00	1,567.76	-1,417.93	7.99	-0.91	7.99	2.633	0.64	34.31
1,581.36	4.80	137.00	1,577.12	-1,427.29	7.46	-0.36	7.46	1.825	0.96	19.17
1,600.53	5.50	139.20	1,596.21	-1,446.38	6.18	0.78	6.18	1.138	1.10	3.44
1,619.39	5.30	136.70	1,614.99	-1,465.16	4.86	1.97	4.86	0.491	-0.32	-3.98
1,638.15	4.90	136.90	1,633,67	-1,483.84	3.64	3.11	3.64	0.640	-0.64	0.32
1,656.98	4.60	138.20	1,652.44	-1,502.61	2.49	4.17	2.49	0.508	-0.48	2.07
1,010,01	4.20	135.20	1,071.41	-1,021,00	1.35	5.13	1,38	0.042	-0.03	1.00
1,685.33	2.40	157.40	1,680.72	-1,530.89	0.96	5.43	0.96	6.634	-5.79	58.58
1,094.70	2 20	282.00	1,690,13	-1,540.30	0.78	5.14	0.78	3.544	3.44	31.87
1,713.77	2.40	286.10	1,709.14	-1,559,31	0.92	4.78	0.92	0.757	0.64	10.19
1,723.33	1.00	20.70	1,718,70	-1,568.87	1.05	4.61	1.05	8.388	-4.39	296.86
1.732.80	1.40	43 10	1,728,17	-1.578.34	1.21	4 72	1.21	1.930	1.27	70.96
1,742.44	0.90	122.00	1,737.81	-1,587.98	1.26	4.87	1.26	4,704	-1.56	245.54
1,751.88	0.60	138.30	1,747.25	-1,597.42	1.18	4.96	1.18	1.161	-0.95	51.80
1,761.36	0.60	337.40	1,756.72	-1,606,89	1.19	4.98	1.19	3.745	0.00	-509.18
1,770.76	0.80	340.10	1,766.12	-1,616.29	1.30	4.93	1.30	0.647	0.64	8.62
1,780.17	1.10	333.10	1,775.53	-1,625.70	1.44	4.87	1.44	1.024	0.96	-22.32
1,789.59	1.30	336.40	1,784.95	-1,635.12	1.62	4.79	1.62	0.674	0.64	10.51
1,808,47	1.40	343.30	1,794.34	-1,644.51	2.03	4.70	2.03	0.517	0.32	4.4/
1,817.87	1.40	342.80	1,813.22	-1,663.39	2.25	4.56	2.25	0.039	0.00	-1.60
1 827 31	1.40	340.20	1 822 66	-1 672 83	2 47	4 4 9	2 47	0.202	0.00	-8.26
1,836,84	1.20	344.50	1,832.19	-1,682.36	2.67	4.42	2.67	0.700	-0.63	13.54
1,845.47	1.00	349.20	1,840.82	-1,690.99	2.83	4.39	2.83	0.762	-0.70	16.34
1,854.91	1.20	356.00	1,850.25	-1,700.42	3.01	4.36	3.01	0.758	0.64	21.61
1,863.69	1.20	0.30	1,859.03	-1,709.20	3.20	4.36	3.20	0.308	0,00	14,69
1,877.05	1.30	3.40	1,872.39	-1,722.56	3.49	4.37	3.49	0.271	0.22	6.96
1,886.48	1.70	5.80	1,881.82	-1,731.99	3.73	4.39	3.73	1.288	1.27	7.64
1,695.94	2.00	15.10	1,891.27	-1,741.44	4.03	4.45	4.03	1,343	0.95	29.49
1,914.83	2.10	5.90	1,910.15	-1,760.32	4.70	4.58	4.70	0.787	0.00	-21.50
1 005 11	1 70	360.00	1 020 42	1 770 50	5.04	4.50	6.04	1.470	4 47	37.44
1 934 55	1.50	350.00	1,920.42	-1,770.59	5.04	4.59	5.30	0.780	-0.64	-27.14
1,943.96	1.30	337.20	1,939.27	-1,789.44	5.52	4.51	5.52	1.278	-0.64	-45.59
LAST MWD	SURVEY	000 M		11111111	1015	1724.		and an	1000	0.000
1,956.00	1.40	333.80	1,951.30	-1,801.47	5.78	4.39	5,78	0.319	0.25	-8.47
EXTRPOLA	TION TO TO	(:				25.25	1.5852.55	141110	7828	
1 970 00	1.40	333.80	1 985 30	-1 815 47	8.09	1 24	8.00	0.000	0.00	0.00

7/13/2013 10:29:22AM

Page 4

Page 292 of 299

COMPASS 5000.1 Build 56



<b>CHC</b> Directiona	CHOICE & Directional Services Ltd.			OICE Dired Survey Rep	ort			/ESTCAN Energy Corp
Company: Project: Site: Well: Wellbore: Design: UWI: License No: Job No:	Investcan Ene Bay St. Georg Hurricane #2 Hurricane #2 Wellbore #1 As Drilled Fina 13306	ergy Corp. ie, NFLD (Whip #1) al Surveys		Local TVD R MD Re North Survey Databa	Co-ordinate Reference: eference: ference: Reference: ( Calculation Method: ase:	Well Hurricane #2 (Whip #1) KBE @ 149.83m (Foragaz 3) KBE @ 149.83m (Foragaz 3) True Minimum Curvature EDM 5000.1 Single User Db		
Casing Point	MD (m)	TVD (m)	Name			Casing Diameter (mm)	Hole Diamete (mm)	r
	323.00	323.00	SURFACE CASING			139.70	152.40	(
Design Anno	tations							
			Local Coord	linates				
	MD (m)	TVD (m)	+N/-S (m)	+E/-W (m)	Comment			
	4.13 323.00 1,956.00	4.13 323.00 1,951.30	0.00 0.00 5.78	0.00 0.00 4.39	GROUND LEVEL SURFACE CASING LAST MWD SURVE	SHOE		
	1,970.00	1,965,30	6.09	4.24	4.24 EXTRPOLATION TO TD			

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Page 5

COMPASS 5000.1 Build 56







### **APPENDIX P: Gas Analysis**

Number of page :2Summary of the content:This appendix presents the Gas Analysis<br/>Result for Hurricane#2 (Whip#1) Re-entry.



**APPENDIX P:** Gas Analysis

Maxxam

#### GAS MIGRATION ANALYSIS

								B	364288:HA1812	
	MacciD	Client ID				Meter Nur	ber	L	bonetory Number	
INVESTCAN	ENERGY COR	PORATION								
Operator Name						LSD		WellD		
INVESTCAN	HURRICANE #	2 EP03-107				N/A		HOLLAN	D TESTERS	
Well Name						Initials of Samp	er.	Sampling Con	tpeny.	
			FRIARS COVE		DST TOOL	-		11500		
Field or Area			Pool or Zone		Sample Point			Container /de	ntity	PercentFull
Test Records							Remain Cathoring Dr	-	Falsfing	
The Recordy			/mm: 131	5.5	147 07	46ms (m) 145 7	cargos carsony / c		Subject	
Test Type	No. Mult	ple Recovery	To: 137		KB	GRO				
	Destanting Balance		Course Da	10-	Torres	antes 10	N 0.000000		W 0.000000	
	Production Plane		345	assess of the	19.5	21	GPS		GPS	
Water m3/d	Ol m3/d	Ges 1000m3/d	Source	As Received	Source	As Received	Well Fiber Turne		Linema No.	
004007446	0.45			07/00	004007.00	001010				
2013/07/19 0	19:45	t Provident	2013	/07/26	2013/07/30	2013/07/	31	AT3,GM1		
Dete Sampled Star	D	re Sempled End	Date N	ecenved	Date Reported	Date Petition	đ	Analyst		
	COMPO	SITION					PROPERTIES			
		1								
Component	Mole Frection As Recid	ppm (v/v)	513 C <sup>9</sup> /00	Celculate	d Molar Masa re Free as Sampled	Calculated Gr	as Heating Value (MUIm3 SkPa& 15*C	רי ר	- Calculated Relative De Relative to Ari @	maties 6°C
				18.6	3	3	8.81		0.644	
				1	the state	-	GPA 2172		Maidure Free as Serro	ind.
H2	0.0025									
He	0.0007						denorma Code bide			
02	0.0359				On Site		yarogen supniae	in La	b	
N2	0.2165									
CO2	0.0001	110	-12.69	_						-
H2S	0.0000			Gathe	c (ppm vA) Tu	tweller (molefk)	Gastiec (ppm viV)	Tubesler (mole	<li>N) H25 from GC (molef)</li>	<b>x</b> )
				Consta	analysis is seculated f		H29 content			
C1	0.6809		-41.06	H25 deg	rades variably in all samp	ple containers and is a	to matrix dependent.			
C2	0.0482		-33.74							
C3	0.0112		-29.25	8 ºC %= [	(°C/ °C	- "C / "C.mt	.)/(°C/°C.,	1000 * [[unt	D	
						IN	TERPRETATION			
IC4	0.0014		-27.23							
NC4	0.0017		-28.26							
IC5	0.0004	420								
NC5	0.0003	330								
CB	0.0002	240								
07+	Trace	160								
TOTAL	1 0000	100				Date 2012/	7/20 00 5-	and Max		
TOTAL	1.0000			QC Check Std	# 0321/0220	Date 2013/0	QC Pa	sed Yes		
				** info	mation not supplied by	r client – data derived	from LSD information		Results relate onl	y to items tested

Remarks:

MaxxALERT: The duplicate sample was analyzed for confirmation of results.

MaxxALERT: The opening pressure varies significantly from the reported source pressure. MaxxALERT: The sample is contaminated with air, a resample is recommended.

MaxxALERT: The H2 concentration is atypically high.

Page 1 of 1



**APPENDIX P:** Gas Analysis

Maxlam

GAS MIGRATION ANALYSIS

								B3	64288:HA1811	1
	MexiD	Client ID				Meter Numb	er -	Lat	onelory Number	
INVESTCAN	ENERGY COR	RPORATION								
Operator Name INIVESTCAN		2 ED02-107				LSD N/A			TESTERS	
Well Name	HORIGANE #	2 21 03-107				Initials of Semple	,	Sempling Com	Denv	
			FRIARS COVE		DST TOOL			14039		
Field or Area			Pool or Zone		Sample Point			Container Iden	tity	Percent Full
Test Recovery							Sample Gathering Pol	~	Solution	Gas
			From: 1090		149.97	145.7	•			
Test Type	No. Mult	tple Recovery	To: 1125		KB	GRD	N 0 000000		W 0 000000	
	Production Rates -		Gauge Pre	ssures kPe	Temper	ture "C	0.000000		VV 0.000000	
			100		16.8	21				
Weter m3/d	Oil m3/d	Ges 1000m3/d	Source	As Received	Source	As Received	Well Fluid Type		Libence No.	
2013/07/20 0	3:00		2013	07/26 20	13/07/30	2013/07/3	1	AT3,GM1		
Date Sampled Start	De	te Sampled End	Date R	ceived Dat	e Reported	Date Reissued		Analyst		
	COMPO	SITION				F	ROPERTIES			
Component	Mole Fraction As Recid	ppm (v/v)	5 <sup>13</sup> C <sup>0</sup> / <sub>10</sub>	Calculated Mo Moleture Fre	ar Mass e es Sempled	Calculated Gros	s Heating Value (MUIm3) kPa& 15°C		Calculated Relative D Relative to Ad C	enaties 15°C
				18.5		38	.87		0.640	
H2	0.0031			Total	-		2PA 2172		Moldure Free as Sam	pled
He	0.0006									
02	0.0012				0-01-	— Ну	drogen Sulphide 🐳	le l el		
N2	0.0671				On Site			in Lat	,	
CO2	Trace	40								
H2S	0 0000			Gadec (ppm	vit) Tube	eller (molefik)	Gastiec (ppm viV)	Tubweller (molef)	) H2S from GC (make	<b>(A)</b>
						I				
C1	0.8333		-41.31	Onsite analy	ysis is required for	accurate source i	128 content.			
C2	0.0722		-33.42		valuely in an early a					
C3	0.0165		-28.69	8 °C %== [(°C	:/"C	"C/"C	1/ (°C/ °C		i.	
				· · · · · · ·	- jane	INT	ERPRETATION	a d M		
IC4	0.0021		-27.56							
NC4	0.0027		-28.31							
IC5	0.0006	550								
NC5	0.0004	390								
C6	0.0002	220								
C7+	Trace	60								
TOTAL	1.0000			QC Check Std # 5	5321/5226	Date 2013/07	/29 QC Pas	sed Yes		
								—		to be Brown burt-of
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Remarks:

MaxxALERT: The duplicate sample was analyzed for confirmation of results. MaxxALERT: The opening pressure varies significantly from the reported source pressure. MaxxALERT: The H2 concentration is atypically high.

Page 1 of 1

2013/07/01 12:08



# **APPENDIX Q : List of Acronyms**

Number of page :	1
Summary of the content:	This appendix presents a list of acronyms
-	used for Hurricane#2 Final Well Report.



ADW	Authority to Drill a Well
ВОР	Blow Out Preventer
COND	Condensate
d	Day
daN	Deca Newton
ft	Foot
GR	Gamma Ray
h	Hour
IF	Inside Face
KB	Kelly Bushing
kg	Kilogram
km	Kilometre
kPa	Kilopascals
lbf	Pound Force
LCM	Lost Circulation Material
m	Metre
min	Minute
mKB	Meters Below Kelly Bushing
mm	Millimetre
mW	Megawatt
OD	Outside Diameter
ROP	Rate of Penetration
RPM	Revolutions per Minute
TD	Total Depth
TVD	True Vertical Depth
VSP	Vertical Seismic Profile
ХО	Cross-over