VULCAN
MINERALS INC

FINAL WELL REPORT

Revision:	**Version 0**
Operating Company:	**Vulcan Minerals Inc**
Well Name:	**Hurricane #2 (Whip #1)**
Rig:	**Ingersoll Rand RD10**
Field:	**Bay of St. George Basin**
Location:	**Western Newfoundland, Canada**
Date:	**23 January 2006**
Revised On:	**N/A**

Prepared by: Karla Smith, P.Eng Vulcan Minerals Date: 16Feb05	Reviewed by: Patrick Laracy, P.Geo Vulcan Minerals Date: Rec. 16/06.

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List of Appendices

1 Introduction

Hurricane #2 (Whip #1) was the sixth well drilled by the operator, Vulcan Minerals Inc., in the Flat Bay field located in Bay of St. Georges, Newfoundland. (See map in Appendix A). 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 876-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 (see Appendix B).

The Hurricane #2 (Whip #1) 340-mm cellar casing was set at 9.1mRF with 4.0-m^3 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 245-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^3 cement top job was executed. Blow out preventors 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-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.

2 General Information

Well Name	Hurricane #2 (Whip #1)
Exploration Permit	03-107
Drilling Program Approval	DPA 2005-116-01
Authority to Drill Well	ADW 2005-116-01-04
NAD 27 Coordinates	N 5347195.57 E 375854.54
Survey System	Differential Survey Related To C.M. 84G4159

See Appendix A for Legal Survey completed by R. Davis Surveys Ltd.

3 Difficulties and Delays

3.1 Lost Circulation in Surface Hole Section

While drilling the surface hole section, full lost circulation was encountered at a depth of 89-meters when the hole was switched from air to fluid. A total of 30m3 of fresh water with saw dust was pumped before it was decided to drill blind for 3-meters to see if the drill cuttings would naturally heal the lost circulation zone. However, the zone was not healed so it was decided to pull out of the hole and place a balance cement plug as per lost circulation contingency plan. The total non-productive time for this delay was 23-hours.

4 Drilling Operations

4.1 Elevation

Well Name	Hurricane #2 (Whip #1)
Ground Level	145.70-m MSL
Casing Flange	Not Applicable
Rig Floor	149.00-m MSL

4.2 Total Depth

Well Name	Hurricane #2 (Whip #1)
Total Drilled Depth	935-mRF
Logged Depth	323 to 935-mRF
Plugged-Back Depth	35-m

4.3 Important Dates and Status

Well Name	Hurricane #2 (Whip #1)
Spud	24 November 2005
Drilling Completed	11 December 2005
Rig Release	15 December 2005
Well Status	Suspended

4.4 Hole Sizes and Depths

Well Name	Hurricane #2 (Whip #1)
311.1-mm Hole	19.4-mRF
219.1-mm Hole	89-mRF
215.9-mm Hole	323-mRF
158.8-mm Hole	935-mRF

4.5 Bit Records

Hurricane #2 (Whip #1)								
Bit Number	**Size [mm]**	**Type**	**Depth In [mRF]**	**Depth Out [mRF]**	**Meterage [m]**	**Hours [h]**	**ROP [m/h]**	**Pulled Condition**
1	311.	Hughes EP5070	4.00	19.36	15.36	12.5	1.23	CT
1	216.	Smith	19.00	20.00	1.00	1	1.00	
1	219.	Mission	20.00	89.00	69.00	5	13.80	Good
2	216.	Varel ET0537	89.00	92.00	3.00	1	3.00	Good
2RR	216.	Varel ET0537	92.00	95.00	3.00	0.75	4.00	Good
1RR	219.	Mission	95.00	133.00	38.00	6.25	6.08	
2RR#2	216.	Varel ET0537	133.00	225.00	92.00	69	1.33	WT
3RR	216.	Smith C3P	225.00	245.00	20.00	22	0.91	Good
4	216.	Hughes MXC530	245.00	323.00	78.00	70.25	1.11	Good
2	159.	Mission	323.00	935.00	612.00	37	16.54	

4.6 Casing Record

314-mm cellar line pipe was installed at 9.1-mRF.

Well Name	Hurricane #2 (Whip #1)	
Casing Type	Conductor	Surface
Casing Size [mm]	244.5	177.8
Weight [kg/m]	53.6	25.33
Grade	J-55	H-40
Number of Joints	3	33
Connection Type	8Rd Short	8Rd Short
Depth of Shoe [mRF]	19	323
Casing Hanger and Seal	N/A	Casing Head Type W

4.7 Cementing Record

Well Name	Hurricane #2 (Whip #1)	
Casing Size [mm]	244.5	177.8
Centralizer Spacing		As necessary
Slurry Volume [m^3]	2.0	3.0
Slurry Density [kg/m^3]	1820	1820
Cement Class	A	A
Cement Additives	1-liter per m^3 slurry Grace Adva 100	1-liter per m^3 slurry Grace Adva 100
Cement Top [mRF]	3.3	3.3
Cement Base [mRF]	19	323
Basis of Top Estimate [Calc/CBL]	Visual	Visual

See Appendix C for cement proposals and reports.

4.8 Sidetracted Hole

Not applicable.

4.9 Drilling Fluid

The 311.1-mm conductor hole section was drilled with Federal Supreme gel water and sawdust with final properties that included mud weight of 1040-kg/m^3, funnel viscosity 48-sec and 8pH.

The 219.1-mm surface hole section was drilled with air from the depth of 27-m to 150-m. The well was then switched to a fluid and the 215.9-mm surface hole section was drilled to 323-m. The gel mud was comprised of Federal Supreme gel for borehole stability, soda ash for pH properties, poly plus for viscosity, Quik-seal and sawdust for lost circulation material. The final properties included mud weight of 1010-kg/m^3, funnel viscosity 32-sec and 8pH.

The 158.8-mm main hole section was drilled with air from the depth of 323-m to total depth of 935-m.

4.10 Fluid Disposal

Upon switching the drilling fluid from air to fluid in the surface section of the Hurricane #2 (Whip #1) hole, the well encountered lost circulation that was cured by pumping a cement plug (see section 3.1) the well continued to have partial lost circulation while drilling the surface hole section that was kept in control by pumping lost circulation material including saw dust and MI Kwik Seal. The total drilling fluid lost was 60m^3.

4.11 Well Kicks

Not applicable.

4.12 Formation Leak-Off Tests

Formation integrity test was executed on Hurricane #2 (Whip #1) at 326-m with 1015-kg/m^3 mud weight to 5000-kPa that had no pressure drop during stabilization for a calculated pressure gradient of 25.4-kPa/m.

4.13 Time Distribution

Operation Type	Cumulative Time [hrs]	Cumulative Time [%]
Rig Up / Tear Out	0	0.0%
Drill with Fluid	176.25	31.8%
Drill with Air	47.25	8.5%
Reaming	0.75	0.1%
Coring	0	0.0%
Ream Rathole	0	0.0%
Condition & Circulate Mud	14	2.5%
Tripping	78	14.1%
Mix Drilling Fluid	10.5	1.9%
Rig Service	17.5	3.2%
Survey	7.5	1.4%
Logging	8.25	1.5%
Run Casing	5.5	1.0%
Cementing	4	0.7%
Wait on Cement	67.75	12.2%
Nipple Up/Down BOPs	11.25	2.0%
Test BOPs	8	1.4%
Drill out Cement	13.5	2.4%
Drill Stem Test	0	0.0%
Handle Tools	2.5	0.5%
Plug Back	1.75	0.3%
Fishing	0	0.0%
Work Pipe	0	0.0%
Mix Lost Circulation Material	10.25	1.9%
Safety Meeting	3	0.6%
BOP Drill	1.75	0.3%
Clean out Tanks	4	0.7%
Shut Down for Night	5	0.9%
Waiting on Materials	0	0.0%
Waiting on Services	39.5	7.1%
Waiting on Orders	5.5	1.0%
Pressure Integrity Test / Leak Off Test	1.75	0.3%
Make up Wellhead	8.5	1.5%
Total Operational Time	**553.75**	**100.0%**
Total Non-Productive Time	**84.25**	**15.2%**

4.14 Deviation Plot

A deviation survey was completed at approximately every 150-m.

Depth	Deviation	Measurement Tool
19-m	0.25°	Totco
171-m	2.00°	Totco
323-m	3.75°	Totco
473-m	4.00°	Totco
621-m	5.50°	Totco
737-m	4.00°	Totco
929-m	3.75°	Totco

4.15 Plug & Abandonment Scheme

Not applicable.

4.16 Well Schematic

See Appendix D for well termination reports and well schematics.

4.17 Fluid Samples

Not applicable.

4.18 Composite Well Record

See Appendix E for composite well record and detailed time versus depth curve.

5 Geology

5.1 Drill Cuttings

See Appendix F geological report completed by Corey Fitzgerald.

5.2 Cores

Not applicable.

5.3 Lithology

See Appendix F geological report completed by Corey Fitzgerald.

5.4 Stratigraphic Column

See Appendix G.

5.5 Biostratigraphic Data

Not applicable.

6 Well Evaluation

6.1 Downhole Logs

Open Hole logging for Hurricane #2 (Whip #1).

Log Type	Depth Interval Logged
High Density Induction	935-m to 323-m
Compensated Z-Desilog	935-m to 323-m
Digital Acoustic Log	935-m to 323-m
Compensated Neutron	935-m to 323-m
Gamma Ray	935-m to 25-m
Caliper	935-m to 323-m

See Appendix H for open hole well logs completed by Baker Altas.

6.2 Other Logs

Not applicable.

6.3 Synthetic Seismograms

Not applicable.

6.4 Vertical Seismic Profiles

Not applicable.

6.5 Velocity Surveys

Not applicable.

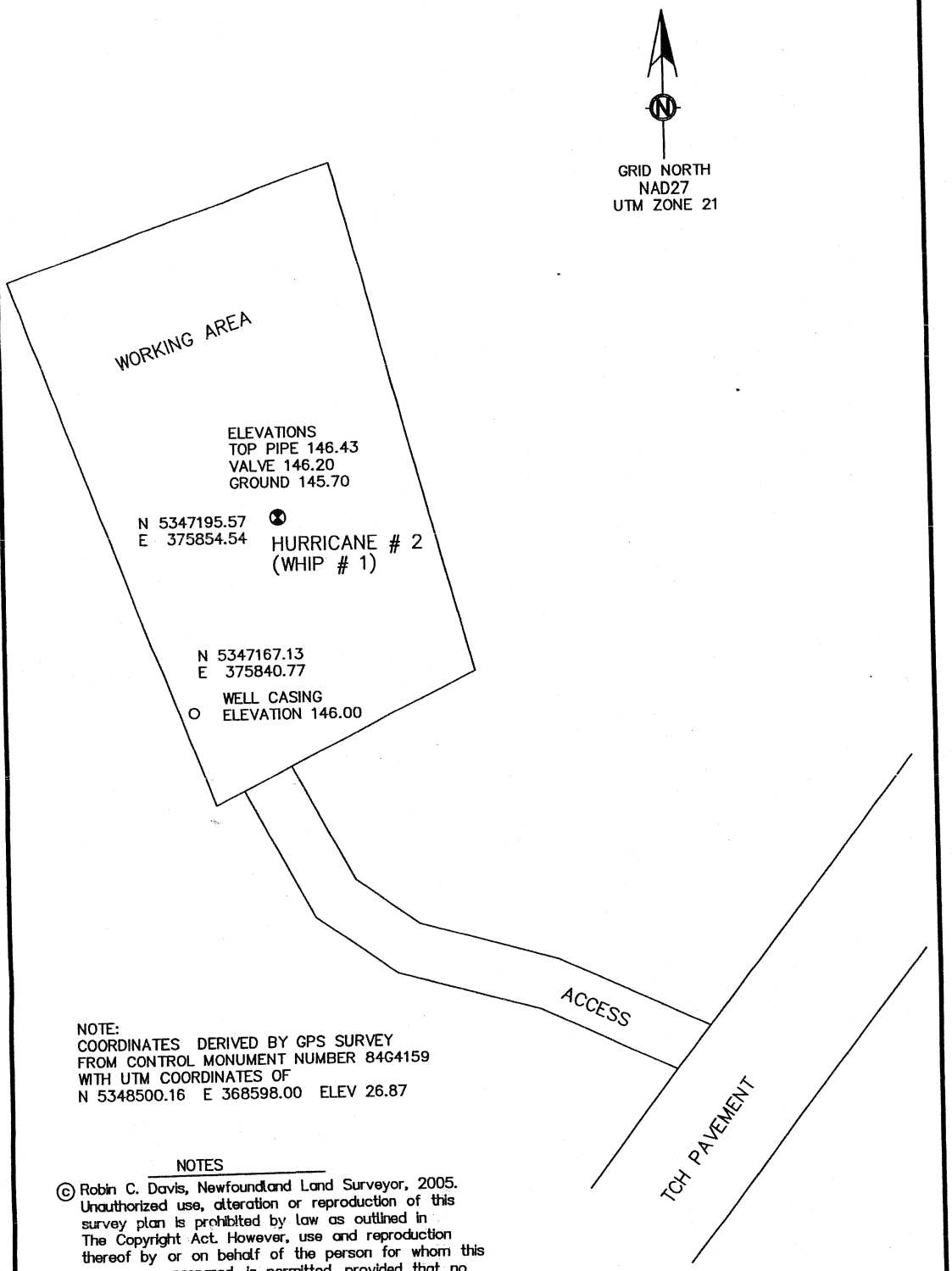
6.6 Formation Stimulation

Not applicable.

6.7 Formation Flow Tests

Not applicable.

APPENDIX A: WELL LOCATION & MAP



NOTE:
COORDINATES DERIVED BY GPS SURVEY
FROM CONTROL MONUMENT NUMBER 84G4159
WITH UTM COORDINATES OF
N 5348500.16 E 368598.00 ELEV 26.87

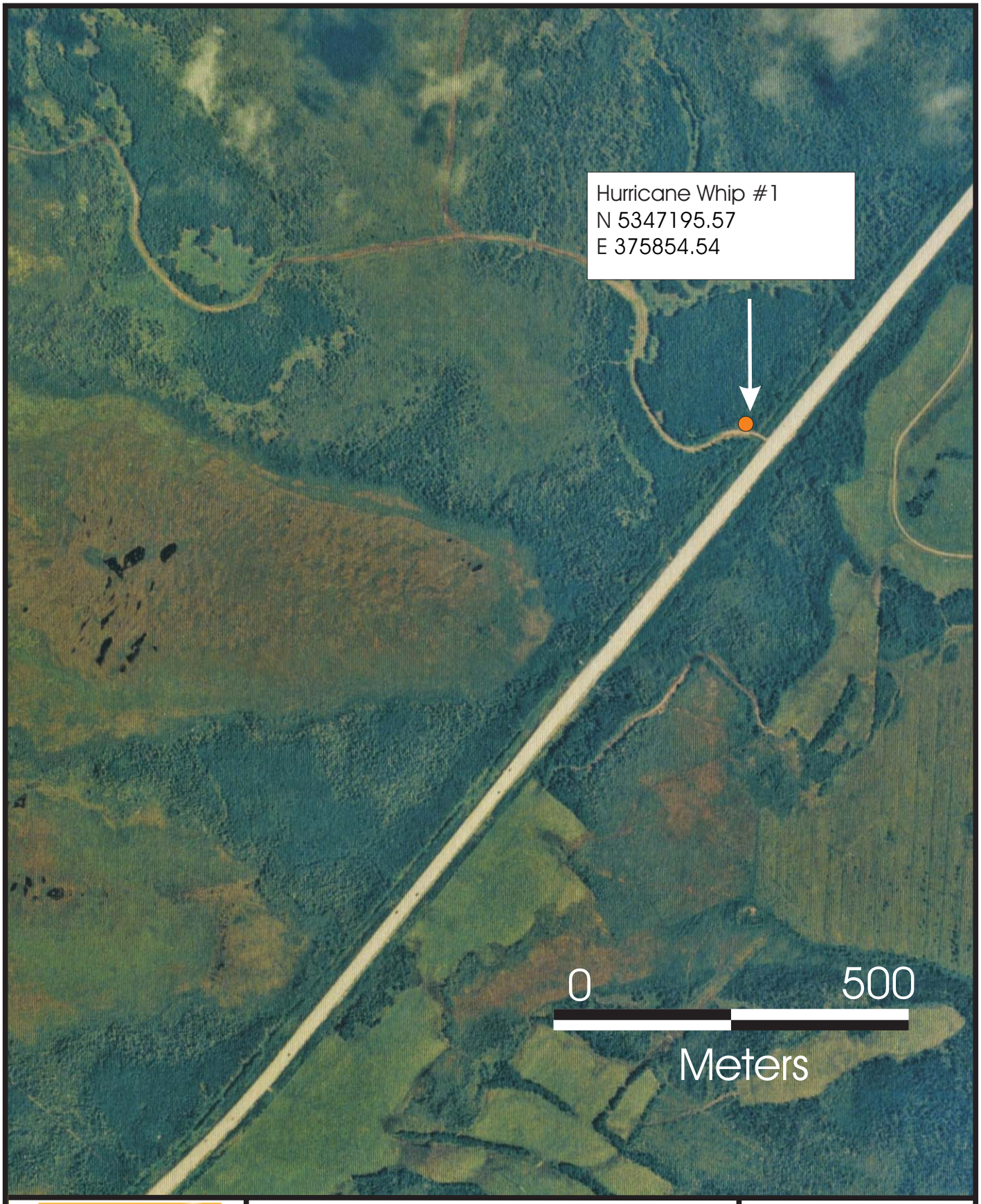
NOTES

All distances are horizontal ground distances.

PLAN SHOWING WELL LOCATION
VULCAN MINERALS
WELL – HURRICANE # 2 (WHIP # 1)
OFF TCH, ROBINSONS AREA, NL

R. DAVIS SURVEYS LTD.
P.O. BOX 449
STEPHENVILLE CROSSING, NL

DWG. NO.: 5172–1 R1
SCALE: 1 : 750
DRAWN BY: R.D.
DATE: JAN. 9, 2006



VULCAN minerals inc

Vulcan Minerals Inc.
2005 Hurricane Whip #1 Location
Petroleum Permit 03-107

Scale: 1 : N/A
Drawn by: K.Smith
Date: 26May2005
Drawing No: Whip#1Photo
Rev: 0

APPENDIX B: DRILLING PROGRAM APPROVAL AND AUTHORITY TO DRILL WELL

GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR

Department of
Mines & Energy

DRILLING PROGRAM APPROVAL

APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*[1], Vulcan Minerals Inc, as operator on behalf of Vulcan Minerals Inc, holding a subsisting licence, permit or lease issued pursuant to the *Petroleum Regulations*[2], namely; 96-105/03-106/03-107
(licence, permit, or lease #)

hereby applies for approval to conduct a drilling program using the drilling rig Ingersoll Rand RD10 and equipment and procedures described in the detailed program dated 10 June 2005.

The undersigned operator's Representative hereby declares that, to the best of the operator's knowledge, the information contained herein and in the attached detailed program is true, accurate and complete.

Signed: ..... Date: June 10/05.
Operator's Representative

APPROVAL

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*, the operator named in the Application is hereby authorized to conduct the proposed drilling program subject to the following conditions:

1. This Drilling Program Approval shall, unless otherwise extended or terminated, expire upon the 31st day of May, 20 06;
2. This Authorization shall be prominently displayed at the well site at all times during which operations are being conducted;
3. Evidence of financial responsibility, as required pursuant to Section 14 of the *Petroleum Drilling Regulations*[3], shall be provided by the operator to the Minister of Mines and Energy;
4. The operator shall use the equipment and procedures described in the detailed program dated July 8, 2005, unless a change in the equipment or procedures is approved in writing by the Director; and
5. The operator shall comply with such other conditions as are appended to this Approval.

Signed: .....
Director

Effective Date: July 18, 2005.

Drilling Program Approval No. 2005-116-01

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Natural Resources, Energy Branch

AUTHORITY TO DRILL A WELL - APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*[1] and in compliance with section 29 of the *Petroleum Drilling Regulations*[2], Vulcan Minerals Inc., as operator, hereby applies for Authority to Drill a Well to be known as Hurricane #2 (Whip #1) using the equipment and procedures described in the well program dated 10 August, 20 05.

Permit, Licence or Lease to which this Program applies: 03-107

Area: Western Newfoundland		CO-ORDINATES	
Field/Pool: HURRICANE			UTM (NAD 27)
	Long:	Northing:	5347138m
	Lat:	Easting:	375829m
Drilling Rig: Ingersoll Rand RD10	ELEVATION	DEPTH	
Rig Type: Single Hydraulic	RT/KB/RF:	MD:	1000m
Drilling Contractor: Vulcan Minerals Inc.	G.L.: 150 m	TVD:	1000m
ESTIMATES		TARGET HORIZONS	
Spud Date: NOV. 20/05	Well Cost:	Lower Carboniferous - Ordovician Platform?	
Days on Location: 20	$700,000		

EVALUATION PROGRAM

Ten-metre sample interval:	Conventional core: n: NA
Five-metre sample interval: dry + bagged	Logs and Tests: HRLA-CNL-DSI-MCFL-TDL-CAL
Canned sample interval:	

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m)	Cementing Program
244.5	53.6	J-55	60	Class A
177.8	25.3	H-40	250	Class A
114.3	14.1	J-55	1000	Class A as per Schlumberger Cement Program

Other Equipment: 21MPa BOPs, Rotating Head, and Annular Preventer

The undersigned Operator's Representative hereby declares that, to the best of the Representative's knowledge, the information contained herein and on the attached detailed program is true, accurate and complete.

Signed: [signature] Operator's Representative — Date: Nov 09/05

AUTHORIZATION

Whereas the Minister of Natural Resources has jurisdiction under the Petroleum Drilling Regulations, ("the Regulations").

In accordance with section 32 of the Regulations, the operator named in the Application is authorized to undertake the proposed well program described above subject to the following conditions:

1. This Authorization shall be prominently displayed at the well site at all times during which operations are being conducted;
2. Copies of all logs and well test data shall be submitted to the director by the operator promptly after their acquisition;
3. The operator shall comply with all conditions of the Drilling Program Approval No. 2005-116-01 under which the above well is to be drilled;
4. No changes in the well program hereby approved may be made unless it is first approved by the director in writing;
5. This Authorization is conditional on the operator commencing drilling within 120 days of the effective Authorization date; and
6. The operator shall comply with such other conditions as are appended to this Authorization.

Signed: [signature] Director — Effective Date: NOV. 23/05

Authority to Drill a Well No. 2005-116-01-04

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[1] R.S.N. 1990, c. P-10

[2] CNR 1150/96

ADW1170.wpd

APPENDIX C: CEMENT PROPOSALS AND REPORTS

SURFACE CASING CEMENTATION PROGRAM

Revision:	**Version 0**
Operating Company:	**Vulcan Minerals Inc**
Hole Name:	**Hurricane #2 (Whip #1)**
Rig:	**Ingersoll Rand RD10**
Field:	**Flat Bay**
Location:	**St. Georges Bay,** **Western Newfoundland, Canada**
Date Issued:	**21 November 2005**
Date Revised:	**N/A**

Purpose

This cement program is to create an adequate seal around the 178mm surface casing in order to continue drilling the well to total depth.

The cement pump to be used is the Bean V65 dual pump rated to 8275-kPa (1200-psi) and 300-l/min (79-gal/min).

Owner and Operator's Name

Vulcan Minerals Inc.

Contact Person for Licence

Patrick Laracy
Vulcan Minerals
333 Duckworth Street
St. John's, NL A1C 5G1
Tel: 709 754 3186
Fax: 709 754 3946

Drilling Contractor

Vulcan Minerals
333 Duckworth Street
St. John's, NL A1C 5G1
Tel: 709 754 3186
Fax: 709 754 3946

On-Site Representation

Thomas Target
Rig Manager
T.M. Target Consulting Ltd.
Cell: 709 649 4957

Karla Smith, P.Eng
Project Manager
Vulcan Minerals
Cell: 709 746 2424

Timing

The proposed cement program is estimated to occur on December 1, 2005.

Cement Operations Program

Casing Properties

Casing	**244.5mm (9 5/8-in)**	**177.8mm (7-in)**
Depth	52.7-m (173-ft)	250m (820-ft)
Weight	53.6-kg/m (36-lb/ft)	25.3-kg/m (17-lb/ft)
Grade	J-55	H-40
Connection	8rd LTC	8rd STC
Collar OD	10.625-in	7.656-in
Casing Drift ID	8.765-in	6.413-in
Nominal ID	8.921-in	6.538-in

Pumping Volumes

Section	**Capacity**	**Volume (0% Excess)**	**Volume (75% Excess)**
Annular – Casing to Casing	0.0155 m^3/m	0.77 m^3	0.77 m^3
Annular – Casing to Open Hole	0.0118 m^3/m	2.33 m^3	4.08 m^3
Casing (Displacement)	0.0217 m^3/m	5.23 m^3	5.23 m^3
Total Cement Volume		**3.10 m^3**	**4.85 m^3**

Cement System

Additives	**Concentration**
Class A Cement	
+ Grace Adva 100 (Properties: decrease viscosity and thickness without compromising cement strength and anti-foam agent)	1-liter per m^3 slurry

Density 1821-kg/m^3 (15.2-lb/gal)
Fluid Base 611-litre of fresh water for 1217-kg cement

Tested Cement Strength: 21.7-MPa

177.8mm Casing Cementation Operations

1. Ensure casing is run with sufficient centralization (1 centralizer every 2 casing joints).
2. Check mud pump efficiency and open hole excess requirement.
3. Rig up cementing equipment.
4. Conduct Safety and Procedures meeting with all personnel on location.
5. Pressure test treating lines to anticipated maximum surface pressure of 1000-kPa (note cement plug will be bumped with rig pump).
6. Prepare to conduct cement job.
7. Pump 0.5m^3 of freshwater spacer.

8. Pump pre-mix cement (estimated 4.9 m^3 assuming shoe at 250-m, 3-m rig elevation to ground level, and 75% access required) at a rate of approximately 0.3-m^3/min. Collect at least 3 samples of pre-mixed cement at regular intervals of the pumping operation.
9. Drop 177.8mm solid top plug.
10. Chain down casing or hold down casing with topdrive to prevent floatation.
11. Displace cement with required volume fluid (estimated 5.2 m^3 assuming shoe at 250-m and 9-m shoe track) at a rate of 0.6-m^3/min assuming 95% pumping efficiency.
12. For the last 0.5m^3 of displacement with water, slow pumping by idling the triplex pump and land plug a minimum of 2000-kPa over the final pumping pressure. Collect samples of cement returns and label.
13. Bleed pressure off and ensure that the float is holding.
14. Rig down cementing equipment.

Contingency for 177.8mm (7-in) Intermediate Casing

Plug Does Not Bump

The scenario that the plug does not bump, that means the casing cannot be pressure testing with wet cement. Therefore, if plug does not bump then the casing pressure test shall be conducted after cement is set.

Back Flow After Bumping Plug

After successfully bumping the plug, pressure shall be released and backflow measured. If there is indication that the float did not hold, then pressure shall be returned such to stop the backflow while waiting on cement.

No Cement to Surface

In the case that there is no cement to surface, then a top up job on the backside of the 177.8mm (7-in) casing shall be completed with 1” pipe.

APPENDIX D: WELL TERMINATION RECORD & WELL SCHEMATIC

Doc - 1424
PID - 2438/140

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Natural Resources, **Energy Branch**

WELL TERMINATION RECORD

WELL DATA

Well Name:	Hurricane #2 (Whip #1)	CO-ORDINATES	
Operator:	Vulcan Minerals Inc.		UTM (NAD 27)
Drilling Rig:	Ingersoll Rand RD10	Long: / Lat:	Northing: 5 347 195. 57 / Easting: 375 854. 54
Rig Type:	Hydraulic Single	ELEVATION	DEPTH
Drilling Contractor:	Vulcan Minerals Inc.	RT/KB/RF: ~~125~~ 149.0 / G.L.: 145.7	TD: 935 / TVD: 935
		FOR NR USE ONLY	
Spud Date:	24 November 2005	For the purpose of interpreting subsection 134(3) of the Petroleum Drilling Regulations, the rig release date is deemed to be:	
TD Date:	11 December 2005	15 December 2005	
Rig Release Date:	15 December 2005		
Well Termination Date:	15 December 2005		

CASING AND CEMENTING PROGRAM

O.D. (mm)	WEIGHT (kg/m)	GRADE	SETTING DEPTH (m)	CEMENTING DETAILS
244.5	53.6	J-55	19	0.5m^3 preflush, 1m^3 1820-kg/m3 Class A, cement returns
177.8	25.6	H-40	323	0.5m^3 preflush, 7m^3 1820-kg/m3 Class A, cement top job

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Karla Smith

from (person) Wes Foote of the Department of Natural Resources by means of

Letter dated 13 December 2005

Type of Plug	Interval	Felt/Pressure Tested	Cement and Additives
Cement	58-35m	None	0.5m^3 1820-kg/m3 Class A
Cement	338-290m	Felt	1.5m^3 1820-kg/m3 Class A
Cement	935-835m	None	2.5m^3 1820-kg/m3 Class A

Lost Circulation/Overpressure Zones:

Downhole Completion/Suspension Equipment:

3 Cement Plugs – see attached sketch

(Describe and Attach Sketch)

DECLARATION

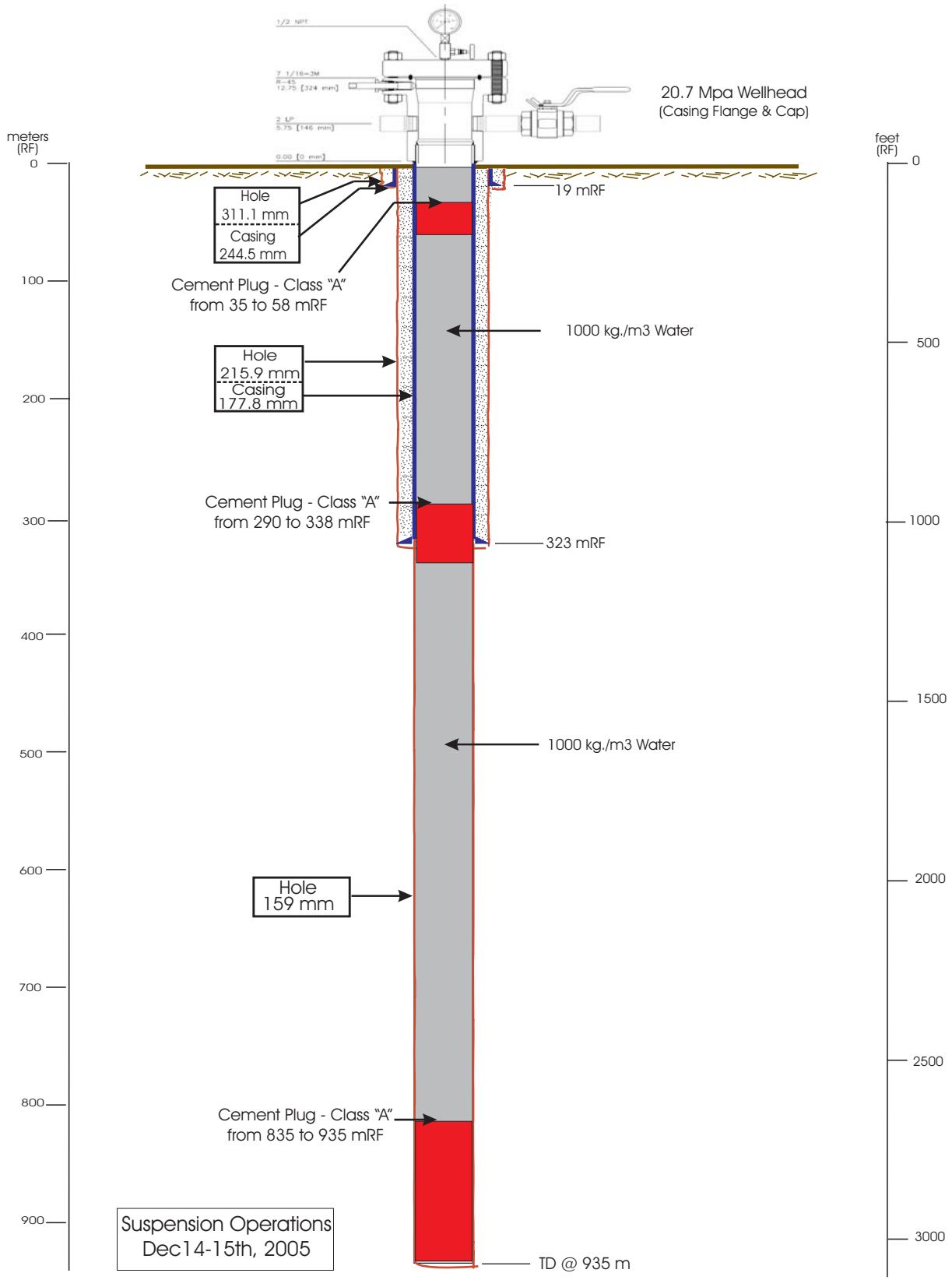
The undersigned operator's representative hereby declares that on the basis of personal knowledge of operations undertaken at the above named well, the above information is true, accurate and complete.

Signed [signature] Title President Operator's Representative

Name Patrick Lafleur Date Dec 16/05.

ACKNOWLEDGEMENT

Acknowledged by [signature] Director Date 26 Jan 06



VULCAN minerals inc

Vulcan Minerals Inc.
Hurricane #2 (Whip #1)
Suspension Configuration

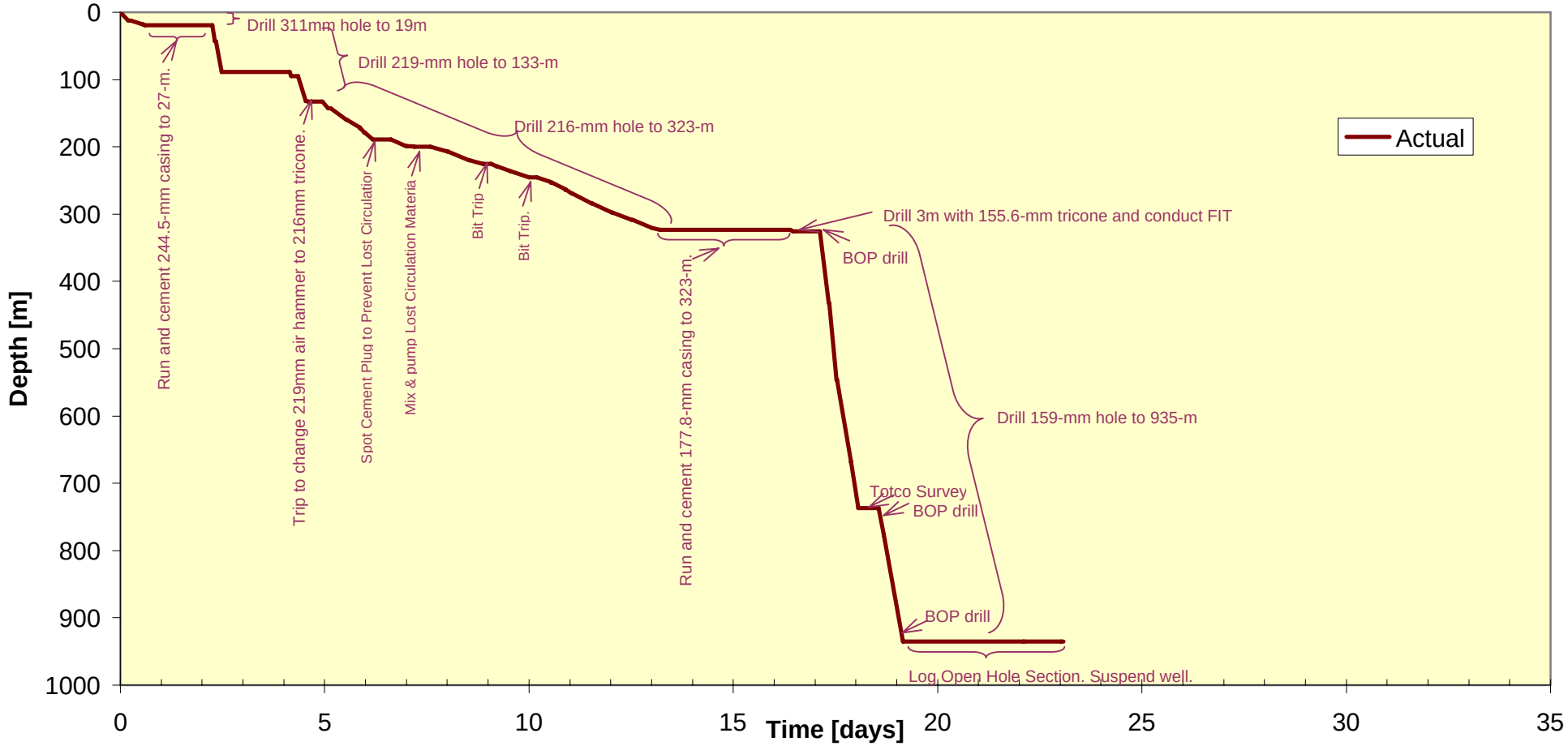
Scale: 1 : N/A

Drawn by: K. Smith
Date: 15 Dec 2005

Drawing No: H#2 - SUSP
Rev: 0

APPENDIX E: COMPOSITE WELL RECORD & TIME VERSUS DEPTH CURVE

	Operating Company	Vulcan Minerals	**Mob Start**	18-Nov-05
	Well Name	Hurricane #2 (Whip #1)	**Spud Date**	24-Nov-05
	Rig	Ingersoll Rand RD10	**Rig Release**	15-Dec-05
	Field	St.Georges	**Demob End**	19-Dec-05



Total Non-Productive Time **15.21%**

APPENDIX F: DRILL CUTTINGS DESCRIPTION & LITHOLOGY

Geological Report
on

VULCAN MINERALS WHIP # 1

in
Western Newfoundland

for
VULCAN MINERALS INC.

Prepared for: Patrick Laracy
Prepared by: Corey Fitzgerald BSc.

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WELL ABSTRACT

Based on seismic anomalies Vulcan Minerals decided to drill the WHIP # 1 prospect. This well was spudded on November 22nd, 2005 @ 1100 hrs. Between 27.0 to 80.0 meters a water zone is present, which by 133.0 meters could no longer be drilled with air because too much water was entering the wellbore. Once we switched to drilling with fluids, there was a loss of circulation with no cutting returns between 133.0 to 198.0 meters. Surface casing was set @ 323.2 meters and a 159 mm main hole was drilled to a depth of 935.2 meters. Both AIR and FLUIDS were used on drilling surface hole, while on the main hole section only AIR was used. Total depth was reached on Dec. 11th, 2005 @ 1445 hrs. It should be noted that gas readings over the intervals drilled with AIR are not accurate.

FORMATION TOPS

KB:

Formation	Prognosis	Sample Depth	Log Depth
	MD	MD	MD
OVERBURDEN	0.00	0.00	0.00
FICHELLS BROOK	380.00	0.00	N/A
SPOUT FALLS	N/A	195.0?	N/A

BIT RECORD

Bit #	Size (mm)	Type	Depth In (m)	Depth Out (m)	Meters Drilled	Hours	Serial number
1	311.00	Hughes	4.00	19.36	15.36	12.5	622507
1	216.00	Smith	19.00	20.00	1.00	1	MJ2029
1	219.00	Mission	20.00	89.00	69.00	5	B98290
2	216.00	Varel	89.00	92.00	3.00	1	136584
2RR	216.00	Varel	92.00	95.00	3.00	0.75	136584
1RR	219.00	Mission	95.00	133.00	38.00	6.25	B98290
2RR#2	216.00	Varel	133.00	225.00	92.00	69	136584
3RR	216.00	Smith	225.00	245.00	20.00	22	MJ2029
4	216.00	Hughes	245.00	323.00	78.00	70.25	6006124
2	159.00	Mission	323.00	935.00	612.00	37	A42766

LOGGING REPORT

Logging Company:		Baker Hughes			**G.L. (m):**		
Engineer:		Y. Obiri			**K.B. (m):**		
Truck #:		HSL 8616			**Mud Type:**	Water	
Mud Density (Kg/M):		N/A			**Bit Size (mm):**	156.00	
Water Loss (C.C.'s):		N/A			**Depth: Driller (m)**	935.20	
Viscosity (Sec):		N/A			**Depth: Logger (m)**	931.90	
RM:		**Ohm-m @**		^{0}C	**Casing: Driller (m)**	323.20	
RMF:		**Ohm-m @**		^{0}C	**Casing: Logger (m)**	322.20	
RMC:		**Ohm-m @**		^{0}C			

Hole Conditions Remarks Prior to Logging:	Good

Sequence of Operations

Logs	Time Spent	Remarks			
HDIL/GR	3.5				
DAL/ZDL/CN/GR	3				
Run in Hole:	2	**Succeeded:**	2	**Failed:**	

Comments:	

MECHANICAL SUMMARY

Hole Size and Casing Summary

Stage	Hole Size (mm)	Interval (m)	Casing Size	Casing Wt/Grd/Thread
Surface	216.00	0-323.2	178.00mm, 28.8 kg/m	H-40

Mud System Summary

Mud Company:	N/A		**Intervals (m – m)**
Mud Type:	Surface / Main Hole:	AIR	30.0 – 150.0, 326.0-935.2
	Surface Hole:	FLUIDS	150.0-326.0

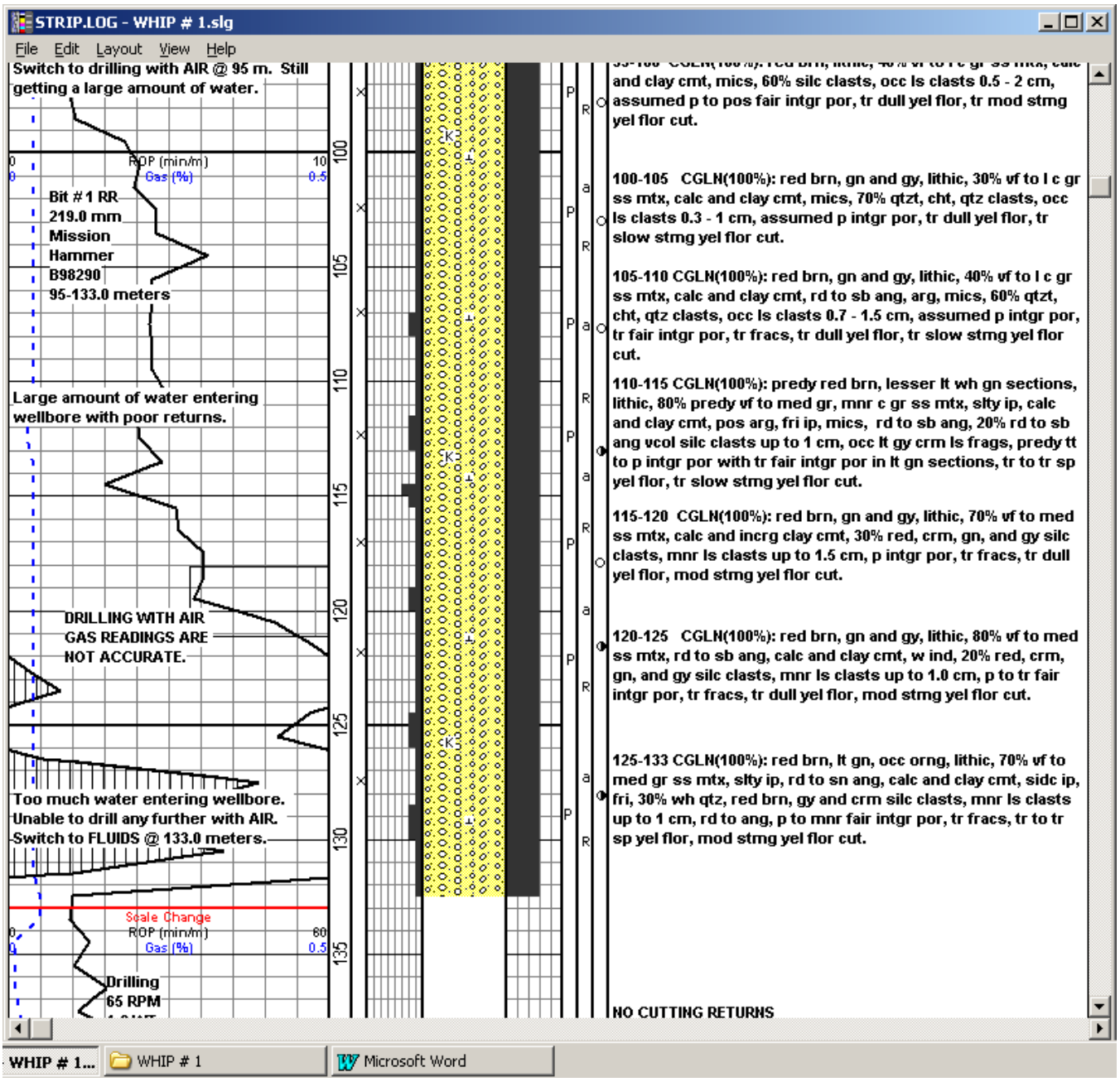
Deviation Surveys

Depth	Angle
19.4	0.25
171.0	2.0
323.0	3.75
473.0	4.0
621.0	5.5
737.0	4.0
932.2	3.75

FORMATION EVALUATION

Fichells Brook Formation

The Fichells Brook formation in this well consists predominantly of a red brown clayey conglomerate, with silty and sandy sections. At approximately 790.0 meters the samples change to a sandstone with silt and shale sections losing the red brown clay in the above section for a green grey clay matrix. The conglomerate is described as light red brown, lithic, with varying amounts (10-80%) of rounded to sub angular predominantly very fine to medium grained, commonly silty, sandstone matrix. The conglomerate usually contains minor calcareous cement, and common red brown clay matrix. In addition it is friable with minor well indurated sections, varying amounts of (10-85%) rounded to angular red brown, gray green, and cream siliceous (quartzite, quartz, chert) clast fragments, and occasional amounts of limestone, and argillaceous clasts that range from 0.1 to 1.5 centimeters. The conglomerate predominantly exhibits tight to poor intergranular porosity with possible minor sections of fair porosity and trace fracture porosity. Only trace amounts of hydrocarbons are visible throughout the well and occur within the following intervals; 40.0-133, 280.0-310.0, 355.0-425.0, 690.0-745.0, and 865.0-925.0 meters. With such minor occurrences it may be safe to assume that most of the hydrocarbons are controlled by fractures. Gas readings over the intervals drilled with AIR (332.0 to 932.2 meters) are not accurate and should be ignored. Based on sample descriptions and wireline logs, the Fichells Brook formation appears to have poor reservoir potential.


STRIP.LOG - WHIP # 1.slg
File Edit Layout View Help
Switch to drilling with AIR @ 95 m. Still getting a large amount of water.
ROP (min/m)
Gas (%)
Bit # 1 RR
219.0 mm
Mission
Hammer
B98290
95-133.0 meters
Large amount of water entering wellbore with poor returns.
DRILLING WITH AIR
GAS READINGS ARE
NOT ACCURATE.
Too much water entering wellbore.
Unable to drill any further with AIR.
Switch to FLUIDS @ 133.0 meters.
Scale Change
ROP (min/m)
Gas (%)
Drilling
65 RPM
and clay cmt, mics, 60% silc clasts, occ ls clasts 0.5 - 2 cm, assumed p to pos fair intgr por, tr dull yel flor, tr mod stmg yel flor cut.
100-105 CGLN(100%): red brn, gn and gy, lithic, 30% vf to l c gr ss mtx, calc and clay cmt, mics, 70% qtzt, cht, qtz clasts, occ ls clasts 0.3 - 1 cm, assumed p intgr por, tr dull yel flor, tr slow stmg yel flor cut.
105-110 CGLN(100%): red brn, gn and gy, lithic, 40% vf to l c gr ss mtx, calc and clay cmt, rd to sb ang, arg, mics, 60% qtzt, cht, qtz clasts, occ ls clasts 0.7 - 1.5 cm, assumed p intgr por, tr fair intgr por, tr fracs, tr dull yel flor, tr slow stmg yel flor cut.
110-115 CGLN(100%): predy red brn, lesser lt wh gn sections, lithic, 80% predy vf to med gr, mnr c gr ss mtx, slty ip, calc and clay cmt, pos arg, fri ip, mics, rd to sb ang, 20% rd to sb ang vcol silc clasts up to 1 cm, occ lt gy crm ls frags, predy tt to p intgr por with tr fair intgr por in lt gn sections, tr to tr sp yel flor, tr slow stmg yel flor cut.
115-120 CGLN(100%): red brn, gn and gy, lithic, 70% vf to med ss mtx, calc and incrg clay cmt, 30% red, crm, gn, and gy silc clasts, mnr ls clasts up to 1.5 cm, p intgr por, tr fracs, tr dull yel flor, mod stmg yel flor cut.
120-125 CGLN(100%): red brn, gn and gy, lithic, 80% vf to med ss mtx, rd to sb ang, calc and clay cmt, w ind, 20% red, crm, gn, and gy silc clasts, mnr ls clasts up to 1.0 cm, p to tr fair intgr por, tr fracs, tr dull yel flor, mod stmg yel flor cut.
125-133 CGLN(100%): red brn, lt gn, occ orng, lithic, 70% vf to med gr ss mtx, slty ip, rd to sn ang, calc and clay cmt, sidc ip, fri, 30% wh qtz, red brn, gy and crm silc clasts, mnr ls clasts up to 1 cm, rd to ang, p to mnr fair intgr por, tr fracs, tr to tr sp yel flor, mod stmg yel flor cut.
NO CUTTING RETURNS
WHIP # 1...
WHIP # 1
Microsoft Word

Detailed Sample Descriptions

Geologist: Corey Fitzgerald
Rig Manager: Tom Targett
Engineer: Karla Smith

5-10 SANDSTONE(100%): light gray red, lithic, 50% clear to light red quartz grains, upper very fine to medium grained, moderately to poorly sorted, predominantly angular to sub rounded, occasional quartz overgrowths, calcareous and white to light green kaolinitic cement, friable, common varicolored siliceous fragments, common clear and translucent siliceous fragments, occasional white to gray calcareous and minor dolomitic fragments, assumed poor intergranular porosity, no shows.

10-12.5 SANDSTONE(100%): light gray red, lithic, 30% white clear to light red quartz grains, lower fine to medium grained, moderately to poorly sorted, predominantly angular to rounded, occasional quartz overgrowths, calcareous and white to light green kaolinitic cement, friable, common clear, red brown, green, gray angular siliceous fragments, occasional white to gray calcareous and lesser dolomitic fragments, assumed poor intergranular porosity, no shows.

12.5-15 SANDSTONE CONGLOMERATE (100%): light gray red, lithic, 30% varicolored quartz grains, very fine to coarse grained, poorly sorted, rounded to sub angular, occasional angular, occasional quartz overgrowths, calcareous and white to light green kaolinitic cement, friable, common varicolored siliceous fragments, occasional white to gray calcareous and dolomitic fragments, assumed poor intergranular porosity, no shows.

15-19.4 SANDSTONE CONGLOMERATE (100%): light gray red, lithic, 50% white cream and light red brown quartz grains, predominantly fine to coarse grained, poorly sorted, rounded to angular, occasional quartz overgrowths, sly increasing calcareous and kaolinitic cement, friable, common predominantly red brown green and gray siliceous fragments, occasional white to gray calcareous and dolomitic fragments, assumed tight to poor intergranular porosity, no shows.

20-25 CONGLOMERATE(100%): light red brown, lithic, very fine to coarse grained rounded to sub angular sandstone matrix, predominantly calcareous cement, 20% rounded to sub rounded red brown, green, gray, cream clast fragments predominantly siliceous upper to 1.5 cm in size, minor limestone clasts, assumed tight to poor intergranular porosity, no shows.

25-30 CONGLOMERATE(100%): light red brown, gray green, lithic, 10% very fine to coarse grained rounded to sub angular sandstone matrix, minor calcareous cement, possible siliceous sections, 90% rounded to sub rounded red brown, green, gray, cream clast fragments predominantly

siliceous predominantly > 1.0 cm in size, minor limestone clasts, assumed tight to possible fair intergranular porosity, no shows.

30-35 CONGLOMERATE(100%): light red brown, gray green, lithic, 50% very fine to coarse grained rounded to sub angular sandstone matrix, minor calcareous cement, friable, possible clayey and siliceous sections, 50% rounded to sub rounded quartzite, chert and varicolored siliceous fragments, minor yellow green clayey clasts?, minor cream and gray limestone clasts, possible sandstone clasts, clasts predominantly > 0.5 cm, assumed poor intergranular porosity, possible trace fractures, no shows.

35-40 CONGLOMERATE(100%): light red brown, gray green, lithic, 50% silty to coarse grained rounded to sub angular quartzose sandstone matrix, minor calcareous and red clay cement, friable, possible siliceous sections, 50% rounded to sub rounded white quartz, gray quartzite, chert and varicolored siliceous fragments, trace jasper, minor yellow green clayey clasts?, minor limestone, occasional cement from casing, clasts predominantly > 0.3 cm, assumed poor intergranular porosity, possible trace fractures, no shows.

40-45 CONGLOMERATE(100%): light red brown, gray green, lithic, 50% silty to occasional very coarse grained rounded to sub angular sandstone matrix, increasing calcareous and lesser red clay cement, possible siliceous sections, 50% rounded to sub rounded white quartz, gray quartzite, chert and varicolored siliceous fragments, minor yellow green clayey fragments, minor limestone, minor white to light gray cement from casing, clasts predominantly > 0.3 cm, assumed poor intergranular porosity, trace fractures, rare dull yellow fluorescence, rare very slow streaming yellow fluorescence cut along fracture.

45-50 CONGLOMERATE(100%): light red brown, gray green, lithic, 65% silty to occasional very coarse grained rounded to sub angular sandstone matrix, increasing calcareous and lesser clay cement, slightly firm, micaceous in part, possible siliceous sections, 35% rounded to sub rounded quartz, quartzite, chert and varicolored siliceous fragments, minor limestone, trace jasper, clasts predominantly > 0.3 to < 1.5 cm, assumed poor intergranular porosity, trace fractures, no shows.

50-55 CONGLOMERATE(100%): light red brown, gray green, lithic, 40% very fine to occasional very coarse grained rounded to sub angular sandstone matrix, silty sections, occasional calcareous and lesser white green clay cement, slightly firm, micaceous in part, 60% predominantly red brown and gray green rounded to sub rounded quartz, quartzite, chert and varicolored siliceous fragments, minor gray and cream limestone clasts, trace jasper, clasts predominantly > 0.3 to < 1.5 cm, assumed poor to fair intergranular porosity, trace fractures, no shows.

55-60 CONGLOMERATE(100%): light red brown, gray green minor yellow, lithic, 70% very fine to coarse grained rounded to sub angular sandstone matrix, minor yellow staining on matrix

seems to coincide with best porosity, silty sections, occasional calcareous and lesser white green clay cement, slightly firm, micaceous in part, 30% predominantly red brown and gray green rounded to sub rounded quartz, quartzite, chert and varicolored siliceous fragments, minor limestone clasts, trace jasper, clasts predominantly > 0.3 to < 1.5 cm, assumed poor to increasingly fair intergranular porosity, trace fractures, no fluorescence, possible trace very faint slightly blooming dull yellow fluorescence cut.

60-65 SANDSTONE CONGLOMERATE(100%): light red brown, lithic, predominantly very fine to medium grained, occasional coarse sandstone grained, silty in part, increasing calcareous cement, possible clay cement, 15% siliceous clasts predominantly < 0.5 cm, micaceous, predominantly tight to occasional sections with fair intergranular porosity, no fluorescence, trace slow to moderately streaming yellow fluorescence cut.

65-70 SANDSTONE CONGLOMERATE(100%): light red brown, lithic, predominantly rounded to sub angular very fine to occasional coarse sandstone grained, predominantly calcareous cement, 30% rounded to angular varicolored siliceous clasts, minor limestone clasts, micaceous in part, tight to trace fair intergranular porosity, trace dull yellow fluorescence, trace slow streaming yellow fluorescence cut.

70-75 SANDSTONE CONGLOMERATE(100%): As above, light red brown, green, 60% predominantly very fine to occasional coarse sandstone matrix, 40% red brown and green siliceous fragments, minor limestone fragments, calcareous and increasing clay cement, rare dull yellow fluorescence, rare slow streaming yellow fluorescence cut.

75-80 CONGLOMERATE(100%): light red brown, lithic, 15% rounded to sub angular predominantly very fine to medium grained sandstone matrix, minor calcareous and possible clay cement, well indurated, 85% rounded to angular red brown, gray green, and cream siliceous clast fragments, increasing limestone and dolomitic clasts, clasts upper to 1 cm, micaceous in matrix, assumed tight to poor intergranular porosity, trace fractures, rare yellow fluorescence, no fluorescence cut.

80-85 CONGLOMERATE(100%): light red brown, green, lithic, 25% rounded to sub angular very fine to medium grained sandstone matrix, calcareous and clay cement, well indurated, 75% clasts and clast fragments as above, assumed poor to trace fair intergranular porosity, trace fractures, trace dull yellow fluorescence, slow streaming yellow fluorescence cut possible along fracture.

85-88 CONGLOMERATE(100%): light red brown, green, lithic, 30% rounded to sub angular very fine to medium grained sandstone matrix, calcareous and clay cement, well indurated, 70% clasts and clast fragments of predominantly red and green quartzite, chert, occasional limestone

fragments, assumed poor to trace fair intergranular porosity, trace fractures, trace dull yellow fluorescence, slow streaming yellow fluorescence cut possible along fracture.

92-95 SANDSTONE CONGLOMERATE(100%): light red brown, lesser white and green, lithic, 80% very fine to medium grained sandstone matrix, sub angular to sub rounded, predominantly calcareous and clay cement, 20% siliceous clasts, assumed poor to possible fair intergranular porosity, trace fractures, no shows.

95-100 CONGLOMERATE(100%): red brown, lithic, 40% very fine to lower coarse grained sandstone matrix, calcareous and clay cement, micaceous, 60% siliceous clasts, occasional limestone clasts 0.5 to 2 cm, assumed poor to possible fair intergranular porosity, trace dull yellow fluorescence, trace moderately streaming yellow fluorescence cut.

100-105 CONGLOMERATE(100%): red brown, green and gray, lithic, 30% very fine to lower coarse grained sandstone matrix, calcareous and clay cement, micaceous, 70% quartzite, chert, quartz clasts, occasional limestone clasts 0.3 to 1 cm, assumed poor intergranular porosity, trace dull yellow fluorescence, trace slow streaming yellow fluorescence cut.

105-110 CONGLOMERATE(100%): red brown, green and gray, lithic, 40% very fine to lower coarse grained sandstone matrix, calcareous and clay cement, rounded to sub angular, argillaceous, micaceous, 60% quartzite, chert, quartz clasts, occasional limestone clasts 0.7 to 1.5 cm, assumed poor intergranular porosity, trace fair intergranular porosity, trace fractures, trace dull yellow fluorescence, trace slow streaming yellow fluorescence cut.

110-115 CONGLOMERATE(100%): predominantly red brown, lesser light white green sections, lithic, 80% predominantly very fine to medium grained, minor coarse grained sandstone matrix, silty in part, calcareous and clay cement, possible argillaceous, friable in part, micaceous, rounded to sub angular, 20% rounded to sub angular varicolored siliceous clasts upper to 1 cm, occasional light gray cream limestone fragments, predominantly tight to poor intergranular porosity with trace fair intergranular porosity in light green sections, trace to trace spotty yellow fluorescence, trace slow streaming yellow fluorescence cut.

115-120 CONGLOMERATE(100%): red brown, green and gray, lithic, 70% very fine to medium sandstone matrix, calcareous and increasing clay cement, 30% red, cream, green, and gray siliceous clasts, minor limestone clasts upper to 1.5 cm, poor intergranular porosity, trace fractures, trace dull yellow fluorescence, moderately streaming yellow fluorescence cut.

120-125 CONGLOMERATE(100%): red brown, green and gray, lithic, 80% very fine to medium sandstone matrix, rounded to sub angular, calcareous and clay cement, well indurated,

20% red, cream, green, and gray siliceous clasts, minor limestone clasts upper to 1.0 cm, poor to trace fair intergranular porosity, trace fractures, trace dull yellow fluorescence, moderately streaming yellow fluorescence cut.

125-133 CONGLOMERATE(100%): red brown, light green, occasional orange, lithic, 70% very fine to medium grained sandstone matrix, silty in part, rounded to sub angular, calcareous and clay cement, sideritic in part, friable, 30% white quartz, red brown, gray and cream siliceous clasts, minor limestone clasts upper to 1 cm, rounded to angular, poor to minor fair intergranular porosity, trace fractures, trace to trace spotty yellow fluorescence, moderately streaming yellow fluorescence cut.

NO CUTTING RETURNS FROM 133.0 to 198.0 meters

* Start getting LCM back at ~ 198.0 meters
. Poor sample quality from 198.0 to 323.0 meters. Little to no returns coming over the shakers. All samples from 198.0 to 323.0 meters are taken from the shaker box / possum belly. *

199.0 SANDSTONE(100%): light red brown, light gray, sub lithic, predominantly silty to very fine grained, minor lower fine grained, calcareous, friable, predominantly loose quartz grains, angular to lesser sub rounded, micaceous, occasional green argillaceous material, possible quartz overgrowths, assumed poor intergranular porosity, trace yellow fluorescence, slow streaming yellow fluorescence cut.

205 SANDSTONE CONGLOMERATE(100%): light red brown, sub lithic, 80% loose quartz grains, angular to sub rounded, silty to medium grained, minor coarse grained, calcareous and clay cement, minor mica, common siliceous fragments, minor shale grains, assumed poor to fair intergranular porosity, no shows.

210 SANDSTONE(100%): light red brown, sub lithic, 85 to 90% loose quartz grains, silty to lower medium grained, calcareous cement, friable, angular to sub rounded, kaolinitic, common red brown and gray green siliceous fragments, minor mica, rare limestone fragments, assumed poor to possible fair intergranular porosity, no shows.

215 SANDSTONE(100%): light red brown, sub lithic, 85% loose quartz grains, silty to lower medium grained, calcareous cement, friable, angular to sub rounded, kaolinitic, red brown and green siliceous fragments, assumed poor to possible fair intergranular porosity, no shows.

220 SANDSTONE(100%): light red brown, sub lithic, 80% loose quartz grains, silty to lower medium grained, calcareous and possible clay cement, kaolinitic, friable, angular to common sub rounded, red brown and green siliceous fragments, occasional shale fragments, assumed poor to

possible fair intergranular porosity, no shows.

225 SANDSTONE(100%): light red brown, sub lithic, 75 to 80% loose quartz grains, silty to fine grained, occasional lower medium grained, calcareous and possible clay cement, kaolinitic, friable, predominantly angular to lesser sub rounded, common medium to coarse red brown and green siliceous fragments, occasional shale fragments, hemitite grains, assumed poor to possible fair intergranular porosity, no shows.

230 SANDSTONE(100%): light red brown, lithic, 70 to 75% loose quartz grains, silty to lower medium grained, calcareous and possible clay cement, kaolinitic, friable, angular to sub rounded, red brown and green siliceous fragments, common white gray microcrystalline thin limestone fragments, common clear and translucent quartz fragments, occasional shale fragments, assumed poor to possible fair intergranular porosity, no shows.

235 SANDSTONE(100%): light red brown, lithic, 70% loose quartz grains, silty to fine grained, occasional lower medium grained, calcareous and possible clay cement, kaolinitic, friable, angular to occasional sub rounded, fine to coarse red brown and green siliceous fragments, occasional white gray microcrystalline thin limestone material, common clear and translucent quartz fragments, occasional shale fragments, assumed poor to possible fair intergranular porosity, no shows.

240 SANDSTONE(100%): light red brown, lithic, 70% loose quartz grains, increasingly silty to lesser fine grained, minor medium grained, calcareous and clay cement, predominantly angular to minor rounded, common siliceous fragments, occasional shale, occasional limestone fragments, minor mica, assumed poor intergranular porosity, no shows.

245 SANDSTONE(100%): light red brown, lithic, 70% loose quartz grains, increasingly silty to lesser fine grained, minor medium grained, calcareous and clay cement, predominantly angular to minor rounded, common siliceous fragments, occasional shale, occasional limestone fragments, minor mica, assumed poor intergranular porosity, no shows.

250 SANDSTONE(100%): light red brown, lithic, 70% loose quartz grains, increasingly silty to lesser fine grained, minor medium grained, calcareous and clay cement, friable, predominantly angular to sub angular, 20% very fine to medium siliceous grains and fragments, occasional shale, occasional limestone fragments, trace mica, assumed poor intergranular porosity, no shows.

255 SANDSTONE(100%): light red brown, lithic, 50 to 60% loose quartz grains, silty to fine grained, minor medium grained, calcareous and clay cement, friable, predominantly angular to minor sub rounded, 30% red brown, green and gray siliceous grains and fragments, occasional gray and green shale, occasional white limestone, minor mica, assumed poor intergranular porosity, no

shows.

260 SANDSTONE(100%): light red brown, lithic, 60% loose quartz grains, silty to fine grained, minor calcareous and clay cement, friable, predominantly angular to minor sub rounded, 25% red brown and green siliceous grains and fragments, occasional shale, occasional to common thin white chalky limestone, minor mica, minor hemitite, assumed poor intergranular porosity, no shows.

265 SANDSTONE(100%): light red brown, lithic, 70% loose quartz grains, silty to minor medium grained, minor calcareous and clay cement, friable, predominantly angular to sub angular, 20% red brown and green very fine to minor coarse siliceous grains and fragments, occasional shale, occasional thin white chalky limestone, occasional hemitite, minor mica, assumed poor intergranular porosity, no shows.

270 SANDSTONE(100%): light red brown, lithic, 70% loose quartz grains, silty to occasional medium grained, minor calcareous and clay cement, friable, predominantly angular to sub angular, 25% red brown and green siliceous grains and fragments, occasional shale, occasional to common thin white chalky limestone, minor mica, minor hemitite, assumed poor intergranular porosity, no shows.

275 SANDSTONE(100%): light red brown, lithic, 60% loose quartz grains, silty to fine grained, minor calcareous and clay cement, friable, predominantly angular to minor sub rounded, 25% red brown and green siliceous grains and fragments, occasional shale, occasional to common thin white chalky limestone, minor mica, assumed poor intergranular porosity, no shows.

280 SANDSTONE(100%): light red brown, lithic, 60% loose quartz grains, very fine to minor medium grained, silty, calcareous and clay cement, friable, predominantly angular to minor sub rounded, 30% fine to coarse angular red brown and green siliceous and increasing shale grains and fragments, increasing thin white chalky limestone, minor mica, minor fine hemitite, assumed poor intergranular porosity, no shows.

285 SANDSTONE(100%): light red brown, lithic, 75% loose quartz grains, very fine to coarse grained, slightly silty, calcareous and clay cement, friable, predominantly angular to rounded, 20% red brown and green shale and lesser siliceous grains and fragments, occasional to common thin white chalky limestone, minor hemitite, assumed poor to possible fair intergranular porosity, trace white yellow fluorescence, trace slow streaming white yellow fluorescence cut.

290 SANDSTONE(100%): light red brown, lithic, 75% loose quartz grains, upper very fine to lower coarse grained, calcareous and clay cement, friable, rounded to sub angular, 20% red brown, green and gray siliceous and shale grains and fragments, occasional thin white chalky limestone,

trace coal grains, assumed poor to possible fair intergranular porosity, trace to trace spotty dull yellow fluorescence, moderately streaming yellow fluorescence cut.

295 SANDSTONE(100%): light red brown, lithic, 75% loose quartz grains, very fine to medium grained, increasing white and light gray calcareous and clay cement, friable, predominantly sub rounded to sub angular, 25% red brown, green and gray siliceous and increasing shale grains and fragments, occasional thin white chalky limestone, trace hemitite, assumed poor to possible fair intergranular porosity, trace dull yellow fluorescence, moderately to fast streaming white yellow fluorescence cut.

300 SANDSTONE(100%): light red brown, lithic, 60% loose quartz grains, very fine to medium grained, occasional to common white and light gray calcareous and clay cement, friable, predominantly sub rounded to sub angular, 35% red brown, green and gray siliceous and increasing shale grains and fragments, occasional limestone fragments, trace hemitite, assumed poor to possible fair intergranular porosity, trace dull yellow fluorescence, moderately to fast streaming white yellow fluorescence cut.

305 SANDSTONE(100%): light red brown, lithic, 75% loose quartz grains, silty to medium grained, angular to sub rounded, white calcareous to white, gray and light red brown clay cement, friable, 25% red brown, green, gray to dark gray lithic grains, occasional clear and translucent quartz, trace hemitite, assumed poor intergranular porosity, no shows.

310 SANDSTONE(100%): light red brown, lithic, 60% quartz grains, very fine to medium grained, silty, angular to lesser rounded, common white to light gray calcareous and clay cement, friable, 25% fine to very coarse red brown, gray to dark gray, and green siliceous and shale / lithic grains and fragments, occasional clear and translucent quartz, minor light gray and cream limestone, assumed poor intergranular porosity, trace to rare dull yellow fluorescence, slow streaming white yellow fluorescence cut.

315 SANDSTONE(100%): light red brown, lithic, 60% quartz grains, silty to medium grained, angular to sub rounded, common white to light gray calcareous and clay cement, friable, 30% fine to very coarse lithic grains and fragments as above, occasional clear and translucent quartz, minor light gray and cream limestone, assumed poor intergranular porosity, no shows.

320 SANDSTONE(100%): light red brown, lithic, 55 to 60% quartz grains, silty to medium grained, predominantly angular to sub rounded, common white to light gray calcareous and clay cement, friable, 30 to 35% fine to very coarse red brown, green, and dark gray lithic grains and fragments, occasional clear and translucent quartz, minor light gray and cream limestone, assumed poor intergranular porosity, no shows.

326-330 CONGLOMERATE(100%): red brown, lithic, 10 to 15% very fine to medium grained sandstone matrix, calcareous and clay cement, rounded to sub angular, friable, 85 to 90% red brown, gray to dark gray, green, cream, quartz, quartzite, chert / siliceous clast fragments predominantly > 3 mm to < 1 cm, occasional limestone fragments, assumed poor to possible fair intergranular porosity, possible minor fracture porosity, no shows.

330-335 SANDSTONE / CONGLOMERATE(100%): red brown, lithic, 50% very fine to coarse sandstone matrix, abundant red brown clay and lesser calcareous cement, predominantly rounded to sub angular, friable, 50% red brown, gray to dark gray, increasing green, cream, quartz, quartzite, chert / siliceous clast fragments predominantly > 3 mm to < 1 cm, occasional limestone fragments, assumed poor intergranular porosity, possible minor fracture porosity, no shows.

335-340 CLAYSTONE CONGLOMERATE(100%): red brown, lithic, 50% red brown clay getting washed away when cleaned, 10 to 15% very fine to medium rounded to sub angular sandstone matrix, 50% predominantly red brown, green, and dark gray siliceous sub rounded to sub angular clasts > 0.3 to < 1.0 cm , minor calcareous cement, minor limestone clasts, assumed poor intergranular porosity, no shows.

340-345 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 80% light red brown to clear rounded to sub angular very fine to lower coarse sandstone matrix, abundant red brown clay and minor calcareous cement / matrix, 20% > 0.2 cm red brown, brown, gray and lesser green siliceous clasts, trace limestone clasts, assumed poor intergranular porosity, no shows.

345-350 SANDSTONE(80%): red brown, sub lithic, 85 to 90% loose quartz grains, abundant red brown clay matrix / cement, calcareous, very fine to lower coarse grained, silty, predominant rounded to sub angular, minor angular, 5 to 10% < 0.3 cm siliceous clasts as above, assumed poor to possible fair intergranular porosity, no shows.
SANDSTONE(20%): gray green, lithic, silty to fine grained, calcareous and gray green clay cement, rounded to sub angular, very micaceous, tight, no shows.

350-355 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 80% light red brown to clear rounded to sub angular very fine to lower coarse sandstone matrix, very silty, abundant red brown clay and minor calcareous cement / matrix, 20% > 1.0 cm red brown, gray and minor green siliceous clasts, assumed poor intergranular porosity, no shows.

355-360 CLAY SANDSTONE (100%): red brown, sub lithic, 85% loose quartz grains, abundant red brown clay matrix / cement, calcareous, very fine to lower coarse grained, silty, predominant rounded to sub angular, 5 to 10% < 0.5 cm red brown, brown, gray and green siliceous clasts, trace limestone clasts, assumed poor to possible fair intergranular porosity, trace yellow fluorescence,

moderately streaming yellow fluorescence cut.

360-365 CLAY SANDSTONE (100%): red brown, sub lithic, 80% loose quartz grains, very abundant red brown clay matrix / cement, calcareous, predominantly very fine to medium grained, trace coarse grained, silty, predominant rounded to sub angular, 10 to 15% < 0.5 cm red brown, brown, gray and green siliceous clasts, trace limestone clasts, assumed tight to poor intergranular porosity, trace to rare yellow fluorescence, moderately streaming yellow fluorescence cut.

365-370 CONGLOMERATE (100%): red brown to gray green, lithic, 15 to 20% very fine to very coarse rounded to sub angular quartz sandstone matrix, abundant red brown clay cement / matrix, minor calcareous cement, 80% red brown, brown to gray green, lesser tan siliceous clasts < 1.0 cm, occasional LIMESTONE clasts, assumed poor intergranular porosity, possible fracture porosity, trace to rare dull yellow fluorescence, slow streaming white yellow fluorescence cut.

370-375 CLAY SANDSTONE (100%): red brown, sub lithic, 80% loose quartz grains, very abundant red brown clay matrix / cement, calcareous, predominantly very fine to medium grained, common silty, predominantly rounded to sub angular, occasional < 0.5 cm siliceous clasts as above, trace hemitite, trace mica, assumed tight to poor intergranular porosity, no shows.

375-380 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 60% loose rounded to sub angular quartz sandstone matrix, very fine to medium grained, trace lower coarse grained, silty, abundant red brown clay matrix / cement, minor calcareous cement, 40% red brown, gray, gray green and peach siliceous clasts 0.2 to 1.0 cm, trace mica, minor LIMESTONE clasts, assumed poor to possible fair intergranular porosity, possible fracture porosity, trace to trace spotty yellow fluorescence, moderately streaming white yellow fluorescence cut.

380-385 CLAY SANDSTONE (100%): red brown, sub lithic, 80% loose quartz grains, very abundant red brown clay matrix / cement, calcareous, friable, predominantly very fine to medium grained, silty, predominantly rounded to sub angular, 5 to 10% < 1.0 cm siliceous clasts as above, trace hemitite, trace mica, assumed tight to poor intergranular porosity, trace yellow fluorescence, moderately streaming white yellow fluorescence cut.

385-390 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 70% loose rounded to sub angular quartz sandstone matrix, silty to medium grained, trace coarse grained, abundant red brown clay matrix / cement, minor calcareous cement, 25% siliceous clasts 0.2 to 1.0 cm, trace mica, minor LIMESTONE clasts, assumed poor to possible fair intergranular porosity, possible fracture porosity, trace yellow fluorescence, moderately streaming white yellow fluorescence cut.

390-395 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 65% loose rounded to

sub angular quartz sandstone matrix, increasingly silty to medium grained, abundant red brown clay matrix / cement, minor calcareous cement, 35% siliceous clasts 0.3 to 1.0 cm, increasing white chalky to gray LIMESTONE clasts, assumed poor to possible fair intergranular porosity, possible fracture porosity, no shows.

395-400 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 30% loose rounded to sub angular quartz sandstone matrix, very silty to fine grained, lesser medium grained, abundant red brown clay matrix / cement, minor calcareous cement, predominantly friable with tight firm sections, 65% predominantly red brown and gray green siliceous clasts 0.2 to 0.6 cm, occasional white chalky to gray LIMESTONE clasts, assumed poor to possible fair intergranular porosity, possible fracture porosity, no shows.

400-405 CONGLOMERATE(100%): red brown to gray green, lithic, 10% sandstone matrix as above, common red brown clay matrix, minor calcareous cement, 80% red brown, gray, gray green siliceous clasts and clast fragments, 5% cream limestone clasts, poor to possible fair intergranular porosity, no shows.

405-410 SANDSTONE CONGLOMERATE(100%): red brown, lithic, 75% loose rounded to lesser sub angular silty to medium grained sandstone matrix, minor coarse grained, friable to minor tight firm sections, abundant red brown clay cement / matrix, minor calcareous cement, 25% siliceous and lesser limestone clast fragments < 1 cm, trace hemitite, poor intergranular porosity, trace dull yellow fluorescence, rare yellow fluorescence cut.

410-415 SANDSTONE CONGLOMERATE (100%): red brown, lithic, 80% loose rounded to sub angular quartz sandstone matrix, predominantly silty to fine grained, occasional medium grained, abundant red brown clay matrix / cement, minor calcareous cement, 20% siliceous clasts, occasional LIMESTONE clasts, assumed poor to possible fair intergranular porosity, possible fracture porosity, trace to spotty yellow fluorescence, trace slow yellow fluorescence cut.

415-420 SANDSTONE(100%): red brown, lithic, predominantly silty to fine grained, lesser medium to trace coarse grained, abundant red brown clay matrix / cement, minor calcareous cement, rounded to lesser sub angular, 5 to 10% siliceous clasts as above, 80 to 85% quartz, 15% chert grains, minor argillaceous grains, trace hemitite, minor limestone clasts, assumed poor to possible fair intergranular porosity, trace to spotty dull yellow fluorescence, slow streaming white yellow fluorescence cut.

420-425 SANDSTONE CONGLOMERATE(100%): red brown, sub lithic, 75% loose quartz grains, predominantly silty to occasional medium grained, lesser coarse grained, abundant red brown clay matrix / cement, minor calcareous cement, rounded to lesser sub angular, 15 to 20% siliceous clasts, minor argillaceous grains, trace hemitite, minor limestone clasts, assumed poor to

possible fair intergranular porosity, spotty dull yellow fluorescence, slow streaming white yellow fluorescence cut.

425-430 SANDSTONE(100%): red brown, sub lithic, predominantly silty to medium grained, occasional coarse grained, abundant red brown clay, minor calcareous cement, rounded to sub angular, minor quartz overgrowths, 5 to 10% lithic clasts, minor shale, minor chert grains, assumed poor to fair intergranular porosity, trace yellow fluorescence, slow streaming white yellow fluorescence cut.

430-435 SANDSTONE CONGLOMERATE(100%): red brown, lithic, 70% loose quartz grains, common very fine to fine grained, increasing medium to coarse grained sandstone matrix, abundant red brown clay matrix / cement, minor calcareous cement, rounded to sub angular, 30% siliceous and lesser argillaceous clasts, trace hemitite, minor limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

435-440 SANDSTONE CONGLOMERATE(100%): As above, red brown, very silty to fine grained, occasional medium grained, abundant red brown clay matrix, calcareous cement, 20% siliceous, limestone and argillaceous clasts, poor intergranular porosity, no shows.

440-445 SANDSTONE CONGLOMERATE(100%): red brown, silty to increasing fine grained, occasional medium grained, abundant red brown clay, minor calcareous cement, rounded to sub angular, minor quartz overgrowths, predominantly friable with tight firm sections, 65% sandstone, 35% red brown, brown, gray, gray green siliceous clasts < 0.5 cm, minor limestone clasts, minor shale grains, trace hemitite, assumed poor intergranular porosity, no shows.

445-455 SANDSTONE CONGLOMERATE(100%): red brown, lithic, 75% loose quartz grains, very silty to fine grained, occasional medium grained, abundant red brown clay, minor calcareous cement, rounded to sub angular, minor quartz overgrowths, predominantly friable with tight firm sections, 25% red brown, brown, gray, gray green siliceous clasts < 0.5 cm, minor limestone clasts, minor shale grains, trace hemitite, assumed poor to possible fair intergranular porosity, no shows.

455-465 SANDSTONE CONGLOMERATE(100%): red brown, 85% loose quartz grains, silty to medium grained, minor coarse grained, abundant red brown clay, minor calcareous cement, common rounded to occasional sub angular, minor shale, minor feldspar, 10 to 15% lithic clasts, trace limestone clasts, micaceous in part, assumed poor to possible fair intergranular porosity, no shows.

465-470 SANDSTONE CONGLOMERATE(100%): red brown, 80% loose quartz grains, silty to fine grained, occasional medium grained, abundant red brown clay, minor calcareous cement,

friable to tight calcareous and micaceous sections, rounded to occasional sub angular, minor shale, minor feldspar, 10 to 15% red brown, gray green and gray siliceous and lesser argillaceous clasts, trace limestone clasts, assumed poor intergranular porosity, no shows.

470-475 SANDSTONE CONGLOMERATE(100%): red brown, 80% loose quartz grains, silty to fine grained, occasional medium grained, trace coarse grained, abundant red brown clay, minor calcareous cement, friable to firm sections, rounded to occasional sub angular, minor shale, minor feldspar, 10 to 15% red brown, gray green and gray siliceous and lesser argillaceous clasts, trace limestone clasts, micaceous in part, assumed poor intergranular porosity, trace dull yellow fluorescence, rare slow streaming yellow fluorescence cut.

475-480 SANDSTONE CONGLOMERATE(100%): red brown, 85% loose quartz grains, silty to increasing medium grained, occasional coarse grained, common red brown clay, minor calcareous cement, friable, rounded to lesser sub angular, minor green shale, 5 to 10% siliceous clasts < 0.5 cm, micaceous in part, assumed poor intergranular porosity, no shows.

480-485 SANDSTONE CONGLOMERATE(100%): red brown, gray green, 50% loose very fine to medium grained, occasional coarse grained quartz sandstone matrix, silty, common red brown clay matrix, minor calcareous cement, friable, rounded to sub angular, 50% quartzite, quartz, dark chert, limestone, and argillaceous clasts 0.2 to 0.8 cm, assumed poor intergranular porosity, no shows.

485-490 SANDSTONE CONGLOMERATE(100%): red brown, gray green, 70% loose very fine to medium grained quartz sandstone matrix, silty, common red brown clay matrix, minor calcareous cement, friable, rounded to sub angular, 25% quartzite, quartz, dark chert, limestone, and argillaceous clasts < 0.75 cm, assumed poor intergranular porosity, no shows.

490-500 SANDSTONE(100%): red brown, 85 to 90% loose quartz grains, predominantly silty to fine grained, occasional medium to minor coarse grained, common red brown clay matrix, minor calcareous cement, friable, 5% gray green and red brown siliceous and argillaceous fragments, predominantly sub rounded to sub angular, minor hemitite, assumed poor to possible fair intergranular porosity, no shows.

500-505 SANDSTONE(100%): red brown, 85 to 90% loose quartz grains, predominantly silty to medium, minor coarse to trace very coarse grained, common red brown clay matrix, minor calcareous cement, predominantly sub rounded to sub angular, predominantly friable, minor firm sections, 10% gray green and red brown siliceous and argillaceous fragments, minor hemitite, assumed poor to possible fair intergranular porosity, no shows.

505-510 SANDSTONE(100%): red brown, 80 to 85% loose quartz grains, predominantly silty to medium, minor coarse grained, common red brown clay matrix, minor calcareous cement, predominantly rounded to sub angular, predominantly friable, 15% gray green and red brown siliceous and argillaceous fragments, minor hemitite, assumed poor to possible fair intergranular porosity, no shows.

510-515 SANDSTONE CONGLOMERATE(100%): red brown, lithic, very fine to increasingly medium grained, occasional coarse grained, silty, common red brown clay, minor calcareous cement, rounded to sub angular, minor quartz overgrowths, 20% clasts as above, minor hemitite, poor to possible fair intergranular porosity, no shows.

515-525 SANDSTONE CONGLOMERATE(100%): red brown, lithic, 70% loose quartz grains, very fine to medium grained, occasional coarse grained, silty, common red brown clay, minor calcareous cement, friable to occasional tight firm calcareous sections, rounded to sub angular, minor quartz overgrowths, 20% siliceous and argillaceous clasts, minor hemitite, poor to possible fair intergranular porosity, no shows.

520-530 SANDSTONE CONGLOMERATE(100%): red brown, lithic, 80% loose quartz grains, very fine to medium grained, occasional coarse grained, silty, common red brown clay, minor calcareous cement, friable to occasional tight and firm calcareous sections, rounded to sub angular, minor quartz overgrowths, 15% siliceous and argillaceous clasts, minor hemitite, poor to possible fair intergranular porosity, no shows.

530-535 SANDSTONE(100%): red brown, sub lithic, very fine to medium grained, silty, predominantly rounded to sub angular, occasional angular, common red brown clay, calcareous cement, friable, 80 to 85% loose quartz grains, 5 to 10% red brown, gray and cream siliceous to limestone clasts, occasional shale grains, assumed poor to possible fair intergranular porosity, no shows.

535-540 SANDSTONE CONGLOMERATE(100%): red brown, sub lithic, very fine to medium grained, minor coarse grained, rounded to occasional angular, common red brown clay, calcareous cement, friable, occasional silty calcareous firm clay sections, occasional red brown and green shale, 15% clasts as above, assumed poor intergranular porosity, no shows.

540-545 SANDSTONE CONGLOMERATE(100%): red brown, silty to fine grained, occasional medium to trace coarse grained sub lithic sandstone matrix, common red brown clay, calcareous cement, friable to minor firm, rounded to sub angular, minor micaceous grains, occasional shale, 10 to 15% red brown, gray green siliceous clasts, occasional shale clasts < 0.4 cm, assumed poor

intergranular porosity, no shows.

545-550 SANDSTONE CONGLOMERATE(100%): red brown, silty to fine grained, occasional medium to trace coarse grained sub lithic sandstone matrix, common red brown clay, calcareous cement, friable to minor firm, rounded to sub angular, minor micaceous grains, occasional shale, 10 to 15% red brown, gray green siliceous clasts, occasional shale clasts < 0.4 cm, assumed poor intergranular porosity, no shows.

550-560 SANDSTONE CONGLOMERATE(100%): red brown, silty to occasional medium grained, trace coarse grained sub lithic sandstone matrix, common red brown clay, calcareous cement, friable to minor firm, rounded to sub angular, minor micaceous grains, occasional shale, 15 to 20% red brown, gray green siliceous clasts, occasional shale clasts < 0.4 cm, assumed poor intergranular porosity, no shows.

560-565 SANDSTONE CONGLOMERATE(100%): red brown, lithic, silty to occasional medium grained, common red brown clay, calcareous cement, predominantly rounded to sub angular, 20% red brown, brown and gray siliceous (quartzite, quartz, chert) to argillaceous clasts < 0.5 cm, 80% quartz grains, occasional shale grains, minor hemitite, assumed poor to occasional fair intergranular porosity, no shows.

565-570 SANDSTONE CONGLOMERATE(100%): red brown, lithic, silty to occasional medium grained, common red brown clay, calcareous cement, predominantly friable with minor silty firm sections, predominantly rounded to sub angular, 15 to 20% red brown, brown and gray siliceous to argillaceous clasts < 0.5 cm, minor limestone fragments, occasional shale grains, minor hemitite, assumed poor to occasional fair intergranular porosity, no shows.

570-575 SANDSTONE CONGLOMERATE(100%): red brown, lithic, silty to occasional medium grained, common red brown clay, calcareous cement, predominantly friable with minor firm sections, predominantly rounded to sub angular, 20% red brown, brown and gray siliceous (quartzite, quartz, chert) to argillaceous clasts < 0.5 cm, minor limestone fragments, 70% quartz grains, occasional shale grains, minor hemitite, assumed poor to occasional fair intergranular porosity, no shows.

575-580 SANDSTONE CONGLOMERATE(100%): red brown, lithic, very fine to increasing medium grained, minor coarse grained, common red brown clay, calcareous cement, friable, angular to sub rounded, 35% red brown, brown and gray siliceous to argillaceous clasts < 0.75 cm, increasing limestone fragments, occasional shale grains, minor hemitite, assumed poor to occasional fair intergranular porosity, no shows.

580-585 SANDSTONE(100%): red brown, lithic, silty to occasional medium grained, common red brown clay, calcareous cement, predominantly friable with minor firm sections, predominantly rounded to sub angular, 30% firm red brown clay to micaceous clay / shale, 10 to 15% red brown, brown and gray siliceous clasts < 0.5 cm, minor limestone fragments, 60% quartz grains, occasional shale grains, minor hemitite, assumed poor to occasional fair intergranular porosity, no shows.

585-590 CONGLOMERATE(100%): light red brown, gray green, 70% loose quartz grains, silty to medium grained, occasional coarse grained, occasional red brown clay, minor calcareous cement, friable, predominantly sub rounded to sub angular, minor shale, possible feldspar, 30% varicolored siliceous clasts, argillaceous clasts, and occasional limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

590-600 CONGLOMERATE(100%): light red brown, gray green, 50% loose quartz grains, silty to medium grained, occasional coarse grained, occasional red brown clay, minor calcareous cement, friable, predominantly sub rounded to sub angular, minor shale, possible feldspar, 50% varicolored siliceous clasts, argillaceous clasts, and increasing limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

600-605 CONGLOMERATE(100%): light red brown, gray green, 40% loose quartz grains, silty to medium grained, occasional coarse grained, occasional red brown clay, minor calcareous cement, friable, predominantly sub rounded to sub angular, minor shale, possible feldspar, 60% varicolored siliceous clasts, argillaceous clasts, and increasing limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

605-610 CONGLOMERATE(100%): light red brown, gray green, 40% loose quartz grains, very fine to medium grained, silty, occasional red brown clay, minor calcareous cement, friable, rounded to lesser angular, minor shale, possible feldspar, 55% varicolored siliceous clasts, argillaceous clasts, and common limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

610-615 SANDSTONE CONGLOMERATE(100%): light red brown, lithic, 75% loose quartz grains, predominantly very silty to fine grained, minor medium grained, occasional red brown clay, minor calcareous cement, rounded to occasional angular, occasional gray to green shale, minor feldspar, minor hemitite, friable, 20% siliceous, argillaceous and common limestone clasts, assumed poor intergranular porosity, no shows.

615-620 SANDSTONE CONGLOMERATE(100%): light red brown to lesser green gray, lithic, 70% loose quartz, silty to medium grained, minor coarse grained, occasional red brown clay, minor calcareous cement, friable, occasional shale, minor feldspar, minor hemitite, 25 to 30% cream

limestone, varicolored siliceous and lesser argillaceous clasts, assumed poor to possible fair intergranular porosity, no shows.

620-630 SANDSTONE CONGLOMERATE(100%): light red brown to green gray, lithic, 55% loose quartz grains, very fine to minor coarse grained, silty, minor calcareous cement, rounded to sub angular, minor argillaceous and clay rich sections, 40% varicolored quartz, quartzite, limestone, and shale clasts 0.2 to 1.0 cm, assumed poor to possible fair intergranular porosity, no shows.

630-635 SANDSTONE CONGLOMERATE(100%): light red brown, 75% sand, 25% clasts 0.2 to 0.5 cm, predominantly silty to fine grained, occasional medium grained, rounded to lesser angular, minor red brown clay, minor calcareous cement, predominantly red brown to gray green siliceous to lesser argillaceous clasts, minor limestone clasts, assumed poor intergranular porosity, no shows.

635-640 SANDSTONE CONGLOMERATE(100%): light red brown, gray green, 60% very fine to occasional coarse grained sandstone, occasional clay, minor calcareous cement, sub rounded to occasional angular, occasional shale, 40% red brown and gray green quartzite to siliceous clasts, quartz clasts, occasional limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

640-645 SANDSTONE CONGLOMERATE(100%): light red brown, gray green, 70% very fine to fine grained, common medium grained sandstone, occasional clay, minor calcareous cement, rounded to occasional angular, occasional shale, 30% red brown and gray green quartzite to siliceous clasts, quartz clasts, occasional limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

645-650 SANDSTONE CONGLOMERATE(100%): light red brown, gray green, 65% very fine to medium grained, minor coarse grained, occasional clay, minor calcareous cement, sub rounded to angular, occasional shale, 35% red brown and gray green quartzite to siliceous clasts, quartz clasts, occasional limestone clasts, assumed poor to possible fair intergranular porosity, no shows.

650-655 SANDSTONE(100%): red brown, lithic, predominantly silty to fine grained, minor medium grained, sub rounded to lesser angular, common red brown clay, minor calcareous cement, predominantly friable, occasional moderately indurated, occasional argillaceous grains, minor micaceous, occasional clasts as above, assumed poor to possible fair intergranular porosity, no shows.

655-660 SANDSTONE(100%): red brown, lithic, predominantly silty to fine grained, minor medium grained, grading to very argillaceous siltstone in part, sub rounded to lesser angular, common red brown clay, minor calcareous cement, friable to occasional moderately indurated, occasional argillaceous grains, minor micaceous, occasional clasts, assumed poor intergranular porosity, no shows.

660-670 SANDSTONE(100%): red brown, lithic, predominantly silty to fine grained, occasional medium to minor coarse grained, sub rounded to lesser angular, minor quartz overgrowths, common red brown clay, minor calcareous cement, predominantly friable, 25% dark gray to red brown siliceous clasts < 0.75 cm, occasional limestone clasts, possible CONGLOMERATE, occasional argillaceous grains, minor micaceous, assumed poor to possible fair intergranular porosity, no shows.

670-680 SANDSTONE CONGLOMERATE(100%): red brown, sub lithic, 80% loose quartz grains, predominantly silty to occasional coarse grained, sub rounded to sub angular, occasional red brown clay, minor calcareous cement, occasional red brown and green gray shale, 20% red brown and gray green siliceous and argillaceous clasts, trace limestone clasts, minor hemitite, minor micro, assumed poor to possible fair intergranular porosity, no shows.

680-685 SANDSTONE(100%): red brown, lithic, predominantly silty to fine grained, occasional medium grained, abundant red brown clay, friable to common red brown clay rich calcareous silty well indurated sections, occasional calcareous cement, predominantly rounded to sub angular, micaceous in part, minor hemitite, assumed tight to poor intergranular porosity, trace dull yellow fluorescence, slow streaming white yellow fluorescence cut.

685-690 SANDSTONE CONGLOMERATE(100%): red brown, lithic, 80% loose quartz grains, predominantly silty to occasional coarse grained, rounded to sub angular, occasional red brown clay, minor calcareous cement, occasional red brown and green gray shale, 20% red brown and gray green quartzite and chert clasts, trace limestone clasts, minor hemitite, minor micro, assumed poor to possible fair intergranular porosity, no shows.

690-695 SANDSTONE (100%): red brown, lithic, silty to occasional medium grained, rounded to occasional angular, minor calcareous cement, common red brown clay matrix, common red brown and gray green shale grains, 5 to 10% siliceous and lithic clasts < 0.4 cm, trace hemitite, assumed poor to possible fair intergranular porosity, trace white yellow fluorescence, slow to moderately streaming white yellow fluorescence cut.

695-700 SANDSTONE CONGLOMERATE(100%): light red brown, lithic, fine to minor very coarse grained, common red brown clay matrix, occasional calcareous cement, common red brown and green shale, 35% peach to gray green siliceous clasts, possible minor feldspar, trace hemitite,

trace micaceous material, assumed poor to possible fair intergranular porosity, trace fracture porosity, no shows.

700-705 SANDSTONE CONGLOMERATE(100%): light red brown, lithic, increasingly silty to fine grained, minor medium grained, common red brown clay matrix, occasional calcareous cement, common red brown and green shale, 10% siliceous and argillaceous clasts, possible minor feldspar, trace hemitite, trace micaceous material, assumed poor to possible fair intergranular porosity, rare yellow fluorescence, show as above.

705-710 SANDSTONE CONGLOMERATE(100%): light red brown, lithic, very silty to fine grained, minor medium grained, common red brown clay matrix, occasional calcareous cement, common red brown and green shale, 15% siliceous and argillaceous clasts, possible minor feldspar, trace hemitite, trace micaceous material, assumed poor to possible fair intergranular porosity, trace fracture porosity, no shows.

710-720 SANDSTONE CONGLOMERATE (100%): light red brown, lithic, very fine to medium grained, occasional coarse grained, silty, sub rounded to occasional angular, occasional rounded, occasional red brown clay, calcareous cement, occasional shale grains, possible minor feldspar, 30% varicolored quartz, quartzite and siliceous clasts, argillaceous clasts, occasional limestone clasts, assumed poor to increasingly fair intergranular porosity, no shows.

720-725 SANDSTONE CONGLOMERATE (100%): light red brown, lithic, silty to medium grained, occasional coarse grained, rounded to occasional angular, occasional red brown to gray brown clay, calcareous cement, occasional shale grains, possible minor feldspar, 35% varicolored quartz, quartzite and siliceous clasts, argillaceous clasts, increasing limestone clasts, assumed poor to possible fair intergranular porosity, trace white yellow fluorescence, moderately streaming white yellow fluorescence cut.

725-730 CONGLOMERATE (100%): light red brown, lithic, silty to medium grained, occasional coarse grained, rounded to occasional angular, occasional red brown to gray brown clay, calcareous cement, occasional shale grains, possible minor feldspar, 50% varicolored quartz, quartzite and siliceous clasts, argillaceous clasts, occasional limestone clasts, assumed poor to possible fair intergranular porosity, trace fracture porosity, no shows.

730-735 SANDSTONE CONGLOMERATE(100%): light gray cream, lithic, predominantly very silty to fine grained, occasional medium to minor coarse grained, common gray brown clay, rounded to sub angular, occasional angular, calcareous cement, common dark gray to green shale, possible minor feldspar, 15% clasts as above, assumed poor intergranular porosity, trace to trace spotty white yellow fluorescence, trace moderately streaming white yellow fluorescence cut.

735-740 CONGLOMERATE(100%): gray green, red brown, 30% rounded to sub angular very fine to very coarse grained sandstone matrix, occasional gray brown clay, calcareous cement, occasional green and gray shale, minor feldspar, 70% red brown, dark gray, gray, gray green and brown siliceous clasts 0.2 to 0.5 cm, assumed poor to possible fair intergranular porosity, no shows.

740-745 CONGLOMERATE(100%): gray green to light red brown, lithic, 50% rounded to sub angular, very fine to coarse grained, silty loose quartz sandstone matrix, possible common gray brown clay, calcareous cement, occasional shale, occasional feldspar, trace hemitite, 50% dark gray, gray, and red brown siliceous clasts, occasional limestone clasts, occasional green clay fragments, assumed poor to possible fair intergranular porosity, possible fracture porosity, trace dull yellow fluorescence, moderately streaming white yellow fluorescence cut.

745-750 CONGLOMERATE(100%): gray green to light red brown, lithic, 30% rounded to sub angular, very fine to coarse grained sandstone matrix, possible common gray brown clay, calcareous cement, friable, occasional shale, occasional feldspar, trace hemitite, 70% clasts as above predominantly < 0.3 cm, occasional limestone clasts, 5 to 10% green clay fragments, assumed poor to possible fair intergranular porosity, possible fracture porosity, trace dull yellow fluorescence, moderately streaming white yellow fluorescence cut.

750-760 CONGLOMERATE(100%): gray green to light red brown, lithic, 65% rounded to sub angular, very fine to coarse grained sandstone matrix, possible common gray brown clay, calcareous cement, friable, occasional shale, occasional feldspar, 35% siliceous clasts predominantly < 0.5 cm, occasional limestone clasts, 10 to 15% green clay, assumed poor to possible fair intergranular porosity, possible fracture porosity, no shows.

755-765 CONGLOMERATE(100%): gray green to light red brown, lithic, 25% rounded to sub angular, very fine to coarse grained sandstone matrix, occasional silt, possible gray brown clay, calcareous cement, friable to minor tight siliceous sections, occasional shale, 75% quartzite and siliceous clasts predominantly < 0.5 cm, increasing limestone clasts, 15% green clay / shale, assumed poor to fair intergranular porosity, possible fracture porosity, no shows.

765-775 CONGLOMERATE(100%): gray green to light red brown, lithic, 50% rounded to sub angular, predominantly silty to medium grained, occasional coarse grained sandstone matrix, common gray brown clay, calcareous cement, friable, occasional shale, 50% varicolored quartzite and siliceous clasts predominantly < 0.5 cm, occasional limestone clasts, 15% green claystone, assumed poor to fair intergranular porosity, possible fracture porosity, no shows.

775-780 CONGLOMERATE(100%): gray green to light red brown, lithic, 60% rounded to sub angular, predominantly silty to medium grained, occasional coarse grained sandstone matrix,

common gray brown clay, calcareous cement, friable, occasional shale, 40% varicolored quartzite and siliceous clasts predominantly < 0.5 cm, occasional limestone clasts, 15% green claystone, assumed poor to fair intergranular porosity, possible fracture porosity, no shows.

780-785 CONGLOMERATE(100%): gray green to light red brown, lithic, 70% loose rounded to sub angular, predominantly very fine to common medium and lesser coarse grained sandstone matrix, silty, common gray brown clay, calcareous cement, friable, occasional shale, 30% varicolored siliceous to shale clasts predominantly < 0.4 cm, minor limestone clasts, 15% green and red brown claystone, trace hemitite, assumed poor to fair intergranular porosity, possible fracture porosity, no shows.

785-790 SANDSTONE(100%): gray green to red brown, lithic, predominantly silty to medium grained, calcareous cement, rounded to occasional angular, friable to occasional tight firm calcareous sections, 15% red brown to lesser green shale fragments, common red brown and green shale grains?, micaceous in part, predominantly poor to possible fair intergranular porosity, no shows.

790-795 SANDSTONE(100%): light gray green, lithic, clear to white silty to fine quartz grains, common gray clay, calcareous cement, friable to occasional tight firm sections, rounded to occasional angular, 35% red brown and green silty shale, occasional micaceous, tight to possible fair intergranular porosity, no shows.

795-805 SANDSTONE(65%): light gray green, lithic, clear to white silty to fine quartz grains, common gray clay, calcareous cement, grading to siltstone in part, friable to occasional tight firm sections, rounded to occasional angular, occasional micaceous, tight to possible fair intergranular porosity, no shows.
SHALE(35%): red brown to green, blocky, silty in part, firm, micromicaceous to occasional micaceous, wkly calcareous, clayey.

805-810 SANDSTONE(40%): As above, light gray green, lithic, silty to fine quartz grains, common gray clay, increasing calcareous cement, grading to siltstone in part, rounded to occasional angular, occasional micaceous, tight to possible fair intergranular porosity, no shows.
SHALE(60%): red brown to green, blocky, silty in part, firm, micromicaceous to occasional micaceous, wkly calcareous, clayey.

810-815 SANDSTONE(100%): light gray green, lithic, clear to white silty to slightly increasing medium quartz grains, grading to siltstone in part, common gray clay matrix?, calcareous cement, friable to occasional tight firm sections, rounded to occasional angular, 30% red brown and green silty shale, occasional micaceous, tight to possible fair intergranular porosity, no shows.

820-830 SANDSTONE(100%): light gray, sub lithic to lithic, very fine to medium grained, common silt, common gray clay matrix, calcareous cement, rounded to occasional angular, occasional to common gray to gray green shale, minor micaceous material, minor feldspar, assumed poor to possible fair intergranular porosity, no shows.

825-830 SANDSTONE(100%): light gray, sub lithic to lithic, predominantly clear to white very fine to medium grained, occasional coarse quartz grains, silty, common gray clay matrix, calcareous, rounded to angular, common green to dark green clay / shale, occasional feldspar, minor carbonaceous shale, minor siliceous clasts, assumed poor to possible fair intergranular porosity, trace yellow fluorescence, no fluorescence cut.

830-835 SANDSTONE(100%): light gray green, lithic, predominantly clear to white very fine to fine grained, occasional medium quartz grains, silty, common gray clay matrix, calcareous, rounded to angular, common green to dark green clay / shale, occasional feldspar, minor carbonaceous shale, 10% siliceous to argillaceous clasts, trace jasper clasts, trace limestone clasts, assumed poor to possible fair intergranular porosity, trace yellow fluorescence, moderately streaming yellow fluorescence cut.

835-845 SANDSTONE(80%): light gray, sub lithic, predominantly silty to very fine grained, occasional fine grained, 35% grading to calcareous argillaceous siltstone, angular to sub rounded, occasional calcareous cement, friable to increasingly firm, common gray clay, micaceous, occasional to common shale grains, tight to poor intergranular porosity, no shows.
SHALE(20%): gray, massive, firm, calcareous to slightly dolomitic, possibly very argillaceous limestone, micaceous in part, blocky, silty in part.

845-855 SANDSTONE(75%): light gray, sub lithic, predominantly silty to fine grained, 40% grading to argillaceous calcareous siltstone, common light gray clay, angular to sub rounded, occasional calcareous cement, friable to occasional firm calcareous sections, micaceous, occasional to common shale grains, tight to poor intergranular porosity, no shows.
SHALE(25%): gray, massive, firm, calcareous to slightly dolomitic, possibly very argillaceous limestone, micaceous in part, blocky, silty in part.

855-860 SANDSTONE(60%): light gray to gray, sub lithic, predominantly silty to fine grained, grading to argillaceous calcareous siltstone, common light gray clay matrix?, angular to sub rounded, calcareous cement, friable to occasional firm calcareous sections, micaceous, occasional shale grains, tight to poor intergranular porosity, no shows.
SHALE / LIMESTONE(40%): gray, massive, microcrystalline, firm, calcareous to slightly dolomitic, possibly very argillaceous limestone, micaceous in part, blocky, silty in part.

860-865 SANDSTONE(85%): light gray, sub lithic, predominantly silty to very fine grained, minor fine grained, grading to argillaceous calcareous siltstone, common light gray clay, angular to sub rounded, occasional calcareous cement, friable to increasingly firm calcareous sections, micaceous, occasional to common shale grains, tight to possible fair intergranular porosity, no shows.
SHALE/ LIMESTONE(15%): gray, massive, firm, calcareous to slightly dolomitic, possibly a very argillaceous limestone, micaceous in part, blocky, microcrystalline, silty in part.

865-870 SANDSTONE(100%): light gray, sub lithic, predominantly silty to medium grained, occasional coarse grained, rare very coarse grained, common light gray clay matrix, rounded to sub angular, occasional angular, occasional limestone / shale as above, calcareous cement, friable, micaceous, occasional to common shale grains, tight to poor intergranular porosity, trace to spotty yellow fluorescence, trace slow streaming white yellow fluorescence cut.

870-875 SANDSTONE(80%): light gray, sub lithic, predominantly silty to occasional medium grained, grading to argillaceous calcareous siltstone in part, common light gray clay, angular to occasional rounded, calcareous cement, friable to occasional firm calcareous sections, minor micaceous grains, common shale grains, tight to possible fair intergranular porosity, trace to rare dull yellow fluorescence, slow streaming white yellow fluorescence cut.
SHALE(20%): gray, massive, firm, calcareous to slightly dolomitic, possible argillaceous limestone, micaceous in part, blocky.

875-880 SANDSTONE(90%): As above, 40% siltstone, common light gray clay, angular to occasional rounded, calcareous cement, firm calcareous sections, micaceous grains, common shale grains, tight to poor intergranular porosity, no shows.
SHALE(10%): gray, massive, firm, calcareous to slightly dolomitic, possible argillaceous limestone, micaceous in part, blocky.

880-890 SANDSTONE(90%): light gray, sub lithic to possible quartzose, predominantly clear to white silty to fine grained, occasional medium grained, trace coarse quartz grains, common light gray calcareous clay, angular to occasional rounded, calcareous cement, friable to occasional firm calcareous sections, very micaceous in part, minor shale grains, trace PYRITE, tight to possible fair intergranular porosity, spotty dull yellow fluorescence, no fluorescence cut.
SHALE(10%): gray, massive, firm, calcareous to slightly dolomitic, possible argillaceous limestone, micaceous in part, blocky.

890-895 SANDSTONE(100%): white to light gray, sub lithic to quartzose, very silty to common fine grained, occasional medium grained, possible light gray clay, increasing rounded to sub angular, clear to white clean quartz grains, very friable, minor shale, trace PYRITE, poor to increasing fair intergranular porosity, trace to trace spotty yellow fluorescence, moderately

streaming white yellow fluorescence cut.

895-900 SANDSTONE(70%): light gray, sub lithic, very fine to lower medium grained, decreasingly silty, possible common gray calcareous clay matrix, calcareous cement, friable with occasional tight firm sections, rounded to angular, micaceous in part, trace PYRITE, minor shale grains, assumed poor to fair intergranular porosity, trace spotty yellow fluorescence, no fluorescence cut.
SHALE(30%): gray, clayey, micromicaceous, microcrystalline in part, firm, blocky, wkly calcareous in part, massive.

900-905 SANDSTONE(80%): light white gray, sub lithic, predominantly white to clear loose quartz grains, possible common gray calcareous clay matrix, silty to medium grained, calcareous cement, friable, rounded to sub angular, occasional angular, trace PYRITE, minor shale grains, minor pink and orange translucent quartz grains, clean looking, assumed poor to fair intergranular porosity, trace spotty yellow fluorescence, no fluorescence cut.
SHALE(20%): gray, microcrystalline, firm, blocky, wkly calcareous in part, massive.

905-910 SANDSTONE(70%): As above, silty to occasional medium grained, calcareous cement, friable, rounded to sub angular, trace PYRITE, minor argillaceous grains, predominantly poor to possible fair intergranular porosity, trace yellow fluorescence, trace slow streaming white yellow fluorescence cut.
SHALE(30%): gray, microcrystalline, firm, blocky, wkly calcareous in part, massive, silty in part.

910-915 SANDSTONE(80%): light gray, sub lithic, predominantly abundant silty to fine grained, minor medium grained, common gray calcareous clay, calcareous cement, rounded to sub angular, friable, trace pyrite, occasional argillaceous grains, micaceous in part, grading to argillaceous siltstone in part, predominantly poor to possible fair intergranular porosity, trace dull yellow fluorescence, trace slow streaming white yellow fluorescence cut.
SHALE(20%): gray to dark gray, firm, blocky, silty in part, calcareous in part, massive, microcrystalline looking in part.

915-920 SANDSTONE(80%): light white gray, sub lithic, predominantly white to clear loose quartz grains, possible common gray calcareous clay matrix, silty to medium grained, calcareous cement, friable, rounded to sub angular, occasional angular, trace PYRITE, minor shale grains, minor pink and orange translucent quartz grains, clean looking, assumed poor to fair intergranular porosity, trace spotty yellow fluorescence, no fluorescence cut.
SHALE(20%): gray, microcrystalline, firm, blocky, wkly calcareous in part, massive.

920-925 SANDSTONE(100%): As above, increasing firm well indurated sandstone approx. 50% cemented, tight to poor intergranular porosity, occasional shale as above, trace fluorescence, trace

white yellow fluorescence cut.

925-930 SANDSTONE(100%): light white gray, sub lithic, very fine to fine grained, occasional lower medium grained, trace coarse grained, abundant silt, possible calcareous clay matrix, calcareous cement, friable, predominantly loose quartz grains, predominantly rounded to sub angular, occasional gray to dark gray shale, micaceous in part, trace PYRITE, assumed poor to possible fair intergranular porosity, trace to trace spotty yellow fluorescence, no fluorescence cut.

930-935.2 SANDSTONE / SILTSTONE(100%): light gray green, silty to occasional fine grained, commonly grading to siltstone, micaceous, common calcareous cement, rounded to angular, well indurated, firm, argillaceous, tight, no shows.

Total Depth 935.2 meters reached on December 11th, 2005 @ 1445 hrs.

APPENDIX G: STRATIGRAPHIC COLUMN

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name:	Vulcan Minerals Whip # 1		
Location:	St. Georges Bay, Western Newfoundland, Canada		
Licence Number:	2005-116-01-04	**Region:**	Western Newfoundland
Spud Date:	22/11/2005 @1100hrs	**Drilling Completed:**	11/12/2005 @1445hrs
Surface Coordinates:	Northing:		
	Easting:		
Bottom Hole Coordinates:	Northing:		
	Easting:		
Ground Elevation (m):		**K.B. Elevation (m):**	
Logged Interval (m):	4.0 To: 935.2	**Total Depth (m):**	935.2
Formation:	Undefined		
Type of Drilling Fluid:	Air-Gel / Water		

OPERATOR

Company: Vulcan Minerals Inc.
Address: 333 Duckworth Street
St. John's, N.L.
Canada, A1C 1G9

GEOLOGIST

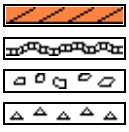
Name: Corey Fitzgerald
Company:
Address: P.O. Box 244
12 Guy Street, Jerseyside
Newfoundland.

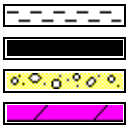
Cores

DSTs

Comments

ROCK TYPES


Anhy
Bent
Brec
Cht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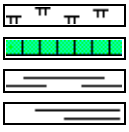
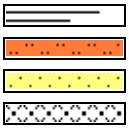
Coal
Congl
Dol


Gyp
Igne
Lmst
Meta


Mrlst
Salt
Shale
Shcol


Shgy
Sltst
Ss
Till

ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

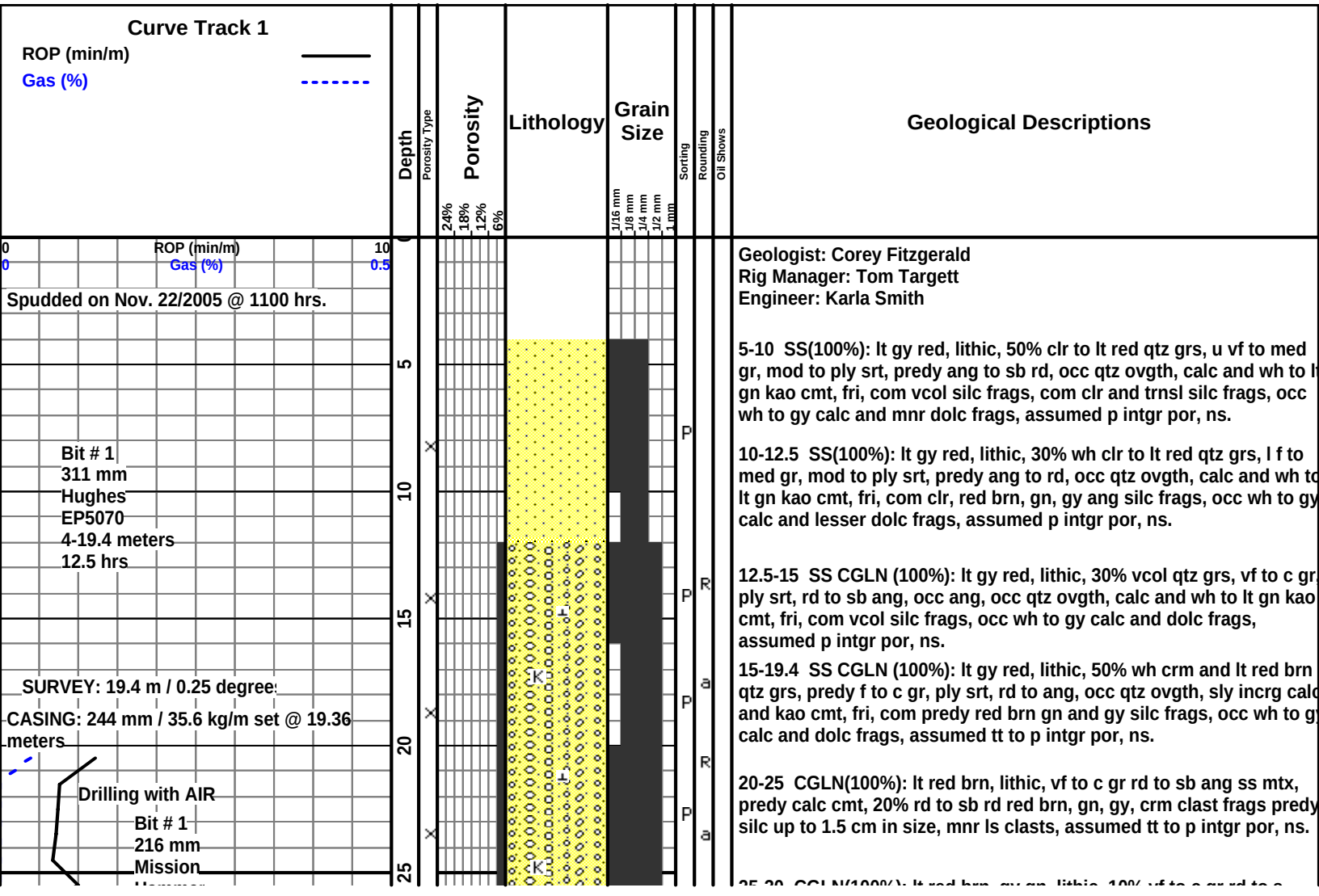
SORTING
- Well
- Moderate
- Poor

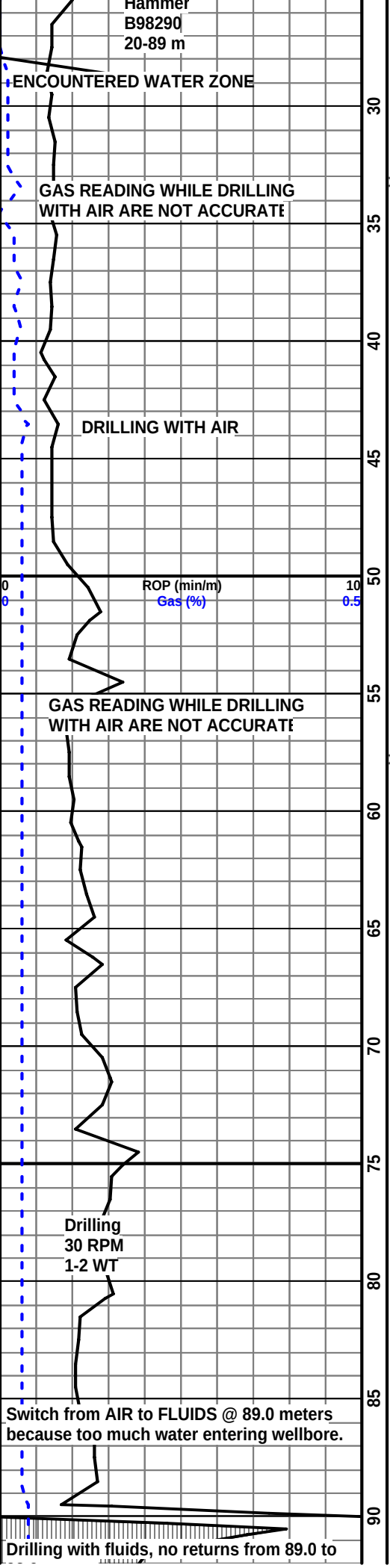
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

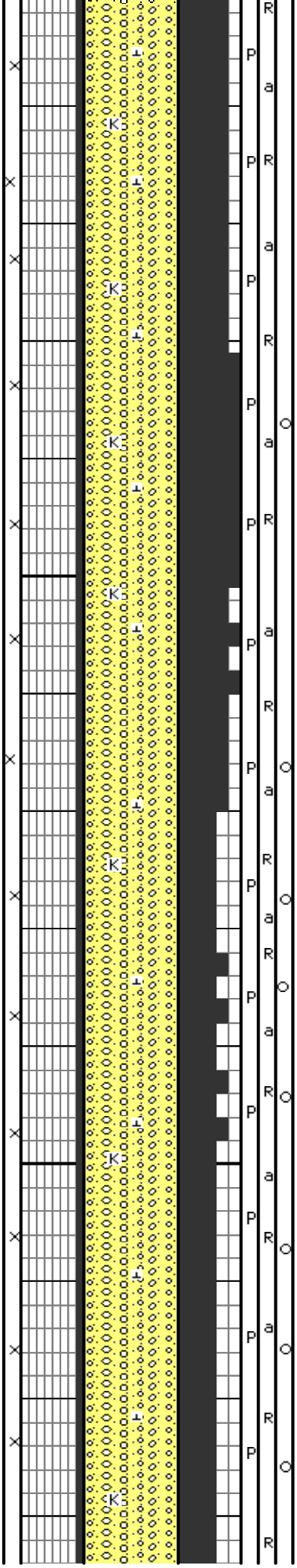
OIL SHOW
- Even
- Spotted
- Ques
- Dead

INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall







25-30 CGLN(100%): lt red brn, gy gn, lithic, 10% vf to c gr rd to s ang ss mtx, mnr calc cmt, pos silc sections, 90% rd to sb rd red brn, gn, gy, crm clast frags predy silc predy > 1.0 cm in size, mnr ls clasts assumed tt to pos fair intgr por, ns.

30-35 CGLN(100%): lt red brn, gy gn, lithic, 50% vf to c gr rd to sb ang ss mtx, mnr calc cmt, fri, pos clayey and silc sections, 50% rd to sb qtzt, cht and vcol silc frags, mnr yel gn clayey clasts?, mnr crm and gy ls clasts, pos ss clasts, clasts predy > 0.5 cm, assumed p intgr por, pos tr fracs, ns.

35-40 CGLN(100%): lt red brn, gy gn, lithic, 50% slty to c gr rd to sb ang qtzs ss mtx, mnr calc and red clay cmt, fri, pos silc sections, 50% rd to sb rd wh qtz, gy qtzt, cht and vcol silc frags, tr jasper, mnr yel gn clayey clasts?, mnr ls, occ cement from casing, clasts predy > 0.3 cm, assumed p intgr por, pos tr fracs, ns.

40-45 CGLN(100%): lt red brn, gy gn, lithic, 50% slty to occ v c gr rd to sb ang ss mtx, incrg calc and lesser red clay cmt, pos silc sections, 50% rd to sb rd wh qtz, gy qtzt, cht and vcol silc frags, mnr yel gn clayey frags, mnr ls, mnr wh to lt gy cement from casing, clasts predy > 0.3 cm, assumed p intgr por, tr fracs, rr dull yel flor, rr v slow stmg yel flor cut along frac

45-50 CGLN(100%): lt red brn, gy gn, lithic, 65% slty to occ v c gr rd to sb ang ss mtx, incrg calc and lesser clay cmt, sl firm, mics ip, pos silc sections, 35% rd to sb rd qtz, qtzt, cht and vcol silc frags, mnr ls, tr jasper, clasts predy > 0.3 - < 1.5 cm, assumed p intgr por, tr fracs, ns.

50-55 CGLN(100%): lt red brn, gy gn, lithic, 40% vf to occ v c gr rd to sb ang ss mtx, slty sections, occ calc and lesser wh gn clay cmt, sl firm, mics ip, 60% predy red brn and gy gn rd to sb rd qtz, qtzt, cht and vcol silc frags, mnr gy and crm ls clasts, tr jasper, clasts predy > 0.3 - < 1.5 cm, assumed p to fair intgr por, tr fracs, ns.

55-60 CGLN(100%): lt red brn, gy gn mnr yel, lithic, 70% vf to c gr rd to sb ang ss mtx, mnr yel stng on mtx seems to coincide with best por, slty sections, occ calc and lesser wh gn clay cmt, sl firm, mics i 30% predy red brn and gy gn rd to sb rd qtz, qtzt, cht and vcol silc frags, mnr ls clasts, tr jasper, clasts predy > 0.3 - < 1.5 cm, assumed to incrgly fair intgr por, tr fracs, no flor, pos tr v faint sl blmg dull yel flor cut.

60-65 SS CGLN(100%): lt red brn, lithic, predy vf to med gr, occ c ss gr, slty ip, incrg calc cmt, pos clay cmt, 15% silc clasts predy < 0.5 cm, mics, predy tt to occ sections with fair intgr por, no flor, tr slow to mod stmg yel flor cut.

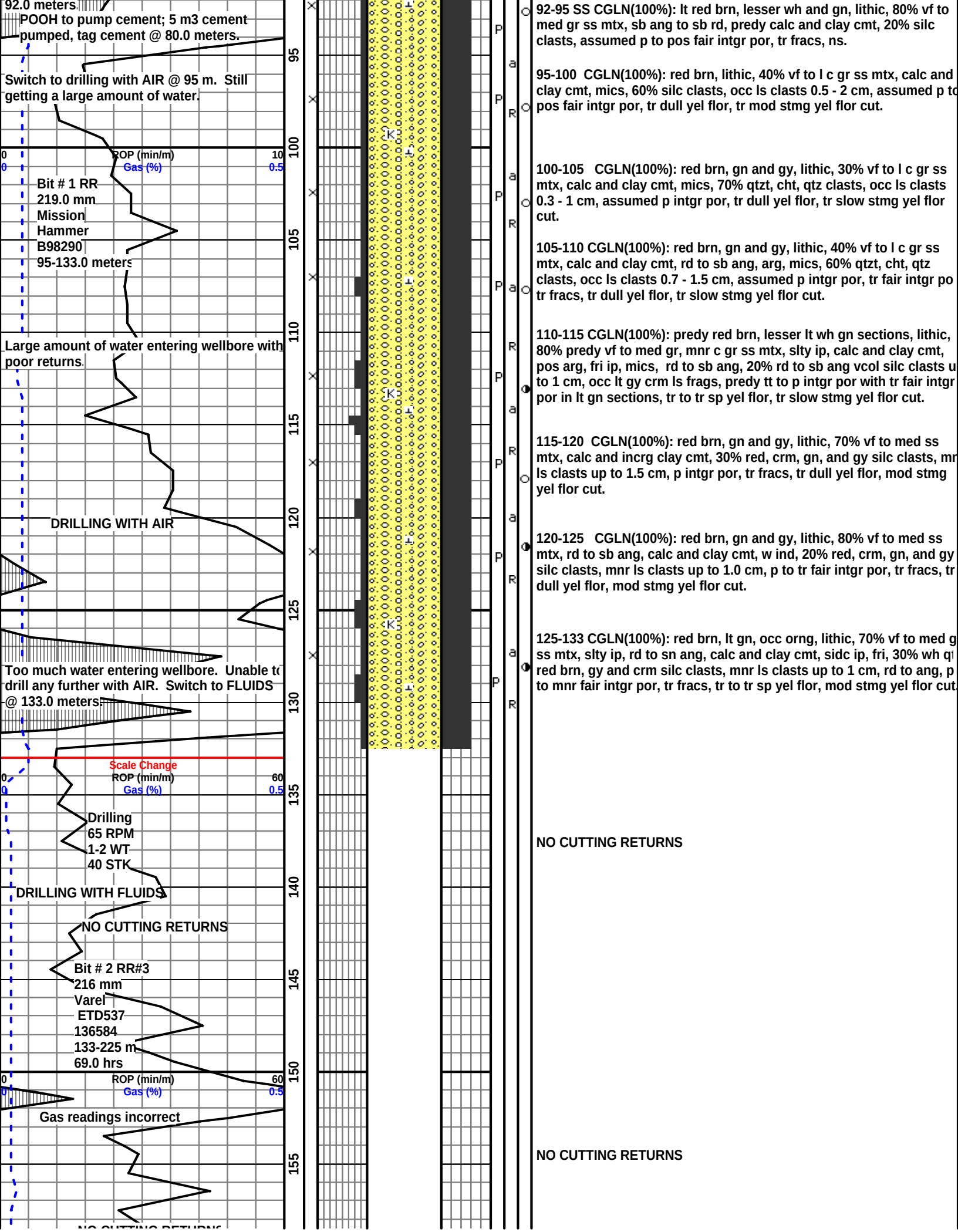
65-70 SS CGLN(100%): lt red brn, lithic, predy rd to sb ang vf to occ ss gr, predy calc cmt, 30% rd to ang vcol silc clasts, mnr ls clasts, mics ip, tt to tr fair intgr por, tr dull yel flor, tr slow stmg yel flor cut.

70-75 SS CGLN(100%): As above, lt red brn, gn, 60% predy vf to occ c ss mtx, 40% red brn and gn silc frags, mnr ls frags, calc and incrg clay cmt, rr dul yel flor, rr slow stmg yel flor cut.

75-80 CGLN(100%): lt red brn, lithic, 15% rd to sb ang predy vf to med gr ss mtx, mnr calc and pos clay cmt, w ind, 85% rd to ang red brn, gy gn, and crm silc clast frags, incrg ls and dolc clasts, clasts up to 1 cm, mics in mtx, assumed tt to p intgr por, tr fracs, rr yel flor, no flor cut.

80-85 CGLN(100%): lt red brn, gn, lithic, 25% rd to sb ang vf to med gr ss mtx, calc and clay cmt, w ind, 75% clasts and clast frags as above, assumed p to tr fair intgr por, tr fracs, tr dull yel flor, slow stmg yel flor cut pos along frac.

85-88 CGLN(100%): lt red brn, gn, lithic, 30% rd to sb ang vf to med g ss mtx, calc and clay cmt, w ind, 70% clasts and clast frags of predy red and gn qtzt, cht, occ ls frags, assumed p to tr fair intgr por, tr fracs, tr dull yel flor, slow stmg yel flor cut pos along frac.



92-95 SS CGLN(100%): lt red brn, lesser wh and gn, lithic, 80% vf to med gr ss mtx, sb ang to sb rd, predy calc and clay cmt, 20% silc clasts, assumed p to pos fair intgr por, tr fracs, ns.

95-100 CGLN(100%): red brn, lithic, 40% vf to l c gr ss mtx, calc and clay cmt, mics, 60% silc clasts, occ ls clasts 0.5 - 2 cm, assumed p to pos fair intgr por, tr dull yel flor, tr mod stmg yel flor cut.

100-105 CGLN(100%): red brn, gn and gy, lithic, 30% vf to l c gr ss mtx, calc and clay cmt, mics, 70% qtzt, cht, qtz clasts, occ ls clasts 0.3 - 1 cm, assumed p intgr por, tr dull yel flor, tr slow stmg yel flor cut.

105-110 CGLN(100%): red brn, gn and gy, lithic, 40% vf to l c gr ss mtx, calc and clay cmt, rd to sb ang, arg, mics, 60% qtzt, cht, qtz clasts, occ ls clasts 0.7 - 1.5 cm, assumed p intgr por, tr fair intgr po tr fracs, tr dull yel flor, tr slow stmg yel flor cut.

110-115 CGLN(100%): predy red brn, lesser lt wh gn sections, lithic, 80% predy vf to med gr, mnr c gr ss mtx, slty ip, calc and clay cmt, pos arg, fri ip, mics, rd to sb ang, 20% rd to sb ang vcol silc clasts u to 1 cm, occ lt gy crm ls frags, predy tt to p intgr por with tr fair intgr por in lt gn sections, tr to tr sp yel flor, tr slow stmg yel flor cut.

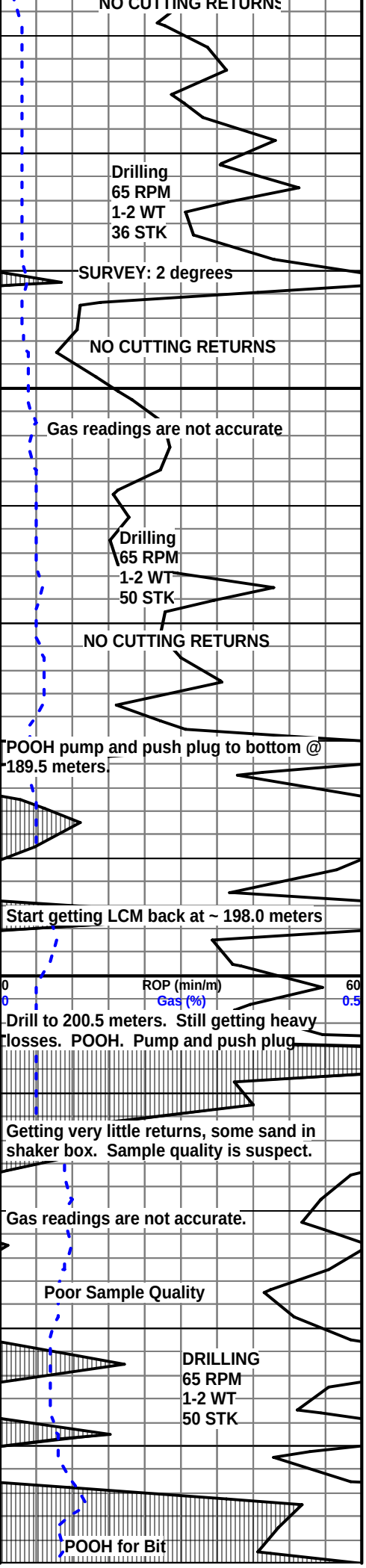
115-120 CGLN(100%): red brn, gn and gy, lithic, 70% vf to med ss mtx, calc and incrg clay cmt, 30% red, crm, gn, and gy silc clasts, mr ls clasts up to 1.5 cm, p intgr por, tr fracs, tr dull yel flor, mod stmg yel flor cut.

120-125 CGLN(100%): red brn, gn and gy, lithic, 80% vf to med ss mtx, rd to sb ang, calc and clay cmt, w ind, 20% red, crm, gn, and gy silc clasts, mnr ls clasts up to 1.0 cm, p to tr fair intgr por, tr fracs, tr dull yel flor, mod stmg yel flor cut.

125-133 CGLN(100%): red brn, lt gn, occ orng, lithic, 70% vf to med g ss mtx, slty ip, rd to sn ang, calc and clay cmt, sidc ip, fri, 30% wh qt red brn, gy and crm silc clasts, mnr ls clasts up to 1 cm, rd to ang, p to mnr fair intgr por, tr fracs, tr to tr sp yel flor, mod stmg yel flor cut.

NO CUTTING RETURNS

NO CUTTING RETURNS



NO CUTTING RETURNS

NO CUTTING RETURNS

Start getting LCM back at ~ 198.0 meter

199.0 SS(100%): lt red brn, lt gy, sb lithic, predy slty to vf gr, mnr l f gr, calc, fri, predy lse qtz grs, ang to lesser sb rd, mics, occ gn arg mat, pos qtz ovgths, assumed p intgr por, tr yel flor, slow stmg yel flor cut.

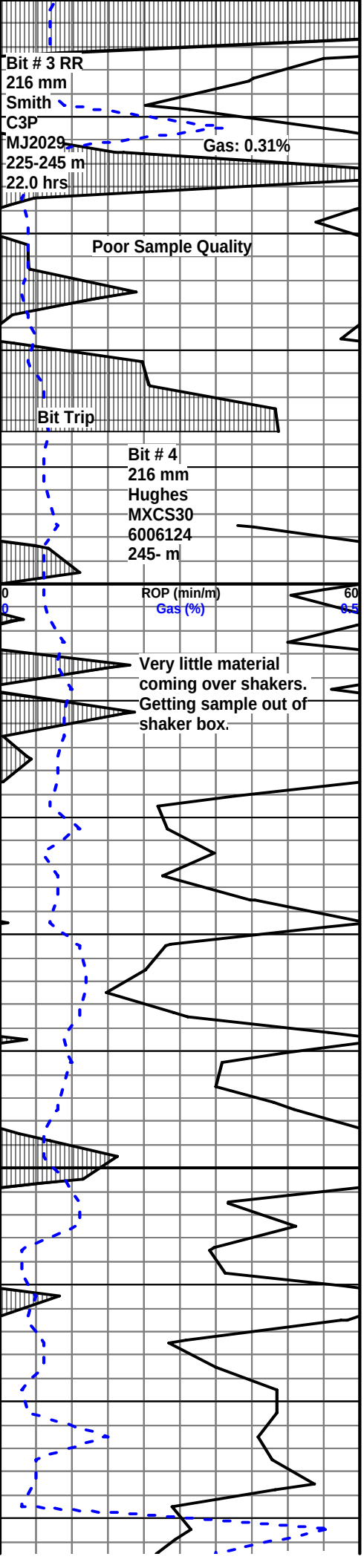
205 SS CGLN(100%): lt red brn, sb lithic, 80% lse qtz grs, ang to sb rd, slty to med gr, mnr c gr, calc and clay cmt, mnr mica, com silc frags, mnr sh grs, assumed p to fair intgr por, ns.

210 SS(100%): lt red brn, sb lithic, 85-90% lse qtz grs, slty to l med g calc cmt, fri, ang to sb rd, kao, com red brn and gy gn silc frags, mnr mica, rr ls frags, assumed p to pos fair intgr por, ns.

215 SS(100%): lt red brn, sb lithic, 85% lse qtz grs, slty to l med gr, calc cmt, fri, ang to sb rd, kao, red brn and gn silc frags, assumed p to pos fair intgr por, ns.

220 SS(100%): lt red brn, sb lithic, 80% lse qtz grs, slty to l med gr, calc and pos clay cmt, kao, fri, ang to com sb rd, red brn and gn silc frags, occ sh frags, assumed p to pos fair intgr por, ns.

225 SS(100%): lt red brn, sb lithic, 75-80% lse qtz grs, slty to f gr, o l med gr, calc and pos clay cmt, kao, fri, predy ang to lesser sb rd,



com med to c red brn and gn silc frags, occ sh frags, hem grs, assumed p to pos fair intgr por, ns.

230 SS(100%): lt red brn, lithic, 70-75% lse qtz grs, slty to l med gr, calc and pos clay cmt, kao, fri, ang to sb rd, red brn and gn silc frags com wh gy mcxln thin ls frags, com clr and trnsl qtz frags, occ sh frags, assumed p to pos fair intgr por, ns.

235 SS(100%): lt red brn, lithic, 70% lse qtz grs, slty to f gr, occ l mc gr, calc and pos clay cmt, kao, fri, ang to occ sb rd, f to c red brn and gn silc frags, occ wh gy mcxln thin ls mat, com clr and trnsl qtz frags occ sh frags, assumed p to pos fair intgr por, ns.

240 SS(100%): lt red brn, lithic, 70% lse qtz grs, incrgly slty to lesse gr, mnr med gr, calc and clay cmt, predy ang to mnr rd, com silc frags, occ sh, occ ls frags, mnr mica, assumed p intgr por, ns.

245 SS(100%): lt red brn, lithic, 70% lse qtz grs, incrgly slty to lesse gr, mnr med gr, calc and clay cmt, predy ang to mnr rd, com silc frags, occ sh, occ ls frags, mnr mica, assumed p intgr por, ns.

250 SS(100%): lt red brn, lithic, 70% lse qtz grs, v slty to lesser f gr, mnr med gr, calc and clay cmt, fri, predy ang to sb ang, 20% vf to mc silc grs and frags, occ sh, occ ls frags, tr mica, assumed p intgr por, ns.

255 SS(100%): lt red brn, lithic, 50-60% lse qtz grs, slty to f gr, mnr med gr, calc and clay cmt, fri, predy ang to mnr sb rd, 30% red brn, g and gy silc grs and frags, occ gy and gn sh, occ wh ls, mnr mica, assumed p intgr por, ns.

260 SS(100%): lt red brn, lithic, 60% lse qtz grs, slty to f gr, mnr calc and clay cmt, fri, predy ang to mnr sb rd, 25% red brn and gn silc grs and frags, occ sh, occ to com thin wh chky ls, mnr mica, mnr hem, assumed p intgr por, ns.

265 SS(100%): lt red brn, lithic, 70% lse qtz grs, slty to mnr med gr, mnr calc and clay cmt, fri, predy ang to sb ang, 20% red brn and gn v to mnr c silc grs and frags, occ sh, occ thin wh chky ls, occ hem, mn mica, assumed p intgr por, ns.

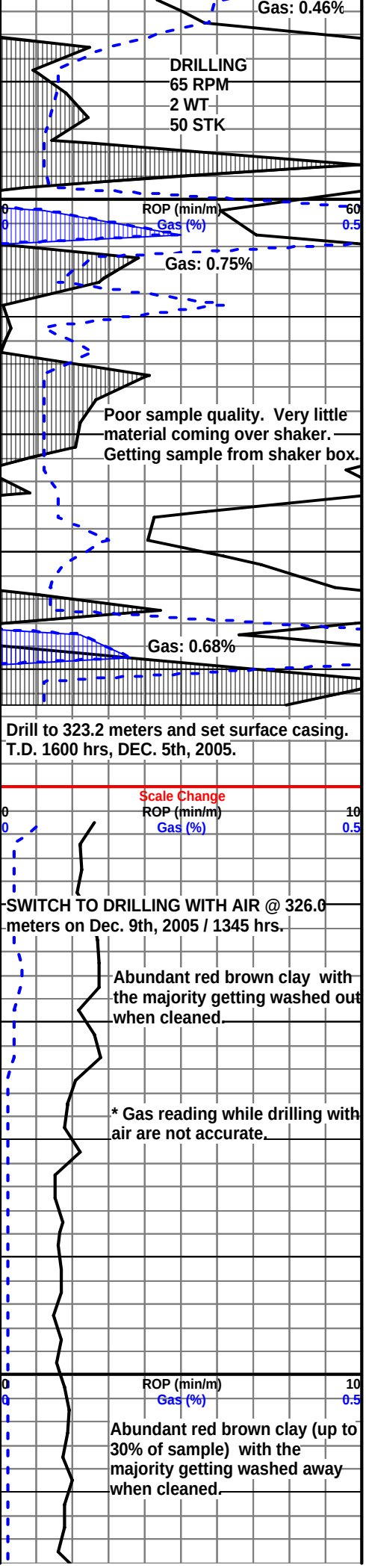
270 SS(100%): lt red brn, lithic, 70% lse qtz grs, slty to occ med gr, mnr calc and clay cmt, fri, predy ang to sb ang, 25% red brn and gn silc grs and frags, occ sh, occ to com thin wh chky ls, mnr mica, mn hem, assumed p intgr por, ns.

275 SS(100%): lt red brn, lithic, 60% lse qtz grs, slty to f gr, mnr calc and clay cmt, fri, predy ang to mnr sb rd, 25% red brn and gn silc grs and frags, occ sh, occ to com thin wh chky ls, mnr mica, assumed p intgr por, ns.

280 SS(100%): lt red brn, lithic, 60% lse qtz grs, vf to mnr med gr, slty, calc and clay cmt, fri, predy ang to mnr sb rd, 30% f to c ang red brn and gn silc and incrg sh grs and frags, incrg thin wh chky ls, mn mica, mnr f hem, assumed p intgr por, ns.

285 SS(100%): lt red brn, lithic, 75% lse qtz grs, vf to c gr, sl slty, cal and clay cmt, fri, predy ang to rd, 20% red brn and gn sh and lesser silc grs and frags, occ to com thin wh chky ls, mnr hem, assumed p to pos fair intgr por, tr wh yel flor, tr slow stmg wh yel flor cut.

290 SS(100%): lt red brn, lithic, 75% lse qtz grs, u vf to l c gr, calc an clay cmt, fri, rd to sb ang, 20% red brn, gn and gy silc and sh grs and frags, occ thin wh chky ls, tr coal grs, assumed p to pos fair intgr po tr to tr sp dull yel flor, mod stmg yel flor cut.



295 SS(100%): lt red brn, lithic, 75% lse qtz grs, vf to med gr, incrg wh and lt gy calc and clay cmt, fri, predy sb rd to sb ang, 25% red brn gn and gy silc and incrg sh grs and frags, occ thin wh chky ls, tr hem assumed p to pos fair intgr por, tr dull yel flor, mod to fast stmg wh yel flor cut.

300 SS(100%): lt red brn, lithic, 60% lse qtz grs, vf to med gr, occ to com wh and lt gy calc and clay cmt, fri, predy sb rd to sb ang, 35% red brn, gn and gy silc and incrg sh grs and frags, occ ls frags, tr hem, assumed p to pos fair intgr por, tr dull yel flor, mod to fast stmg wh yel flor cut.

305 SS(100%): lt red brn, lithic, 75% lse qtz grs, slty to med gr, ang t sb rd, wh calc to wh, gy and lt red brn clay cmt, fri, 25% red brn, gn, gy to dk gy lithic grs, occ clr and trnsl qtz, tr hem, assumed p intgr por, ns.

310 SS(100%): lt red brn, lithic, 60% qtz grs, vf to med gr, slty, ang t lesser rd, com wh to lt gy calc and clay cmt, fri, 25% f to v c red brn, gy to dk gy, and gn silc and sh / lithic grs and frags, occ clr and trnsl qtz, mnr lt gy and crm ls, assumed p intgr por, tr to rr dull yel flor, slow stmg wh yel flor cut.

315 SS(100%): lt red brn, lithic, 60% qtz grs, slty to med gr, ang to sb rd, com wh to lt gy calc and clay cmt, fri, 30% f to v c lithic grs an frags as above, occ clr and trnsl qtz, mnr lt gy and crm ls, assumed p intgr por, ns.

320 SS(100%): lt red brn, lithic, 55-60% qtz grs, slty to med gr, pred ang to sb rd, com wh to lt gy calc and clay cmt, fri, 30-35% f to v c re brn, gn, and dk gy lithic grs and frags, occ clr and trnsl qtz, mnr lt gy and crm ls, assumed p intgr por, ns.

326-330 CGLN(100%): red brn, lithic, 10-15% vf to med gr ss mtx, cal and clay cmt, rd to sb ang, fri, 85-90% red brn, gy to dk gy, gn, crm, qtz, qtzt, cht / silc clast frags predy > 3 mm to < 1 cm, occ ls frags, assumed p to pos fair intgr por, pos mnr frac por, ns.

330-335 SS / CGLN(100%): red brn, lithic, 50% vf to c ss mtx, abnt red brn clay and lesser calc cmt, predy rd to sb ang, fri, 50% red brn, gy to dk gy, incrg gn, crm, qtz, qtzt, cht / silc clast frags predy > 3 mm to < 1 cm, occ ls frags, assumed p intgr por, pos mnr frac por, ns.

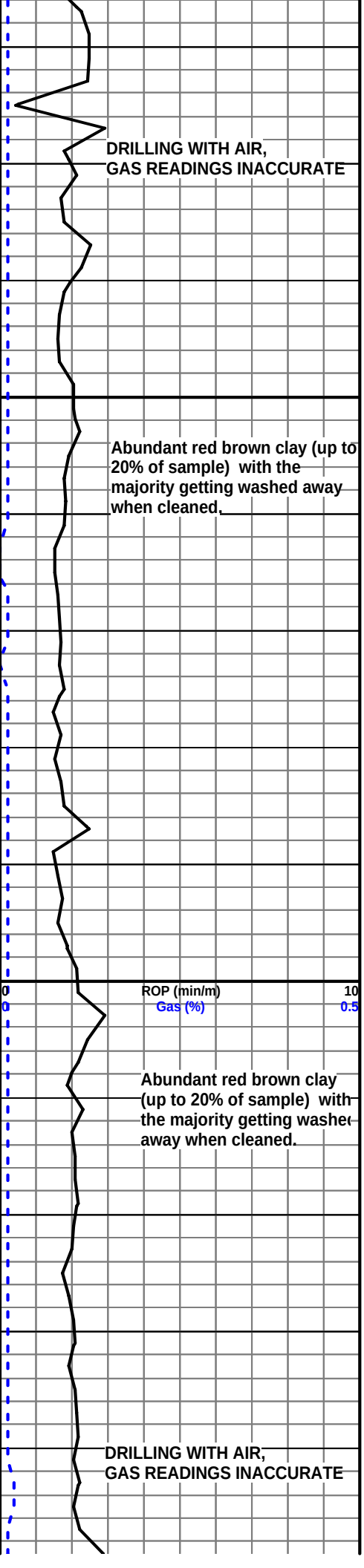
335-340 CLYST CGLN(100%): red brn, lithic, 50% red brn clay getting washed away when cleaned, 10-15% vf to med rd to sb ang ss mtx, 50% predy red brn, gn, and dk gy silc sb rd to sb ang clasts > 0.3 - < 1.0 cm , mnr calc cmt, mnr ls clasts, assumed p intgr por, ns.

340-345 SS CGLN (100%): red brn, lithic, 80% lt red brn to clr rd to sb ang vf to l c ss mtx, abnt red brn clay and mnr calc cmt / mtx, 20% > 0.2 cm red brn, brn, gy and lesser gn silc clasts, tr ls clasts, assumed p intgr por, ns.

345-350 SS(80%): red brn, sb lithic, 85-90% lse qtz grs, abnt red brn clay mtx / cmt, calc, vf to l c gr, slty, pred rd to sb ang, mnr ang, 5-10% < 0.3 cm silc clasts as above, assumed p to pos fair intgr por, ns. SS(20%): gy gn, lithic, slty to f gr, calc and gy gn clay cmt, rd to sb ang, v mics, tt, ns.

350-355 SS CGLN (100%): red brn, lithic, 80% lt red brn to clr rd to sb ang vf to l c ss mtx, v slty, abnt red brn clay and mnr calc cmt / mtx, 20% > 1.0 cm red brn, gy and mnr gn silc clasts, assumed p intg por, ns.

355-360 CLY SS (100%): red brn, sb lithic, 85% lse qtz grs, abnt red brn clay mtx / cmt, calc, vf to l c gr, slty, pred rd to sb ang, 5-10% < 0.5 cm red brn, brn, gy and gn silc clasts, tr ls clasts, assumed p to pos fair intgr por, tr yel flor, mod stmg yel flor cut.



pos fair intgr por, tr yel flor, mod stmg yel flor cut

360-365 CLY SS (100%): red brn, sb lithic, 80% lse qtz grs, v abnt red brn clay mtx / cmt, calc, predy vf to med gr, tr c gr, slty, pred rd to sb ang, 10-15% < 0.5 cm red brn, brn, gy and gn silc clasts, tr ls clasts, assumed tt to p intgr por, tr to rr yel flor, mod stmg yel flor cut.

365-370 CGLN (100%): red brn to gy gn, lithic, 15-20% vf to v c rd to sb ang qtz ss mtx, abnt red brn clay cmt / mtx, mnr calc cmt, 80% red brn, brn to gy gn, lesser tan silc clasts < 1.0 cm, occ LS clasts, assumed p intgr por, pos frac por, tr to rr dull yel flor, slow stmg wh yel flor cut.

370-375 CLY SS (100%): red brn, sb lithic, 80% lse qtz grs, v abnt red brn clay mtx / cmt, calc, predy vf to med gr, com slty, predy rd to sb ang, occ < 0.5 cm silc clasts as above, tr hem, tr mica, assumed tt to p intgr por, ns.

375-380 SS CGLN (100%): red brn, lithic, 60% lse rd to sb ang qtz ss mtx, vf to med gr, tr l c gr, slty, abnt red brn cly mtx / cmt, mnr calc cmt, 40% red brn, gy, gy gn and peach silc clasts 0.2-1.0 cm, tr mica, mnr LS clasts, assumed p to pos fair intgr por, pos frac por, tr to tr s yel flor, mod stmg wh yel flor cut.

380-385 CLY SS (100%): red brn, sb lithic, 80% lse qtz grs, v abnt re brn clay mtx / cmt, calc, fri, predy vf to med gr, slty, predy rd to sb ang, 5-10% < 1.0 cm silc clasts as above, tr hem, tr mica, assumed tt to p intgr por, tr yel flor, mod stmg wh yel flor cut.

385-390 SS CGLN (100%): red brn, lithic, 70% lse rd to sb ang qtz ss mtx, slty to med gr, tr c gr, abnt red brn cly mtx / cmt, mnr calc cmt, 25% silc clasts 0.2-1.0 cm, tr mica, mnr LS clasts, assumed p to pos fair intgr por, pos frac por, tr yel flor, mod stmg wh yel flor cut.

390-395 SS CGLN (100%): red brn, lithic, 65% lse rd to sb ang qtz ss mtx, incrgly slty to med gr, abnt red brn cly mtx / cmt, mnr calc cmt, 35% silc clasts 0.3-1.0 cm, incrg wh chky to gy LS clasts, assumed p to pos fair intgr por, pos frac por, ns.

395-400 SS CGLN (100%): red brn, lithic, 30% lse rd to sb ang qtz ss mtx, v slty to f gr, lesser med gr, abnt red brn cly mtx / cmt, mnr calc cmt, predy fri with tt firm sections, 65% predy red brn and gy gn silc clasts 0.2-0.6 cm, occ wh chky to gy LS clasts, assumed p to pos fair intgr por, pos frac por, ns.

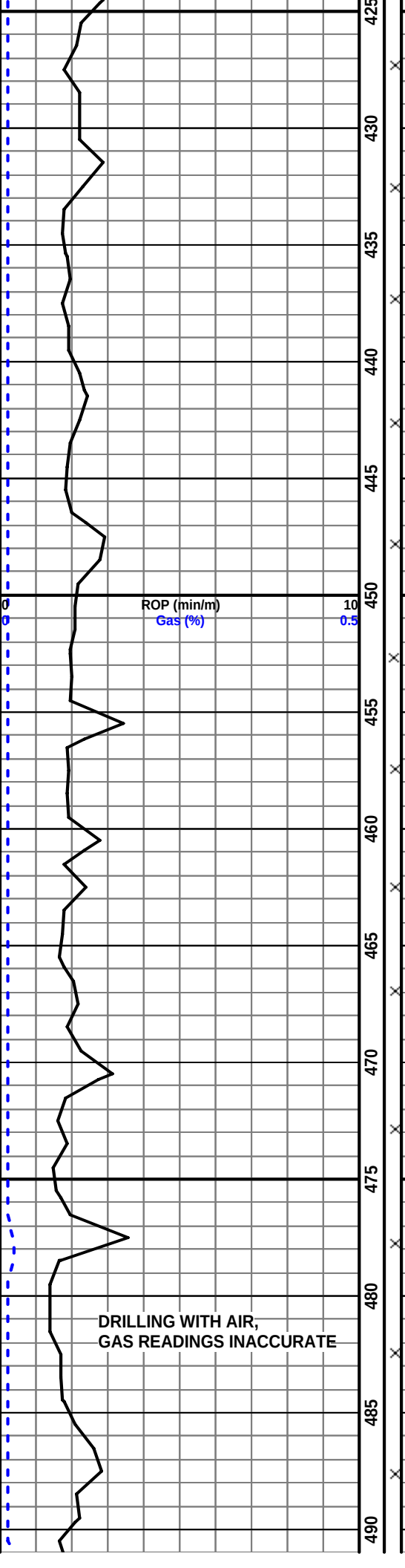
400-405 CGLN(100%): red brn to gy gn, lithic, 10% ss mtx as above, com red brn cly mtx, mnr calc cmt, 80% red brn, gy, gy gn silc clasts and clast frags, 5% crm ls clasts, p to pos fair intgr por, ns.

405-410 SS CGLN(100%): red brn, lithic, 75% lse rd to lesser sb ang slty to med gr ss mtx, mnr c gr, fri to mnr tt firm sections, abnt red brn cly cmt / mtx, mnr calc cmt, 25% silc and lesser ls clast frags < 1 cm, tr hem, p intgr por, tr dull yel flor, rr yel flor cut.

410-415 SS CGLN (100%): red brn, lithic, 80% lse rd to sb ang qtz ss mtx, predy slty to f gr, occ med gr, abnt red brn cly mtx / cmt, mnr calc cmt, 20% silc clasts, occ LS clasts, assumed p to pos fair intgr por, pos frac por, tr to sp yel flor, tr slow yel flor cut.

415-420 SS(100%): red brn, lithic, predy slty to f gr, lesser med to tr gr, abnt red brn clay mtx / cmt, mnr calc cmt, rd to lesser sb ang, 5-10% silc clasts as above, 80-85% qtz, 15% cht grs, mnr arg grs, tr hem, mnr ls clasts, assumed p to pos fair intgr por, tr to sp dull yel flor, slow stmg wh yel flor cut.

420-425 SS CGLN(100%): red brn, sb lithic, 75% lse qtz grs, predy slty to occ med gr, lesser c gr, abnt red brn clay mtx / cmt, mnr calc cmt, rd to lesser sb ang, 15-20% silc clasts, mnr arg grs, tr hem, mnr ls clasts, assumed p to pos fair intgr por, sp dull yel flor, slow stmg wh yel flor cut.



425-430 SS(100%): red brn, sb lithic, predy slty to med gr, occ c gr, abnt red brn cly, mnr calc cmt, rd to sb ang, mnr qtz ovgth, 5-10% lithic clasts, mnr sh, mnr cht grs, assumed p to fair intgr por, tr yel flor, slow stmg wh yel flor cut.

430-435 SS CGLN(100%): red brn, lithic, 70% lse qtz grs, com vf to f gr, incrg med to c gr ss mtx, abnt red brn clay mtx / cmt, mnr calc cmt, rd to sb ang, 30% silc and lesser arg clasts, tr hem, mnr ls clasts, assumed p to pos fair intgr por, ns.

435-440 SS CGLN(100%): As above, red brn, v slty to f gr, occ med gr, abnt red brn cly mtx, calc cmt, 20% silc, ls and arg clasts, p intgr por, ns.

440-445 SS CGLN(100%): red brn, slty to incrg f gr, occ med gr, abnt red brn cly, mnr calc cmt, rd to sb ang, mnr qtz ovgth, predy fri with t firm sections, 65% ss, 35% red brn, brn, gy, gy gn silc clasts < 0.5 cm mnr ls clasts, mnr sh grs, tr hem, assumed p intgr por, ns.

445-455 SS CGLN(100%): red brn, lithic, 75% lse qtz grs, v slty to f g occ med gr, abnt red brn cly, mnr calc cmt, rd to sb ang, mnr qtz ovgth, predy fri with tt firm sections, 25% red brn, brn, gy, gy gn silc clasts < 0.5 cm, mnr ls clasts, mnr sh grs, tr hem, assumed p to pos fair intgr por, ns.

455-465 SS CGLN(100%): red brn, 85% lse qtz grs, slty to med gr, mnr c gr, abnt red brn clay, mnr calc cmt, com rd to occ sb ang, mnr sh, mnr fld, 10-15% lithic clasts, tr ls clasts, mics ip, assumed p to pos fair intgr por, ns

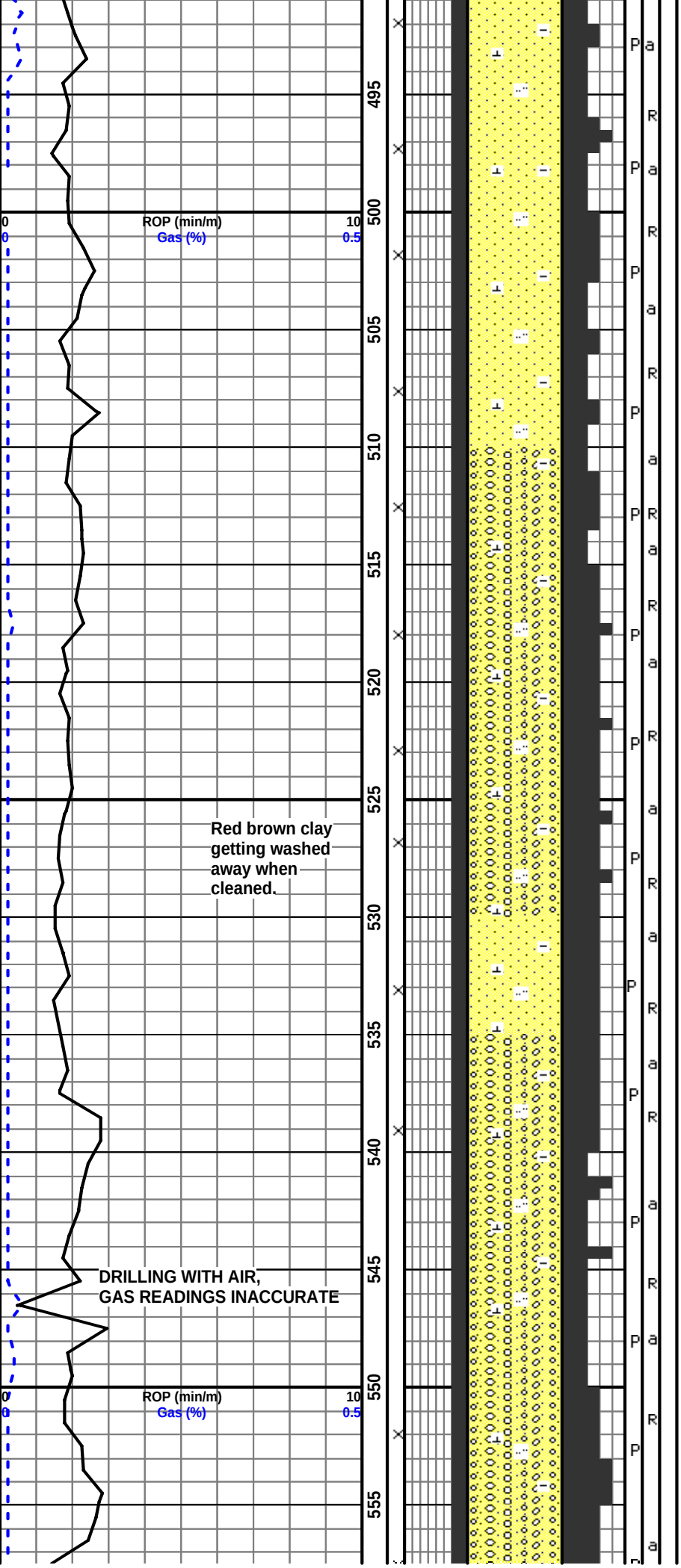
465-470 SS CGLN(100%): red brn, 80% lse qtz grs, slty to f gr, occ med gr, abnt red brn clay, mnr calc cmt, fri to tt calc and mics sections, rd to occ sb ang, mnr sh, mnr fld, 10-15% red brn, gy gn an gy silc and lesser arg clasts, tr ls clasts, assumed p intgr por, ns.

470-475 SS CGLN(100%): red brn, 80% lse qtz grs, slty to f gr, occ med gr, tr c gr, abnt red brn clay, mnr calc cmt, fri to firm sections, rd to occ sb ang, mnr sh, mnr fld, 10-15% red brn, gy gn and gy silc and lesser arg clasts, tr ls clasts, mics ip, assumed p intgr por, tr dull yel flor, rr slow stmg yel flor cut.

475-480 SS CGLN(100%): red brn, 85% lse qtz grs, slty to incrg med gr, occ c gr, com red brn cly, mnr calc cmt, fri, rd to lesser sb ang, mnr gn sh, 5-10% silc clasts < 0.5 cm, mics ip, assumed p intgr por, ns.

480-485 SS CGLN(100%): red brn, gy gn, 50% lse vf to med gr, occ c gr qtz ss mtx, slty, com red brn clay mtx, mnr calc cmt, fri, rd to sb ang, 50% qtzt, qtz, dk cht, ls, and arg clasts 0.2-0.8 cm, assumed p intgr por, ns.

485-490 SS CGLN(100%): red brn, gy gn, 70% lse vf to med gr qtz ss mtx, slty, com red brn clay mtx, mnr calc cmt, fri, rd to sb ang, 25% qtzt, qtz, dk cht, ls, and arg clasts < 0.75 cm, assumed p intgr por, n



490-500 SS(100%): red brn, 85-90% lse qtz grs, predy slty to f gr, occ med to mnr c gr, com red brn cly mtx, mnr calc cmt, fri, 5% gy gn and red brn silc and arg frags, predy sb rd to sb ang, mnr hem, assumed p to pos fair intgr por, ns.

500-505 SS(100%): red brn, 85-90% lse qtz grs, predy slty to med, mnr c to tr v c gr, com red brn cly mtx, mnr calc cmt, predy sb rd to sb ang, predy fri, mnr firm sections, 10% gy gn and red brn silc and arg frags, mnr hem, assumed p to pos fair intgr por, ns.

505-510 SS(100%): red brn, 80-85% lse qtz grs, predy slty to med, mnr c gr, com red brn cly mtx, mnr calc cmt, predy rd to sb ang, predy fri, 15% gy gn and red brn silc and arg frags, mnr hem, assumed p to pos fair intgr por, ns.

510-515 SS CGLN(100%): red brn, lithic, vf to incrgly med gr, occ c gr, slty, com red brn cly, mnr calc cmt, rd to sb ang, mnr qtz ovgth, 20% clasts as above, mnr hem, p to pos fair intgr por, ns.

515-525 SS CGLN(100%): red brn, lithic, 70% lse qtz grs, vf to med g occ c gr, slty, com red brn cly, mnr calc cmt, fri to occ tt firm calc sections, rd to sb ang, mnr qtz ovgth, 20% silc and arg clasts, mnr hem, p to pos fair intgr por, ns.

520-530 SS CGLN(100%): red brn, lithic, 80% lse qtz grs, vf to med g occ c gr, slty, com red brn cly, mnr calc cmt, fri to occ tt and firm cal sections, rd to sb ang, mnr qtz ovgth, 15% silc and arg clasts, mnr hem, p to pos fair intgr por, ns.

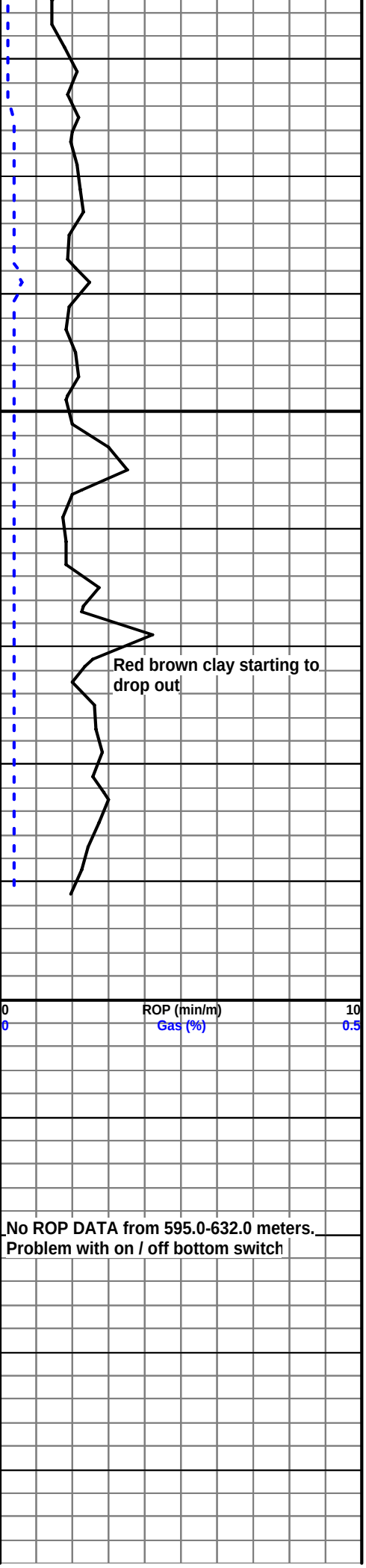
530-535 SS(100%): red brn, sb lithic, vf to med gr, slty, predy rd to s ang, occ ang, com red brn clay, calc cmt, fri, 80-85% lse qtz grs, 5-10% red brn, gy and crm silc to ls clasts, occ sh grs, assumed p to pos fair intgr por, ns.

535-540 SS CGLN(100%): red brn, sb lithic, vf to med gr, mnr c gr, rd to occ ang, com red brn clay, calc cmt, fri, occ slty calc firm clay sections, occ red brn and gn sh, 15% clasts as above, assumed p intgr por, ns.

540-545 SS CGLN(100%): red brn, slty to f gr, occ med to tr c gr sb lithic ss mtx, com red brn clay, calc cmt, fri to mnr firm, rd to sb ang, mnr mics grs, occ sh, 10-15% red br, gy gn silc clasts, occ sh clasts 0.4 cm, assumed p intgr por, ns.

545-550 SS CGLN(100%): red brn, slty to f gr, occ med to tr c gr sb lithic ss mtx, com red brn clay, calc cmt, fri to mnr firm, rd to sb ang, mnr mics grs, occ sh, 10-15% red br, gy gn silc clasts, occ sh clasts 0.4 cm, assumed p intgr por, ns.

550-560 SS CGLN(100%): red brn, slty to occ med gr, tr c gr sb lithic ss mtx, com red brn clay, calc cmt, fri to mnr firm, rd to sb ang, mnr mics grs, occ sh, 15-20% red br, gy gn silc clasts, occ sh clasts < 0.4 cm, assumed p intgr por, ns.



560-565 SS CGLN(100%): red brn, lithic, slty to occ med gr, com red brn cly, calc cmt, predy rd to sb ang, 20% red brn, brn and gy silc (qtzt, qtz, cht) to arg clasts < 0.5 cm, 80% qtz grs, occ sh grs, mnr hem, assumed p to occ fair intgr por, ns.

565-570 SS CGLN(100%): red brn, lithic, slty to occ med gr, com red brn cly, calc cmt, predy fri with mnr slty firm sections, predy rd to sb ang, 15-20% red brn, brn and gy silc to arg clasts < 0.5 cm, mnr ls frags, occ sh grs, mnr hem, assumed p to occ fair intgr por, ns.

570-575 SS CGLN(100%): red brn, lithic, slty to occ med gr, com red brn cly, calc cmt, predy fri with mnr firm sections, predy rd to sb ang 20% red brn, brn and gy silc (qtzt, qtz, cht) to arg clasts < 0.5 cm, mnr ls frags, 70% qtz grs, occ sh grs, mnr hem, assumed p to occ fai intgr por, ns.

575-580 SS CGLN(100%): red brn, lithic, vf to incrg med gr, mnr c gr, com red brn cly, calc cmt, fri, ang to sb rd, 35% red brn, brn and gy silc to arg clasts < 0.75 cm, incrg ls frags, occ sh grs, mnr hem, assumed p to occ fair intgr por, ns.

580-585 SS(100%): red brn, lithic, slty to occ med gr, com red brn cly, calc cmt, predy fri with mnr firm sections, predy rd to sb ang, 30% firm red brn cly to mics cly / sh, 10-15% red brn, brn and gy silc clasts < 0.5 cm, mnr ls frags, 60% qtz grs, occ sh grs, mnr hem, assumed p to occ fair intgr por, ns.

585-590 CGLN(100%): lt red brn, gy gn, 70% lse qtz grs, slty to med gr, occ cgr, occ red brn clay, mnr calc cmt, fri, predy sb rd to sb ang, mnr sh, pos fld, 30% vcol silc clasts, arg clasts, and occ ls clasts, assumed p to pos fair intgr por, ns.

590-600 CGLN(100%): lt red brn, gy gn, 50% lse qtz grs, slty to med gr, occ cgr, occ red brn clay, mnr calc cmt, fri, predy sb rd to sb ang, mnr sh, pos fld, 50% vcol silc clasts, arg clasts, and incrg ls clasts, assumed p to pos fair intgr por, ns.

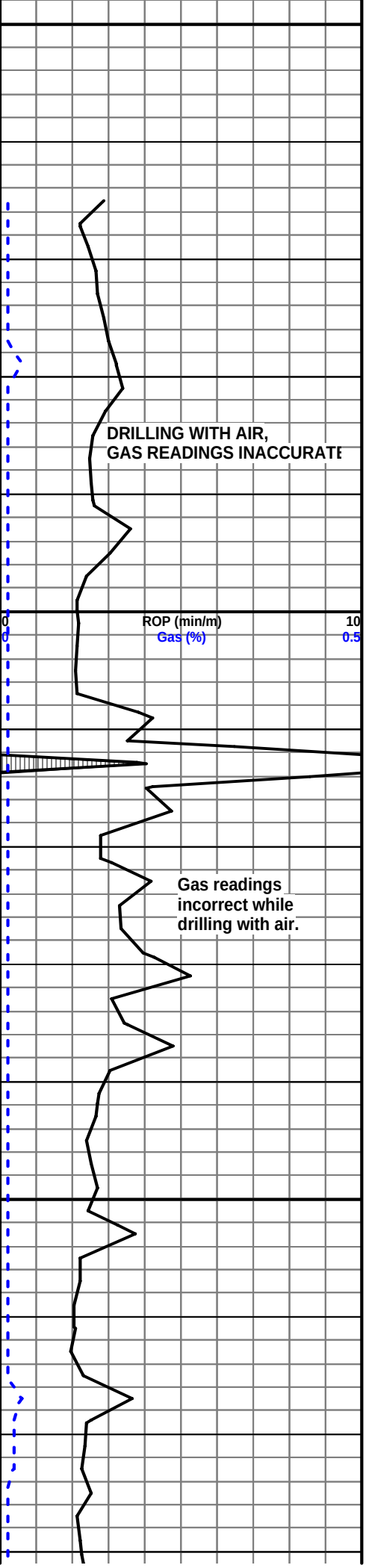
600-605 CGLN(100%): lt red brn, gy gn, 40% lse qtz grs, slty to med gr, occ cgr, occ red brn clay, mnr calc cmt, fri, predy sb rd to sb ang, mnr sh, pos fld, 60% vcol silc clasts, arg clasts, and incrg ls clasts, assumed p to pos fair intgr por, ns.

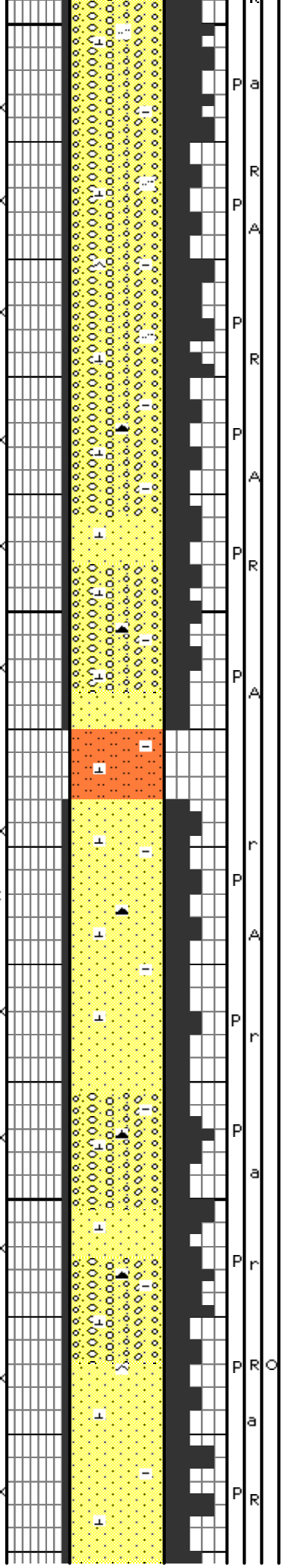
605-610 CGLN(100%): lt red brn, gy gn, 40% lse qtz grs, vf to med gr slty, occ red brn clay, mnr calc cmt, fri, rd to lesser ang, mnr sh, pos fld, 55% vcol silc clasts, arg clasts, and com ls clasts, assumed p to pos fair intgr por, ns.

610-615 SS CGLN(100%): lt red brn, lithic, 75% lse qtz grs, predy v slty to f gr, mnr med gr, occ red brn cly, mnr calc cmt, rd to occ ang, occ gy to gn sh, mnr fld, mnr hem, fri, 20% silc, arg and com ls clasts assumed p intgr por, ns.

615-620 SS CGLN(100%): lt red brn to lesser gn gy, lithic, 70% lse qtz, slty to med gr, mnr c gr, occ red brn clay, mnr calc cmt, fri, occ sh, mnr fld, mnr hem, 25-30% crm ls, vcol silc and lesser arg clasts, assumed p to pos fair intgr por, ns.

620-630 SS CGLN(100%): lt red brn to gn gy, lithic, 55% lse qtz grs, v





to mnr c gr, slty, mnr calc cmt, rd to sb ang, mnr arg and clay ric sections, 40% vcol qtz, qtzt, ls, and sh clasts 0.2-1.0 cm, assumed p to pos fair intgr por, ns.

630-635 SS CGLN(100%): lt red brn, 75% sd, 25% clasts 0.2-0.5 cm, predy slty to f gr, occ med gr, rd to lesser ang, mnr red brn clay, mnr calc cmt, predy red brn to gy gn silc to lesser arg clasts, mnr ls clasts, assumed p intgr por, ns.

635-640 SS CGLN(100%): lt red brn, gy gn, 60% vf to occ c gr ss, occ clay, mnr calc cmt, sb rd to occ ang, occ sh, 40% red brn and gy gn qtzt to silc clasts, qtz clasts, occ ls clasts, assumed p to pos fair intg por, ns.

640-645 SS CGLN(100%): lt red brn, gy gn, 70% vf to f gr, com med g ss, occ clay, mnr calc cmt, rd to occ ang, occ sh, 30% red brn and gy gn qtzt to silc clasts, qtz clasts, occ ls clasts, assumed p to pos fair intgr por, ns.

645-650 SS CGLN(100%): lt red brn, gy gn, 65% vf to med gr, mnr c gr, occ clay, mnr calc cmt, sb rd to ang, occ sh, 35% red brn and gy gn qtzt to silc clasts, qtz clasts, occ ls clasts, assumed p to pos fair intgr por, ns.

650-655 SS(100%): red brn, lithic, predy slty to f gr, mnr med gr, sb r to lesser ang, com red brn clay, mnr calc cmt, predy fri, occ mod ind occ arg grs, mnr mics, occ clasts as above, assumed p to pos fair intgr por, ns.

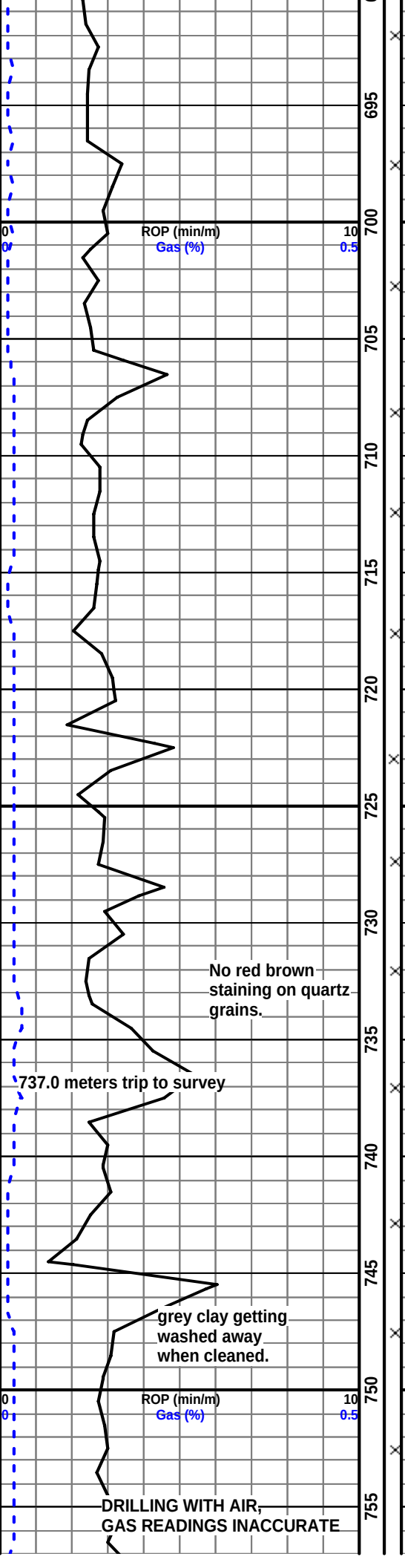
655-660 SS(100%): red brn, lithic, predy slty to f gr, mnr med gr, grdg to v arg sltst ip, sb rd to lesser ang, com red brn clay, mnr calc cmt, fri to occ mod ind, occ arg grs, mnr mics, occ clasts, assumed p intg por, ns.

660-670 SS(100%): red brn, lithic, predy slty to f gr, occ med to mnr gr, sb rd to lesser ang, mnr qtz ovgth, com red brn clay, mnr calc cmt, predy fri, 25% dk gy to red brn silc clasts < 0.75 cm, occ ls clasts, pos CGLN, occ arg grs, mnr mics, assumed p to pos fair intg por, ns.

670-680 SS CGLN(100%): red brn, sb lithic, 80% lse qtz grs, predy slty to occ c gr, sb rd to sb ang, occ red brn cly, mnr calc cmt, occ red brn and gn gy sh, 20% red brn and gy gn silc and arg clasts, tr ls clasts, mnr hem, mnr mic, assumed p to pos fair intgr por, ns.

680-685 SS(100%): red brn, lithic, predy slty to f gr, occ med gr, abnt red brn cly, fri to com red brn cly rich calc slty w ind sections, occ calc cmt, predy rd to sb ang, mics ip, mnr hem, assumed tt to p intgr por, tr dull yel flor, slow stmg wh yel flor cut.

685-690 SS CGLN(100%): red brn, lithic, 80% lse qtz grs, predy slty t occ c gr, rd to sb ang, occ red brn cly, mnr calc cmt, occ red brn and gn gy sh, 20% red brn and gy gn qtzt and cht clasts, tr ls clasts, mnr hem, mnr mic, assumed p to pos fair i ntgr por, ns.



690-695 SS (100%): red brn, lithic, slty to occ med gr, rd to occ ang mnr calc cmt, com red brn clay mtx, com red brn and gy gn sh grs, 5-10% silc and lithic clasts < 0.4 cm, tr hem, assumed p to pos fair intgr por, tr wh yel flor, slow to mod stmg wh yel flor cut.

695-700 SS CGLN(100%): lt red brn, lithic, f to mnr v c gr, com red brn clay mtx, occ calc cmt, com red brn and gn sh, 35% peach to gy gn silc clasts, pos mnr fld, tr hem, tr mics mat, assumed p to pos fair intgr por, tr frac por, ns

700-705 SS CGLN(100%): lt red brn, lithic, incrgly slty to f gr, mnr med gr, com red brn clay mtx, occ calc cmt, com red brn and gn sh, 10% silc and arg clasts, pos mnr fld, tr hem, tr mics mat, assumed p to pos fair intgr por, rr yel flor, show as above.

705-710 SS CGLN(100%): lt red brn, lithic, v slty to f gr, mnr med gr, com red brn clay mtx, occ calc cmt, com red brn and gn sh, 15% silc and arg clasts, pos mnr fld, tr hem, tr mics mat, assumed p to pos fair intgr por, tr frac por, ns.

710-720 SS CGLN (100%): lt red brn, lithic, vf to med gr, occ c gr, slt sb rd to occ ang, occ rd, occ red brn clay, calc cmt, occ sh grs, pos mnr fld, 30% vcol qtz, qtzt and silc clasts, arg clasts, occ ls clasts, assumed p to incrgly fair intgr por, ns

720-725 SS CGLN (100%): lt red brn, lithic, slty to med gr, occ c gr, r to occ ang, occ red brn to gy brn clay, calc cmt, occ sh grs, pos mnr fld, 35% vcol qtz, qtzt and silc clasts, arg clasts, incrg ls clasts, assumed p to pos fair intgr por, tr wh yel flor, mod stmg wh yel flor cut.

725-730 CGLN (100%): lt red brn, lithic, slty to med gr, occ c gr, rd to occ ang, occ red brn to gy brn clay, calc cmt, occ sh grs, pos mnr fl 50% vcol qtz, qtzt and silc clasts, arg clasts, occ ls clasts, assumed to pos fair intgr por, tr frac por, ns.

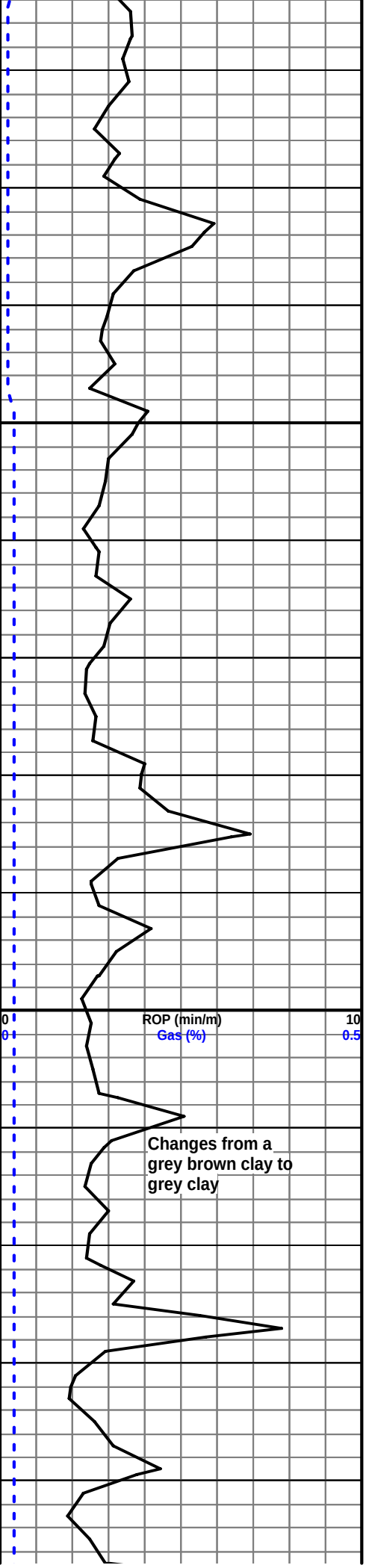
730-735 SS CGLN(100%): lt gy crm, lithic, predy v slty to f gr, occ med to mnr c gr, com gy brn clay, rd to sb ang, occ ang, calc cmt, com dk gy to gn sh, pos mnr fld, 15% clasts as above, assumed p intgr por, tr to tr sp wh yel flor, tr mod stmg wh yel flor cut.

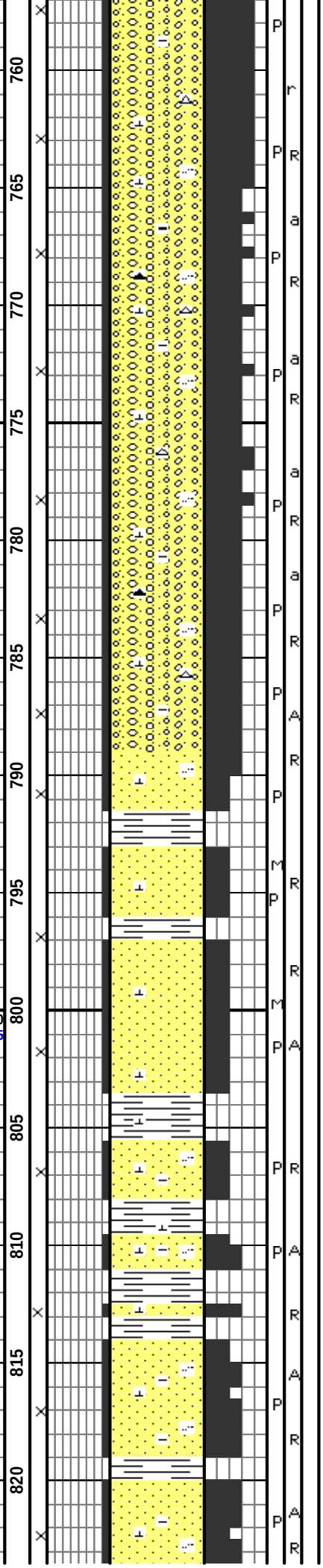
735-740 CGLN(100%): gy gn, red brn, 30% rd to sb ang vf to v c gr ss mtx, occ gy brn clay, calc cmt, occ gn and gy sh, mnr fld, 70% red brn, dk gy, gy, gy gn and brn silc clasts 0.2-0.5 cm, assumed p to pos fair intgr por, ns

740-745 CGLN(100%): gy gn to lt red brn, lithic, 50% rd to sb ang, vf to c gr, slty lse qtz ss mtx, pos com gy brn clay, calc cmt, occ sh, oc fld, tr hem, 50% dk gy, gy, and red brn silc clasts, occ ls clasts, occ gn clay frags, assumed p to pos fair intgr por, pos frac por, tr dull ye flor, mod stmg wh yel flor cut.

745-750 CGLN(100%): gy gn to lt red brn, lithic, 30% rd to sb ang, vf to c gr ss mtx, pos com gy brn clay, calc cmt, fri, occ sh, occ fld, tr hem, 70% clasts as above predy < 0.3 cm, occ ls clasts, 5-10% gn cla frags, assumed p to pos fair intgr por, pos frac por, tr dull yel flor, mod stmg wh yel flor cut

750-760 CGLN(100%): gy gn to lt red brn, lithic, 65% rd to sb ang, vf to c gr ss mtx, pos com gy brn clay, calc cmt, fri, occ sh, occ fld, 35% silc clasts predy < 0.5 cm, occ ls clasts, 10-15% gn clay, assumed p pos fair intgr por, pos frac por, ns.





755-765 CGLN(100%): gy gn to lt red brn, lithic, 25% rd to sb ang, vf to c gr ss mtx, occ slt, pos gy brn clay, calc cmt, fri to mnr tt silc sections, occ sh, 75% qtzt and silc clasts predy < 0.5 cm, incrg ls clasts, 15% gn clay / sh, assumed p to fair intgr por, pos frac por, ns.

765-775 CGLN(100%): gy gn to lt red brn, lithic, 50% rd to sb ang, predy slty to med gr, occ c gr ss mtx, com gy brn clay, calc cmt, fri, occ sh, 50% vcol qtzt and silc clasts predy < 0.5 cm, occ ls clasts, 15% gn clyst, assumed p to fair intgr por, pos frac por, ns.

775-780 CGLN(100%): gy gn to lt red brn, lithic, 60% rd to sb ang, predy slty to med gr, occ c gr ss mtx, com gy brn clay, calc cmt, fri, occ sh, 40% vcol qtzt and silc clasts predy < 0.5 cm, occ ls clasts, 15% gn clyst, assumed p to fair intgr por, pos frac por, ns.

780-785 CGLN(100%): gy gn to lt red brn, lithic, 70% lse rd to sb ang predy vf to com med and lesser c gr ss mtx, slty, com gy brn clay, calc cmt, fri, occ sh, 30% vcol silc to sh clasts predy < 0.4 cm, mnr ls clasts, 15% gn and red brn clyst, tr hem, assumed p to fair intgr por, pos frac por, ns.

785-790 SS(100%): gy gn to red brn, lithic, predy slty to med gr, calc cmt, rd to occ ang, fri to occ tt firm calc sections, 15% red brn to lesser gn sh frags, com red brn and gn sh grs?, mics ip, predy p to pos fair intgr por, ns.

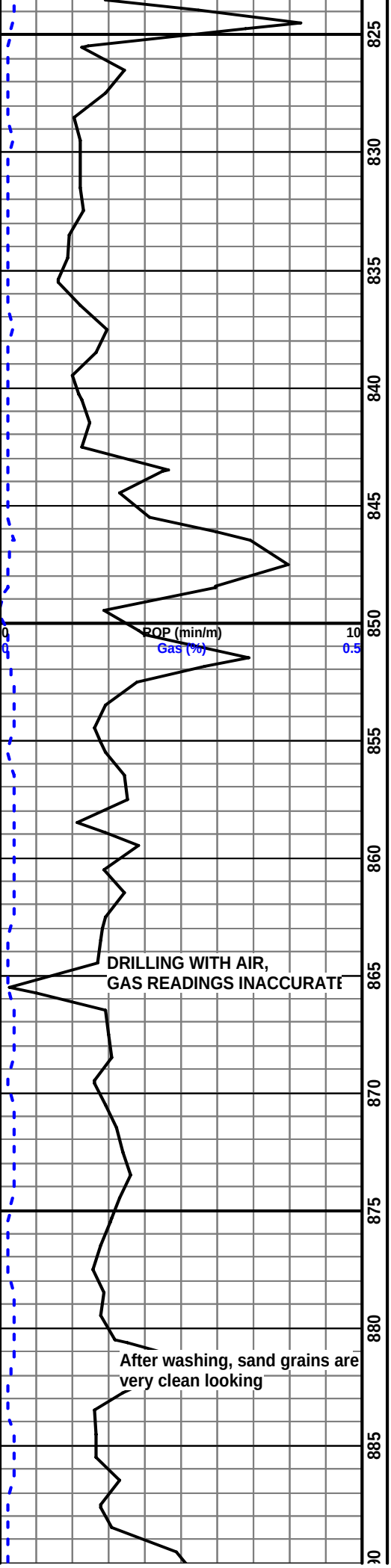
790-795 SS(100%): lt gy gn, lithic, clr to wh slty to f qtz grs, com gy clay, calc cmt, fri to occ tt firm sections, rd to occ ang, 35% red brn and gn slty sh, occ mics, tt to pos fair intgr por, ns.

795-805 SS(65%): lt gy gn, lithic, clr to wh slty to f qtz grs, com gy clay, calc cmt, grdg to sltst ip, fri to occ tt firm sections, rd to occ ang, occ mics, tt to pos fair intgr por, ns. SH(35%): red brn to gn, blky, slty ip, firm, micmica to occ mics, wkly calc, clayey.

805-810 SS(40%): As above, lt gy gn, lithic, slty to f qtz grs, com gy clay, incrg calc cmt, grdg to sltst ip, rd to occ ang, occ mics, tt to pos fair intgr por, ns. SH(60%): red brn to gn, blky, slty ip, firm, micmica to occ mics, wkly calc, clayey.

810-815 SS(100%): lt gy gn, lithic, clr to wh slty to sl incrg med qtz grs, grdg to sltst ip, com gy clay mtx?, calc cmt, fri to occ tt firm sections, rd to occ ang, 30% red brn and gn slty sh, occ mics, tt to pos fair intgr por, ns.

820-830 SS(100%): lt gy, sb lithic to lithic, vf to med gr, com slt, com gy clay mtx, calc cmt, rd to occ ang, occ to com gy to gy gn sh, mnr mics mat, mnr fld, assumed p to pos fair intgr por, ns.



825-830 SS(100%): lt gy, sb lithic to lithic, predy clr to wh vf to med gr, occ c qtz grs, slty, com gy clay mtx, calc, rd to ang, com gn to dk gn clay / sh, occ fld, mnr carb sh, mnr epach silc clasts, assumed p t pos fair intgr por, tr yel flor, no flor cut.

830-835 SS(100%): lt gy gn, lithic, predy clr to wh vf to f gr, occ med qtz grs, slty, com gy clay mtx, calc, rd to ang, com gn to dk gn clay / sh, occ fld, mnr carb sh, 10% silc to arg clasts, tr jasper clasts, tr ls clasts, assumed p to pos fair intgr por, tr yel flor, mod stmg yel flor cut.

835-845 SS(80%): lt gy, sb lithic, predy slty to vf gr, occ f gr, 35% grdg to calc arg sltst, ang to sb rd, occ calc cmt, fri to incrgly firm, com gy clay, mics, occ to com sh grs, tt to p intgr por, ns. SH(20%): gy, mas, firm, calc to sl dolc, pos a v arg ls, mics ip, blky, slty ip.

845-855 SS(75%): lt gy, sb lithic, predy slty to f gr, 40% grdg to arg calc sltst, com lt gy clay, ang to sb rd, occ calc cmt, fri to occ firm calc sections, mics, occ to com sh grs, tt to p intgr por, ns. SH(25%) gy, mas, firm, calc to sl dolc, pos a v arg ls, mics ip, blky, slty ip.

855-860 SS(60%): lt gy to gy, sb lithic, predy slty to f gr, grdg to arg calc sltst, com lt gy clay mtx?, ang to sb rd, calc cmt, fri to occ firm calc sections, mics, occ sh grs, tt to p intgr por, ns. SH / LS(40%): gy, mas, mcxln, firm, calc to sl dolc, pos a v arg ls, mics ip, blky, slty ip.

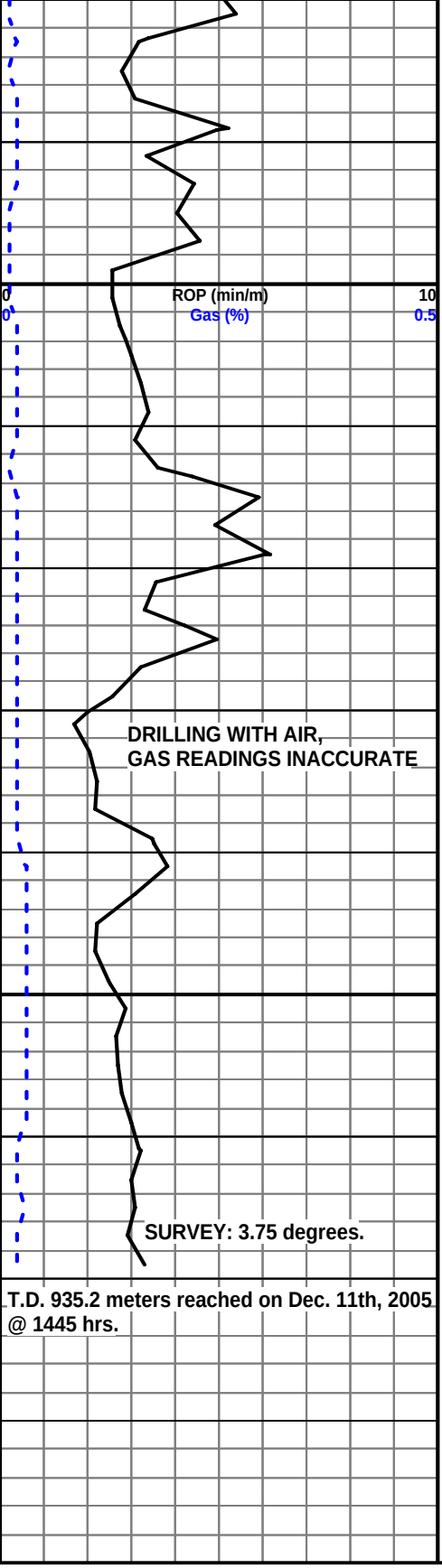
860-865 SS(85%): lt gy, sb lithic, predy slty to v f gr, mnr f gr, grdg t arg calc sltst, com lt gy clay, ang to sb rd, occ calc cmt, fri to incrgly firm calc sections, mics, occ to com sh grs, tt to pos fair intgr por, ns SH/ LS(15%): gy, mas, firm, calc to sl dolc, pos a v arg ls, mics ip, blky, mcxln, slty ip.

865-870 SS(100%): lt gy, sb lithic, predy slty to med gr, occ c gr, rr v c gr, com lt gy clay mtx, rd to sb ang, occ ang, occ ls / sh as above, calc cmt, fri, mics, occ to com sh grs, tt to p intgr por, tr to sp yel flo tr slow stmg wh yel flor cut.

870-875 SS(80%): lt gy, sb lithic, predy slty to occ med gr, grdg to arg calc sltst ip, com lt gy clay, ang to occ rd, calc cmt, fri to occ firm calc sections, mnr mics grs, com sh grs, tt to pos fair intgr por, tr to rr dull yel flor, slow stmg wh yel flor cut. SH(20%): gy, mas, firm, cal to sl dolc, pos arg ls, mics ip, blky.

875-880 SS(90%): As above, 40% sltst, com lt gy clay, ang to occ rd, calc cmt, firm calc sections, mics grs, com sh grs, tt to p intgr por, ns. SH(10%): gy, mas, firm, calc to sl dolc, pos arg ls, mics ip, blky.

880-890 SS(90%): lt gy, sb lithic to pos qtzs, predy clr to wh slty to f gr, occ med gr, tr c qtz grs, com lt gy calc clay, ang to occ rd, calc cmt, fri to occ firm calc sections, v mics ip, mnr sh grs, tr PYR, tt to pos fair intgr por, sp dull yel flor, no flor cut. SH(10%): gy, mas, firm, calc to sl dolc, pos arg ls, mics ip, blky.



T.D. 935.2 meters reached on Dec. 11th, 2005 @ 1445 hrs.

890-895 SS(100%): wh to lt gy, sb lithic to qtzs, v slty to com f gr, occ med gr, pos lt gy clay, incrg rd to sb ang, clr to wh cln qtz grs, v fri, mnr sh, tr PYR, p to incrg fair intgr por, tr to tr sp yel flor, mod stmg wh yel flor cut.

895-900 SS(70%): lt gy, sb lithic, vf to l med gr, decrgly slty, pos com gy calc clay mtx, calc cmt, fri with occ tt firm sections, rd to ang, mic ip, tr PYR, mnr sh grs, assumed p to fair intgr por, tr sp yel flor, no flor cut. SH(30%): gy, clayey, micmica, mcxln ip, firm, blky, wkly calc ip, mas.

900-905 SS(80%): lt wh gy, sb lithic, predy wh to clr lse qtz grs, pos com gy calc clay mtx, slty to med gr, calc cmt, fri, rd to sb ang, occ ang, tr PYR, mnr sh grs, mnr pink and orng trnsl qtz grs, cln looking, assumed p to fair intgr por, tr sp yel flor, no flor cut. SH(20%): gy, mcxln, firm, blky, wkly calc ip, mas.

905-910 SS(70%): As above, slty to occ med gr, calc cmt, fri, rd to sb ang, tr PYR, mnr arg grs, predy p to pos fair intgr por, tr yel flor, tr slow stmg wh yel flor cut. SH(30%): gy, mcxln, firm, blky, wkly calc ip, mas, slty ip.

910-915 SS(80%): lt gy, sb lithic, predy abnt slty to f gr, mnr med gr, com gy calc clay, calc cmt, rd to sb ang, fri, tr pyr, occ arg grs, mics ip, grdg to arg sltst ip, predy p to pos fair intgr por, tr dull yel flor, tr slow stmg wh yel flor cut. SH(20%): gy to dk gy, firm, blky, slty ip, calc ip, mas, mcxln looking ip.

915-920 SS(80%): lt wh gy, sb lithic, predy wh to clr lse qtz grs, pos com gy calc clay mtx, slty to med gr, calc cmt, fri, rd to sb ang, occ ang, tr PYR, mnr sh grs, mnr pink and orng trnsl qtz grs, cln looking, assumed p to fair intgr por, tr sp yel flor, no flor cut. SH(20%): gy, mcxln, firm, blky, wkly calc ip, mas.

920-925 SS(100%): As above, incrg firm w ind ss approx. 50% cemented, tt to p intgr por, occ sh as above, tr flor, tr wh yel flor cut.

925-930 SS(100%): lt wh gy, sb lithic, vf to f gr, occ l med gr, tr c gr, abnt slt, pos calc clay mtx, calc cmt, fri, predy lse qtz grs, predy rd to sb ang, occ gy to dk gy sh, mics ip, tr PYR, assumed p to pos fair intgr por, tr to tr sp yel flor, no flor cut.

930-935.2 SS / SLTST(100%): lt gy gn, slty to occ f gr, commonly grdg to sltst, mics, com calc cmt, rd to ang, w ind, firm, arg, tt, ns.

APPENDIX H: DOWNHOLE LOGS

The data for this appendix can be found in the Department of Natural Resource’s Confidential Well File room.

APPENDIX I: EMPLOYEE BENEFITS SUMMARY

Hurricane #2 (Whip #1): Drilling Operations

	Residence		
Week	NL	Other	Total
1	15	0	**15**
2	11	0	**11**
3	15	0	**15**
4	15	2	**17**
5	9	0	**9**

Average number of workers on site each week	13.4
Percentage of workers residents of NL	97.0%
Percentage of workers non-residents of NL	3.0%

Hurricane #2 (Whip #1)

Week	1					2				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer					0					0
Supervisors					0					0
Rig Mangers	1	7			1	1	7			1
Drillers	2	7			2	2	7			2
Floorhands	4	7			4	4	7			4
Geologists	1	6			1	1	7			1
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0					0
Cementing	1	1			1	1	1			1
Testing					0					0
Administration					0					0
Security	1	2			1					0
Heavy Equipment Operators	2	5			2	1	6			1
Welders & Helpers	1	3			1					0
Fuel Hauler	1	1			1	1	3			1
Winterization					0					0
Waste Disposal	1	1			1					0
Total	**15**		**0**		**15**	**11**		**0**		**11**

Hurricane #2 (Whip #1)

Week	3					4				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer	1	3			1	1	5			1
Supervisors					0					0
Rig Mangers	1	7			1	1	7			1
Drillers	2	7			2	2	7			2
Floorhands	4	7			4	4	7			4
Geologists	1	7			1	1	5			1
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0			2	1	2
Cementing	1	2			1	1	2			1
Testing					0					0
Administration					0					0
Security					0	1	1			1
Heavy Equipment Operators	1	4			1	1	1			1
Welders & Helpers	1	1			1	1	2			1
Fuel Hauler	1	4			1	1	2			1
Winterization	2	3			2					0
Waste Disposal					0	1	1			1
Total	**15**		**0**		**15**	**15**		**2**		**17**

Week	5				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer					0
Supervisors					0
Rig Mangers	1	5			1
Drillers	1	4			1
Floorhands	2	4			2
Geologists					0
Mud Loggers					0
MWD/Directional					0
Wireline Logging					0
Cementing					0
Testing					0
Administration					0
Security	1	4			1
Heavy Equipment Operators	2	5			2
Welders & Helpers	1	5			1
Fuel Hauler					0
Winterization					0
Waste Disposal	1	1			1
Total	**9**		**0**		**9**

APPENDIX J: DAILY OPERATIONAL REPORTS

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 1	DATE:	November 23, 2005
DEPTH 24:00:	18.0 m	PROGRESS: 18.0 m	Last 24 Hr Rotating Time:	11.25 hr	Ave ROP 1.6 m/hr
OPER 06:00:	Wait on Cement		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Raining	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	3°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	1		
Size (mm)	311		
Mfg.	Hughs		
Type	EP5070		
Serial #	622507		
Nozzles	OPEN		
From (mKB)	0		
To (mKB)	18		
Hrs on Bit	11 1/4		
WOB (daN)	2		
RPM	60		
Condition	2		
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °

DRILLING FLUID

Time	2400
Depth(m)	19
Density	1040
Mud Grad	
Vis	39
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	4	min
Bottoms Up	4	min
Tanks		m3
Hole Volume	1	m3
System Vol.	1	m3

Mud & Chemicals Added:

Soda Ash	2
Gel	32
Lime	1

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			6 5/8" REG
2	STAB			6 5/8" REG x 2 7/8"IF
3				

BHA Length:	4.12	Hook Load:		DP size	
Avail WOB:		Jts DP Racks		DC Conn:	
Jts DP in hole:	2	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	3 1/2	Survey		Plug Back	
Drill Actual	11 1/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1 1/2	NU BOP's		Safety meet	1/4
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		WAIT on Daylight	7
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 22, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	7:00	7.00	Wait on Daylight / Water
7:00	10:30	3.50	Rig Up
10:30	10:45	0.25	Safety meeting
10:45	11:00	0.25	Rig Service
11:00	15:30	4.50	Drill 311mm Hole From 0 mtrs To 12mtrs
15:30	17:00	1.50	Build up Vis in Mud Tanks
17:00	23:45	6.75	Drill 311mm Hole From 12mtrs to 18mtrs
23:45	0:00	0.25	Rig Service

24 HOUR Forcast :

Cement 9 5/8" Casing , Nipple up Diverter , Drill 8.25" Hole

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 2	DATE:	November 24, 2005
DEPTH 24:00:	19.0 m	PROGRESS: 1.0 m	Last 24 Hr Rotating Time:	1.25 hr	Ave ROP 0.8 m/hr
OPER 06:00:	Tag Cement		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.:	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	4°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	1
Size (mm)	311
Mfg.	Hughs
Type	EP5070
Serial #	622507
Nozzles	OPEn
From (mKB)	0
To (mKB)	19
Hrs on Bit	12 1/2
WOB (daN)	4
RPM	60
Condition	
Pulled For?	TD
Meters	15
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °

DRILLING FLUID

Time	1000
Depth(m)	19
Density	1040
Mud Grad	
Vis	38
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	100
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	81	min
Bottoms Up	4	min
Tanks	30	m3
Hole Volume	1	m3
System Vol.	31	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			6 5/8" REG
2	STAB			6 5/8" REG x 2 7/8"IF
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc:	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/4	Plug Back	
Drill Actual	1 1/4	Logging		Fishing	
Reaming		Run Casing	2 1/4	Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping	1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		WOC	19 1/4
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 23, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:15	1.25	Drill 311mm Hole From 18 to 19.36mtrs
1:15	1:30	0.25	Circulate
1:30	1:45	0.25	Wiper Trip
1:45	2:00	0.25	Circulate
2:00	2:15	0.25	Survey
2:15	2:30	0.25	POOH , Lay Down Bit and Stabilizer
2:30	2:45	0.25	Safety Meeting
2:45	4:00	1.25	Rig to and Run 9 5/8" Casing
4:00	10:00	6.00	Wait on Cement , Circulate
10:00	11:00	1.00	Pump .5Cube Spacer,1 Cube 15.2pp ,20mpa Cement,Displace .6 cube water
11:00	0:00	13.00	Wait on Cement , Prepare Diverter,Rotating Head ,Casing Bowl , Lay out Air Discharge Line
			Cut Casing and Conductor , Weld and Fab Air Discharge Line ,Cut Flow Line
			(Welding Had to be suspended At Times Because of Heavy ,Heavy Rains)

24 HOUR Forcast :

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 3	DATE:	November 25, 2005
DEPTH 24:00:	89.0 m	PROGRESS: 70.0 m	Last 24 Hr Rotating Time:	7.50 hr	Ave ROP 9.3 m/hr
OPER 06:00:	Mix Mud ,Wait on Water		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	10°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	1
Size (mm)	219
Mfg.	Mission
Type	Hammer
Serial #	B98290
Nozzles	Open
From (mKB)	19
To (mKB)	89
Hrs on Bit	5
WOB (daN)	1
RPM	20
Condition	Good
Pulled For?	Water
Meters	70
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °

DRILLING FLUID

Time	
Depth(m)	
Density	Air
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	86	min
Bottoms Up	9	min
Tanks	30	m3
Hole Volume	3	m3
System Vol.	33	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc:	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	7 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's	6	Safety meet	1/4
Tripping	2 3/4	Test BOPs		Weld on Bowl	5
Lubricate Rig	3/4	Drill Out Cmt		BOP Drill	
Repair Rig	1 3/4	DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 24, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	3:00	3.00	Cut Csg,Weld on Collar,Screw on Bowl , Torqe Same
3:00	3:15	0.25	Make up Bit Stablizer RIH
3:15	4:00	0.75	Nipple up Diverter,Rotating Head,Rig in Flowline
4:00	6:00	2.00	Fab and Weld Flowline
6:00	7:00	1.00	Tag Cement @ 9mtrs
7:00	8:45	1.75	Repair Packing in Topdrive
8:45	9:00	0.25	Safety Meeting prior to DrillOut
9:00	10:30	1.50	Drill Out Cement and Shoe
10:30	10:45	0.25	Rig Service
10:45	12:00	1.25	Rig Out Diverter , Rotating Head ,
12:00	13:00	1.00	POOH to Change out Tri-cone for Air Hammer , RIH With Hammer
13:00	17:00	4.00	Make up Diverter,Rotating Head , Air Discharge Line
17:00	18:30	1.50	Drill 219mm Hole From 19 to 43mtrs
18:30	19:00	0.50	Rig Service,Clean Air Filter on Compressor ,Add Oil
19:00	22:30	3.50	Drill 219mm Hole From 43 to 89mtrs
22:30	0:00	1.50	POOH to 20mtrs , Nipple Down Diverter and Rotating Head

24 HOUR Forcast :

Mix Mud ,Continue to Dill 216mm Hole with Tri-cone Bit

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 4	DATE:	November 26, 2005
DEPTH 24:00:	92.0 m	PROGRESS: 3.0 m	Last 24 Hr Rotating Time:	1.00 hr	Ave ROP 3.0 m/hr
OPER 06:00:	Wait On Cement		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.:	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-2°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2
Size (mm)	216
Mfg.	Varel
Type	ET0537
Serial #	13654
Nozzles	OPEN
From (mKB)	89
To (mKB)	92
Hrs on Bit	1
WOB (daN)	2
RPM	60
Condition	
Pulled For?	Lost Circ
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	9	min
Bottoms Up	9	min
Tanks		m3
Hole Volume	3	m3
System Vol.	3	m3

Mud & Chemicals Added:

Gel 43
Sawdust 14
Quick Seal 17
Soda Ash 1

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost
Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	1	Logging		Fishing	
Reaming		Run Casing	3/4	Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC	5	Mix LCM	
Cond / Circ	8	NU BOP's		Safety meet	1/2
Tripping	4 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Wait on Water	4
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 25, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:30	0.50	POOH, Change Hammer fro Tri-cone
0:30	1:30	1.00	Nipple up Diverter,, Rig in Flowline
1:30	2:00	0.50	RIH From 20 to 65-m , Rig Service
2:00	5:00	3.00	Fill Tanks , Mix and condition Mud , Break Circ.@65 mtrs…Lost Circulation
5:00	9:00	4.00	Wait on Water Truck
9:00	9:30	0.50	RIH From 65 to 89-m , Safety Meeting
9:30	14:30	5.00	Mix , PUMP , SPOT Hi VIS PILLS
14:30	15:30	1.00	Drill Blind From 89 To 92-m , No Returns
15:30	16:15	0.75	POOH, RIH with air system to find top of drilling fluid column at 41-m
16:15	18:15	2.00	POOH , Run in Hole Open Ended ,
18:15	19:00	0.75	Pump 0.5m3 Water, 5m3 Cement 15.2ppg,20mpa
19:00	0:00	5.00	Pull out of hole Wait on Cement

24 HOUR Forcast :

Wait on Cement , RIH Tag Cement , Drill

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 5	DATE:	November 27, 2005
DEPTH 24:00:	132.0 m	PROGRESS: 132.0 m	Last 24 Hr Rotating Time:	6.50 hr	Ave ROP 20.3 m/hr
OPER 06:00:	Wait on Orders		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	2°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	1
Size (mm)	219
Mfg.	Mission
Type	Hammer
Serial #	B98290
Nozzles	Open
From (mKB)	95
To (mKB)	133
Hrs on Bit	11 1/4
WOB (daN)	2
RPM	40
Condition	Good
Pulled For?	Water
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °

DRILLING FLUID

Time	
Depth(m)	
Density	Air
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	90	min
Bottoms Up	13	min
Tanks	30	m3
Hole Volume	5	m3
System Vol.	35	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole: 16	DP on Loc: 152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	6 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC	11 1/4	Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping	5 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Wait on Daylight	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 26, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	9:30	9.50	Wait on Cement
9:30	10:00	0.50	RIH , Tag Cement @ 80mtrs
10:00	10:30	0.50	POOH Lay Down Bit and Stabilizer, Run in Hole Open Ended
10:30	10:45	0.25	Rig Service
10:45	12:30	1.75	Wait on Cement
12:30	13:30	1.00	POOH , Make up Bit, Stab , RIH ,Install Diverter an Flowline
13:30	14:30	1.00	Drill Out Cement From 80 to 92mtrs
14:30	15:15	0.75	Drill 216mm Hole from 92 to 95mtrs
15:15	19:00	3.75	POOH,Remove Diverter,Flowline,Lay Down Bit,Make up Hammer ,Install Diverter,Flowline,Air
			Discharge LineRotating Head.RIH Clean Hole With Air on Every Single
19:00	19:15	0.25	Rig Service , Function Diverter
19:15	0:00	4.75	Drill 219mm Hole From 95 to 133mtrs

24 HOUR Forcast :

RIH With Tri-cone Bit,

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 6	DATE:	November 28, 2005
DEPTH 24:00:	160.0 m	PROGRESS: 28.0 m	Last 24 Hr Rotating Time:	14.00 hr	Ave ROP 2.0 m/hr
OPER 06:00:	Drill at 170m		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-2°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2		
Size (mm)	216		
Mfg.	Varel		
Type	ET0537		
Serial #	13654		
Nozzles	OPEN		
From (mKB)	133		
To (mKB)	160		
Hrs on Bit	13 1/2		
WOB (daN)	2		
RPM	80		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °

DRILLING FLUID

Time	
Depth(m)	
Density	Water
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	50
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	79	min
Bottoms Up	15	min
Tanks	25	m3
Hole Volume	6	m3
System Vol.	31	m3

Mud & Chemicals Added:

Sawdust 10

LCM 12

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	3.88	Hook Load:	4,000	DP size	
Avail WOB:		Jts DP Racks	132	DC Conn:	
Jts DP in hole:	20	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	14	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping	2 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		WoOrders / Water	7
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 27, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:30	1.50	Drill 219mm Hole From 132 To 133mtrs
1:30	3:00	1.50	POOH , Nipple Down Rotating Head and Diverter,Lay Down Air Hammer
3:00	8:30	5.50	Wait on Orders
8:30	9:45	1.25	Make up Bit,Stabilizer , RIH , Nipple up Diverter and Flowline
9:45	13:00	3.25	Drill 216mm Hole From 133 to 143mtrs
13:00	14:30	1.50	Wait On Water Truck , Rig service
14:30	23:45	9.25	Dril 216mm Hol From 143 To 160mtrs
23:45	0:00	0.25	Rig Service , Function Diverter

24 HOUR Forcast :

Continue toDrill 216mm Hole ,

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 7	DATE:	November 29, 2005
DEPTH 24:00:	189.0 m	PROGRESS: 29.0 m	Last 24 Hr Rotating Time:	14.50 hr	Ave ROP 2.0 m/hr
OPER 06:00:	Drilling @ 194		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-3°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Slippery	

BIT PERFORMANCE

Bit No.	2		
Size (mm)	216		
Mfg.	Varel		
Type	ET0537		
Serial #	13654		
Nozzles	OPEN		
From (mKB)	133		
To (mKB)	160		
Hrs on Bit	27		
WOB (daN)	2		
RPM	80		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	50
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	95	min
Bottoms Up	18	min
Tanks	30	m3
Hole Volume	7	m3
System Vol.	37	m3

Mud & Chemicals Added:

Quick Seal 7
Sawdust 10
Peat Moss 8

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks		DC Conn:	
Jts DP in hole:	24	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost
Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/2	Plug Back	
Drill Actual	14 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	3 1/4	NU BOP's		Safety meet	1/4
Tripping	5	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 28, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	7:30	7.50	Drill 216mm Hole From 160 to 171mtrs
7:30	7:45	0.25	Rig Service
7:45	10:15	2.50	Drill 216mm Hole From 171 to 179mtrs
10:15	10:45	0.50	Circulate and Survey @ 171mtrs , 2 Degrees
10:45	15:15	4.50	Drill 216mm hole from 179 to 189mtrs
15:15	15:30	0.25	Circulate
15:30	17:15	1.75	POOH ,Nipple Down Diverter,Flowline,Lay Down Bit and Stab.,RIH Open Endedto 83mtrs
17:15	20:30	3.25	MIX ,Pump and Spot LCM
20:30	20:45	0.25	Rig Service
20:45	0:00	3.25	POOH ,Nipple Down, Make up Bit and Stab,Nipple up,Rih to 80mtrs

24 HOUR Forcast :

Continue to Drill

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 8	DATE:	November 30, 2005
DEPTH 24:00:	200.0 m	PROGRESS: 11.0 m	Last 24 Hr Rotating Time:	11.50 hr	Ave ROP 1.0 m/hr
OPER 06:00:	Drilling @ 204		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	1°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2
Size (mm)	216
Mfg.	Varel
Type	ET0537
Serial #	13654
Nozzles	OPEN
From (mKB)	133
To (mKB)	200
Hrs on Bit	38 1/2
WOB (daN)	2
RPM	80
Condition	
Pulled For?	
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	1200
Depth(m)	
Density	1050
Mud Grad	
Vis	40
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	50
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	19	min
Bottoms Up	19	min
Tanks		m3
Hole Volume	7	m3
System Vol.	7	m3

Mud & Chemicals Added:

Gel 80
Sawdust 20
Quick seal 3

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	75	DC Conn:	
Jts DP in hole:	25	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost
Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	11 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	8 3/4	NU BOP's		Safety meet	
Tripping	3 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 29, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	2:00	2.00	Pump and Push Plug From 19 to 80mtrs,From 80 to 189mtrs
2:00	10:00	8.00	Drill 216mm Hole From 189 to 198mtrs
10:00	10:30	0.50	Rig Service / Function Diverter
10:30	11:30	1.00	Drill 216mm Hole From 198 to 199mtrs
11:30	13:45	2.25	Pull Off Bottom , Mix Gel , Sawdust and QuickSeal in Tanks
13:45	15:30	1.75	Drill 216mm Hole From 199 to 200mtrs
15:30	18:45	3.25	Mix Gel in Tanks ,Bring Vis up to 40
18:45	22:00	3.25	POOH,Nipple Down Dirverter,Flowline ,Make up Plug IN Conductor,Nipple up Diverter,Flowline
22:00	0:00	2.00	Fill and Mix up Gel,Sawdust in Mud Tanks

24 HOUR Forcast :

Drill 216mm Hole

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 9	DATE:	December 1, 2005
DEPTH 24:00:	220.0 m	PROGRESS: 20.0 m	Last 24 Hr Rotating Time:	22.50 hr	Ave ROP 0.9 m/hr
OPER 06:00:	Drilling @ 224m		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	1°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2
Size (mm)	216
Mfg.	Varel
Type	ET0537
Serial #	13654
Nozzles	OPEN
From (mKB)	133
To (mKB)	220
Hrs on Bit	61
WOB (daN)	2
RPM	80
Condition	
Pulled For?	
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	2400
Depth(m)	220
Density	1030
Mud Grad	
Vis	30
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	40
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	50
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.		m3

Mud & Chemicals Added:

Gel 29

Sawdust 14

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	STAB			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	72	DC Conn:	
Jts DP in hole:	28	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	22 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	
Tripping	1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 30, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:15	0.25	Circulate @ 80mtrs , Good Returns
0:15	0:45	0.50	RIH From 80 To 200mtrs , Pump and Push Plug
0:45	1:00	0.25	Circulate @ 200mtrs , Good Returns
1:00	11:00	10.00	Drill 216mm Hole From 200 To 207mtrs
11:00	11:15	0.25	Rig Service
11:15	23:45	12.50	Drill 216mm Hole From 207 To 220mtrs
23:45	0:00	0.25	Rig Service

24 HOUR Forcast :

Continue To Drill 216m Hole,

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 10	DATE:	December 2, 2005
DEPTH 24:00:	236.0 m	PROGRESS: 16.0 m	Last 24 Hr Rotating Time:	19.00 hr	Ave ROP 0.8 m/hr
OPER 06:00:	Drilling @ 242		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	2°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2		
Size (mm)	216		
Mfg.	Smith		
Type	C3P		
Serial #	MJ2029		
Nozzles	OPEN		
From (mKB)	225		
To (mKB)	242		
Hrs on Bit	11		
WOB (daN)	2		
RPM	80		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	
Depth(m)	
Density	Water
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"
SPM	52
Pump Eff.	95%
Pump Rate	0.39
Pump Press.	50
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	20	min
Bottoms Up	22	min
Tanks	30	m3
Hole Volume	9	m3
System Vol.	39	m3

Mud & Chemicals Added:

Sawdust 12

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	Stab			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:	30	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	19	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping	4 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Clean Tanks	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Mud Daily Cost

Mud Cum Cost

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 1, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	8:00	8.00	Drill 216mm Hole From 220 to 225mtrs
8:00	12:45	4.75	POOH , Bit Change , RIH
12:45	16:15	3.50	Drill 216mm Hole From 225 to 229mtrs
16:15	16:30	0.25	Rig Service,Wire in Steam Heaters
16:30	0:00	7.50	Drill 216mm Hole From 229 to 236mtrs

24 HOUR Forcast :

Continue to Drill 216mm Hole,

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 11	DATE:	December 3, 2005
DEPTH 24:00:	252.0 m	PROGRESS: 16.0 m	Last 24 Hr Rotating Time:	19.00 hr	Ave ROP 0.8 m/hr
OPER 06:00:	Drilling @ 260		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	2°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	RR3	4	
Size (mm)	216	216	
Mfg.	Smith	Hughs	
Type	C3P	MXC530	
Serial #	MJ2029	6006124	
Nozzles	OPEN	OPEN	
From (mKB)	225	245	
To (mKB)	245	252	
Hrs on Bit	22	8	
WOB (daN)	2	3	
RPM	80	80	
Condition	2		
Pulled For?	Hours		
Meters	20		
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	
Depth(m)	
Density	Water
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	80
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	22	min
Bottoms Up	18	min
Tanks	30	m3
Hole Volume	9	m3
System Vol.	39	m3

Mud & Chemicals Added:

Sawdust 12

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bir			
2	Stab			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:	32	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	19	Logging		Fishing	
Reaming	3/4	Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/4	NU BOP's		Safety meet	
Tripping	3 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Wait on Cement	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 2, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	11:00	11.00	Drill 216mm Hole From 236 to 245mtrs
11:00	11:15	0.25	Circulate
11:15	11:30	0.25	Rig Service
11:30	15:00	3.50	POOH,Nipple Down Dirverter,Flowline,Change Bit ,Nipple up,RIH
15:00	15:45	0.75	Ream From 222 to 243mtrs
15:45	23:45	8.00	Drill 216mm Hole From 245 to 252mtrs
23:45	0:00	0.25	Rig Service

24 HOUR Forcast :

Continue to Drill 216mm Hole,

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 12	DATE:	December 4, 2005
DEPTH 24:00:	284.0 m	PROGRESS: 32.0 m	Last 24 Hr Rotating Time:	23.50 hr	Ave ROP 1.4 m/hr
OPER 06:00:	Drilling @ 292mtrs		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Snowing	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-1°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	4
Size (mm)	216
Mfg.	Hughs
Type	MXC530
Serial #	6006124
Nozzles	OPEN
From (mKB)	245
To (mKB)	284
Hrs on Bit	31 1/4
WOB (daN)	3
RPM	80
Condition	
Pulled For?	
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	
Depth(m)	
Density	Water
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	80
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	22	min
Bottoms Up	18	min
Tanks	30	m3
Hole Volume	7	m3
System Vol.	37	m3

Mud & Chemicals Added:

Poly Plus 1
Sawdust 4
Baro-Lift 2

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	Stab			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:	36	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost
Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	23 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Wait on Daylight	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 3,2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	8:15	8.25	Drill 216mm Hole From 252 to 263mtrs
8:15	8:30	0.25	Rig Service
8:30	12:00	3.50	Drill 216mm Hole From 263 to 269mtrs
12:00	12:15	0.25	Safety Meeting
12:15	23:45	11.50	Drill 216mm hole From 269 to 284mtrs
23:45	0:00	0.25	Rig Service

24 HOUR Forcast :

Continue to drill 216mm Hole to 324mtrs +/-, TD for 7" Casing

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 13	DATE:	December 5, 2005
DEPTH 24:00: 309.0 m	PROGRESS: 25.0 m		Last 24 Hr Rotating Time: 23.75 hr	Ave ROP	1.1 m/hr
OPER 06:00: 312			FOREMAN: Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:	HOLE CND.:		WEATHER: Snowing	TOOLPUSH:	Tom Targett
CUM COST:	RIG / RIG #: Ingersoll Rand RD10		TEMP.: -2°C	T.P. MOBILE:	709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m		ROADS: Slippery		

BIT PERFORMANCE

Bit No.	4		
Size (mm)	216		
Mfg.	Hughs		
Type	MXC530		
Serial #	6006124		
Nozzles	OPEN		
From (mKB)	245		
To (mKB)	309		
Hrs on Bit	54 1/2		
WOB (daN)	3		
RPM	80		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °

DRILLING FLUID

Time	2400
Depth(m)	309
Density	970
Mud Grad	
Vis	32
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	80
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	4255	min
Bottoms Up	1166	min
Tanks	30	m3
Hole Volume	11	m3
System Vol.	41	m3

Mud & Chemicals Added:

Baro-lift 1

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	Stab			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:	40	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	23 3/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24 1/2

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 4, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	11:45	11.75	Drill 216mm Hole From 284 to 298mtrs
11:45	12:00	0.25	Rig Service
12:00	23:30	11.50	Drill 216mm Hole From 298 to 309mtrs
23:30	23:45	0.25	Rig Service
23:45	0:00	0.25	Safety Meeting (boiler Operations)

24 HOUR Forcast :

Drill 216mm Hole to TD. Wiper Trip, Run 7" Casing , Cement

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)				REPORT #:	14	DATE:	December 6, 2005
DEPTH 24:00:	323.0 m	PROGRESS:	14.0 m	Last 24 Hr Rotating Time:	15.75 hr	Ave ROP	0.9 m/hr
OPER 06:00:	Circulate / Wait on Cement			FOREMAN:	Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:		HOLE CND.:	Good	WEATHER:	Snowing	TOOLPUSH:	Tom Targett
CUM COST:		RIG / RIG #:	Ingersoll Rand RD10	TEMP.:	-2°C	T.P. MOBILE:	709-649-4957
FORMATION:		K.B. ELEV.:	3.3 m	ROADS:	Slippery		

BIT PERFORMANCE

Bit No.	4
Size (mm)	216
Mfg.	Hughs
Type	MXC530
Serial #	6006124
Nozzles	OPEN
From (mKB)	245
To (mKB)	323
Hrs on Bit	70 1/4
WOB (daN)	3
RPM	80
Condition	3
Pulled For?	TD
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °

DRILLING FLUID

Time	2400
Depth(m)	323
Density	1000
Mud Grad	
Vis	32
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	80
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	22	min
Bottoms Up	18	min
Tanks	30	m3
Hole Volume	7	m3
System Vol.	37	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	Stab			
3				

BHA Length:	3.88	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:	41	DP on Loc:	152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/2	Plug Back	
Drill Actual	15 3/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	
Tripping	6 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 5, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	11:45	11.75	Drill 216mm Hole From 309 to 321mtrs
11:45	12:00	0.25	Rig Service
12:00	16:00	4.00	Drill 216mm Hole From 321 to 323mtrs
16:00	20:30	4.50	Wiper Trip
20:30	21:00	0.50	Circulate
21:00	21:30	0.50	Survey @ 323mtrs (3.75Degrees)
21:30	23:45	2.25	POOH, Rig Out Diverter,Flowline , Rig in Diverter ,Flowine.
23:45	0:00	0.25	Rig Service

24 HOUR Forcast :

Run Casing , Cement , Wait on cement

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 15	DATE:	December 7, 2005
DEPTH 24:00:	323.0 m	PROGRESS:	Last 24 Hr Rotating Time:		Ave ROP
OPER 06:00:	Wait on Cement		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-3°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Snow Covered	

BIT PERFORMANCE

Bit No.			
Size (mm)			
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			
2	Stab			
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 152	DP Conn:	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing	4 1/4	Work w/Pason	
Coring		Cementing	1 1/4	Work Pipe	
Rm Rathole		WOC	9 1/4	Mix LCM	
Cond / Circ	8 1/2	NU BOP's		Safety meet	1/4
Tripping	1/2	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

VOLUMES M^3

Water added	
Losses	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	min
Bottoms Up	min
Tanks	m3
Hole Volume	m3
System Vol.	m3

Mud & Chemicals Added:

Baro-Lift 6

Mud Daily Cost

Mud Cum Cost

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 6, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:30	0.50	Rig in diverter,Flowline
0:30	0:45	0.25	Safety Meeting
0:45	5:00	4.25	Rig to and Run 7" Casing to 323m
5:00	13:30	8.50	Circulate ,Wait on Cement
13:30	14:45	1.25	Cement Casing,Pump Water Spacer, 7 Cubes 15.2ppg,20 Mpa Cement With LCM Additive,Drop
			Plug,Displace Casing With 6 Cubes Water,.25 Cubes Cement to Surface
14:45	0:00	9.25	Wait on Cement to Set

24 HOUR Forcast :

Wait on Cement,Cut Conductor , Weld on Bowl,Nipple up BOP's , Pressure Test

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 16	DATE:	December 8, 2005
DEPTH 24:00: 323.0 m	PROGRESS:		Last 24 Hr Rotating Time:		Ave ROP
OPER 06:00: Rig in flowline			FOREMAN: Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:	HOLE CND.:		WEATHER: Snow	TOOLPUSH:	Tom Targett
CUM COST:	RIG / RIG #:	Ingersoll Rand RD10	TEMP.: -1°C	T.P. MOBILE:	709-649-4957
FORMATION:	K.B. ELEV.:	3.3 m	ROADS: Snow Covered		

BIT PERFORMANCE

Bit No.			
Size (mm)			
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	min
Bottoms Up	min
Tanks	m3
Hole Volume	m3
System Vol.	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1				
2				
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	7 1/2	Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing	1	Work Pipe	
Rm Rathole		WOC	14	Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	1 1/2
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 7, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	8:00	8.00	Wait on cement
8:00	12:00	4.00	Lift diverter, cut 7" casing, rig out diverter and flowline. Welding on casing bowl.
12:00	13:00	1.00	Top up cement job with 0.75m3 of 15ppg 20MPa cement
13:00	14:30	1.50	Weld on casing bowl
14:30	20:30	6.00	Wait on cement
20:30	0:00	3.50	Nipple up BOPs, choke manifold, function stack

24 HOUR Forcast :

Drill out cement and shoe, drill to 326m, formation integrity test, continue to drill main section.

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 17	DATE:	December 9, 2005
DEPTH 24:00:	326.0 m	PROGRESS: 3.0 m	Last 24 Hr Rotating Time:	1.50 hr	Ave ROP 2.0 m/hr
OPER 06:00:	Re-build Air Hammer		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-4°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	1
Size (mm)	158.75
Mfg.	Hughs
Type	STX-20
Serial #	5042866
Nozzles	OPEN
From (mKB)	323
To (mKB)	326
Hrs on Bit	9 1/2
WOB (daN)	2
RPM	80
Condition	1
Pulled For?	Air Hammer
Meters	
m/hr	
Cum Hrs	

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °

DRILLING FLUID

Time	
Depth(m)	326
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	3754	min
Bottoms Up	664	min
Tanks	30	m3
Hole Volume	6	m3
System Vol.	36	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			2 7/8 IF
2	Stabilizer			2 7/8 IF x 2 7/8 IF
3				

BHA Length:	3.84	Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:		DP on Loc:	252	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	1 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/4	NU BOP's		Safety meet	1/4
Tripping	1	Test BOPs	7 3/4	Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt	11	BOP Drill	
Repair Rig		DST		Winterize Manifold	2
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 8, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	2:30	2.50	Presure Test BOP's
2:30	6:00	3.50	Change out Rubbers On Pipe Rams, Pressure Test Ras,Choke Manifold
6:00	8:00	2.00	Blow Out HCR Line,Anti-Freeze Manifold ,Niple up Flowline
8:00	9:00	1.00	Make up Bit,RIN ,Tag Cement @ 245mtrs
9:00	19:15	10.25	Drill Out Cement From 245 to 318mtrs
19:15	19:30	0.25	Safety Meeting
19:30	19:45	0.25	Rig Service
19:45	20:30	0.75	Drill Out Cement From 318 to 326mtrs
20:30	22:00	1.50	Drill formation from 323m to 326m
22:00	22:15	0.25	Circulate Hole Clean
22:15	0:00	1.75	Leak off Test , 725psi for 10 mins., 1015 Mud Weight

24 HOUR Forcast :

Drill 6.25 Hole

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)				REPORT #:	18	DATE:	December 10, 2005
DEPTH 24:00:	546.0 m	PROGRESS:	220.0 m	Last 24 Hr Rotating Time:	10.75 hr	Ave ROP	20.5 m/hr
OPER 06:00:	630m			FOREMAN:	Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:		HOLE CND.:	Good	WEATHER:	Clear	TOOLPUSH:	Tom Targett
CUM COST:		RIG / RIG #:	Ingersoll Rand RD10	TEMP.:	-2°C	T.P. MOBILE:	709-649-4957
FORMATION:		K.B. ELEV.:	3.3 m	ROADS:	Clear		

BIT PERFORMANCE

Bit No.	2		
Size (mm)	159		
Mfg.	Mission		
Type	Hammer		
Serial #	A42766		
Nozzles	OPEN		
From (mKB)	326		
To (mKB)	546		
Hrs on Bit	10 3/4		
WOB (daN)	2		
RPM	20		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			2 7/8 IF
2	Stabilizer			2 7/8 IF x 2 7/8 IF
3				

BHA Length:		Hook Load:		DP size	
Avail WOB:		Jts DP Racks	100	DC Conn:	
Jts DP in hole:	71	DP on Loc:	152	DP Conn:	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	10 3/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	3/4
Tripping	11 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	3/4	Drill Out Cmt		BOP Drill	1/2
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

DRILLING FLUID

Time	
Depth(m)	
Density	AIR
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

VOLUMES M^3

Water added	
Losses	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	0.01
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	4084	min
Bottoms Up	1084	min
Tanks	30	m3
Hole Volume	11	m3
System Vol.	41	m3

Mud & Chemicals Added:

Mud Daily Cost

Mud Cum Cost

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: 24 (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 9, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	3:30	3.50	Rig out Flowline , Rig in Air Discharge Line,Blow Kelly,Install Rotating Head,POOH,Change to Air Hammer
3:30	4:00	0.50	BOP Drill
4:00	4:15	0.25	Rig Service
4:15	9:00	4.75	Rebuild Air Hammer
9:00	12:00	3.00	Make up Air Hammer , RIH
12:00	12:30	0.50	Safety Meeting
12:30	12:45	0.25	Rig Service
12:45	13:45	1.00	Blow Hole Clean
13:45	19:00	5.25	Drill 159mm Hole From 326 to 432mtrs
19:00	19:15	0.25	Safety Meeting / Crew Change
19:15	23:45	4.50	Drill 159mm Hole From 432 to 546mtrs
23:45	0:00	0.25	Rig Service

24 HOUR Forcast :

Continue To Drill 159mm Hole

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 19	DATE:	December 11, 2005
DEPTH 24:00:	737.0 m	PROGRESS: 191.0 m	Last 24 Hr Rotating Time:	12.25 hr	Ave ROP 15.6 m/hr
OPER 06:00:	Drill at 820m		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	-3°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2		
Size (mm)	159		
Mfg.	Mission		
Type	Hammer		
Serial #	A42766		
Nozzles	OPEN		
From (mKB)	326		
To (mKB)	546		
Hrs on Bit	10 3/4		
WOB (daN)	2		
RPM	20		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °
473 m	4.00 °
621 m	5.50 °
737 m	4.00 °

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			2 7/8 IF
2	Stabilizer			2 7/8 IF x 2 7/8 IF
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 128	DP Conn:	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	2	Plug Back	
Drill Actual	12 1/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/4	NU BOP's		Safety meet	1/4
Tripping	8 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	1/4
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

DRILLING FLUID

Time	
Depth(m)	
Density	air
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

VOLUMES M^3

Water added	
Losses	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	8000
Calc Hole Fill	air
Act Hole Fill	
Lst BOP Drill:	10-Dec-05
Calc Hole Fill	
Act Hole Fill	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	30	m3
Hole Volume	15	m3
System Vol.	45	m3

Mud & Chemicals Added:

Mud Daily Cost

Mud Cum Cost

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 10, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	8:00	8.00	Drill from 546m to 668m
8:00	8:15	0.25	Rig service
8:15	12:30	4.25	Drill from 668m to 737m
12:30	12:45	0.25	Safety meeting
12:45	13:00	0.25	Circulate hole clean
13:00	14:00	1.00	Pull out of hole from 737m to 550m
14:00	14:15	0.25	BOP drill. Well secure in 2 minutes
14:15	16:45	2.50	Pull out of hole from 550m to 157m
16:45	22:00	5.25	Run in hole hole to 737m without drill string floats and complete totco survey
22:00	0:00	2.00	Replace drill string float subs at 473m and 676m. Run in hole to 737m

24 HOUR Forcast :

Continue to drill main hole section

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 20	DATE:	December 12, 2005
DEPTH 24:00: 935.0 m	PROGRESS: 198.0 m		Last 24 Hr Rotating Time: 14.00 hr	Ave ROP	14.1 m/hr
OPER 06:00: Wait on loggers			FOREMAN: Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:	HOLE CND.: Good		WEATHER: Clear	TOOLPUSH:	Tom Targett
CUM COST:	RIG / RIG #: Ingersoll Rand RD10		TEMP.: 1°C	T.P. MOBILE:	709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m		ROADS: Good		

BIT PERFORMANCE

Bit No.	2		
Size (mm)	159		
Mfg.	Mission		
Type	Hammer		
Serial #	A42766		
Nozzles	OPEN		
From (mKB)	326		
To (mKB)	546		
Hrs on Bit	10 3/4		
WOB (daN)	2		
RPM	20		
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °
473 m	4.00 °
621 m	5.50 °
737 m	4.00 °

DRILLING FLUID

Time	
Depth(m)	
Density	air
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	0	min
Bottoms Up	0	min
Tanks	30	m3
Hole Volume	19	m3
System Vol.	49	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	0	0	2 7/8 IF
2	Stabilizer	0	0	2 7/8 IF x 2 7/8 IF
3	0	0	0	0

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 128	DP Conn:	

VOLUMES M³

Water added	
Losses	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	8000
Calc Hole Fill	air
Act Hole Fill	
Lst BOP Drill:	10-Dec-05

Mud Daily Cost	$0				
Mud Cum Cost	$0				

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	0	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	14	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping	3 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Wait on Loggers	3
MU/LD BHA	2 1/2	Hndle Tools		Total Hrs	24 0

24 HOUR SUMMARY FOR THE DATE : December 11, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:15	0.25	Run in hole from 700m to 737m.
0:15	3:15	3.00	Drill main hole section from 737m to 776m
3:15	3:30	0.25	Rig service
3:30	14:30	11.00	Drill main hole section from 776m to 935m.
14:30	14:45	0.25	Rig Service
14:45	15:00	0.25	Safety Meeting
15:00	18:30	3.50	Pull out of hole from 935m to surface.
18:30	19:30	1.00	Change hammer out and make up tricone bit
19:30	21:00	1.50	Lay down stabilizer and bit on catwalk
21:00	0:00	3.00	Wait on loggers. Shut in well and monitor pressure.

24 HOUR Forcast :

Wait on loggers. Complete wiper trip to TD

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 21	DATE:	December 13, 2005
DEPTH 24:00:	935.0 m	PROGRESS:	Last 24 Hr Rotating Time:		Ave ROP
OPER 06:00:	Run in with wireline tools		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	1°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.			
Size (mm)	159		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °
473 m	4.00 °
621 m	5.50 °
737 m	4.00 °

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			2 7/8 IF
2	Stabilizer			2 7/8 IF x 2 7/8 IF
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 128	DP Conn:	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/4	NU BOP's		Safety meet	1/4
Tripping	7 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	1/2
Repair Rig		DST		Wait on loggers	11
Slip/Cut Line		Clean tanks	4 1/2	Total Hrs	24

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

VOLUMES M^3

Water added	
Losses	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	8000
Calc Hole Fill	air
Act Hole Fill	
Lst BOP Drill:	12-Dec-05

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	30	m3
Hole Volume	19	m3
System Vol.	49	m3

Mud & Chemicals Added:

Mud Daily Cost

Mud Cum Cost

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 12, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	8:00	8.00	Wait on loggers
8:00	8:30	0.50	BOP drill while out of hole
8:30	11:30	3.00	Wait on loggers
11:30	12:00	0.50	Clean circulating tank and fill hole with fluid
12:00	14:30	2.50	Run in hole with tricone to 323m, fill hole with fluid
14:30	18:00	3.50	Clean circulating tank
18:00	18:15	0.25	Safety meeting
18:15	18:30	0.25	Rig service
18:30	19:00	0.50	Fill mud tanks with fresh water. Fluid level stable in hole.
19:00	20:45	1.75	Run in hole from 323m to 935m TD. 1m of fill
20:45	21:00	0.25	Circulate hole clean
21:00	0:00	3.00	Pull out of hole. Drill string torqued up and trouble with break out ram.

24 HOUR Forcast :

Run wireline logs in open hole section

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 22	DATE:	December 14, 2005
DEPTH 24:00:	935.0 m	PROGRESS:	Last 24 Hr Rotating Time:		Ave ROP
OPER 06:00:	Wait on Cement		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH: Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	3°C	T.P. MOBILE: 709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.			
Size (mm)			
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °
473 m	4.00 °
621 m	5.50 °
737 m	4.00 °
929 m	3.75 °

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1
Make	Gardner Denver
Model	PY-7
Liner X Stk	6"x 7"
SPM	40
Pump Eff.	95%
Pump Rate	
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle	min
Bottoms Up	min
Tanks	m3
Hole Volume	m3
System Vol.	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			2 7/8 IF
2	Stabilizer			2 7/8 IF x 2 7/8 IF
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1	Plug Back	
Drill Actual		Logging	8 1/4	Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC	5	Mix LCM	
Cond / Circ	1 3/4	NU BOP's		Safety meet	
Tripping	7	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	1/2
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 13, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:15	0.25	Rig Service
0:15	0:45	0.50	BOP Drill While Tripping
0:45	4:45	4.00	Pull Out Of Hole
4:45	12:00	7.25	Rig Up and Run Wire Line Loggs With Baker
12:00	13:00	1.00	Rig Out and Lay Down Logging Tools
13:00	13:15	0.25	Rig Service , Function Blind Rams
13:15	16:15	3.00	RIH open Ended
16:15	16:45	0.50	Break Circulation
16:45	17:45	1.00	Survey @ 929 Mtrs , 3.75 Degrees
17:45	19:00	1.25	Circulate
19:00	0:00	5.00	Wait on daylight

24 HOUR Forcast :

Set suspension cement plugs

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 23	DATE:	December 15, 2005
DEPTH 24:00:	Rig Out	PROGRESS: #VALUE!	Last 24 Hr Rotating Time:	Ave ROP	#VALUE!
OPER 06:00:	Wait on Cement		FOREMAN: Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:		HOLE CND.: Good	WEATHER: Drizzle	TOOLPUSH:	Tom Targett
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 8°C	T.P. MOBILE:	709-649-4957
FORMATION:		K.B. ELEV.: 3.3 m	ROADS: Slippery		

BIT PERFORMANCE

Bit No.			
Size (mm)			
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °
473 m	4.00 °
621 m	5.50 °
737 m	4.00 °
929 m	3.75 °

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	
Make	
Model	
Liner X Stk	
SPM	
Pump Eff.	
Pump Rate	
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks		m3
Hole Volume	#VALUE!	m3
System Vol.	#VALUE!	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit			2 7/8 IF
2	Stabilizer			2 7/8 IF x 2 7/8 IF
3				

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 152	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 14, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	10:00	10.00	Wait on Cement / Rig Out
10:00	10:45	0.75	Set Cement Plug @ 935mtrs,2.5Cubes,15.2ppg,20MPA
10:45	12:45	2.00	POOH to 327mtrs
12:45	13:15	0.50	Set Cement Plug # 2 @ 338mtrs,1.5Cubes,15.2ppg,20MPA,
13:15	13:45	0.50	POOH to 152mtrs
13:45	0:00	10.25	Wait on Cement / Rig Out

24 HOUR Forcast :

Set Plug #3 @ Surface, (Tag Top Of Plug #2 @ 290mtrs)

Vulcan Minerals

DAILY DRILLING REPORT

Well Name: Hurricane #2 (Whip #1)			REPORT #: 24	DATE:	December 16, 2005
DEPTH 24:00:	PROGRESS: 0.0 m		Last 24 Hr Rotating Time: 0.00 hr	Ave ROP	
OPER 06:00: Wait on Daylight			FOREMAN: Tom Targett	MOBILE NO.:	709-689-4601
DAILY COST:	HOLE CND.:		WEATHER: Clear	TOOLPUSH:	Tom Targett
CUM COST:	RIG / RIG #: Ingersoll Rand RD10		TEMP.: -1°C	T.P. MOBILE:	709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m		ROADS: Slippery		

BIT PERFORMANCE

Bit No.			
Size (mm)			
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

19 m	0.25 °
171 m	2.00 °
323 m	3.75 °
473 m	4.00 °
621 m	5.50 °
737 m	4.00 °
929 m	3.75 °

DRILLING FLUID

Time	
Depth(m)	
Density	
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	
Make	
Model	
Liner X Stk	
SPM	
Pump Eff.	
Pump Rate	
Pump Press.	
Drillpipe AV	
Drillcollar AV	
Nozzle Vel	

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	0	0	2 7/8 IF
2	Stabilizer	0	0	2 7/8 IF x 2 7/8 IF
3	0	0	0	0

BHA Length:	Hook Load:	DP size	
Avail WOB:	Jts DP Racks	DC Conn:	
Jts DP in hole:	DP on Loc: 128	DP Conn:	

VOLUMES M³

Water added	
Losses	

MUD & CHEMICALS

Mud Cycle	0	min
Bottoms Up	0	min
Tanks		m3
Hole Volume	0	m3
System Vol.	0	m3

Mud & Chemicals Added:

Mud Daily Cost	$0
Mud Cum Cost	$0

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	5 1/4	Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing	1/2	Work Pipe	
Rm Rathole		WOC	4	Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping	1	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		Wait on Daylight	13
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	0	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : December 15, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	5:00	5.00	Wait on Daylight
5:00	6:00	1.00	RIH , Tag Cement @ 290mtrs , POOH TO 58mtrs
6:00	10:00	4.00	Wait on Cement
10:00	10:15	0.25	Safety Meeting
10:15	10:45	0.50	Cement Top Plug,Pump .50 Cubes of water ,.50 Cubes cement ,15.2ppg ,20mpa Displace Pipe
10:45	12:00	1.25	Nipple Down BOP's
12:00	16:00	4.00	Clean and Inspect BOP's , Make ready to Ship to St.John's, Load Pipe Trailer for Storage in Harvey's Yard
16:00	0:00	8.00	Wait on Daylight

24 HOUR Forcast :

Continue to Rig Out , Get Loads Ready FOR Shipment