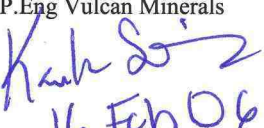





## FINAL WELL REPORT

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<b>Revision:</b>	<b>Version 0</b>
<b>Operating Company:</b>	<b>Vulcan Minerals Inc</b>
<b>Well Name:</b>	<b>Flat Bay #3</b>
<b>Rig:</b>	<b>Ingersoll Rand RD10</b>
<b>Field:</b>	<b>Flat Bay</b>
<b>Location:</b>	<b>St. Georges Bay, Western Newfoundland, Canada</b>
<b>Date:</b>	<b>6 January 2006</b>
<b>Revised On:</b>	<b>N/A</b>

Prepared by: Karla Smith, P.Eng Vulcan Minerals  Date: 16 Feb 06	Reviewed by: Patrick Laracy, P.Geo Vulcan Minerals  Date: Feb. 26/06.
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APPENDIX J: DAILY OPERATIONAL REPORTS

## 1 Introduction

Flat Bay #3 was the fourth 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 370.3-m from rig floor (RF) vertical well was drilled in accordance with the Drilling Program Approval #DPA2005-116-01 and Authority to Drill Well #ADW2005-116-01-02 under Permit #96-105 (see Appendix B).

The Flat Bay #3 340-mm cellar casing was set at 11.53-mRF with 4.5-m<sup>3</sup> of cement for a good shoe to hold back the overburden. The 311-mm hole was drilled to 29-m then the 244.5-mm casing was set to 29-m and cemented into place with cement to surface. The hole was air drilled with a 219.1-mm BHA to 141-mRF. 245-mm casing was run to 140.87-mRF and cemented into place with cement returns to surface. Blow out preventors were nipped up and hi-low pressured tested against surface casing. Formation integrity test was executed at 144-m resulting in a calculated pressure gradient of 48.3-kPa/m. The hole was continued with a 158.75-mm BHA to a total depth of 370.3-mRF. Open hole logs (High Density Induction, Fluid Resistivity, Compensated Z-Densilog, Compensated Neutron, Gamma Ray, and Caliper) were run to 367-m. The well was capped and suspended.

## 2 General Information

Well Name	Flat Bay #3
Exploration Permit	96-105
Drilling Program Approval	DPA 2005-116-01
Authority to Drill Well	ADW 2005-116-01-02
NAD 27 Coordinates	N 5360084.76 E 384421.89
Survey System	Differential Survey Related To C.M. 84G4148

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

## 3 Difficulties and Delays

### 3.1 *Abandonment of Original Hole – Flat Bay #3a*

The initial well, entitled Flat Bay #3a, was spudded on 2005-10-01 by drilling out the 245-mm casing set at 18.7-m and drill to 36-m with the 215.9-mm bottom hole assembly.

While drilling the 215.9-mm section, partial lost circulation of drilling fluid and sloughing of the overburden was experienced. The rig was released on 2005-10-01 and skidded approximately 12-m east for the construction of Flat Bay #3 well.

For the abandonment of the hole, a 2-m<sup>3</sup> 1820-kg/m<sup>3</sup> class A cement plug was placed from TD at 36-m to surface, the 244.5-mm casing was then cut 1-m below ground level and abandoned without footprint.

## 4 Drilling Operations

### 4.1 Elevation

Well Name	Flat Bay #3
Ground Level	45.36-m MSL
Casing Flange	Not Applicable
Rig Floor	48.66-m MSL

### 4.2 Total Depth

Well Name	Flat Bay #3
Total Drilled Depth	370.3-mRF
Logged Depth	141 to 370.3-mRF
Plugged-Back Depth	3.3-mRF (Well head cap)

### 4.3 Important Dates and Status

Well Name	Flat Bay #3
Spud	2005-10-07
Drilling Completed	2005-10-12
Rig Release	2005-10-14
Well Status	Suspended

### 4.4 Hole Sizes and Depths

Well Name	Flat Bay #3
311.1-mm Hole	29-mRF
219.1-mm Hole	141-mRF
158.8-mm Hole	370.3-mRF

#### 4.5 Bit Records

Flat Bay #3								
Bit Number	Size [mm]	Type	Depth In [mRF]	Depth Out [mRF]	Meterage [m]	Hours [h]	ROP [m/h]	Pulled Condition
1	311	Varel CH24MS	11.53	29	17.47	15.5	1.12	Good
2	219	Mission Air Hammer	29	140.87	111.87	8.75	12.79	Good
3	156	Varel ETD34	140.87	144	3.13	1.75	1.79	Good
4	159	Mission Air Hammer	144	370.5	226.5	12.75	17.76	Good

#### 4.6 Casing Record

314-mm cellar line pipe was installed at 11.53-mRF.

Well Name	Flat Bay #3	
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	15
Connection Type	8Rd Short	8Rd Short
Depth of Shoe [mRF]	29	141
Casing Hanger and Seal	N/A	Casing Head Type W

#### 4.7 Cementing Record

Well Name	Flat Bay #3	
Casing Size [mm]	244.5	177.8
Centralizer Spacing		As necessary
Slurry Volume [m <sup>3</sup> ]	2.0	3.0
Slurry Density [kg/m <sup>3</sup> ]	1820	1820
Cement Class	A	A
Cement Additives	1-liter per m <sup>3</sup> slurry Grace Adva 100	1-liter per m <sup>3</sup> slurry Grace Adva 100
Cement Top [mRF]	3.3	3.3
Cement Base [mRF]	29	141
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-mm conductor hole section was drilled with Federal Supreme gel water with final properties that included mud weight of 1040-kg/m<sup>3</sup>, funnel viscosity 42-sec and 8pH.

The remainder of the well was drilled with air from 29m to total depth of 370.5m.

#### **4.10 Fluid Disposal**

While drilling Flat Bay #3a, a lost circulation zone was encountered between 19-m and 36-m RF. Total gel water fluid loss was 30-m<sup>3</sup> (see Section 3.1).

No lost circulation was experienced while drilling Flat Bay #3 and as a result there was no downhole fluid disposal.

Pardy's Waste Management was contracted to dispose of the drilling fluid contained in mud tanks on site in accordance with Government regulations.

#### **4.11 Well Kicks**

Not applicable.

#### **4.12 Formation Leak-Off Tests**

Formation integrity test was executed on Flat Bay #3 at 144-m with 1020-kg/m<sup>3</sup> mud weight to 5516-kPa that had no pressure drop during stabilization for a calculated pressure gradient of 48.3-kPa/m



### 4.13 Time Distribution

Operation Type	Cumulative Time [hrs]	Cumulative Time [%]
Rig Up / Tear Out	0	0.0%
Drill with Fluid	25.5	10.5%
Drill with Air	13.5	5.6%
Reaming	3	1.2%
Coring	0	0.0%
Ream Rathole	0.75	0.3%
Condition & Circulate Mud	13.5	5.6%
Tripping	32.75	13.5%
Mix Drilling Fluid	1	0.4%
Rig Service	6.25	2.6%
Survey	2.25	0.9%
Logging	5.75	2.4%
Run Casing	7.5	3.1%
Cementing	1.75	0.7%
Wait on Cement	22.5	9.3%
Nipple Up/Down BOPs	14.5	6.0%
Test BOPs	5.5	2.3%
Drill out Cement	4	1.6%
Drill Stem Test	0	0.0%
Handle Tools	0	0.0%
Plug Back	0	0.0%
Fishing	0	0.0%
Work Pipe	0	0.0%
Mix Lost Circulation Material	0	0.0%
Safety Meeting	2	0.7%
BOP Drill	0.5	0.2%
Clean out Tanks	5.5	2.3%
Shut Down for Night	0	0.0%
Waiting on Materials	0	0.0%
Waiting on Services	54.25	22.3%
Waiting on Orders	11.25	4.6%
Pressure Integrity Test / Leak Off Test	1.25	0.5%
Make up Wellhead	8.5	3.5%
<b>Total Operational Time</b>	<b>243</b>	<b>100.0%</b>
<b>Total Non-Productive Time</b>	<b>84.25</b>	<b>34.7%</b>

#### **4.14 Deviation Plot**

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

<b>Depth</b>	<b>Deviation</b>	<b>Measurement Tool</b>
42-m	1.75°	Totco
134-m	1.25°	Totco
302-m	3.00°	Totco
370-m	4.00°	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 Flat Bay #3.

Log Type	Depth Interval Logged
High Density Induction	367-m to 140.7-m
Fluid Resistivity	367-m to 140.7-m
Compensated Z-Desilog	360-m to 140.7-m
Compensated Neutron	367-m to 140.7-m
Gamma Ray	367-m to 25-m
Caliper	360-m to 140.7-m

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

### 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**

---

ELEVATIONS  
WELL HEAD 42.71  
VALVE 42.44  
VALVE 42.54  
GROUND 41.73

FLAT BAY # 1  
N 5360238.83  
E 384434.94



GRID NORTH  
NAD27  
UTM ZONE 21

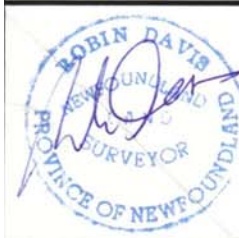
TANK



ELEVATIONS  
TOP WELL HEAD 45.95  
VALVE 45.77  
GROUND 45.36

FLAT BAY # 3  
N 5360084.76  
E 384421.89

NOTE:  
COORDINATES RELATE TO  
C.M. 84G4148 HAVING COORDINATES  
OF N 5361647.39 E 382471.40  
AND ELEVATION OF 25.87



PLAN SHOWING LOCATION FOR  
FLAT BAY # 1 & FLAT BAY # 3  
FLAT BAY ROAD  
FLAT BAY, NEWFOUNDLAND AND LABRADOR

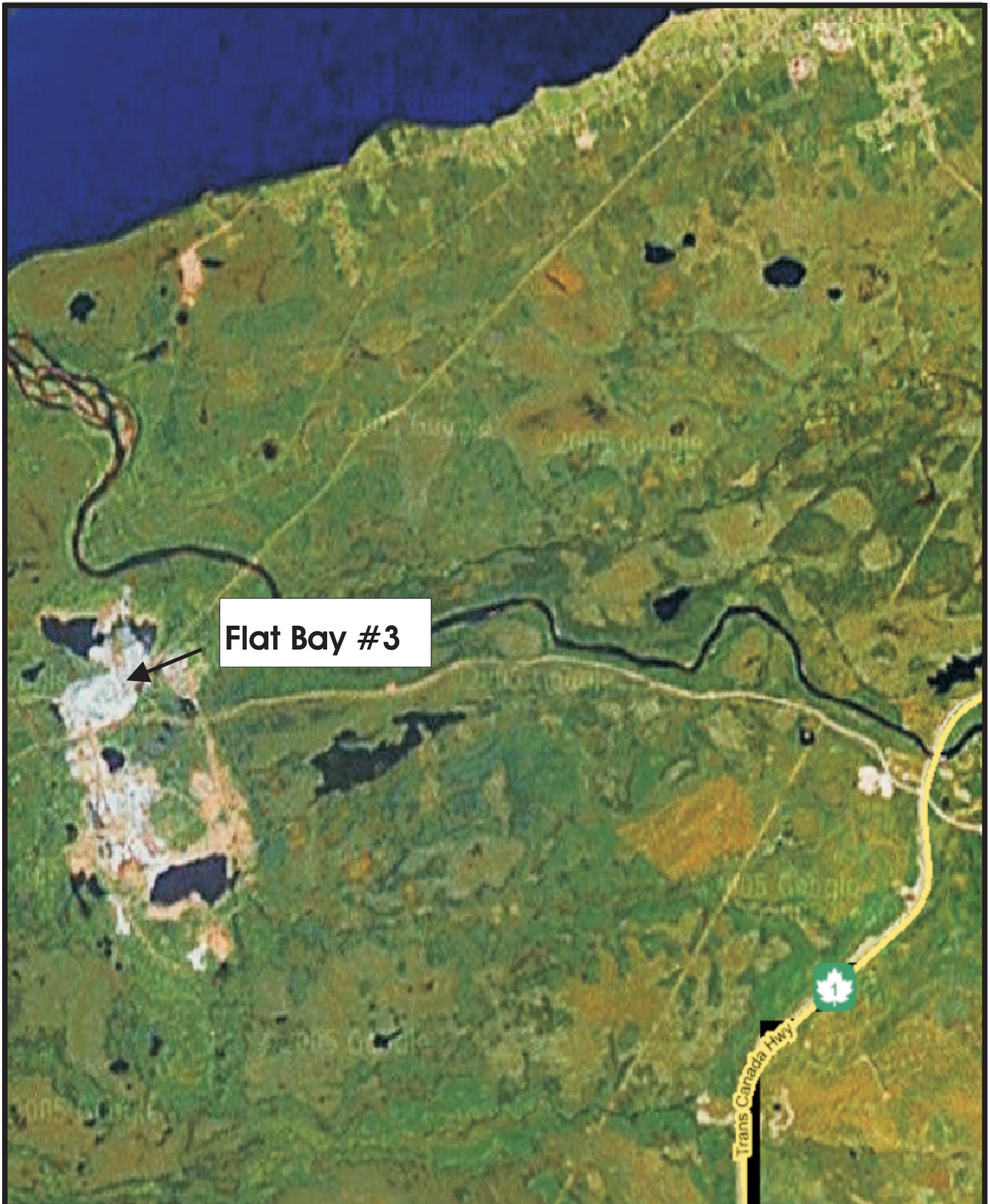
R. DAVIS SURVEYS LTD.  
P.O. BOX 449  
STEPHENVILLE CROSSING, NL

DWG. NO.:  
5138-1

SCALE:  
1 :750

DRAWN BY:  
R.D.

DATE:  
NOV. 4, 2005



**Flat Bay #3**



**Vulcan Minerals Inc.  
2005 Flat Bay#3 Location  
Petroleum Permit 96-105**

**Scale: 1 : N/A**

**Drawn by: K.Smith  
Date: 2005Sept15**

**Drawing No: FlatBay#3  
Rev: 1**

## **APPENDIX B: DRILLING PROGRAM APPROVAL AND AUTHORITY TO DRILL WELL**





# DRILLING PROGRAM APPROVAL

## APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*<sup>1</sup>, Vulcan Minerals Inc,  
as operator on behalf of Vulcan Minerals Inc, holding a  
subsisting licence, permit or lease issued pursuant to the *Petroleum Regulations*<sup>2</sup>, 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: [Signature]  
Operator's Representative

Date: June 10/05

## 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 31<sup>st</sup> 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*<sup>3</sup>, 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: [Signature]  
Director

Effective Date: July 18, 2005



# AUTHORITY TO DRILL A WELL

## APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*<sup>1</sup> and in compliance with section 29 of the *Petroleum Drilling Regulations*<sup>2</sup>, Vulcan Mineral Inc., as operator, hereby applies for Authority to Drill a Well to be known as Flat Bay #3 using the equipment and procedures described in the well program dated 15 August, 2005. Permit, Licence or Lease to which this Program applies: 96-105

Area: <u>Western Newfoundland</u> Field/Pool: <u>FLAT BAY</u>	<b>CO-ORDINATES</b>	
	Long: Lat:	<b>UTM (NAD 27)</b> Northing: 5 360 050m Easting: 384 450m
Drilling Rig: Ingersoll Rand Rig Type: RD10 Drilling Contractor: Vulcan Minerals Inc.	<b>ELEVATION</b>	
	RT/KB/RF: G.L.: 135m	<b>DEPTH</b> T.D.: 600m TVD: 600m
<b>ESTIMATES</b>		<b>TARGET HORIZONS</b>
Spud Date: 22 August 05 Days on Location: 20	Well Cost: \$700,000	<u>Piscology Bl. Conductor etc</u>

## EVALUATION PROGRAM

Ten-metre sample intervals: If high penetration rates	Conventional cores at:
Five-metre sample intervals: From conductor casing to TD	Logs and Tests:
Canned sample intervals:	HRLA - CNL - DSI - MCFL - TLD - CAL

## CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m)	Cementing Program
244.5	53.6	J55	30	Class A
177.8	25.3	H40	150	Class A
114.3	14.14	J55	600	Class A as per Schlumberger Cement Program
<b>Other Equipment:</b> 21 MPa BOPs, Rotating Head, Annular Preventer				

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

Signed:   
Operator's Representative

Date: ..15 August 2005.....

## 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 change 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:   
Director

Effective Date: Sept. 21<sup>st</sup>, 2005

Authority to Drill a Well No. 2005-116-01-02

## **APPENDIX C: CEMENT PROPOSALS AND REPORTS**

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## **SURFACE CASING CEMENTATION PROGRAM**

<b>Revision:</b>	<b>Version 0</b>
<b>Operating Company:</b>	<b>Vulcan Minerals Inc</b>
<b>Hole Name:</b>	<b>Flat Bay #3</b>
<b>Rig:</b>	<b>Ingersoll Rand RD10</b>
<b>Field:</b>	<b>Flat Bay</b>
<b>Location:</b>	<b>St. Georges Bay, Western Newfoundland, Canada</b>
<b>Date Issued:</b>	<b>31 August 2005</b>
<b>Date Revised:</b>	<b>N/A</b>

## **Purpose**

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 scheduled to occur on second week in September 2005.

## Cement Operations Program

### Casing Properties

<b>Casing</b>	<b>244.5mm (9 5/8-in)</b>	<b>177.8mm (7-in)</b>
Depth	30-m (98-ft)	150m (492-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 <sup>3</sup> /m	0.47 m <sup>3</sup>	0.47 m <sup>3</sup>
Annular – Casing to Open Hole	0.0118 m <sup>3</sup> /m	1.42 m <sup>3</sup>	2.48 m <sup>3</sup>
Casing (Shoe Track)	0.0217 m <sup>3</sup> /m	0.20 m <sup>3</sup>	0.20 m <sup>3</sup>
Casing (Displacement)	0.0217 m <sup>3</sup> /m	3.06 m <sup>3</sup>	3.06 m <sup>3</sup>
<b>Total Cement Volume</b>		<b>2.08 m<sup>3</sup></b>	<b>3.14 m<sup>3</sup></b>

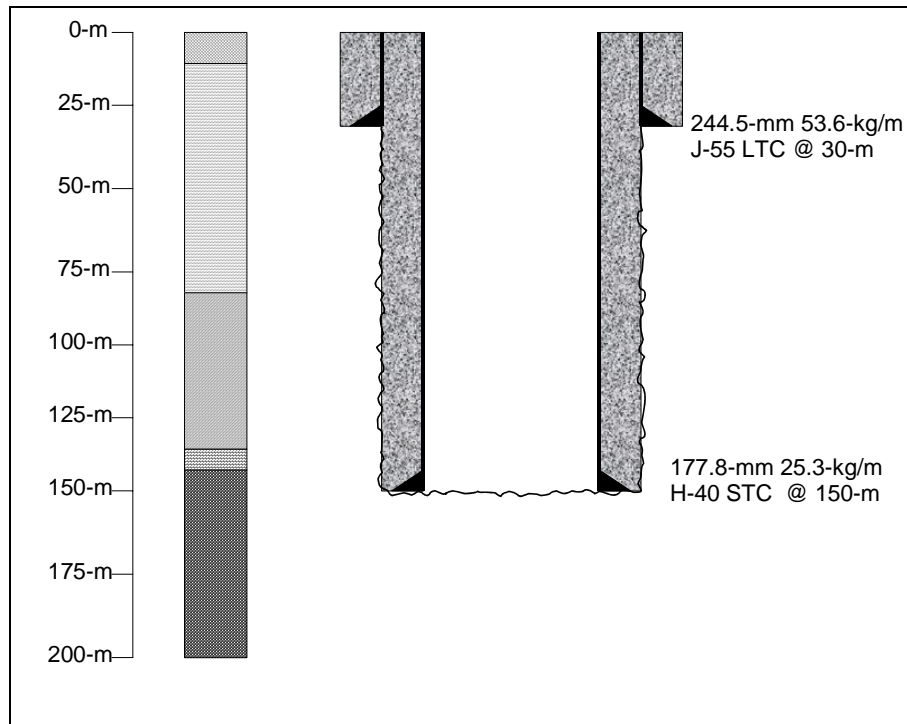
### Cement System

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 <sup>3</sup> slurry

Density 1821-kg/m<sup>3</sup> (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 and connect Gardner Denver PY7 triplex pump to freshwater tank.
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<sup>3</sup> of freshwater spacer.
8. Pump pre-mix cement (estimated 3.1 m<sup>3</sup> assuming shoe at 150-m, 3-m rig elevation to ground level, 9-m shoe track and 75% access required) at a rate of approximately 0.3-m<sup>3</sup>/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 3.0 m<sup>3</sup> assuming shoe at 150-m and 9-m shoe track) with Gardner Denver PY7 Triplex pump at a rate of 0.6-m<sup>3</sup>/min assuming 95% pumping efficiency.
12. For the last 0.5m<sup>3</sup> 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***

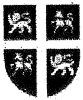
The scenario that the plug does not bump, that means the casing cannot be pressure testing with wet cement. Therefore, if plug does not bump then the casing pressure test shall be conducted after cement is set.

### ***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.

## **APPENDIX D: WELL TERMINATION RECORD & WELL SCHEMATIC**





PRD-949/40

WELL TERMINATION RECORD

WELL DATA

Well Name: Flat Bay #3	CO-ORDINATES	
Operator: Vulcan Minerals Inc.	Long:	UTM (NAD 83)
Drilling Rig: Ingersoll Rand RD10	Lat:	Northing: 5360084.76 Easting: 384421.89
Rig Type: Hydraulic Single	ELEVATION	
Drilling Contractor: Vulcan Minerals Inc.	RT/KB/RE: 48.66 G.L.: 45.36	DEPTH TD: 370 TVD: 370
FOR NR USE ONLY		
For the purpose of interpreting subsection 154(5) of the Petroleum Drilling Regulations, the rig release date is deemed to be: ..... 14 October 2005 .....		
Spud Date: 7 October 2005		
TD Date: 12 October 2005		
Rig Release Date: 14 October 2005		
Well Termination Date: 14 October 2005		

CASING AND CEMENTING PROGRAM

O.D. (mm)	WEIGHT (kg/m)	GRADE	SETTING DEPTH (m)	CEMENTING DETAILS
244.5	53.6	J-55	29	0.5m <sup>3</sup> preflush, 2m <sup>3</sup> 1820-kg/m <sup>3</sup> Class A, cement returns
177.8	25.6	H-40	142.57	0.5m <sup>3</sup> preflush, 3m <sup>3</sup> 1820-kg/m <sup>3</sup> Class A, cement returns

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 14 October 2005

Type of Plug	Interval	Felt/Pressure Tested	Cement and Additives

Lost Circulation/Overpressure Zones: .....

Downhole Completion/Suspension Equipment:

Capped with wellhead – see attached sketch

(Describe and Attach Sketch)

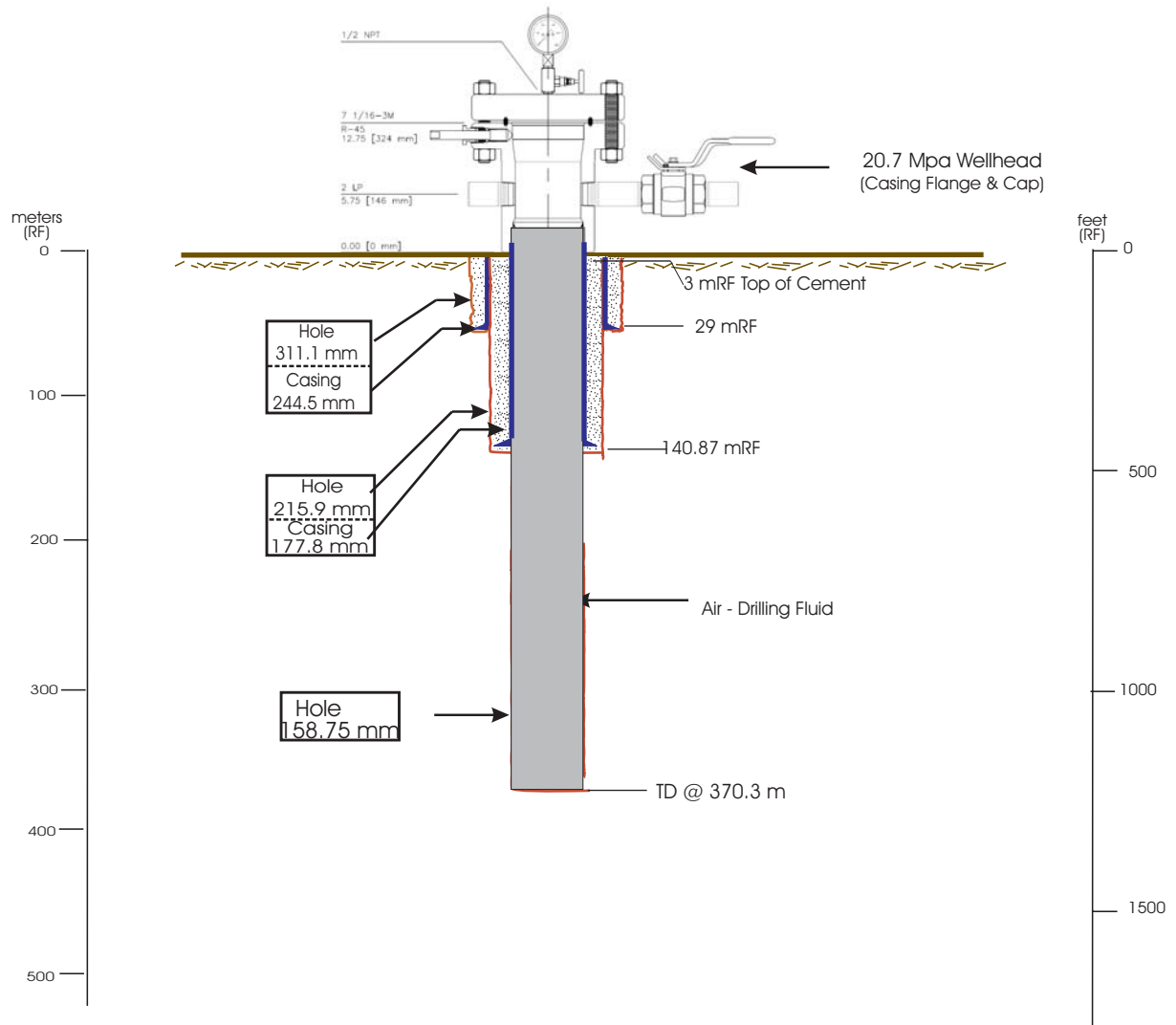
DECLARATION

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 LARSEN Date Nov 03/05

ACKNOWLEDGEMENT

Acknowledged by [Signature] Date 16 Jan 06  
 Director



Suspension Operations  
Oct14th, 2005



Vulcan Minerals Inc.  
Flat Bay #3  
Suspension Configuration

Scale: 1 : N/A

Drawn by: K. Smith  
Date: 13 Oct 2005

Drawing No: Fb3 - SUSP  
Rev: 1



WELL TERMINATION RECORD

WELL DATA

Well Name: Flat Bay #3a	CO-ORDINATES	
Operator: Vulcan Minerals Inc.	Long:	UTM (NAD 27)
Drilling Rig: Ingersoll Rand RD10	Lat:	Northing: 5360084 Easting: 384410
Rig Type: Hydraulic Single	ELEVATION	
Drilling Contractor: Vulcan Minerals Inc.	RT/KB/RF: 48.66 G.L.: 45.36	DEPTH TD: 36 IVD: 36
FOR NR USE ONLY		
For the purpose of interpreting subsection 154(5) of the Petroleum Drilling Regulations, the rig release date is deemed to be:		
..... 1 October 2005 .....		
Spud Date: 1 October 2005		
TD Date: 1 October 2005		
Rig Release Date: 1 October 2005		
Well Termination Date: 1 October 2005		

CASING AND CEMENTING PROGRAM

O.D. (mm)	WEIGHT (kg/m)	GRADE	SETTING DEPTH (m)	CEMENTING DETAILS
244.5	53.6	J-55	18.7	0.5m <sup>3</sup> preflush, 2m <sup>3</sup> 1820-kg/m <sup>3</sup> Class A, cement returns

PLUGGING PROGRAM

Approval of the following program was obtained by (person) ..... of the Department of Natural Resources by means of from (person) ..... dated .....

Type of Plug	Interval	Felt/Pressure Tested	Cement and Additives
Cement	36m to surface	visible	2m <sup>3</sup> 1820-kg/m <sup>3</sup> Class A

Lost Circulation/Overpressure Zones: .....

Downhole Completion/Suspension Equipment:

See attached sketch

(Describe and Attach Sketch)

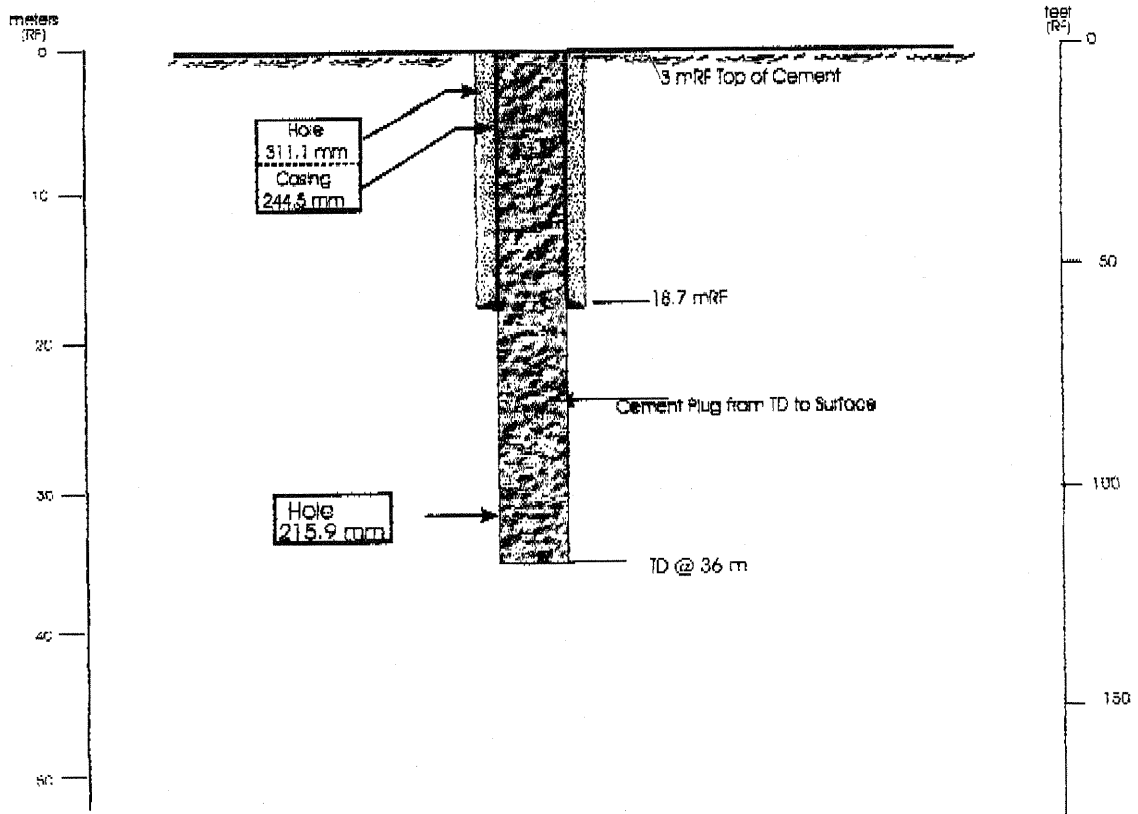
DECLARATION

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 RODOLPH LAMAY Date Nov. 03/05

ACKNOWLEDGEMENT

Acknowledged by [Signature] Date 11/03/05  
 Director



Suspension Operations  
Oct1st, 2005

**VULCAN**  
minerals inc

**Vulcan Minerals Inc.**  
**Flat Bay #3a**  
**Abandonment Configuration**

Scale: 1 : N/A

Drawn by: K. Smith  
Date: 1 Oct 2005

Drawing No: Fb3a - Abandon  
Rev: 0

## **APPENDIX E: COMPOSITE WELL RECORD & TIME VERSUS DEPTH CURVE**

**Flat Bay #3 Exploration Well, October 2005**

Position: projection NAD 27: 384421.89-mE, 5360084.76-mN, GL + 45.36-m, RF = + 3.3-mGL



All depths are MD RF

Depth	Lithology Description	Lithology Column	Curve Track	Casing Scheme	Drilling Data				DF & Cementing			Remarks	
					Deviation:	Bit:	BHA:	Comments:	Drilling Fluid:	Cement:	Comments:		
0	Overburden			244.5-mm 63.6-kg/m @ 29-m 177.8-mm 25.33-kg/m H-40 8Rd Short @ 140.87-m		#1. 11.53-m to 29-m 311-mm Varol CH24MS S/N RR01394 Tricone; meterage: 17.47-m; 15.5-hrs; ROP: 1.12-m/h; RPM 75-80	Bit .10m, Stabilizer. 4.86 m		#1. Federal Supreme gel water; MW 1040-kg/m <sup>3</sup> ; Funnel Vis 42-sec; pH 8	One stage cement job. Pump 0.5-m <sup>3</sup> H <sub>2</sub> O preflush. Pump 2-m <sup>3</sup> Class A 15.2-ppg cement slurry. Displace with 0.9-m <sup>3</sup> H <sub>2</sub> O.	*Made check trip to 29-m before running casing. * 20% open hole excess * Cement returns at cellar		
25	Gypsum				1.75° @ 42-m Totco	#2. 29-m to 140.87-m 219-mm Mission Air Hammer; meterage: 111.87-m; 8.75-hrs; ROP: 12.78-m/h; RPM 20	Bit 1.31m, Stabilizer. 3.90 m		Type: Air	One stage cement job. Pump 0.5-m <sup>3</sup> water preflush. Pump 3-m <sup>3</sup> 1820 kg/m <sup>3</sup> class A cement. Displaced with 2.8-m <sup>3</sup> water.	* Cementation by Vulcan Minerals * 75% open hole excess * Wiper plug not bumped * Cement returns to surface * Wiper plug found at 93-m		
50	Anhydrite					1.25° @ 134-m Totco	#3. 140.87-m to 144-m 156-mm Varel ETD S/N 206625; meterage: 3.13-m; 1.75-hrs; ROP: 1.79-m/h; RPM 20	Bit 0.20m, Stabilizer. 3.65 m	* FIT @ 144-m with 1020-kg/m <sup>3</sup> MW to 5515-kPa, no pressure drop.	Type: Air			
125	Ship Cove Limestone						#4. 144-m to 370.5-m 159-mm Mission Air Hammer; meterage: 226.5-m; 12.75-hrs; ROP: 12.78-m/h; RPM 20	Bit 1.06m, Stabilizer. 3.65 m					
150	Fishells Brook				3.00° @ 302-m Totco								
175													
200													
225													
250	Basement				4.00° @ 370-m Totco								
275													
300													
325													
350													
375													

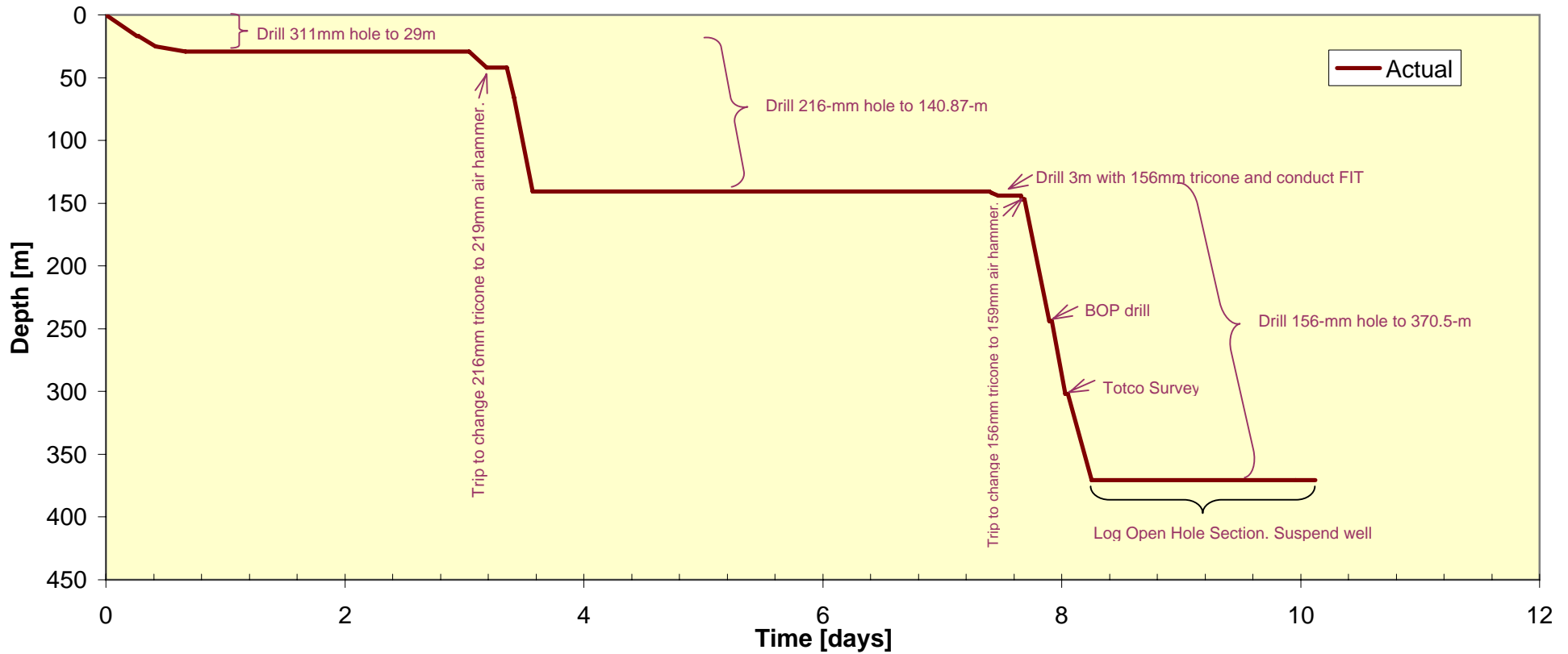
REMARKS: Licence 96-105 Spud Date: Oct 7, 2005 @ 15:00 Rig Release: Oct 14, 2005 @ 17:00  
 Rig: Vulcan Minerals Inc. Ingersoll Rand RD-10 Total Operational Hours: 243 Percentage Operational NPT: 34.7%

Open Hole Logging Run by Baker Atlas Wireline:  
 High Density Induction 367-m to 140.7-m  
 Fluid Resistivity 367-m to 140.7-m  
 Compensated Z-Desilog 360-m to 140.7-m  
 Compensated Neutron 367-m to 140.7-m  
 Gamma Ray 3.3-m to 140.7-m  
 Caliper 360-m to 140.7-m



<b>Operating Company</b>	Vulcan Minerals	<b>Mob Start</b>	22-Jun-05
<b>Well Name</b>	Flat Bay #3	<b>Spud Date</b>	07-Oct-05
<b>Rig</b>	Ingersoll Rand RD10	<b>Rig Release</b>	14-Oct-05
<b>Field</b>	St. Georges	<b>Demob End</b>	16-Oct-05

Actual



**Total Non-Productive Time 34.67%**

## **APPENDIX F: DRILL CUTTINGS DESCRIPTION & LITHOLOGY**

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Geological Report  
*on*

**VULCAN MINERALS FLAT BAY # 3**

*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, and data gathered from previous drilling in the area Vulcan Minerals decided to drill the FLAT BAY # 3 prospect. This well was spudded on October 4<sup>th</sup>, 2005 @ 1415 hrs. Surface casing was set @ 140.87 meters and a 159 mm main hole was drilled to a depth of 370.5 meters using AIR. Total Depth was reached on October 12<sup>th</sup>, 2005 @ 1940 hrs. The well was terminated in basement rock; a granitic looking intrusive / metamorphic rock containing abundant quartz, k-feldspar and a soft dark micaceous looking sometime magnetic material possibly hornblende. The top of the terminating rock is 341.0 meters. Live hydrocarbons was encountered @ approximately 45.0 meters within the evaporitic anhydrite / gypsum section and continued and increased into the Fichells Brook Conglomerate (136.0 meters) down to a depth of approximately 195.0 meters where only trace occurrences are present.

**WELL DATA SUMMARY**

**Operator:** Vulcan Minerals Inc.  
**Client Name:** Vulcan Minerals Inc.  
**Well Name:** Flat Bay # 3  
**Well Licence Number:** 96-105  
**Surface Location:** Western Newfoundland, Canada  
**Surface Co-ordinates:** Northing: 5360084.76m Easting: 384421.89m  
**Bottom Hole Location:** Western Newfoundland, Canada  
**Bottom Hole Co-ordinates:** Northing: 5360084.76m Easting: 384421.89m  
**Primary Objective:** Test seismic targets  
**Spud Time and Date:** 1830hrs 10/07/2005  
**Total Depth Time and Date:** 1800hrs 10/12/2005  
**Well Status:** Suspended  
**Elevations:** **Ground:** 45.36 m **K.B.:** 48.66 m  
**Total Depth:** **Driller:** 370.50 m **Logger:** 370.20 m  
**Terminating Formation:** Undefined  
**Sample Interval:** **From:** 9.40 m **To:** 370.50 m  
**Gas Detector:** Operated from 29.0 - 370.5 meters.  
**Geologist:** Corey Fitzgerald  
**Drilling Foreman:** Tom Targett  
**Comments:** The well was drilled with AIR from 140.87 to 370.5 meters. Gas detection with this system appears to be of poor quality.

**FORMATION TOPS**

KB: 48.66

<b>Formation</b>	<b>Prognosis</b>	<b>Sample Depth</b>	<b>Log Depth</b>
	<b>MD</b>	<b>MD</b>	<b>MD</b>
OVERBURDEN	0.00	0.00	0.00
GYPSUM	12.00	24.00	N/A
ANHYDRITE	85.00	41.00	43.00
SHIP COVE LIMESTONE	137.00	116.00	119.00
FISCHELLS BROOK	142.00	136.00	132.00
BASEMENT	401.00	341.00	340.00

**BIT RECORD**

<b>Bit #</b>	<b>Size (mm)</b>	<b>Type</b>	<b>Depth In (m)</b>	<b>Depth Out (m)</b>	<b>Meters Drilled</b>	<b>Hours</b>	<b>Condition</b>
1	311.00	Varel	0.00	29.00	29.00	18.5	
2	216.00	Mission	29.00	140.90	111.90	8.75	
1	156.00	Varel	141.00	144.00	3.00	4.75	49.0 meters of cement drilled
2	159.00	Mission	144.00	370.50	126.50	12.75	

**LOGGING REPORT**

<b>Logging Company:</b>	Baker Hughes	<b>G.L. (m):</b>	45.36
<b>Engineer:</b>	Y. Obiri	<b>K.B. (m):</b>	48.66
<b>Truck #:</b>	HSL 8616	<b>Mud Type:</b>	AIR
<b>Mud Density (Kg/M):</b>	N/A	<b>Bit Size (mm):</b>	159.00
<b>Water Loss (C.C.'s):</b>	N/A	<b>Depth: Driller (m)</b>	370.50
<b>Viscosity (Sec):</b>	N/A	<b>Depth: Logger (m)</b>	370.20
<b>RM:</b>	N/A	<b>Ohm-m @</b>	N/A °C
<b>RMF:</b>	N/A	<b>Ohm-m @</b>	N/A °C
<b>RMC:</b>	N/A	<b>Ohm-m @</b>	N/A °C
		<b>Casing: Driller (m)</b>	140.87
		<b>Casing: Logger (m)</b>	140.70

<b>Hole Conditions Remarks Prior to Logging:</b>	Good
--	------

**Sequence of Operations**

Logs	Time Spent	Remarks
HDIL/ZDL/CN/GR	1.5	Neutron log is not compensated. Only Short Spaced Neutron counts were displayed due to 'Air filled borehole'

<b>Run in Hole:</b>	1	<b>Succeeded:</b>	1	<b>Failed:</b>	
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<b>Comments:</b>	
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**MECHANICAL SUMMARY***Hole Size and Casing Summary*

Stage	Hole Size (mm)	Interval (m)	Casing Size	Casing Wt/Grd/Thread
Surface	216.00	0 – 140.87	177.8mm, 28.8 kg/m	H-40 STC

*Mud System Summary*

Mud Company:	N/A		Intervals (m – m)
Mud Type:	Surface:	AIR	29.0 – 140.87
	Main Hole:	AIR	140.87 – 370.5

*Deviation Surveys*

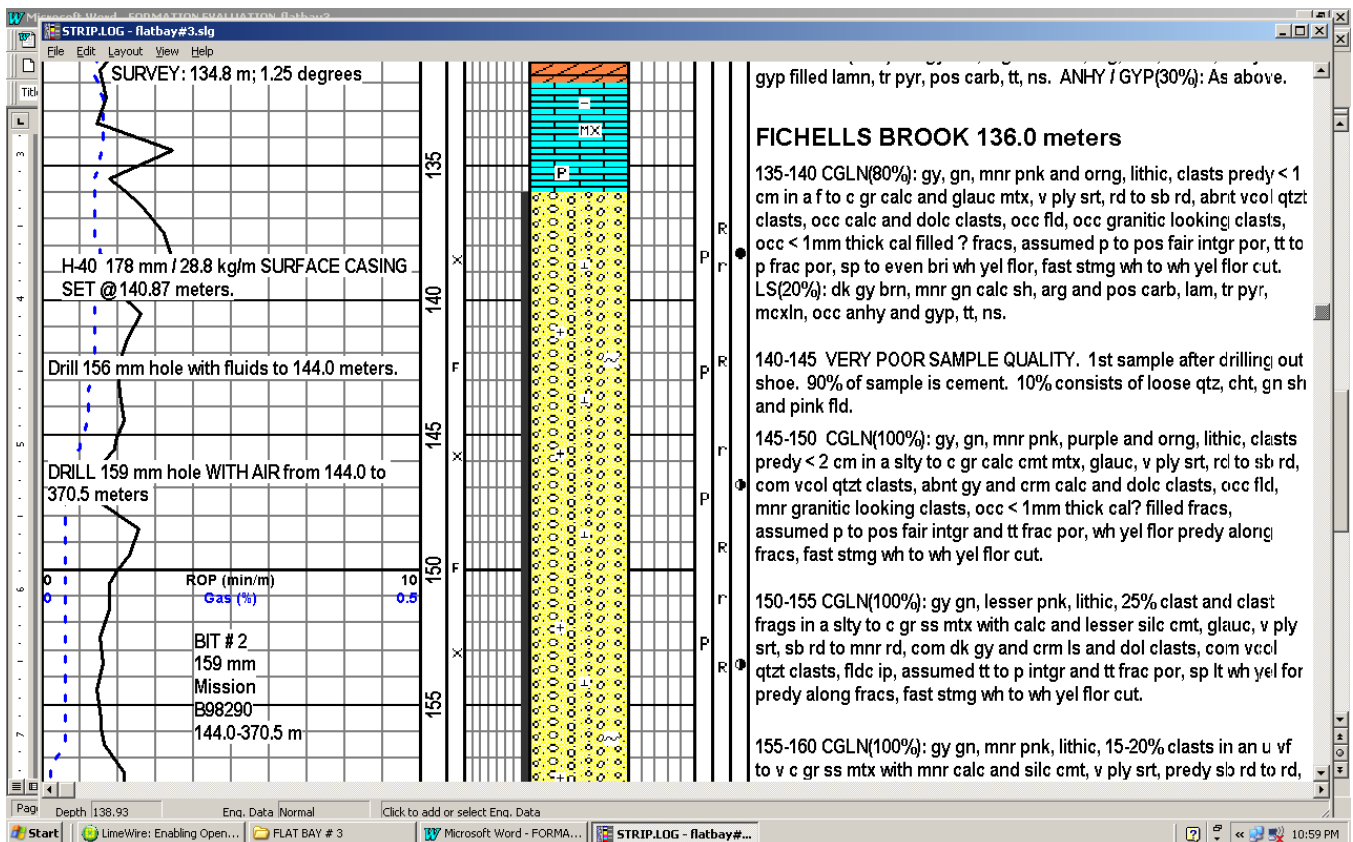
Depth	Angle
42.0	1.75
134.75	1.25
302.0	3.0
370.5	4.0



## FORMATION EVALUATION

### Fichells Brook Conglomerate (135.0 meters - log depth)

The Fichells Brook Conglomerate in this well is described as a grey, green with minor pink, purple and orange, lithic, conglomerate. Clasts vary in abundance and make up to 50% of sample and consist predominantly of limestone and dolomite with varying amounts of quartzite and granitic looking clasts, in a silty to coarse grained calcareous cement matrix. The conglomerate is glauconitic, very poorly sorted, rounded to sub rounded, common varicolored quartzite clasts, abundant gray and cream calcareous and dolomitic clasts, occasional feldspar and minor granitic looking clasts. Also present are occasional < 1 mm thick calcite? filled fractures, assumed poor to possible fair intergranular and tight fracture porosity. Indication of hydrocarbons first appear in fractures within the anhydrite directly above the Fichells Brook conglomerate. Within the Fichells Brook, hydrocarbons occur at 136.0 meters down to approximately 195.0 meters where only trace amounts occur. The show is described as; white yellow fluorescence predominantly along fractures, occasionally on grains, with a fast streaming white to white yellow fluorescence cut. The Fichells Brook conglomerate appears to have poor reservoir potential in this well.



# DETAILED SAMPLE DESCRIPTIONS

Geologist: Corey Fitzgerald.

SPUDDED on Oct. 4th, 2005 at 1415hrs.

Total Depth of 370.5 meters reached on October 12<sup>th</sup>, 2005 @ 1940 hrs

**10-15 OVERBURDEN / TILL:** predominant white to translucent quartz grains and fragments, fine grained to possible pebble, firm, occasional feldspar, occasional biotite, common calcareous material, occasional dark green crystalline fragments, occasional varicolored chert grains and fragments, predominantly angular, clean, minor gypsum and anhydrite, unconsolidated, common vitreous quartz.

**15-20 OVERBURDEN:** As above, with an increasing salt and pepper very fine to fine sand component.

**20-24 OVERBURDEN:** light gray to translucent to white, abundant angular varicolored quartz and chert grains and fragments, very fine grained to pebble, minor biotite, common dark green, crystalline fragments, occasional hard siliceous sandstone.

**24-29 OVERBURDEN(50%):** As above.

**GYP SUM(50%):** white, predominantly microcrystalline and slightly chalky, soft to slightly firm in places, massive, occasional limestone, minor dolomitic material, possible minor crystalline anhydrite, weak oil odour when acid added, minor yellow fluorescence, no fluorescence cut.

**29-35 GYP SUM(100%):** white to light white gray, soft, chalky to microcrystalline, massive, minor dark argillaceous material?, 40% of sample is possibly light white gray microcrystalline anhydrite, 10 to 15% light gray brown microcrystalline to crystalline argillaceous limestone stringers, tight, no shows.

**35-40 GYP SUM (100%):** white to light white gray, soft, chalky to microcrystalline, massive, minor dark argillaceous material?, 30 to 40% of sample is either microcrystalline gypsum or a light white gray microcrystalline anhydrite, 15 to 20% light gray brown microcrystalline to crystalline argillaceous limestone stringers, tight, no shows.

**40-45 ANHYDRITE (80%):** blue gray, gray brown, lesser light white gray, microcrystalline to slightly cryptocrystalline, slightly argillaceous in part, dolomitic and calcareous in part possible as stringers, blocky, firm, tight, no shows.

**GYPSUM(20%):** white to light white gray, predominantly chalky to lesser microcrystalline, soft, massive, tight, no visible cut, faint white yellow oil residue.

**45-50 ANHYDRITE(90%):** blue gray to increasing gray brown, minor light white gray, firm in part, microcrystalline, argillaceous in part, increasing calcareous and lesser dolomitic within gray brown material, blocky, tight, light faint white yellow oil residue when tested for cut.

**GYPSUM(10%):** As above, gypsum getting powdered when drilled and getting washed out of sample.

**50-55 ANHYDRITE(70%):** blue gray to gray brown, firm, microcrystalline, argillaceous in part, calcareous and lesser dolomitic within gray brown anhydrite, blocky, tight, minor white yellow fluorescence, faint light white yellow oil residue.

**GYPSUM(30%):** white to light white gray, predominantly chalky to lesser microcrystalline, soft, powdery, massive.

**55-60 ANHYDRITE(65%):** blue gray to gray brown, firm, microcrystalline, argillaceous in part, calcareous and lesser dolomitic within gray brown material, blocky, tight, minor white yellow fluorescence, faint light white yellow oil residue.

**GYPSUM(35%):** white to light white gray, predominantly chalky to lesser microcrystalline, soft, powdery, massive, tight, no shows.

**60-65 ANHYDRITE (100%):** blue gray to gray brown, lesser light white gray, common gypsum, firm, microcrystalline, 30% gray brown argillaceous limestone and lesser dolomitic anhydrite / gypsum fragments, blocky, frosted, tight, possible fracture porosity, minor white yellow fluorescence, faint light white yellow oil residue.

**65-70 ANHYDRITE (60%):** blue gray to gray brown, lesser light white gray, firm, microcrystalline, 30% gray brown argillaceous limestone and lesser dolomitic anhydrite / gypsum fragments, blocky, frosted, tight, possible fracture porosity, no shows.

**GYPSUM(40%):** soft chalky to lesser microcrystalline, massive, possible spotty to even oil staining, spotty yellow fluorescence, slow to moderately streaming white to very faint white yellow fluorescence cut.

**70-75 GYPSUM(40%):** soft, chalky to lesser microcrystalline, minor crystalline, massive, possible even light brown oil staining, show as described in anhydrite.

**ANHYDRITE (60%):** blue gray to gray brown, lesser light white gray, firm, microcrystalline, 30% gray brown argillaceous limestone and lesser dolomitic stringers, blocky, frosted, tight, possible fracture porosity, oil odour when acid added, spotty to even light brown oil staining, even yellow fluorescence, slow to moderately streaming white fluorescence cut, white to white yellow fluorescence residue.

**75-80 ANHYDRITE(80%) / GYPSUM(20%):** blue gray, gray brown, white gray, microcrystalline to lesser crystalline in part, clean, massive, frosted, white chalky soft massive gypsum, firm, 15 to 20% calcareous and lesser dolomitic sections, tight, possible poor fracture porosity, trace to spotty white to white yellow fluorescence predominantly along thin fractures, slow streaming white to faint white yellow fluorescence cut, white to white yellow oil residue.

**80-90 ANHYDRITE(90%) / GYPSUM(10%):** blue gray, gray brown, white gray, white chalky soft massive gypsum, microcrystalline to lesser crystalline in part, massive, frosted, firm, common calcareous and dolomitic sections, tight, possible fracture porosity, show as above.

**90-95 ANHYDRITE(90%) / GYPSUM(10%):** blue gray, gray brown, white gray, white chalky soft massive gypsum, microcrystalline to lesser crystalline in part, massive, frosted, firm, common calcareous and dolomitic sections, tight, possible poor fracture porosity, spotty yellow fluorescence predominantly along assumed < 1mm fractures, no visible cut, faint white yellow oil residue.

**95-100 ANHYDRITE(80%) / GYPSUM(20%):** blue gray to increasing gray brown and cream, lesser white gray, white chalky soft massive gypsum, microcrystalline to crystalline, massive, frosted, hard, common calcareous and dolomitic sections, rare pyrite, tight, possible fracture porosity, spotty yellow fluorescence, slow white to light white yellow fluorescence cut, faint white yellow oil residue.

**100-110 ANHYDRITE(75%) / GYPSUM(25%):** light gray to common gray brown and cream, lesser blue gray, white chalky soft massive gypsum, microcrystalline to crystalline, massive, frosted, hard, common gray brown and cream argillaceous calcareous and dolomitic sections, tight, possible fracture porosity, spotty yellow fluorescence, slow white to light white yellow fluorescence cut, faint white yellow oil residue.

**110-115 ANHYDRITE(75%) / GYPSUM(25%):** white gray to gray brown and cream, lesser blue gray, white chalky soft massive gypsum, microcrystalline to crystalline, massive, frosted, argillaceous in part, hard, common gray brown and cream calcareous and dolomitic sections, tight, possible poor fracture porosity, spotty yellow fluorescence along fractures, slow white to light white yellow fluorescence cut, faint white yellow oil residue.

**115-120 LIMESTONE(40%):** brown gray, firm, blocky, argillaceous, frosted, tight, no shows.  
**ANHYDRITE(25%) / GYPSUM(35%):** white gray to gray brown and cream, lesser blue gray, white chalky soft massive gypsum, microcrystalline to crystalline, massive, frosted, argillaceous in part, hard, common gray brown and cream calcareous and dolomitic sections, tight to poor intercrystalline porosity, possible poor fracture porosity, possible light brown oil stain, spotty white to dull yellow fluorescence, moderately white to light white yellow fluorescence cut, faint white yellow oil residue.

**120-125 ANHYDRITE(85%) / GYPSUM(15%):** gray brown and cream, lesser white gray and blue gray, minor white chalky soft massive gypsum, microcrystalline to crystalline, massive, frosted, argillaceous in part, hard, trace sand grains, common gray brown and cream calcareous and dolomitic sections, tight, possible poor fracture porosity, spotty yellow fluorescence, moderately to slow white to light white yellow fluorescence cut, white yellow oil residue.

**125-130 LIMESTONE(40%):** dark gray brown, argillaceous, massive, microcrystalline, firm, tight, no shows.  
**ANHYDRITE(45%) / GYPSUM(15%):** gray brown and cream, lesser white gray and blue gray, minor white chalky soft massive gypsum, microcrystalline to crystalline, massive, frosted, argillaceous in part, hard, trace sand grains, common gray brown and cream calcareous and dolomitic sections, tight, possible poor fracture porosity, spotty to even light brown oil stain, even yellow fluorescence along fractures, moderately to slow white to light white yellow fluorescence cut, white yellow oil residue.

**130-135 LIMESTONE(70%):** dark gray brown, trace green calcareous shale, argillaceous, firm, microcrystalline, anhydrite and gypsum filled lamination, trace pyrite, possible carbonaceous, tight, no shows.  
**ANHYDRITE / GYPSUM(30%):** As above.

## FICHELLS BROOK 136.0 meters

**135-140 CONGLOMERATE(80%):** gray, green, minor pink and orange, lithic, clasts predominantly < 1 cm in a fine to coarse grained calcareous and glauconitic matrix, very poorly sorted, rounded to sub rounded, abundant varicolored quartzite clasts, occasional calcareous and dolomitic clasts, occasional feldspar, occasional granitic looking clasts, occasional < 1mm thick calcite filled ? fractures, assumed poor to possible fair intergranular porosity, tight to poor fracture porosity, spotty to even bright white yellow fluorescence, fast streaming white to white yellow fluorescence cut.

**LIMESTONE(20%):** dark gray brown, minor green calcareous shale, argillaceous and possible carbonaceous, laminated, trace pyrite, microcrystalline, occasional anhydrite and gypsum, tight, no shows.

**140-145 VERY POOR SAMPLE QUALITY.** 1st sample after drilling out shoe. 90% of sample is cement. 10% consists of loose quartz, chert, green shale and pink feldspar.

**145-150 CONGLOMERATE(100%):** gray, green, minor pink, purple and orange, lithic, clasts predominantly < 2 cm in a silty to coarse grained calcareous cement matrix, glauconitic, very poorly sorted, rounded to sub rounded, common varicolored quartzite clasts, abundant gray and cream calcareous and dolomitic clasts, occasional feldspar, minor granitic looking clasts, occasional < 1mm thick calcite? filled fractures, assumed poor to possible fair intergranular and tight fracture porosity, white yellow fluorescence predominantly along fractures, fast streaming white to white yellow fluorescence cut.

**150-155 CONGLOMERATE(100%):** gray green, lesser pink, lithic, 25% clasts and clast fragments in a silty to coarse grained sandstone matrix with calcareous and lesser siliceous cement, glauconitic, very poorly sorted, sub rounded to minor rounded, common dark gray and cream limestone and dolomite clasts, common varicolored quartzite clasts, feldspathic in part, assumed tight to poor intergranular and tight fracture porosity, spotty light white yellow for predominantly along fractures, fast streaming white to white yellow fluorescence cut.

**155-160 CONGLOMERATE(100%):** gray green, minor pink, lithic, 15 to 20% clasts in an upper very fine to very coarse grained sandstone matrix with minor calcareous and siliceous cement, very poorly sorted, predominantly sub rounded to rounded, minor sub angular, common k to feldspar, common green material, common varicolored siliceous clasts, occasional dark gray and cream limestone and lesser dolomitic clasts, occasional granitic clasts, occasional thin calcite? filled fractures, minor kaolinitic, assumed tight to possible poor intergranular and tight fracture porosity, show as above.

**160-170 CONGLOMERATE(100%):** gray green, minor pink, lithic, 15 to 20% clasts in an silty to very coarse grained sandstone matrix with minor calcareous and siliceous cement, very poorly sorted, predominantly sub rounded to rounded, minor sub angular, common k to feldspar, common green material, common varicolored siliceous clasts, occasional dark gray and cream limestone and dolomitic clasts, occasional thin calcite? filled fractures, minor kaolinitic, assumed tight to possible poor intergranular and tight fracture porosity, spotty light white yellow fluorescence, fast streaming light white yellow fluorescence cut.

**170-175 CONGLOMERATE(100%):** gray green, minor pink, lithic, 15 to 20% clasts in an upper very fine to very coarse grained sandstone matrix with minor calcareous and siliceous cement, very poorly sorted, predominantly sub rounded to rounded, minor sub angular, common k to feldspar, common green material, common varicolored siliceous clasts, occasional dark gray and cream limestone and dolomitic clasts, occasional thin calcite? filled fractures, minor kaolinitic, assumed tight to possible poor intergranular and tight fracture porosity, spotty light white yellow

fluorescence, fast streaming light white yellow fluorescence cut.

**175-180 CONGLOMERATE(100%):** gray green, minor pink, lithic, 25 to 30% pebble < 1 cm, medium to very coarse grained sandstone matrix, trace calcareous and siliceous ? cement, poorly sorted, rounded to sub rounded, common pink and orange feldspar, common green possible glauconitic material, common varicolored cherty clasts, occasional limestone and lesser dolomitic clasts, occasional thin fractures partly filled with white material possible calcite, assumed tight to possible poor intergranular and tight fracture porosity, spotty light oil stain, spotty light white yellow fluorescence, fast streaming white yellow fluorescence cut.

**180-185 CONGLOMERATE(100%):** As above, lithic, 20% clasts in a fine to very coarse grained sandstone matrix with minor calcareous and siliceous cement, very poorly sorted, predominantly sub rounded to rounded, common limestone and dolomitic clasts, minor kaolinitic, assumed tight to possible poor intergranular and tight fracture porosity, show as above.

**185-190 CONGLOMERATE(100%):** light gray cream to light gray green, minor pink, lithic, 15% pebble, predominant very fine to coarse grained, common very coarse grained sandstone matrix, minor calcareous cement, poorly sorted, rounded to sub rounded, occasional to common k to feldspar and green possible glauconitic grains, common varicolored calcareous grains, occasional limestone and varicolored chert clasts, tight to possible poor intergranular and poor fracture porosity, possible trace to spotty light oil stain, trace to spotty white yellow fluorescence, fast streaming white yellow fluorescence cut.

**190-195 CONGLOMERATE(100%):** light gray green to light gray cream, minor pink, lithic, 15 to 20% < 1 cm clasts, predominantly fine to coarse grained lesser silt and very coarse grained sandstone matrix, minor calcareous and trace siliceous cement, poorly sorted, sub rounded to rounded, abundant varicolored limestone grains and clasts, occasional chert clasts, occasional to common k to feldspar, occasional granitic looking clasts, glauconitic, tight to poor intergranular porosity, assumed poor fracture porosity, trace white yellow fluorescence, fast streaming white yellow fluorescence cut.

**195-200 CONGLOMERATE(100%):** pink / green gray, lithic, 15% predominantly dark gray cryptocrystalline limestone clasts, silty to coarse grained matrix, calcareous and lesser siliceous cement, poorly sorted, predominantly sub rounded to lesser sub angular, common soft green material, common pink and orange feldspar and quartz grains, minor siliceous grains and clasts, common varicolored calcareous grains, slightly ferruginous staining, tight to poor intergranular porosity, poor fracture porosity, trace to trace spotty yellow fluorescence, fast streaming white yellow fluorescence cut.

**200-210 CONGLOMERATE(100%):** green / pink gray, lithic, 40% clasts < 2 cm, predominantly fine to very coarse sandstone matrix, silty in part, minor calcareous and trace siliceous cement, very poorly sorted, sub rounded to lesser sub angular, abundant predominantly dark gray and white cream with lesser varicolored limestone and increasing dolomitic grains and clasts, common deep red brown and green siliceous clasts, minor dark chert clasts, glauconitic in part, occasional to common soft green material, feldspathic in part, tight to poor intergranular porosity, porosity fracture porosity, rare white yellow fluorescence, show as above.

**210-215 CONGLOMERATE(100%):** green / pink gray, lithic, 50% clasts, predominantly fine to very coarse sandstone matrix, silty in part, minor calcareous and trace siliceous cement, very poorly sorted, sub rounded to lesser sub angular, abundant predominantly dark gray and white cream with lesser varicolored limestone and common dolomitic grains and clasts, common red brown and green siliceous clasts, glauconitic in part, occasional to common soft green material, feldspathic in part, minor ferruginous staining, tight to poor intergranular and fracture porosity, no shows.

**215-220 CONGLOMERATE(100%):** green / pink gray, lithic, 40% clasts, predominantly fine to very coarse sandstone matrix, silty in part, minor calcareous and trace siliceous cement, kaolinite in part, very poorly sorted, sub rounded to minor sub angular, abundant predominantly dark gray and white cream with minor varicolored limestone and dolomitic clasts, common red brown and green siliceous clasts, common soft green material, increasingly feldspathic, tight to poor intergranular and fracture porosity, trace white yellow fluorescence, moderately streaming white yellow fluorescence cut.

**220-225 CONGLOMERATE(100%):** As above, lithic, 20 to 25% clasts, predominantly fine to very coarse sandstone matrix, silty in part, calcareous and kaolinite cement, sub rounded, abundant limestone and dolomitic clasts, common siliceous clasts, common soft green material, feldspathic, tight to poor intergranular and fracture porosity, rare white yellow fluorescence, moderately streaming white yellow fluorescence cut.

**225-230 CONGLOMERATE(100%):** green / pink gray, lithic, 25 to 30% clasts, predominantly silty to medium grained, occasional to common coarse grained and lesser very coarse grained matrix, minor calcareous and kaolinitic cement, trace siliceous cement, very poorly sorted, rounded to sub angular, common cryptocrystalline to microcrystalline cream and dark gray limestone and dolomite clast, occasional k to feldspar, common green possible kaolinite material, common varicolored quartzic clasts, assumed tight to poor intergranular and fracture porosity, no shows.

**230-235 CONGLOMERATE(100%):** green / pink gray, lithic, 25% clasts, predominantly silty to lesser coarse grained matrix, minor calcareous and increasing kaolinitic cement, trace siliceous cement, poorly sorted, rounded to sub angular, common cryptocrystalline to microcrystalline limestone and dolomite clast, occasional k to feldspar, common green material, trace hemite, trace hematite,



assumed tight to poor intergranular and fracture porosity, no shows.

**235-240 SANDSTONE / CONGLOMERATE(60%):** red brown, light gray, lithic, 5% clasts, predominantly silty to medium grained, occasional to common coarse to very coarse grained, very poorly sorted, rounded to sub angular, minor calcareous lesser siliceous cement, occasional white and green kaolinitic material, occasional cream and gray calcareous and dolomitic clasts and grains, occasional white chalky calcareous material, occasional varicolored quartzitic clasts, occasional k to feldspar, common green material, firm to friable, tight to poor intergranular porosity, rare white yellow fluorescence, slow streaming white yellow fluorescence cut.

**SILTSTONE / CLAYSTONE(40%):** red brown, silty, sandy in part, abundant red brown clay, calcareous, siliceous in part, predominantly soft, micaceous in part, slightly argillaceous in part, hemititic, trace magnetic material.

**240-245 CONGLOMERATE(100%):** As above, pink gray, lithic, 30% clasts, calcareous, poorly sorted, sub rounded to sub angular, kaolinite in part, common varicolored limestone and dolomitic clasts, occasional siliceous clasts, kaolinite in part, common pink feldspar, tight, no shows.

**245-250 CONGLOMERATE(100%):** orange green gray, lithic, 25% predominantly limestone, dolomite and lesser quartzitic clasts, fine to coarse sandstone matrix, minor calcareous and increasing kaolinitic cement, possible trace siliceous cement, poorly sorted, sub rounded to sub angular, occasional k to feldspar, occasional to common green either glauconitic or kaolinitic material, common calcareous and dolomitic grains, rare pyrite, rare hemitite, minor ferruginous staining, tight, no shows.

**250-255 CONGLOMERATE(100%):** As above, orange gray, lithic, 30 to 35% limestone, dolomite and minor quartzitic clasts, calcareous and common kaolinite cement, fine to very coarse grained, sub rounded to sub angular, feldspathic, hemititic, occasional ferruginous staining, possible sideritic, assumed tight to poor porosity, no shows.

**255-260 CONGLOMERATE(100%):** orange pink gray, lithic, 35% clasts as above, upper fine to coarse grained, calcareous and kaolinite cement, sub angular to sub rounded, common ferruginous staining, common k to feldspar, minor red brown siltstone, siliceous in part, common dark green firm to soft possible mafic clasts,

**260-265 CONGLOMERATE(100%):** orange pink, lithic to sub lithic, 10 to 15% clasts, calcareous and siliceous cement, kaolinite in part, predominantly sub angular to minor sub rounded, ferruginous staining, common k to feldspar, minor red brown siltstone, trace hemitite, occasional dark green material, assumed tight to poor intergranular porosity.

**265-270 CONGLOMERATE(100%):** red brown, green gray, lithic, 25% limestone to dolomite to quartzite to granitic clasts, very fine to coarse grained with occasional very coarse grained sandstone matrix, minor calcareous and lesser siliceous cement, slightly kaolinitic, abundant red brown and orange tan siliceous grains and fragments, occasional green material, occasional k to feldspar, tight to poor intergranular porosity, no shows.

**270-275 SANDSTONE / SILTSTONE(100%):** red brown to white, lithic, upper fine to very coarse grained, poorly sorted, rounded to sub rounded, 25 to 30% of sample is a red brown calcareous siltstone/claystone, 15% white kaolinite, occasional limestone grains, occasional green grains, friable, tight to poor intergranular porosity, trace yellow fluorescence, rare white yellow moderately streaming fluorescence cut.

**275-280 SANDSTONE / SILTSTONE(100%):** red brown to white, lithic, fine to medium grained, very silty, possible a very sandy siltstone, poorly sorted, rounded to sub rounded, 40% of sample is a red brown calcareous siltstone/claystone, 40% white kaolinite, occasional limestone grains, occasional green grains, friable, tight to poor intergranular porosity, no shows.

**280-285 SILTSTONE(100%):** red brown to white, lithic, occasional very fine to fine grained sand, possible a sandy siltstone, poorly sorted, rounded to sub rounded, abundant red brown calcareous siltstone/claystone, abundant white and light green kaolinite, friable, tight, no shows.

**285-295 SILTSTONE(100%):** red brown, calcareous, occasional sand, micaceous in part, argillaceous, very clayey, 25% white and light green kaolinite, soft, tight, no shows.

**295-300 CLAYSTONE / SANDSTONE(100%):** red brown, white, sub lithic, 15% medium to very coarse grained, 85% red brown clayey calcareous and white kaolinitic cement, possible a sandy claystone or a sandy siltstone, sub rounded to angular, poorly sorted, argillaceous in part, tight, no shows.

**300-305 SANDSTONE(100%):** red brown, white, sub lithic, 50% very fine to upper medium grained, 50% red brown clayey calcareous and white kaolinitic cement, sub rounded to angular, poorly sorted, argillaceous in part, hemititic, tight, no shows.

**305-310 SANDSTONE(100%):** red brown, white, sub lithic, 30% very fine to coarse grained, occasional very coarse grained, poorly sorted, 70% red brown clayey calcareous and white kaolinitic cement, rounded to sub angular, argillaceous in part, hemititic, tight, no shows.

**310-320 SILTSTONE / SANDSTONE(100%):** red brown to lesser red gray brown, very micaceous in part, predominantly silty to lower very fine grained, trace fine to coarse sand, minor white kaolinite, calcareous and clayey matrix, sub angular to sub rounded, well sorted, friable, hemititic, tight, no shows.

**320-325 SILTSTONE / SANDSTONE(100%):** red brown to lesser red gray brown, very micaceous in part, predominantly silty to lower very fine grained, trace fine to coarse sand, minor white kaolinite, calcareous and clayey matrix, sub angular to sub rounded, well sorted, friable, hemititic, tight, no shows.

**325-330 SILTSTONE / SANDSTONE(100%):** red brown, micaceous, predominantly silty, occasional fine to very coarse sand, occasional fine to coarse sandstone sections, abundant calcareous hemititic clay matrix, occasional white kaolinite, soft to slightly firm in places, argillaceous, tight, no shows.

**330-335 SANDSTONE(100%):** red white brown, sub lithic to quartzose, predominantly silty to fine grained, moderately to poorly sorted, sub rounded to sub angular, calcareous clayey matrix, occasional kaolinite, very micaceous, friable, hemititic, argillaceous in part, tight to poor intergranular porosity, no shows.

**335-340 SILTSTONE / SANDSTONE(100%):** red brown to lesser red gray brown, very micaceous, predominantly silty to minor lower very fine grained, occasional white kaolinite, calcareous and clayey matrix, sub angular to sub rounded, friable, hemititic, tight, no shows.

**340-345 BASEMENT(100%):** red orange, common black, abundant quartz, abundant k to feldspar, common soft dark micaceous material, fragments are angular and range in size from silt to very coarse and may possibly be a detrital granitic sand or an intrusive with finer crystals.

**345-355 BASEMENT(100%):** red orange, common black, abundant quartz, abundant k to feldspar, common soft to firm dark occasional magnetic material, possible either hornblende or pyroxene.

**355-370.5 BASEMENT(100%):** red orange and black, hard, siliceous, abundant quartz, abundant k to feldspar, abundant looking dark magnetic in part material, possible hornblende or pyroxene, minor pyrite.

**TOTAL DEPTH: 370.5 meters**

## **APPENDIX G: STRATIGRAPHIC COLUMN**

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# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Vulcan Minerals Flat Bay # 3

Location: St. Georges Bay, Western Newfoundland

Licence Number: 2005-116-01-02

Spud Date: 4/10/2005 @1415hrs

Region: Western Newfoundland

Drilling Completed: 12/10/2005 @1940hrs

Surface Coordinates: Northing: 5360084.76

Easting: 384421.89

Bottom Hole Coordinates: Northing: 5360084.76

Easting: 384421.89

Ground Elevation (m): 45.36 m

K.B. Elevation (m): 48.66 m

Logged Interval (m): 9.4 To: 370.5

Total Depth (m): 370.5

Formation: Undefined

Type of Drilling Fluid: Gel / Water

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

### 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

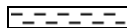
### DSTs

### Comments

### ROCK TYPES



Anhy

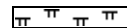


Clyst



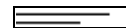
Coal

Gyp



Igne

Mrlst



Salt

Shgy



Bent



Congl

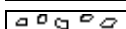


Lmst



Shale

Sltst



Brec



Dol



Meta



Shcol

Ss



Cht



Till



Till

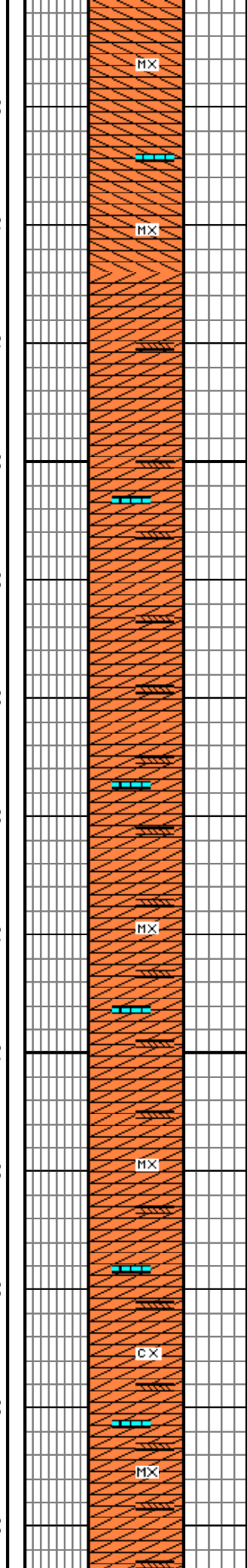
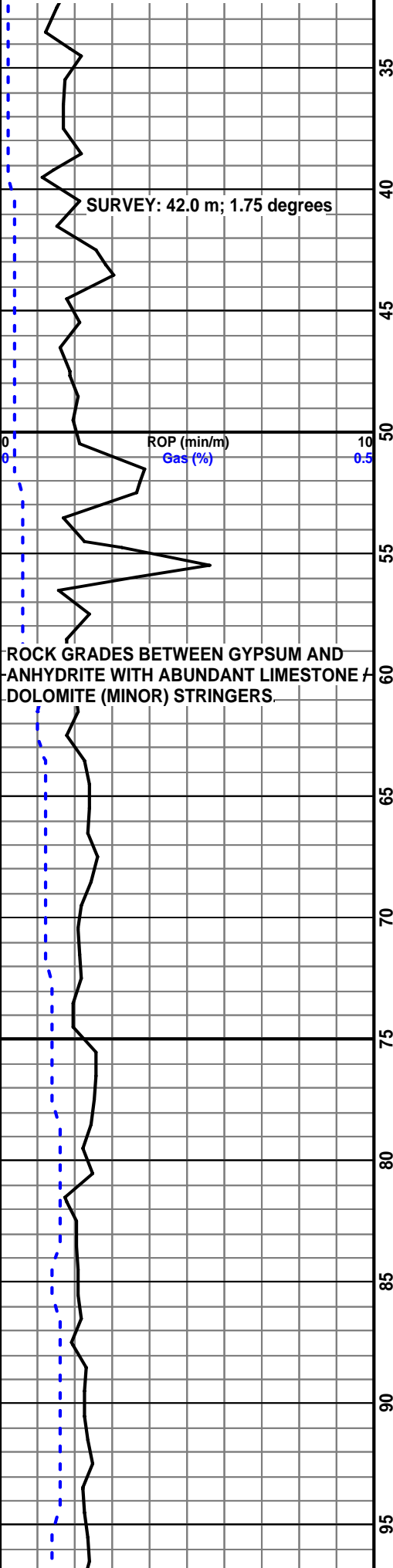


Till

Till



Drill 216 mm hole from 29.0 - 140.87 meters.



29-35 GYP(100%): wh to lt wh gy, sft, chky to mcxln, mas, mnr dk arg mat?, 40% of sample is psy lt wh gy mcxln anhy, 10-15% lt gy brn mcxln to xln arg ls strg, tt, ns.

35-40 GYP(100%): wh to lt wh gy, sft, chky to mcxln, mas, mnr dk arg mat?, 30-40% of sample is either mcxln gyp or a lt wh gy mcxln anhy 15-20% lt gy brn mcxln to xln arg ls strg, tt, ns.

40-45 ANHY(80%): bl gy, gy brn, lesser lt wh gy, mcxln to sl cyxln, sl arg ip, dolc and calc ip pos as strg, blk, firm, tt, ns. GYP(20%): wh to lt wh gy, predy chky to lesser mcxln, sft, mas, tt, no visible cut, faint wh yel o resd.

45-50 ANHY(90%): bl gy to incrg gy brn, mnr lt wh gy, firm ip, mcxln, arg ip, incrg calc and lesser dolc within gy brn mat, blk, tt, lt faint wh yel o resd when tested for cut. GYP(10%): As above, gyp getting powdered when drilled and getting washed out of sample.

50-55 ANHY(70%): bl gy to gy brn, firm, mcxln, arg ip, calc and lesser dolc within gy brn anhy, blk, tt, mnr wh yel flor, faint lt wh yel o resd. GYP(30%): wh to lt wh gy, predy chky to lesser mcxln, sft, powdery, mas,

55-60 ANHY(65%): bl gy to gy brn, firm, mcxln, arg ip, calc and lesser dolc within gy brn mat, blk, tt, mnr wh yel flor, faint lt wh yel o resd. GYP(35%): wh to lt wh gy, predy chky to lesser mcxln, sft, powdery, mas, tt, ns.

60-65 ANHY (100%): bl gy to gy brn, lesser lt wh gy, com gyp, firm, mcxln, 30% gy brn arg ls and lesser dolc anhy / gyp frags, blk, fros, tt, pos frac por, mnr wh yel flor, faint lt wh yel o resd.

65-70 ANHY (60%): bl gy to gy brn, lesser lt wh gy, firm, mcxln, 30% gy brn arg ls and lesser dolc anhy / gyp frags, blk, fros, tt, pos frac por, ns. GYP(40%): sft chky to lesser mcxln, mas, pos sp to even o stng, sp yel flor, slow to mod stmg wh to very faint wh yel flor cut.

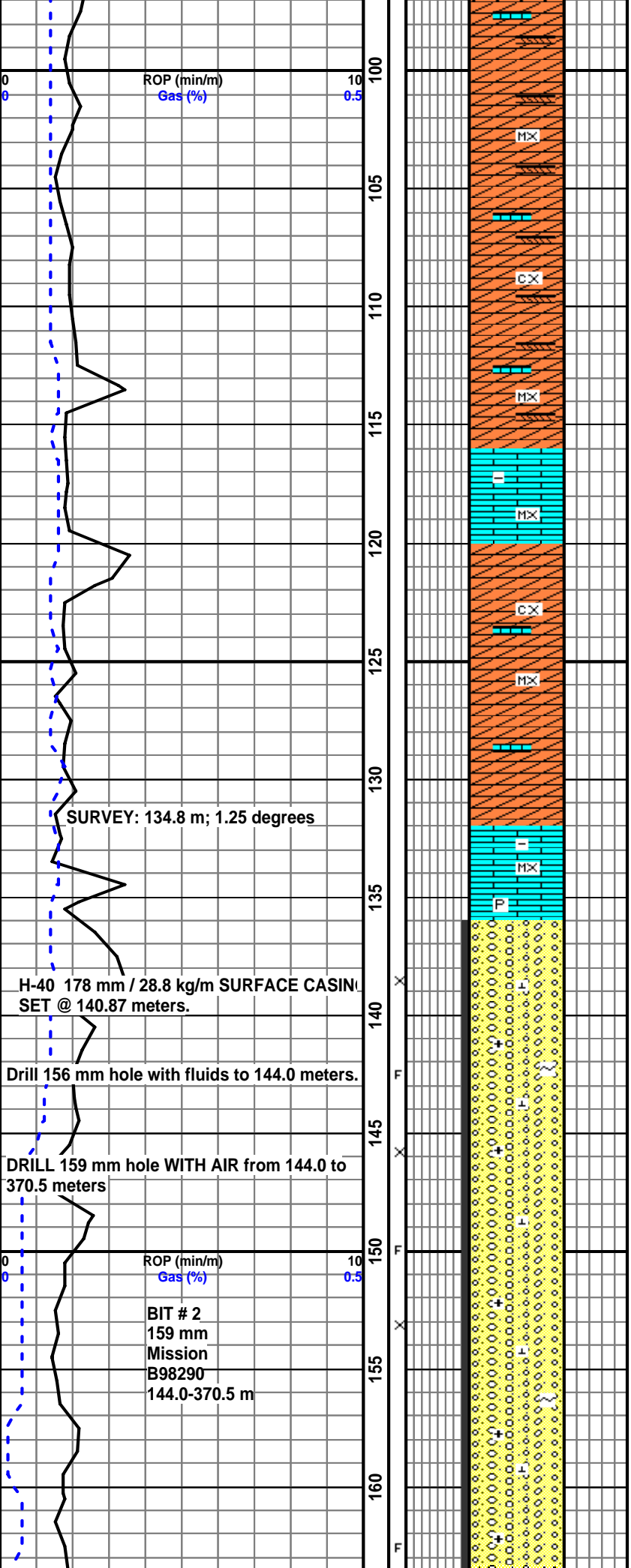
70-75 GYP(40%): sft, chky to lesser mcxln, mnr xln, mas, pos even lt brn o stng, show as described in anhy. ANHY (60%): bl gy to gy brn, lesser lt wh gy, firm, mcxln, 30% gy brn arg ls and lesser dolc strg, blk, fros, tt, pos frac por, o odour when acid added, sp to even lt br o stng, even yel flor, slow to mod stmg wh flor cut, wh to wh yel flor resd.

75-80 ANHY(80%) / GYP(20%): bl gy, gy brn, wh gy, mcxln to lesser xln ip, cln, mas, fros, wh chky sft mas gyp, firm, 15-20% calc and lesser dolc sections, tt, pos p frac por, tr to sp wh to wh yel flor pred along thin fracs, slow stmg wh to faint wh yel flor cut, wh to wh yel o resd.

80-90 ANHY(90%) / GYP(10%): bl gy, gy brn, wh gy, wh chky sft mas gyp, mcxln to lesser xln ip, mas, fros, firm, com calc and dolc sections, tt, pos frac por, show as above.

90-95 ANHY(90%) / GYP(10%): bl gy, gy brn, wh gy, wh chky sft mas gyp, mcxln to lesser xln ip, mas, fros, firm, com calc and dolc sections, tt, pos p frac por, sp yel flor predy along assumed < 1mm fracs, no visible cut, faint wh yel o resd.

95-100 ANHY(80%) / GYP(20%): bl gy to incrg gy brn and crm, lesser wh gy, wh chky sft mas gyp, mcxln to xln, mas, fros, hard, com calc



and dolc sections, rr pyr, tt, pos frac por, sp yel flor, slow wh to lt wh yel flor cut, faint wh yel o resd.

100-110 ANHY(75%) / GYP(25%): lt gy to com gy brn and crm, lesser bl gy, wh chky sft mas gyp, mcxln to xln, mas, fros, hard, com gy brn and crm calc and dolc sections, tt, pos frac por, sp yel flor, slow wh to lt wh yel flor cut, faint wh yel o resd.

110-115 ANHY(75%) / GYP(25%): wh gy to gy brn and crm, lesser bl gy, wh chky sft mas gyp, mcxln to xln, mas, fros, arg ip, hard, com gy brn and crm calc and dolc sections, tt, pos p frac por, sp yel flor along fracs, slow wh to lt wh yel flor cut, faint wh yel o resd.

115-120 LS(40%): brn gy, firm, blk, arg, fros, tt, ns. ANHY(25%) / GYP(35%): wh gy to gy brn and crm, lesser bl gy, wh chky sft mas gyp, mcxln to xln, mas, fros, arg ip, hard, com gy brn and crm calc and dolc sections, tt to p intxl por, pos p frac por, pos lt brn o stn, sp wh to dull yel flor, mod wh to lt wh yel flor cut, faint wh yel o resd.

120-125 ANHY(85%) / GYP(15%): gy brn and crm, lesser wh gy and l gy, mnr wh chky sft mas gyp, mcxln to xln, mas, fros, arg ip, hard, tr sd grs, com gy brn and crm calc and dolc sections, tt, pos p frac por, sp yel flor, mod to slow wh to lt wh yel flor cut, wh yel o resd.

125-130 LS(40%): dk gy brn, arg, mas, mcxln, firm, tt, ns. ANHY(45%) / GYP(15%): gy brn and crm, lesser wh gy and bl gy, mnr wh chky sft mas gyp, mcxln to xln, mas, fros, arg ip, hard, tr sd grs, com gy brn and crm calc and dolc sections, tt, pos p frac por, sp to even lt brn o stn, even yel flor along fracs, mod to slow wh to lt wh yel flor cut, wh yel o resd.

130-135 LS(70%): dk gy brn, tr gn calc sh, arg, firm, mcxln, anhy and gyp filled lamn, tr pyr, pos carb, tt, ns. ANHY / GYP(30%): As above.

**FICHELLS BROOK 136.0 meters**

135-140 CGLN(80%): gy, gn, mnr pnk and orng, lithic, clasts predy < 2 cm in a f to c gr calc and glauc mtz, v ply srt, rd to sb rd, abnt vcol qtzt clasts, occ calc and dolc clasts, occ fld, occ granitic looking clasts, occ < 1mm thick cal filled ? fracs, assumed p to pos fair intgr por, tt to p frac por, sp to even bri wh yel flor, fast stmg wh to wh yel flor cut. LS(20%): dk gy brn, mnr gn calc sh, arg and pos carb, lam, tr pyr, mcxln, occ anhy and gyp, tt, ns.

140-145 VERY POOR SAMPLE QUALITY. 1st sample after drilling out shoe. 90% of sample is cement. 10% consists of loose qtz, cht, gn sh and pink fld.

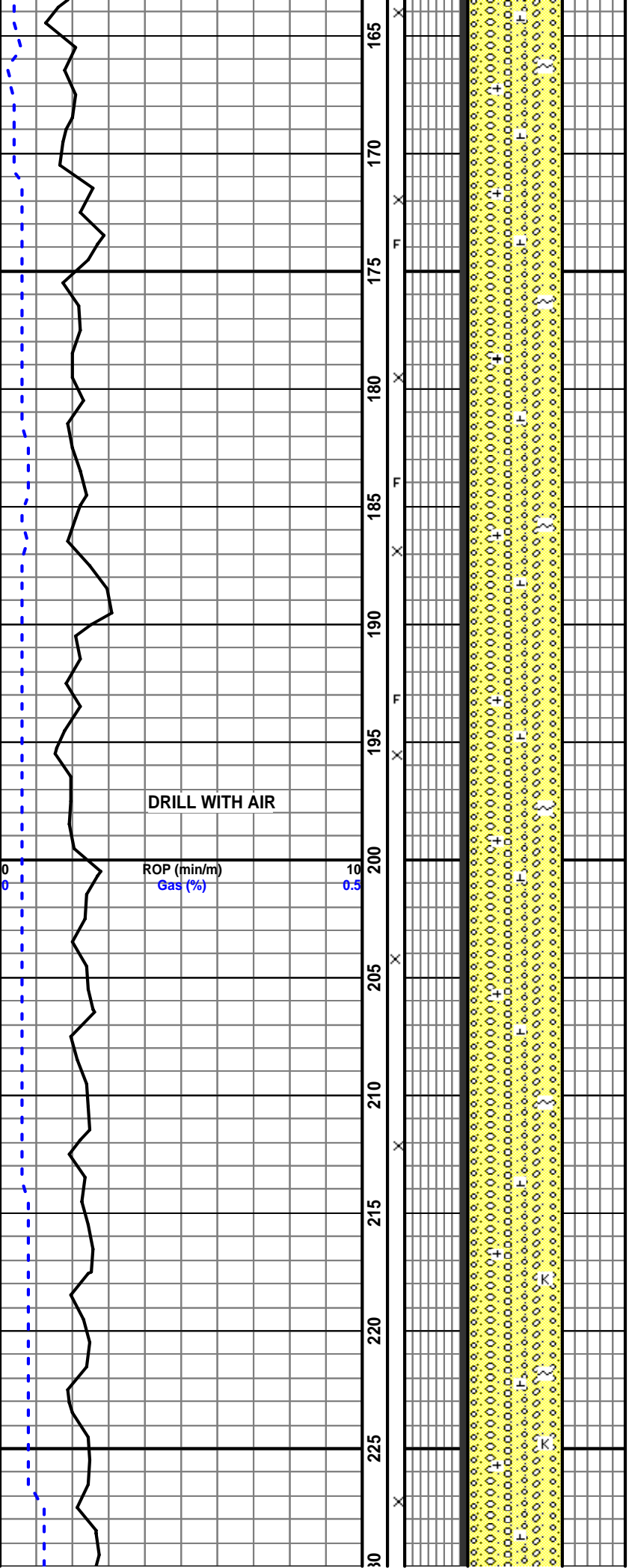
145-150 CGLN(100%): gy, gn, mnr pnk, purple and orng, lithic, clasts predy < 2 cm in a slty to c gr calc cmt mtz, glauc, v ply srt, rd to sb rd, com vcol qtzt clasts, abnt gy and crm calc and dolc clasts, occ fld, mnr granitic looking clasts, occ < 1mm thick cal? filled fracs, assumed p to pos fair intgr and tt frac por, wh yel flor predy along fracs, fast stmg wh to wh yel flor cut.

150-155 CGLN(100%): gy gn, lesser pnk, lithic, 25% clast and clast frags in a slty to c gr ss mtz with calc and lesser silc cmt, glauc, v ply srt, sb rd to mnr rd, com dk gy and crm ls and dol clasts, com vcol qtzt clasts, fldc ip, assumed tt to p intgr and tt frac por, sp lt wh yel flor predy along fracs, fast stmg wh to wh yel flor cut.

155-160 CGLN(100%): gy gn, mnr pnk, lithic, 15-20% clasts in an u vf to v c gr ss mtz with mnr calc and silc cmt, v ply srt, predy sb rd to r mnr sb ang, com k-fsp, com gn mat, com vcol silc clasts, occ dk gy and crm ls and lesser dolc clasts, occ granitic clasts, occ thin cal? filled fracs, mnr kao, assumed tt to pos p intgr and tt frac por, show as above.

160-170 CGLN(100%): gy gn, mnr pnk, lithic, 15-20% clasts in an slty





to v c gr ss mtx with mnr calc and silc cmt, v ply srt, predy sb rd to r  
mnr sb ang, com k-fsp, com gn mat, com vcol silc clasts, occ dk gy  
and crm ls and dolc clasts, occ thin cal? filled fracs, mnr kao,  
assumed tt to pos p intgr and tt frac por, sp lt wh yel flor, fast stmg l  
wh yel flor cut.

170-175 CGLN(100%): gy gn, mnr pnk, lithic, 15-20% clasts in an u vf  
to v c gr ss mtx with mnr calc and silc cmt, v ply srt, predy sb rd to r  
mnr sb ang, com k-fsp, com gn mat, com vcol silc clasts, occ dk gy  
and crm ls and dolc clasts, occ thin cal? filled fracs, mnr kao,  
assumed tt to pos p intgr and tt frac por, sp lt wh yel flor, fast stmg l  
wh yel flor cut.

175-180 CGLN(100%): gy gn, mnr pnk, lithic, 25-30% peb < 1 cm, med  
to v c gr ss mtx, tr calc and silc ? cmt, ply srt, rd to sb rd, com pnk  
and orng fld, com gn pos glauc mat, com vcol chty clasts, occ ls and  
lesser dolc clasts, occ thin fracs partly filled with wh mat pos cal,  
assumed tt to pos p intgr and tt frac por, sp lt o stn, sp lt wh yel flor,  
fast stmg wh yel flor cut.

180-185 CGLN(100%): As above, lithic, 20% clasts in a f to v c gr ss  
mtx with mnr calc and silc cmt, v ply srt, predy sb rd to rd, com ls and  
dolc clasts, mnr kao, assumed tt to pos p intgr and tt frac por, show  
as above.

185-190 CGLN(100%): lt gy crm to lt gy gn, mnr pnk, lithic, 15% peb,  
pred vf to c gr, com v c gr ss mtx, mnr calc cmt, ply srt, rd to sb rd,  
occ to com k-fsp and gn pos glauc grs, com vcol calc grs, occ ls and  
vcol cht clasts, tt to pos p intgr and p frac por, pos tr to sp lt o stn,  
to sp wh yel flor, fast stmg wh yel flor cut.

190-195 CGLN(100%): lt gy gn to lt gy crm, mnr pnk, lithic, 15-20% <  
cm clasts, predy f to c gr lesser slt and v c gr ss mtx, mnr calc and tr  
silc cmt, ply srt, sb rd to rd, abnt vcol ls grs and clasts, occ cht  
clasts, occ to com k-fld, occ granitic looking clasts, glauc, tt to p intg  
por, assumed p frac por, tr wh yel flor, fast stmg wh yel flor cut.

195-200 CGLN(100%): pk / gn gy, lithic, 15% predy dk gy cyxln ls  
clasts, slty to c gr mtx, calc and lesser silc cmt, ply srt, predy sb rd to  
lesser sb ang, com sft gn mat, com pnk and orng fld and qtzc grs, mnr  
silc grs and clasts, com vcol calc grs, sl fe stng, tt to p intgr por, p  
frac por, tr to tr sp yel flor, fast stmg wh yel flor cut.

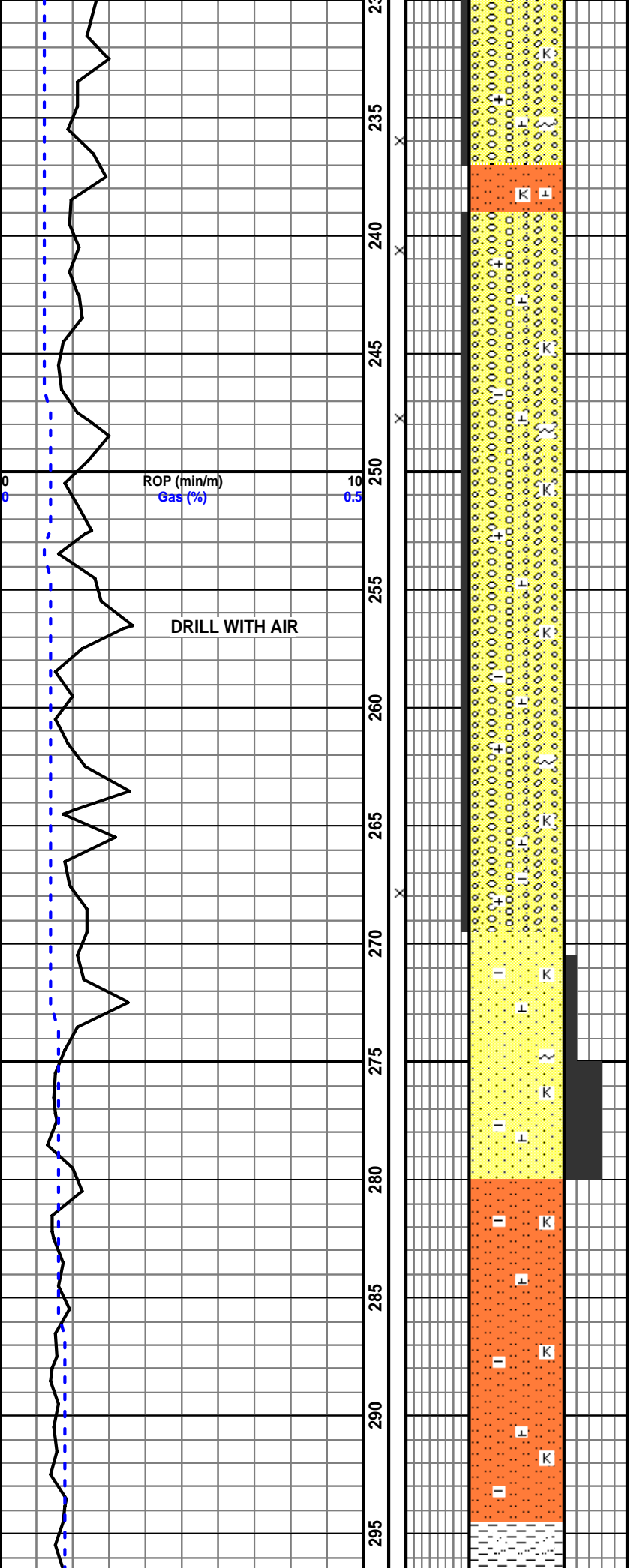
200-210 CGLN(100%): gn / pnk gy, lithic, 40% clasts < 2 cm, predy f  
to v c ss mtx, slty ip, mnr calc and tr silc cmt, v ply srt, sb rd to lesser  
sb ang, abnt predy dk gy and wh crm with lesser vcol ls and incrg  
dolc grs and clasts, com deep red brn and gn silc clasts, mnr dk cht  
clasts, glauc ip, occ to com sft gn mat, fldc ip, tt to p intgr por, por  
frac por, rr wh yel flor, show as above.

210-215 CGLN(100%): gn / pnk gy, lithic, 50% clasts, predy f to v c ss  
mtx, slty ip, mnr calc and tr silc cmt, v ply srt, sb rd to lesser sb ang,  
abnt predy dk gy and wh crm with lesser vcol ls and com dolc grs  
and clasts, com red brn and gn silc clasts, glauc ip, occ to com sft g  
mat, fldc ip, mnr fe stng, tt to p intgr and frac por, ns.

215-220 CGLN(100%): gn / pnk gy, lithic, 40% clasts, predy f to v c ss  
mtx, slty ip, mnr calc and tr silc cmt, kaol ip, v ply srt, sb rd to mnr sb  
ang, abnt predy dk gy and wh crm with mnr vcol ls and dolc clasts,  
com red brn and gn silc clasts, com sft gn mat, incrg ly fldc, tt to p  
intgr and frac por, tr wh yel flor, mod stmg wh yel flor cut.

220-225 CGLN(100%): As above, lithic, 20-25% clasts, predy f to v c  
ss mtx, slty ip, calc and kaol cmt, sb rd, abnt ls and dolc clasts, com  
silc clasts, com sft gn mat, fldc, tt to p intgr and frac por, rr wh yel  
flor, mod stmg wh yel flor cut.

225-230 CGLN(100%): gn / pnk gy, lithic, 25-30% clasts, predy slty to  
med gr, occ to com c gr and lesser v c gr mtx, mnr calc and kao cmt,  
tr silc cmt, v ply srt, rd to sb ang, com cyxln to mcxln crm and dk gy  
ls and dol clast, occ k-fsp, com gn pos kaol mat, com vcol qtzc clast  
assumed tt to p intgr and frac por, ns.



230-235 CGLN(100%): gn / pnk gy, lithic, 25% clasts, predy slty to lesser c gr mtx, mnr calc and incrg kao cmt, tr silc cmt, ply srt, rd to sb ang, com cyxln to mcxln ls and dol clast, occ k-fsp, com gn mat, hem, assumed tt to p intgr and frac por, ns.

235-240 SS / CGLN(60%): red brn, lt gy, lithic, 5% clasts, predy slty to med gr, occ to com c to v c gr, v ply srt, rd to sb ang, mnr calc lesser silc cmt, occ wh and gn kao mat, occ crm and gy calc and dolc clast and grs, occ wh chky calc mat, occ vcol qtzc clasts, occ k-fld, com gn mat, firm to fri, tt to p intgr por, rr wh yel flor, slow stmg wh yel flor cut. SLTST / CLYST(40%): red brn, slty, sdy ip, abnt red brn clay, calc, silc ip, predy sft, mics ip, sl arg ip, henc, tr magn mat.

240-245 CGLN(100%): As above, pnk gy, lithic, 30% clasts, calcs, ply srt, sb rd to sb ang, kaol ip, com vcol ls and dolc clasts, occ silc clasts, kaol ip, com pnk fld, tt, ns

245-250 CGLN(100%): orng gn gy, lithic, 25% predy ls, dol and lesser qtzc clasts, f to c ss mtx, mnr calc and incrg kao cmt, pos tr silc cmt, ply srt, sb rd to sb ang, occ k-fld, occ to com gn either glauc or kao mat, com calc and dolc grs, rr pyr, rr hem, mnr fe stng, tt, ns.

250-255 CGLN(100%): As above, orng gy, lithic, 30-35% ls, dol and mnr qtzc clasts, calc and com kaol cmt, f to v c gr, sb rd to sb ang, fldc, henc, occ fe stng, pos sidc, assumed tt to p por, ns.

255-260 CGLN(100%): orng pnk gy, lithic, 35% clasts as above, u f to c gr, calc and kaol cmt, sb ang to sb rd, com fe stng, com k-fld, mnr red brn sltst, silc ip, com dk gn firm to sft pos mafic clasts,

260-265 CGLN(100%): orng pnk, lithic to sb lithic, 10-15% clasts, calc and silc cmt, kaol ip, predy sb ang to mnr sb rd, fe stng, com k-fld, mnr red brn sltst, tr hem, occ dk gn mat, assumed tt to p intgr por.

265-270 CGLN(100%): red brn, gn gy, lithic, 25% ls-dol-qtzt-granitic clasts, vf to c gr with occ v c gr ss mtx, mnr calc and lesser silc cmt, sl kao, abnt red brn and orng tan silc grs and frags, occ gn mat, occ k-fld, tt to p intgr por, ns.

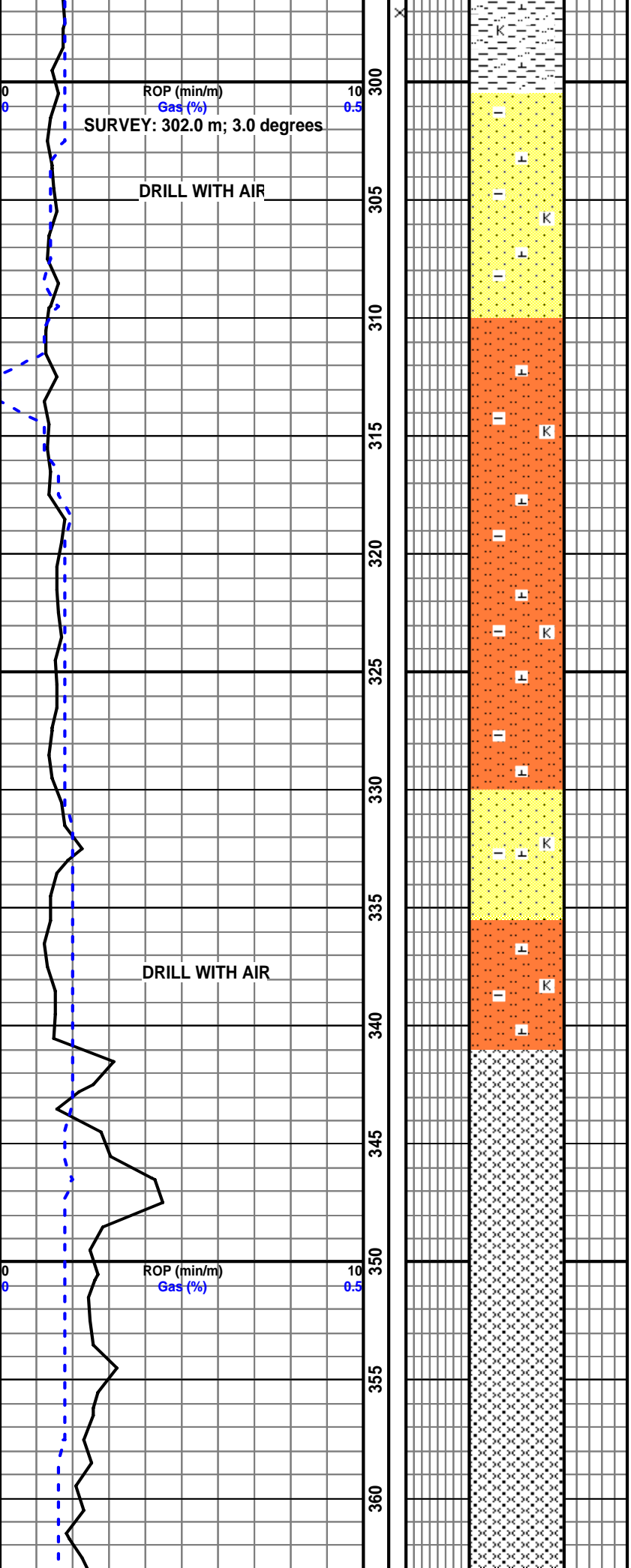
270-275 SS / SLTST(100%): red brn to wh, lithic, u f to v c gr, ply srt, rd to sb rd, 25-30% of sample is a red brn calc sltst/clyst, 15% wh kaol, occ ls grs, occ gn grs, fri, tt to p intgr por, tr yel flor, rr wh yel mod stmg flor cut.

275-280 SS / SLTST(100%): red brn to wh, lithic, f to med gr, v slty, pos a v sdy sltst, ply srt, rd to sb rd, 40% of sample is a red brn calc sltst/clyst, 40% wh kaol, occ ls grs, occ gn grs, fri, tt to p intgr por, ns

280-285 SLTST(100%): red brn to wh, lithic, occ vf to f gr sd, pos a sdy sltst, ply srt, rd to sb rd, abnt red brn calc sltst/clyst, abnt wh and lt gn kaol, fri, tt, ns

285-295 SLTST(100%): red brn, calc, occ sd, mics ip, arg, v clayey, 25% wh and lt gn kaol, sft, tt, ns.

295-300 CLYST / SS(100%): red brn, wh, sb lithic, 15% med to v c gr,



85% red brn clayey calc and wh kao cmt, pos a sdy clyst or a sd sltst, sb rd to ang, ply srt, arg ip, tt, ns.

300-305 SS(100%): red brn, wh, sb lithic, 50% vf to u med gr, 50% re brn clayey calc and wh kao cmt, sb rd to ang, ply srt, arg ip, hemc, tt, ns.

305-310 SS(100%): red brn, wh, sb lithic, 30% vf to c gr, occ v c gr, pl srt, 70% red brn clayey calc and wh kao cmt, rd to sb ang, arg ip, hemc, tt, ns.

310-320 SLTST / SS(100%): red brn to lesser red gy brn, v mics ip, predy slty to l vf gr, tr f to c sd, mnr wh kaol, calc and clayey mtx, sb ang to sb rd, w srt, fri, hemc, tt, ns

320-325 SLTST / SS(100%): red brn to lesser red gy brn, v mics ip, predy slty to l vf gr, tr f to c sd, mnr wh kaol, calc and clayey mtx, sb ang to sb rd, w srt, fri, hemc, tt, ns.

325-330 SLTST / SS(100%): red brn, mics, predy slty, occ f to v c sd, occ f to c ss sections, abnt calc hemc clay mtx, occ wh kaol, sft to sl firm in places, arg, tt, ns

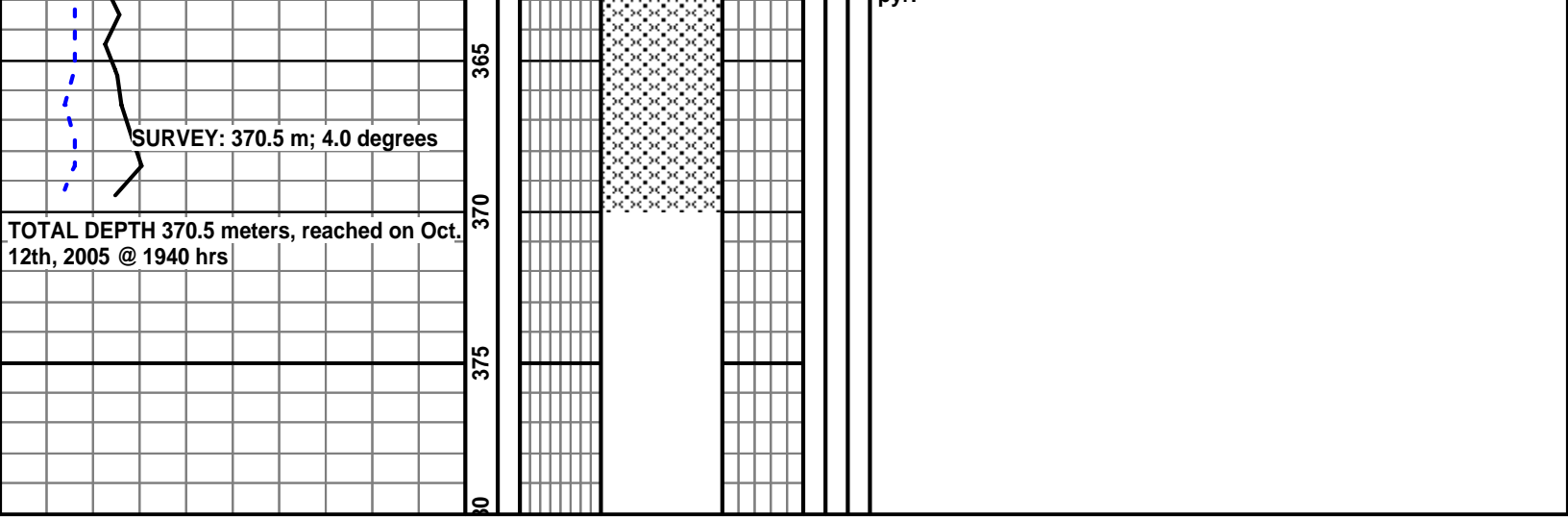
330-335 SS(100%): red wh brn, sb lithic to qtzs, predy slty to f gr, mod to ply srt, sb rd to sb ang, calc clayey mtx, occ kaol, v mics, fri, hemc, arg ip, tt to p intgr por, ns.

335-340 SLTST / SS(100%): red brn to lesser red gy brn, v mics, predy slty to mnr l vf gr, occ wh kaol, calc and clayey mtx, sb ang to sb rd, fri, hemc, tt, ns

340-345 BASEMENT(100%): red orng, com blk, abnt qtz, abnt k fld, com sft dk mics mat, frags are ang and range in size from slt to v c and may posy be a detrital granitic sand or an intrusive with finer xls

345-355 BASEMENT(100%): red orng, com blk, abnt qtz, abnt k fld, com sft to firm dk occ magn mat, pos either hornblende or pyroxene

355-370 BASEMENT(100%): red orng and blk, hd, silc, abnt qtz, abnt k fld, abnt looking dk magn ip mat, pos hornblende or pyroxene, mnr nvr.



## **APPENDIX H: DOWNHOLE LOGS**

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

## **APPENDIX I: EMPLOYEE BENEFITS SUMMARY**

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### Flat Bay #3: Drilling Operations

Week	Residence		Total
	NL	Other	
1	9	0	9
2	7	0	7
3	13	0	13
4	14	0	14
5	15	0	15
6	14	2	16

Average number of workers on site each week	12.33
Percentage of workers residents of NL	97.3%
Percentage of workers non-residents of NL	2.7%



Flat Bay #3 Benefits Table

<b>Week</b>	<b>1</b>					<b>2</b>					<b>3</b>				
<b>Position</b>	<b>NL Residents</b>	<b># of Days Worked</b>	<b>Non- NL Residents</b>	<b># of Days Worked</b>	<b>Total</b>	<b>NL Residents</b>	<b># of Days Worked</b>	<b>Non- NL Residents</b>	<b># of Days Worked</b>	<b>Total</b>	<b>NL Residents</b>	<b># of Days Worked</b>	<b>Non- NL Residents</b>	<b># of Days Worked</b>	<b>Total</b>
Project Manager / Engineer					0					0	1	2			1
Supervisors					0					0					0
Rig Mangers	1	1			1	1	7			1	1	7			1
Drillers	2	1			2					0	2	4			2
Floorhands	4	1			4	2	2			2	4	4			4
Geologists					0					0					0
Mud Loggers					0					0					0
MWD/Directional					0					0					0
Wireline Logging					0					0					0
Cementing					0	1	1			1					0
Testing					0					0					0
Administration					0					0					0
Security					0					0	1	6			1
Heavy Equipment Operators	1	1			1	1	3			1	2	4			2
Welders & Helpers	1	1			1	2	7			2	1	3			1
Fuel Hauler					0					0	1	2			1
Remedial Services					0					0					0
Waste Disposal					0					0					0
<b>Total</b>	<b>9</b>		<b>0</b>		<b>9</b>	<b>7</b>		<b>0</b>		<b>7</b>	<b>13</b>		<b>0</b>		<b>13</b>

Flat Bay #3 Benefits Table

<b>Week</b>	<b>4</b>					<b>5</b>					<b>6</b>				
<b>Position</b>	<b>NL Residents</b>	<b># of Days Worked</b>	<b>Non- NL Residents</b>	<b># of Days Worked</b>	<b>Total</b>	<b>NL Residents</b>	<b># of Days Worked</b>	<b>Non- NL Residents</b>	<b># of Days Worked</b>	<b>Total</b>	<b>NL Residents</b>	<b># of Days Worked</b>	<b>Non- NL Residents</b>	<b># of Days Worked</b>	<b>Total</b>
Project Manager / Engineer	1	3			1	1	3			1	1	3			1
Supervisors					0					0					0
Rig Mangers	1	7			1	1	7			1	1	6			1
Drillers	2	6			2	2	7			2	2	6			2
Floorhands	4	6			4	4	7			4	4	6			4
Geologists	1	2			1	1	7			1	1	6			1
Mud Loggers					0					0					0
MWD/Directional					0					0					0
Wireline Logging					0					0			2	1	2
Cementing	1	2			1	1	2			1	1	1			1
Testing					0					0					0
Administration					0					0					0
Security	1	3			1					0	1	2			1
Heavy Equipment Operators	1	1			1	3	1			3	2	2			2
Welders & Helpers	1	5			1					0					0
Fuel Hauler	1	1			1	1	2			1	1	1			1
Remedial Services					0					0					0
Waste Disposal					0	1	1			1					0
<b>Total</b>	<b>14</b>		<b>0</b>		<b>14</b>	<b>15</b>		<b>0</b>		<b>15</b>	<b>14</b>		<b>2</b>		<b>16</b>

## **APPENDIX J: DAILY OPERATIONAL REPORTS**

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# Vulcan Minerals

## DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #:	1	DATE:	September 29, 2005		
DEPTH 24:00:	15.0 m	PROGRESS:	15.0 m	Last 24 Hr Rotating Time:	8.00 hr		
OPER 06:00:	Prepare to Run 9 5/8" Conductor		FOREMAN:	Tom Targett	Ave ROP:	1.9 m/hr	
DAILY COST:		HOLE CND.:	Good	WEATHER:	Clear	MOBILE NO.:	709-689-4601
CUM COST:		RIG / RIG #:	Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:	709-649-4957
FORMATION:		K.B. ELEV.:		ROADS:	Good		

BIT PERFORMANCE				SURVEYS		DRILLING FLUID		PUMPS	
Bit No.	1					Time		Pump No.	1
Size (mm)	311					Depth(m)		Make	Gardner Denver
Mfg.	Varel					Density	Water	Model	PY-7
Type	CH24M5					Mud Grad		Liner X Stk	6"
Serial #	RRO1394					Vis	36	SPM	40
Nozzles	OPEN					PV		Pump Eff.	95%
From (mKB)	3.3					YP		Pump Rate	0.39
To (mKB)						Gels		Pump Press.	350 kPa
Hrs on Bit	13 1/2					pH		Drillpipe AV	m/min
WOB (daN)	.5					WL (cc's)		Drillcollar AV	m/min
RPM	90					Filter Cake		Nozzle Vel	m/sec
Condition	Good					Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?	TD					Solids (%)		Mud Cycle	80 min
Meters	18.75					Oil (%)		Bottoms Up	3 min
m/hr	1.4					Pf/Mf		Tanks	30 m3
Cum Hrs	18 3/4	18 3/4	18 3/4			MBT		Hole Volume	1 m3
						Cl (ppm)		System Vol.	31 m3
						Ca (ppm)			

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	12.25		6 5/8" REG x 4.5 REG
2	Stabilizer	12.25		2 7/8" IF x 4.5" REG
3				
BHA Length:		4.16	Hook Load:	DP size
Avail WOB:			Jts DP Racks	151
Jts DP in hole:		2	DP on Loc:	153
			DC Conn:	
			DP Conn:	

DRILLING OPERATIONS TIME BREAKDOWN				
RU / TO		Survey		Move Rig
Drill Actual	8	Logging		Fishing
Reaming		Run Casing		Direct. Drill
Coring		Cementing		Rathole
Rm Rathole		WOC		Safety Meeting
Cond / Circ	1/4	NU BOP's		Mix mud
Tripping		Test BOP's		W.O GEN
Lubricate Rig		Drill Out Cmt		
Repair Rig		DST		
Slip/Cut Line		Hndle Tools		Total Hrs
				24

VOLUMES		M <sup>3</sup>
Mud Co.	MI	
Mud Man		
Mud Up @		
Mud & Chemicals Added:		
15 GEL		
3 Quick Seal		
1 Sawdust		
Mud Daily Cost		
Mud Cum Cost		

WELL CONTROL		SOLIDS CONTROL	
RSPP		Shaker Make	FSI
ST/Min		Shaker Mesh	
MACP(kPa)		Desilter	Centrifuge
Calc Hole Fill		Vol UF (l/min)	
Act Hole Fill		U.F. (kg/m3)	
Lst BOP Drill:		O.F. (kg/m3)	
Calc Hole Fill		Hours/Days	
Act Hole Fill		Boiler Hrs:	(to 24:00)

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

From	To	Duration	Event
0:00	15:00	15.00	Wait on Replacement Generator
15:00	15:30	0.50	Safety Meeting With Crew
15:30	15:45	0.25	Circulate and Check surface Equipment for Leaks
15:45	19:00	3.25	Spud and Drill 311mm Hole From Surface to 8mtrs
19:00	19:15	0.25	Safety Meeting With Night Crew
19:15	0:00	4.75	Drill 311mm Hole From 8mtrs to 15mtrs

**24 HOUR Forcast :**  
 TD 311mm Hole , Cement , Rig in Diverter System



# Vulcan Minerals

## DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #: 3	DATE: October 1, 2005
DEPTH 24:00: 18.7 m	PROGRESS:	Last 24 Hr Rotating Time:	Ave ROP
OPER 06:00: Weld on Casing Bowl		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.: 14°C	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS: Good	

BIT PERFORMANCE		SURVEYS		DRILLING FLUID		PUMPS	
Bit No.	2			Time		Pump No.	1
Size (mm)	216			Depth(m)	Water	Make	Gardner Denver
Mfg.	Smith			Density		Model	PY-7
Type	ER6508			Mud Grad		Liner X Stk	6"
Serial #	MN2106			Vis		SPM	40
Nozzles	OPEN			PV		Pump Eff.	95%
From (mKB)	3.3			YP		Pump Rate	0.39
To (mKB)				Gels		Pump Press.	100
Hrs on Bit				pH		Drillpipe AV	
WOB (daN)	1			WL (cc's)		Drillcollar AV	
RPM	90			Filter Cake		Nozzle Vel	
Condition				Sand (%)			
Pulled For?				Solids (%)			
Meters				Oil (%)			
m/hr				Pf/Mf			
Cum Hrs				MBT			
				Cl (ppm)			
				Ca (ppm)			

MUD & CHEMICALS	
Mud Cycle	79 min
Bottoms Up	2 min
Tanks	30 m3
Hole Volume	1 m3
System Vol.	31 m3

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	0.25		4.5 REG
2	Stabilizer	3.65		4.5REG x 2 7/8IF
3				
BHA Length:	3.9	Hook Load:		DP size 5 mm
Avail WOB:		Jts DP Racks	101	DC Conn:
Jts DP in hole:	2	DP on Loc:	153	DP Conn: 2 7/8IF

MUD & CHEMICALS ADDED	
SODA ASH	2
LCM	5
Mud Co.	
Mud Man	
Mud Up @	

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

VOLUMES M <sup>3</sup>		WELL CONTROL		SOLIDS CONTROL	
Water added		RSPP		Shaker Make	FSI
Losses		ST/Min		Shaker Mesh	230 x230 x 140
		MACP(kPa)		Vol UF (l/min)	Desilter
		Calc Hole Fill		U.F. (kg/m3)	Centrifuge
		Act Hole Fill		O.F. (kg/m3)	
		Lst BOP Drill:		Hours/Days	
		Calc Hole Fill		Boiler Hrs:	(to 24:00)
		Act Hole Fill			

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

From	To	Duration	Event
0:00	6:00	6.00	Weld on Collar, Install Casing Bowl, Diverter, Rotating Head, Fab and Weld Flow line
6:00	10:00	4.00	Wait on Orders
10:00	12:00	2.00	Wait on Cement for Top Fill
12:00	14:30	2.50	Wait on Cement for Top Fill
14:30	15:00	0.50	Top Fill Conductor With Cement
15:00	16:30	1.50	Nipple up
16:30	17:00	0.50	Make up Bit , Stabilizer, RIH, Tag Cement @ 15mtrs
17:00	0:00	7.00	Wait on Cement , Safet meeting, Rig in PVT's, Flowline Sensor, Geo-graph, Don SCBA

**24 HOUR Forecast :**

# Vulcan Minerals

# DAILY DRILLING REPORT

<b>Flat Bay #3</b>			REPORT #: 4	DATE: October 2, 2005
DEPTH 24:00:	36.0 m	PROGRESS:	17.3 m	Last 24 Hr Rotating Time: 10.00 hr
OPER 06:00:	Skid Rig			Ave ROP 1.7 m/hr
DAILY COST:		FOREMAN:	Tom Targett	MOBILE NO.: 709-689-4601
CUM COST:		WEATHER:	Clear	TOOLPUSH: Tom Targett
FORMATION:		RIG / RIG #:	Ingersoll Rand RD10	TEMP.: 14°C
		K.B. ELEV.:	3.3 m	T.P. MOBILE: 709-649-4957
		ROADS:	Good	

BIT PERFORMANCE			SURVEYS			DRILLING FLUID			PUMPS		
Bit No.	2					Time	1200		Pump No.		
Size (mm)	216					Depth(m)	35		Make		
Mfg.	Smith					Density	1005		Model		
Type	ER6508					Mud Grad			Liner X Stk		
Serial #	MN2106					Vis	28		SPM		
Nozzles	Open					PV			Pump Eff.		
From (mKB)	18					YP			Pump Rate		
To (mKB)	35					Gels			Pump Press.		
Hrs on Bit	9					pH			Drillpipe AV		
WOB (daN)	2					WL (cc's)			Drillcollar AV		
RPM	90					Filter Cake			Nozzle Vel		
Condition	Good					Sand (%)					
Pulled For?	AirHammer					Solids (%)					
Meters m/hr	17					Oil (%)					
Cum Hrs						Pf/Mf					

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	0.25		4.5 REG
2	Stabilizer	3.65		4.5REG x 2 7/8IF
3				
BHA Length:	3.9	Hook Load:		DP size
Avail WOB:		Jts DP Racks	97	DC Conn:
Jts DP in hole:	4	DP on Loc:	153	DP Conn:
				2 7/8IF

DRILLING OPERATIONS TIME BREAKDOWN				
RU / TO	5	Survey		Plug Back
Drill Actual	10	Logging		Fishing
Reaming		Run Casing		Work w/Pason
Coring		Cementing		Work Pipe
Rm Rathole		WOC		Mix LCM
Cond / Circ	4 1/4	NU BOP's		Safety meet
Tripping	3 1/2	Test BOPs		Weld on Bowl
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill
Repair Rig	1	DST		
Slip/Cut Line		Hndle Tools		Total Hrs
				24

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

From	To	Duration	Event
0:00	0:30	0.50	Drill Out Cement
0:30	3:30	3.00	Drill 216mm Hole From 18 To 28mtrs
3:30	6:30	3.00	Rig in 4" Pump and Rag Hose to Pond
6:30	11:45	5.25	Drill 216mm Hole From 28mtrs To 35mtrs
11:45	12:00	0.25	Rig Service
12:00	13:15	1.25	Drill To 36mtrs 216mm Hole From 35m
13:15	14:30	1.25	Mix Lcm Material ( Sawdust )
14:30	15:30	1.00	Clean Fluid end on Mud Pump (Wood Chips )
15:30	16:30	1.00	Rig Out Flowline , Annular , Rotating Head
16:30	19:30	3.00	Pull Out of Hole To Change Tri-Cone Bit to Air Hammer
19:30	20:00	0.50	Run in Hole to 17m ,Pooh ,Lay Down Hammer and Stabilizer
20:00	0:00	4.00	Rig Out , Prepare to Skid Rig

**24 HOUR Forcast :**  
 Prepare to Skid Rig

# Vulcan Minerals

## DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #: 5	DATE: October 3, 2005
DEPTH 24:00:	PROGRESS:	Last 24 Hr Rotating Time: Ave ROP	
OPER 06:00: Skid Rig		FOREMAN: Tom Targett	MOBILE NO.: 709-689-4601
DAILY COST:	HOLE CND.:	WEATHER:	TOOLPUSH: Tom Targett
CUM COST:	RIG / RIG #: Ingersoll Rand RD10	TEMP.:	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS:	

BIT PERFORMANCE				SURVEYS	DRILLING FLUID	PUMPS
Bit No.					Time	Pump No.
Size (mm)					Depth(m)	Make
Mfg.					Density	Model
Type					Mud Grad	Liner X Stk
Serial #					Vis	SPM
Nozzles					PV	Pump Eff.
From (mKB)					YP	Pump Rate
To (mKB)					Gels	Pump Press.
Hrs on Bit					pH	Drillpipe AV
WOB (daN)					WL (cc's)	Drillcollar AV
RPM					Filter Cake	Nozzle Vel
Condition					Sand (%)	
Pulled For?					Solids (%)	
Meters					Oil (%)	
m/hr					Pf/Mf	
Cum Hrs					MBT	
					Cl (ppm)	
					Ca (ppm)	

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	0.25		4.5 REG
2	Stabilizer	3.65		4.5REG x 2 7/8IF
3				
BHA Length:		Hook Load:	DP size	
Avail WOB:		Jts DP Racks	DC Conn:	
Jts DP in hole:		DP on Loc: 128	DP Conn:	2 7/8IF

DRILLING OPERATIONS TIME BREAKDOWN				
RU / TO	12	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	Wait on Daylight	
Slip/Cut Line		Hndle Tools	Total Hrs	12

Mud Co.	
Mud Man	
Mud Up @	
<b>VOLUMES</b>	<b>M<sup>3</sup></b>

Water added		Mud Daily Cost	
Losses		Mud Cum Cost	
WELL CONTROL		SOLIDS CONTROL	
RSPP		Shaker Make	
ST/Min		Shaker Mesh	
MACP(kPa)		FSI	
Calc Hole Fill		230 x 230 x 140	
Act Hole Fill		Desilter	Centrifuge
Lst BOP Drill:		Vol UF (l/min)	
Calc Hole Fill		U.F. (kg/m3)	
Act Hole Fill		O.F. (kg/m3)	
		Hours/Days	
		Boiler Hrs:	(to 24:00)

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

From	To	Duration	Event
0:00	12:00	12.00	Tear Out, Prepared to Skid Rig
12:00	0:00	12.00	Wait on DayLight

**24 HOUR Forcast :**







# Vulcan Minerals

## DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #: 8	DATE: October 6, 2005
DEPTH 24:00: 29.0 m	PROGRESS: 4.0 m	Last 24 Hr Rotating Time: 6.00 hr	Ave ROP 0.7 m/hr
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.: 11°C	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS: Good	

BIT PERFORMANCE			SURVEYS		DRILLING FLUID		PUMPS	
Bit No.	RR#1	2			Time	2200	Pump No.	1
Size (mm)	311	311			Depth(m)	29	Make	Gardner Denver
Mfg.	Varel	Hughs			Density	1040	Model	PY-7
Type	CH24MS	EP5070			Mud Grad		Liner X Stk	6"x 7"
Serial #	RR01394	622507			Vis	42	SPM	40
Nozzles	OPEN	OPEN			PV		Pump Eff.	95%
From (mKB)	0	17			YP		Pump Rate	0.39
To (mKB)	29	29			Gels		Pump Press.	350
Hrs on Bit	9	2 3/4			pH		Drillpipe AV	
WOB (daN)	2	1			WL (cc's)		Drillcollar AV	
RPM	90	80			Filter Cake		Nozzle Vel	
Condition	1	3			Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?	TD	Reaming			Solids (%)		Mud Cycle	6 min
Meters	29	12			Oil (%)		Bottoms Up	6 min
m/hr					Pf/Mf		Tanks	m3
Cum Hrs					MBT		Hole Volume	2 m3
					CI (ppm)		System Vol.	2 m3
					Ca (ppm)			

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	0.29		6 5/8 Reg
2	Stabilizer	3.65		4.5REG x 2 7/8IF
3	x/o	0.2		6 5/8Reg x 4 1/2 REG
BHA Length:	4.14	Hook Load:		DP size
Avail WOB:		Jts DP Racks	97	DC Conn:
Jts DP in hole:	4	DP on Loc:	153	DP Conn:
				2 7/8IF

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

VOLUMES		M <sup>3</sup>
Water added		
Losses		
Mud Co.		
Mud Man		
Mud Up @		
Mud Daily Cost		
Mud Cum Cost		

WELL CONTROL		SOLIDS CONTROL	
RSPP		Shaker Make	FSI
ST/Min		Shaker Mesh	230 x230 x 140
MACP(kPa)		Desilter	Centrifuge
Calc Hole Fill		Vol UF (l/min)	
Act Hole Fill		U.F. (kg/m3)	
Lst BOP Drill:		O.F. (kg/m3)	
Calc Hole Fill		Hours/Days	
Act Hole Fill		Boiler Hrs:	(to 24:00)

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

From	To	Duration	Event
0:00	6:00	6.00	Drill 311mm Hole From 25 to 29mtrs
6:00	7:00	1.00	Circulate Hole Clean
7:00	7:30	0.50	Pull out of Hole From 29 to 27mtrs
7:30	9:00	1.50	Fab and Weld Breakout Wrench
9:00	10:00	1.00	Pull out of Hole From 27mtrs , Lay Down Stabilizer and Bit
10:00	10:15	0.25	Safety Meeting
10:15	12:00	1.75	Rig to and Run 9 5/8" Casing to 17mtrs
12:00	16:30	4.50	Break Circulation @ 17mtrs,Tght Hole, Lay Down Casing
16:30	17:00	0.50	Make up BHA and Run in Hole to 17mtrs
17:00	20:45	3.75	Ream From 17 to 21mtrs,Wash to 29mtrs
20:45	21:15	0.50	Circulate Hole Clean,Condition Mud
21:15	22:00	0.75	Wiper Trip ,Circulate Hole ,Pull Out of Hole,Lay Down Stab and Bit
22:00	0:00	2.00	Rig to and Run 9 5/8" Casing to 29mtrs

**24 HOUR Forcast :**  
Cement and Nipple up Diverter System,Drill Out



# Vulcan Minerals

## DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #: 10	DATE: October 8, 2005
DEPTH 24:00: 66.0 m	PROGRESS: 37.0 m	Last 24 Hr Rotating Time: 6.00 hr	Ave ROP 6.2 m/hr
OPER 06:00: Clean Mud Tanks		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.: 10°C	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS: Good	

BIT PERFORMANCE				SURVEYS		DRILLING FLUID		PUMPS	
Bit No.	4	5		42 m	1.75 °	Time		Pump No.	1
Size (mm)	216	216				Depth(m)		Make	Gardner Denver
Mfg.	SMITH	Mission				Density		Model	PY-7
Type	ER6508					Mud Grad		Liner X Stk	6"x 7"
Serial #	mn2106	4919				Vis		SPM	40
Nozzles	OPEN	OPEN				PV		Pump Eff.	95%
From (mKB)	22	29				YP		Pump Rate	0.39
To (mKB)	29	140				Gels		Pump Press.	350
Hrs on Bit	1	5				pH		Drillpipe AV	
WOB (daN)	1	2				WL (cc's)		Drillcollar AV	
RPM	90	20				Filter Cake		Nozzle Vel	
Condition	2	2				Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?	Air Ham	TD				Solids (%)		Mud Cycle	58 min
Meters	7	37				Oil (%)		Bottoms Up	6 min
m/hr	1.0	7.4				PI/Mf		Tanks	20 m3
Cum Hrs	1	5				MBT		Hole Volume	2 m3
						Cl (ppm)		System Vol.	22 m3
						Ca (ppm)		Mud & Chemicals Added:	

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	Hammer	1.31		4.5REG
2	Stabilizer	3.9		4.5REG x 2 7/8IF
3				
BHA Length:	5.21	Hook Load:		DP size
Avail WOB:		Jts DP Racks	93	DC Conn:
Jts DP in hole:	8	DP on Loc:	153	DP Conn:
				2 7/8IF

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

VOLUMES M <sup>3</sup>		SOLIDS CONTROL	
Water added		Shaker Make	FSI
Losses		Shaker Mesh	230 x230 x 140
			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 :** October 7, 2005 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	2:00	2.00	Wait on Cement
2:00	2:30	0.50	Torque Casing Bowl
2:30	3:00	0.50	Make up BHA and Run in Hole
3:00	6:00	3.00	Nipple up Diverter, Rotating Head, Flowline, 4" Gut Line, Functio Diverter
6:00	7:00	1.00	Drill out Cement From 22mtrs to 29mtrs
7:00	7:15	0.25	Rig Service
7:15	12:00	4.75	Pull out of Hole, Lay Down Tri-cone, Make up Air Hammer
12:00	15:00	3.00	Rig in Discharge Line to Pit, Install Rotating Head, Hook up 4" Diverter Line
15:00	18:30	3.50	Drill From 29 to 42mtrs
18:30	19:15	0.75	Survey @ 42mtrs 1.75 Degrees
19:15	22:30	3.25	Change out Stabilizer
22:30	0:00	1.50	Drill From 42mtrs to 66mtrs

**24 HOUR Forecast :**  
 TD Hole , Clean Tanks , Run Casing , Cement

# Vulcan Minerals

## DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #: 11	DATE: October 9, 2005
DEPTH 24:00: 140.0 m	PROGRESS: 74.0 m	Last 24 Hr Rotating Time: 3.75 hr	Ave ROP 19.7 m/hr
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.: 8°C	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS: Good	

BIT PERFORMANCE				SURVEYS		DRILLING FLUID		PUMPS	
Bit No.				42 m	1.75 °	Time		Pump No.	1
Size (mm)				134 m	1.25 °	Depth(m)	140	Make	Gardner Denver
Mfg.						Density	8.33	Model	PY-7
Type						Mud Grad		Liner X Stk	6"x 7"
Serial #						Vis		SPM	40
Nozzles						PV		Pump Eff.	95%
From (mKB)						YP		Pump Rate	0.01
To (mKB)						Gels		Pump Press.	350
Hrs on Bit						pH		Drillpipe AV	
WOB (daN)						WL (cc's)		Drillcollar AV	
RPM						Filter Cake		Nozzle Vel	
Condition						Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?						Solids (%)		Mud Cycle	2266 min
Meters						Oil (%)		Bottoms Up	min
m/hr						PI/Mf		Tanks	22 m3
Cum Hrs						MBT		Hole Volume	m3
						Cl (ppm)		System Vol.	22 m3
						Ca (ppm)		Mud & Chemicals Added:	
						Mud Co.		2 Soda Ash	
						Mud Man			
						Mud Up @			

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	101	DC Conn:
Jts DP in hole:		DP on Loc:	153	DP Conn: 2 7/8IF

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

VOLUMES M <sup>3</sup>	
Water added	
Losses	
<b>WELL CONTROL</b>	
RSPG	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	
<b>SOLIDS CONTROL</b>	
Shaker Make	FSI
Shaker Mesh	230 x230 x 140
Vol UF (l/min)	Desilter
U.F. (kg/m3)	Centrifuge
O.F. (kg/m3)	
Hours/Days	
Boiler Hrs:	(to 24:00)

24 HOUR SUMMARY FOR THE DATE : October 8, 2005 (0000 hrs - 2400 hrs)			
From	To	Duration	Event
0:00	3:45	3.75	Drill 216mm Hole From 66m to 141mtrs
3:45	4:15	0.50	Flow Check with Gas Detector
4:15	4:45	0.50	Rig Service / Survey @ 134mtrs ( 1 1/4 Degrees )
4:45	5:15	0.50	Pull out of Hole
5:15	5:30	0.25	Safety Meeting
5:30	11:00	5.50	Move Holding Tanks , Pump Out and Clean Mud Tanks
11:00	11:15	0.25	Rig Service
11:15	12:00	0.75	Run in Hole
12:00	13:00	1.00	Fill Mud Tanks with Water,Mix Soda Ash, Circulate Tanks
13:00	18:30	5.50	Nipple Down Discharge line,Rotating Head,Diverter,Screw into String,POOH,Lay Down Hammer, Pick up Tri-cone,RIH,Fill Hole With Fluid,FlowCheck,POOH,Lay Down Bit and Stab,Npple up Annular,Rotating Head,Flow Line to Shaker
18:30	19:00	0.50	Rig to and Run 7" Casing to 20mtrs
19:00	19:15	0.25	Rig Service / Safety Meeting (Crew Change )
19:15	22:30	3.25	Run 15 joints of 7" 17-lb/ft H-40 STC to 140.87m
22:30	0:00	1.50	Circulating Casing,Wait on Cement

**24 HOUR Forcast :**  
 Wait on Cement , Rig in Manifold , Pressure test Stack









# Vulcan Minerals

# DAILY DRILLING REPORT

<b>Flat Bay #3</b>		REPORT #: 15	DATE: October 13, 2005
DEPTH 24:00: 370.0 m	PROGRESS: 228.0 m	Last 24 Hr Rotating Time: 14.00 hr	Ave ROP 16.3 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.: 7°C	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS: Good	

BIT PERFORMANCE			SURVEYS		DRILLING FLUID		PUMPS	
Bit No.	1	2	42 m	1.75 °	Time	2:30	Pump No.	1
Size (mm)	156	159	134 m	1.25 °	Depth(m)	144	Make	Gardner Denver
Mfg.	Varel	Mission	302 m	3.00 °	Density	1020	Model	PY-7
Type	ET034	Hammer	370 m	4.00 °	Mud Grad		Liner X Stk	6"x 7"
Serial #	206625	898290			Vis		SPM	40
Nozzles	OPEN	OPEN			PV		Pump Eff.	95%
From (mKB)	141	144			YP		Pump Rate	0.01
To (mKB)	144				Gels		Pump Press.	350
Hrs on Bit	1 1/4	5 1/4			pH		Drillpipe AV	
WOB (daN)	1	2			WL (cc's)		Drillcollar AV	
RPM	90	20			Filter Cake		Nozzle Vel	
Condition	1	1			Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?	Air Ham				Solids (%)		Mud Cycle	728 min
Meters	2	100			Oil (%)		Bottoms Up	728 min
m/hr					Pf/Mf		Tanks	m3
Cum Hrs					MBT		Hole Volume	7 m3
					Cl (ppm)		System Vol.	7 m3
					Ca (ppm)		Mud & Chemicals Added:	

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	BIT	156mm		3 1/2 REG
2	Stabilizer	156		3 1/2 REG x 2 7/8"IF
3				
BHA Length:		Hook Load:		DP size
Avail WOB:		Jts DP Racks		101
Jts DP in hole:		DP on Loc:		153
				DC Conn:
				DP Conn:
				2 7/8IF

DRILLING OPERATIONS TIME BREAKDOWN				
RU / TO		Survey	1	Plug Back
Drill Actual	14	Logging		Fishing
Reaming	1	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 BOP's	1 1/4	Weld on Bowl
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill
Repair Rig	1/2	DST		Wait on Orders
Slip/Cut Line		Hndle Tools		Total Hrs
				24

VOLUMES		M <sup>3</sup>	
Water added			
Losses			
<b>WELL CONTROL</b>		<b>SOLIDS CONTROL</b>	
RSP		Shaker Make	
ST/Min		Shaker Mesh	
MACP(kPa)		FSI	
Calc Hole Fill		230 x230 x 140	
Act Hole Fill		Desilter	Centrifuge
Lst BOP Drill:		Vol UF (l/min)	
Calc Hole Fill		U.F. (kg/m3)	
Act Hole Fill		O.F. (kg/m3)	
		Hours/Days	
		Boiler Hrs:	(to 24:00)

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

From	To	Duration	Event
0:00	1:15	1.25	Drill Out float and shoe at 141m and continue to drill to 144m
1:15	2:30	1.25	Leak Off Test at 144m with 1020-kg/m3 mud weight to 5516-kPa. No pressure drop. Gradient 48.3-kPa/m
2:30	3:30	1.00	Pull out of Hole , Change to Air Hammer
3:30	4:45	1.25	Run in Hole to 141mtrs
4:45	5:45	1.00	Ream From 141 to 144mtrs
5:45	6:00	0.25	Drill 159mm Hole From 144 to 147mtrs
6:00	6:30	0.50	Replace Gasket on Discharge Line
6:30	11:30	5.00	Drill From 147mtrs to 244mtrs
11:30	11:45	0.25	Bop Drill
11:45	12:00	0.25	Rig Service
12:00	14:45	2.75	Drill From 244mtrs to 302mtrs
14:45	15:15	0.50	Survey @ 302mtrs , 3 Degrees
15:15	20:00	4.75	Drill From 302mtrs to 370mtrs
20:00	21:00	1.00	Safety Meeting / Wait on Orders
21:00	21:30	0.50	Survey @ 370m 4degrees
21:30	0:00	2.50	Pull out of Hole , Lay Down Air Hammer

**24 HOUR Forcast :**  
 Wait on Loggers

**Vulcan Minerals**

**DAILY DRILLING REPORT**

<b>Flat Bay #3</b>			REPORT #: 16	DATE: October 14, 2005
DEPTH 24:00: 370.0 m	PROGRESS:	Last 24 Hr Rotating Time:		Ave ROP
OPER 06:00: Wait on Orders		FOREMAN: Tom Targett	MOBILE NO.: 709-689-4601	
DAILY COST:	HOLE COND.:	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				SURVEYS		DRILLING FLUID		PUMPS	
Bit No.				42 m	1.75 °	Time		Pump No.	1
Size (mm)				134 m	1.25 °	Depth(m)		Make	Gardner Denver
Mfg.				302 m	3.00 °	Density		Model	PY-7
Type				370 m	4.00 °	Mud Grad		Liner X Stk	6"x 7"
Serial #						Vis		SPM	40
Nozzles						PV		Pump Eff.	95%
From (mKB)						YP		Pump Rate	0.01
To (mKB)						Gels		Pump Press.	350
Hrs on Bit						pH		Drillpipe AV	
WOB (daN)						WL (cc's)		Drillcollar AV	
RPM						Filter Cake		Nozzle Vel	
Condition						Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?						Solids (%)		Mud Cycle	min
Meters						Oil (%)		Bottoms Up	min
m/hr						Pf/Mf		Tanks	m3
Cum Hrs						MBT		Hole Volume	m3
						Cl (ppm)		System Vol.	m3
						Ca (ppm)		Mud & Chemicals Added:	

BOTTOMHOLE ASSEMBLY				
No.	Item	Max OD	Min ID	Connection Size & Type
1	BIT	159mm		3 1/2 REG
2	Stabilizer	156		3 1/2 REG x 2 7/8"IF
3				
BHA Length:		Hook Load:		DP size
Avail WOB:		Jts DP Racks	101	DC Conn:
Jts DP in hole:		DP on Loc:	153	DP Conn: 2 7/8IF

DRILLING OPERATIONS TIME BREAKDOWN				
RU / TO		Survey		Plug Back
Drill Actual		Logging	3 1/4	Fishing
Reaming		Run Casing		Work w/Pason
Coring		Cementing		Work Pipe
Rm Rathole		WOC		Mix LCM
Cond / Circ		NU BOP's		Safety meet
Tripping	3	Test BOPs		Weld on Bowl
Lubricate Rig		Drill Out Cmt		BOP Drill
Repair Rig		DST		Wait on Loggers
Slip/Cut Line		Hndle Tools		Total Hrs
				17 3/4
				24

VOLUMES M <sup>3</sup>	
Water added	
Losses	
Mud Co.	
Mud Man	
Mud Up @	
<b>WELL CONTROL</b>	
RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	
<b>SOLIDS CONTROL</b>	
Shaker Make	FSI
Shaker Mesh	230 x230 x 140
Vol UF (l/min)	Desilter      Centrifuge
U.F. (kg/m3)	
O.F. (kg/m3)	
Hours/Days	
Boiler Hrs: (to 24:00)	
Mud Daily Cost	
Mud Cum Cost	

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

From	To	Duration	Event
0:00	17:45	17.75	Wait on Loggers / Rig Out
17:45	10:45	3.00	Wiper Trip
10:45	0:00	13.25	Rig in Loggers , Safety Meeting , Log Hole

**24 HOUR Forecast :**  
 Continue Logging, Wait on Orders, Load Trucks for Rig Move

**Vulcan Minerals**

**DAILY DRILLING REPORT**

<b>Flat Bay #3</b>		REPORT #: 17	DATE: October 15, 2005
DEPTH 24:00: 370.0 m	PROGRESS:	Last 24 Hr Rotating Time:	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.: 10°C	T.P. MOBILE: 709-649-4957
FORMATION:	K.B. ELEV.: 3.3 m	ROADS: Good	

BIT PERFORMANCE				SURVEYS		DRILLING FLUID		PUMPS	
Bit No.				42 m	1.75 °	Time		Pump No.	1
Size (mm)				134 m	1.25 °	Depth(m)		Make	Gardner Denver
Mfg.				302 m	3.00 °	Density		Model	PY-7
Type				370 m	4.00 °	Mud Grad		Liner X Stk	6"x 7"
Serial #						Vis		SPM	40
Nozzles						PV		Pump Eff.	95%
From (mKB)						YP		Pump Rate	0.01
To (mKB)						Gels		Pump Press.	350
Hrs on Bit						pH		Drillpipe AV	
WOB (daN)						WL (cc's)		Drillcollar AV	
RPM						Filter Cake		Nozzle Vel	
Condition						Sand (%)		<b>MUD &amp; CHEMICALS</b>	
Pulled For?						Solids (%)		Mud Cycle	min
Meters						Oil (%)		Bottoms Up	min
m/hr						PI/Mf		Tanks	m3
Cum Hrs						MBT		Hole Volume	m3
						Cl (ppm)		System Vol.	m3
						Ca (ppm)		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	101	DC Conn:	
Jts DP in hole:	DP on Loc:	153	DP Conn:	2 7/8IF

DRILLING OPERATIONS TIME BREAKDOWN					
RU / TO		Survey	2 1/2	Plug Back	
Drill Actual	11	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		Wait on Orders	10 1/2
Slip/Cut Line		Handle Tools		Total Hrs	24

VOLUMES M <sup>3</sup>	
Water added	
Losses	
<b>WELL CONTROL</b>	
RSPP	
ST/Min	
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	
<b>SOLIDS CONTROL</b>	
Shaker Make	FSI
Shaker Mesh	230 x230 x 140
Vol UF (l/min)	Desilter
U.F. (kg/m3)	Centrifuge
O.F. (kg/m3)	
Hours/Days	
Boiler Hrs:	(to 24:00)

24 HOUR SUMMARY FOR THE DATE : October 14, 2005 (0000 hrs - 2400 hrs)			
From	To	Duration	Event
0:00	2:30	2.50	Wire Line Logging (Baker )
2:30	13:00	10.50	Wait on Orders (Load Trailer , Clean up Lease )
13:00	19:00	6.00	Cap well and Rig Out. Rig release on 14Oct05 at 17:00
19:00	0:00	5.00	Wait on Daylight

**24 HOUR Forecast :**  
Rig Move