FINAL WELL REPORT

Revision:	**Version 0**
Operating Company:	**Vulcan Minerals Inc**
Well Name:	**Flat Bay #5**
Rig:	**Ingersoll Rand RD10**
Field:	**Bay of St. George Basin**
Location:	**Western Newfoundland, Canada**
Date:	**20 December 2006**
Revised On:	**N/A**

Prepared by: Karla Metcalfe, P.Eng Vulcan Minerals Date:	Reviewed by: Patrick Laracy, P.Geo Vulcan Minerals Date:

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1 Introduction

Flat Bay #5 was a well drilled by the operator, Vulcan Minerals Inc., in the Bay of St. George Basin, Newfoundland. (See map in Appendix A). The purpose of this exploration well was to explore the commercial viability of potential hydrocarbon bearing formations in an anomaly identified through the use of geological and geophysical information recognized on proposed site.

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 719-m from rig floor (RF) vertical well was drilled in accordance with the Drilling Program Approval #DPA2006-116-01 and Authority to Drill Well #ADW2006-116-01-02 under Permit #03-106 (see Appendix B).

The Flat Bay #5 340-mm cellar casing was set at 10mRF with 6.0-m^3 of cement for a good shoe to hold back the overburden. The 311-mm hole was drilled to 54-m. Then the 244.5-mm casing was set to 52.6-m and cemented into place with cement to surface. The surface hole was air drilled with a 219.1-mm BHA to 89-mRF where water zone influx prevented the continuance of air drilling. The drilling fluid was switched to a water base mud and the section was continued with a 215.9-mm BHA to 175-m. The 178-mm casing was run to 175-mRF and cemented into place with cement returns to surface. Blow out preventers were nippled up and hi-low pressured tested against surface casing. Formation integrity test was executed at 178-m resulting in a calculated pressure gradient of 20-kPa/m. The hole was drilled with a 158.75-mm air hammer BHA to a depth of 280-mRF where water zone influx prevented the continuance of air drilling. The drilling fluid was switched to a water base brine fluid and the section was continued with a 155.6-mm BHA to 719-m. An exemption from the wireline logging requirements of Section 95(1) of the *Newfoundland and Labrador Petroleum Drilling Regulations* was given by the Department of Natural Resources and it was decided not to run the open-hole wireline logs. The well was then plugged back with three cement plugs and abandoned.

2 General Information

Well Name	Flat Bay #5
Exploration Permit	03-106
Drilling Program Approval	DPA 2006-116-01
Authority to Drill Well	ADW 2006-116-01-02
NAD 27 Coordinates	N 5359952.399 E 386152.489
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 Lost Circulation in Main Hole Section

While drilling the main hole section, full lost circulation was encountered at a depth of 280-meters when the hole was switched from air to fluid. The zone was healed with the pumping of the three pills of LCM that consisted of Kwik Seal, Celluflake, Barolift, fine saw dust, soda ash, and Federal Supreme. Total volume pumped was 5-m3 and total non-productive time for this delay was 7-hours.

The hole was air drilled between the depths of 375m and 377.5m. However the well was producing water at a rate between 1100 and 1500-litres/min and the hole was again switched to fluid, at which point the well incurred lost circulation. A total of the six LCM pills were pumped. Total volume pumped was 15-m3 and total non-productive time was 34.54-hours. (Note: non-productive time included the trip time for air hammer, drilling time with air, trip time for tricone, and LCM circulation time).

3.2 Rig Repair During Main Hole Section

The Ingersoll Rand RD10 had two equipment failures while drilling Flat Bay #5. The non-productive time for both failures had no associated downhole risks.

1. Fuel injection pump replacement: 28.5-hrs of NPT
2. Top drive bearings replacement: 34-hrs of NPT

4 Drilling Operations

4.1 Elevation

Well Name	Flat Bay #5
Ground Level	68.63-m MSL
Casing Flange	Not Applicable
Rig Floor	+3.3-m from ground level

4.2 Total Depth

Well Name	Flat Bay #5
Total Drilled Depth	719-mRF
Logged Depth	N/A
Plugged-Back Depth	20-m

4.3 Important Dates and Status

Well Name	Flat Bay #5
Rig Mobilization	16 October 2006
Drilling Commencement	20 October 2006
Spud	25 October 2006
Drilling Completed	16 November 2006
Rig Release	18 November 2006
Well Status	Abandoned

4.4 Hole Sizes and Depths

Well Name	Flat Bay #5
311.1-mm Hole	20-mRF
219.1-mm Hole	54-mRF
215.9-mm Hole	175-mRF
158.8-mm Hole	220-mRF
155.6-mm Hole	719-mRF

4.5 Bit Records

Flat Bay #5								
Bit Number	**Size [mm]**	**Type**	**Depth In [mRF]**	**Depth Out [mRF]**	**Meterage [m]**	**Hours [h]**	**ROP [m/h]**	**Pulled Condition**
1	219	Air Hammer	54	90	36	2	18	Good
2	216	MW2106	90	175	85	37	2.3	Good
3	156	Reed SL51H	175	178	3	2.5	1.2	Good
4	159	Air Hammer	178	280	102	12.25	8.3	Good
3RR	156	Reed SL51H	280	366	86	27.75	3.1	TC, plugged nozzles
5	156	Smith SX30	366	375	9	10.25	0.9	Good
4RR	159	Air Hammer	375	377.5	2.5	2	1.3	Good
5RR	156	Smith SX30	377.5	581	203.5	85.5	2.4	Good
6	156	Reed SL43H	581	719	138	63	2.2	Good

4.6 Casing Record

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

Well Name	**Flat Bay #5**	
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	9	18
Connection Type	8Rd Short	8Rd Short
Depth of Shoe [mRF]	52.6	175
Casing Hanger and Seal	N/A	Casing Head Type W

4.7 Cementing Record

Well Name	**Flat Bay #5**	
Casing Size [mm]	244.5	177.8
Centralizer Spacing		As necessary
Slurry Volume [m^3]	3.0	3.7
Slurry Density [kg/m^3]	1820	1820
Cement Class	A	A
Cement Additives	1-liter per m^3 slurry Grace Adva 100	1-liter per m^3 slurry Grace Adva 100
Cement Top [mRF]	3.3	3.3
Cement Base [mRF]	52	175
Basis of Top Estimate [Calc/CBL]	Visual	Visual

See Appendix C for cement proposals and reports.

4.8 Sidetracted Hole

Not applicable.

4.9 Drilling Fluid

The 311.1-mm conductor hole section was drilled with Federal Supreme gel water and soda ash with final properties that included mud weight of 1050-kg/m^3, funnel viscosity 48-sec and 8pH.

The 219.1-mm surface hole section was drilled with air from the depth of 54-m to 89-m. The well was then switched to a fluid and the 215.9-mm surface hole section was drilled to 175-m. The gel mud was comprised of Federal Supreme gel for borehole stability, soda ash for pH properties, poly plus for viscosity, Quik-seal and sawdust for lost circulation material. The final properties included mud weight of 1050-kg/m^3, funnel viscosity 50-sec and 9pH.

The 158.8-mm main hole section was drilled with air from the depth of 175-m to 220-m. The well was then switched to a fluid and the 155.6-mm main hole section was drilled to 719-m. The brine fluid was comprised of fishery salt for borehole stability in salt sections, soda ash for pH properties, poly plus for viscosity, Quik-seal and celluflake for lost circulation material. The final properties included mud weight of 1250-kg/m^3, funnel viscosity 29-sec, 8pH, and salinity level of 169mS.

4.10 Fluid Disposal

Upon switching the drilling fluid from air to fluid in the main hole section of the Flat Bay #5 hole, the well encountered lost circulation that was cured prior to continuing to drill by pumping LCM pills that contained saw dust, Celluflake and Kwik Seal. The total drilling fluid lost was 20m^3.

4.11 Well Kicks

Not applicable.

4.12 Formation Leak-Off Tests

Formation integrity test was executed on Flat Bay #5 at 178-m with 1020-kg/m^3 mud weight to 1724-kPa that had no pressure drop during stabilization for a calculated pressure gradient of 19.7kPa/m.

4.13 Time Distribution

Operation Type	Cumulative Time [hrs]	Cumulative Time [%]
Rig Up / Tear Out	28	4.7%
Drill with Fluid	14.25	2.4%
Drill with Air	229.75	38.9%
Reaming	3	0.5%
Coring	0	0.0%
Ream Rathole	0	0.0%
Condition & Circulate Mud	11.5	1.9%
Tripping	83.75	14.2%
Mix Drilling Fluid	2	0.3%
Rig Service	72.25	12.2%
Survey	4	0.7%
Logging	0	0.0%
Run Casing	13	2.2%
Cementing	1	0.2%
Wait on Cement	17.5	3.0%
Nipple Up/Down BOPs	13	2.2%
Test BOPs	15	2.5%
Drill out Cement	7.75	1.3%
Drill Stem Test	0	0.0%
Handle Tools	1	0.2%
Plug Back	3.5	0.6%
Fishing	0	0.0%
Work Pipe	0	0.0%
Mix Lost Circulation Material	19.75	3.3%
Safety Meeting	1	0.2%
BOP Drill	1	0.2%
Clean out Tanks	0	0.0%
Shut Down for Night	0	0.0%
Waiting on Materials	2	0.3%
Waiting on Services	39	6.6%
Waiting on Orders	0	0.0%
Pressure Integrity Test / Leak Off Test	1	0.2%
Make up Wellhead	7	1.2%
Total Operational Time	**591.00**	**100.0%**
Total Non-Productive Time	**143.75**	**24.3%**

4.14 Deviation Plot

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

Depth	Deviation	Maximum Horizontal Drift (Assuming constant Azimuth)	Cumulative Deviation (Assuming constant Azimuth)	Measurement Tool
112-m	1.00°	1.95-m	1.00°	Totco
132-m	3.00°	3.00-m	1.30°	Totco
154-m	2.75°	4.06-m	1.51°	Totco
175-m	3.50°	5.34-m	1.75°	Totco
316-m	5.00°	17.63-m	3.20°	Totco
341-m	7.50°	20.89-m	3.51°	Totco
470-m	8.75°	40.51-m	4.95°	Totco
607-m	9.50°	63.13-m	5.97°	Totco

4.15 Plug & Termination Scheme

Well Name	Flat Bay #5
Cement Plug #1	2.5-m^3 Class A 1820-kg/m^3 cement from 619-mRF to 719-mRF.
Fluid Above Plug #1	1130-kg/m^3 drilling fluid
Cement Plug #2	1-m^3 Class A 1820-kg/m^3 cement from 158-mRF to 190-mRF.
Fluid Above Plug #2	1130-kg/m^3 drilling fluid
Cement Plug #3	0.5-m^3 Class A 1820-kg/m^3 cement from 20-mRF to 35-mRF.
Fluid Above Plug #3	1130-kg/m^3 drilling fluid
Well Status	Abandoned

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 Aaron Vaughan.

5.2 Cores

Not applicable.

5.3 Lithology

See Appendix F geological report completed by Aaron Vaughan.

5.4 Stratigraphic Column

See Appendix G.

5.5 Biostratigraphic Data

Not applicable.

6 Well Evaluation

6.1 Downhole Logs

Not applicable.

6.2 Other Logs

Not applicable.

6.3 Synthetic Seismograms

Not applicable.

6.4 Vertical Seismic Profiles

Not applicable.

6.5 Velocity Surveys

Not applicable.

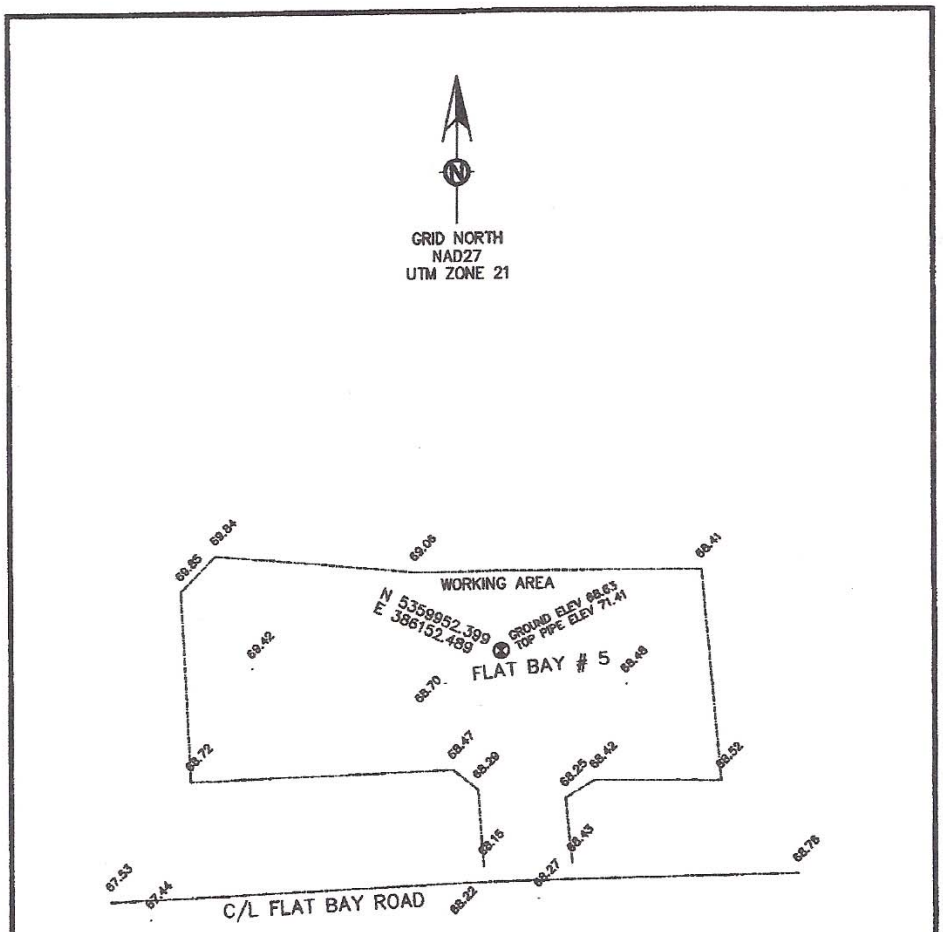
6.6 Formation Stimulation

Not applicable.

6.7 Formation Flow Tests

Not applicable.

APPENDIX A: WELL LOCATION & MAP

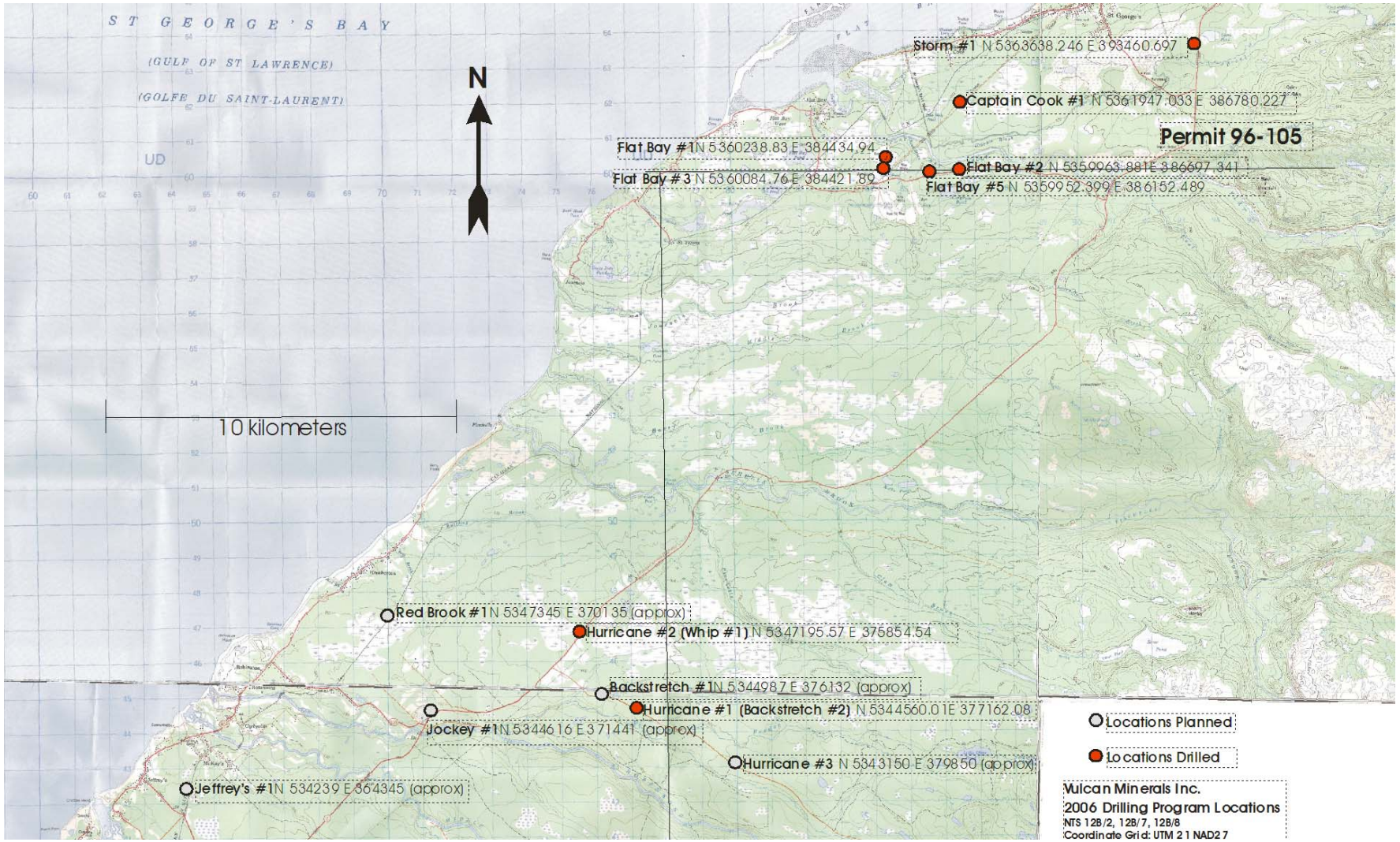


NOTE:
COORDINATES RELATE TO
C.M. 84G4148 HAVING COORDINATES OF
N 5361647.39 E 382471.40 AND
ELEVATION OF 25.87

⊗ WELL LOCATION

ROBIN DAVIS
NEWFOUNDLAND AND LABRADOR
LAND SURVEYOR
PROVINCE OF NEWFOUNDLAND

PLAN SHOWING LOCATION OF FLAT BAY # 5 FLAT BAY ROAD FLAT BAY, NEWFOUNDLAND AND LABRADOR	DWG. NO: 6142-1 SCALE: 1 : 1000
R. DAVIS SURVEYS LTD. P.O. BOX 449 STEPHENVILLE CROSSING, NL	DRAWN BY: R.D. DATE: NOV. 29, 2006


ST GEORGE'S BAY
(GULF OF ST LAWRENCE)
(GOLFE DU SAINT-LAURENT)
N
10 kilometers
Storm #1 N 5363638.246 E 393460.697
Captain Cook #1 N 5361947.033 E 386780.227
Permit 96-105
Flat Bay #1 N 5360238.83 E 384434.94
Flat Bay #3 N 5360084.76 E 384421.89
Flat Bay #2 N 5359963.881 E 386697.341
Flat Bay #5 N 5359952.399 E 386152.489
Red Brook #1 N 5347345 E 370135 (approx)
Hurricane #2 (Whip #1) N 5347195.57 E 376854.54
Backstretch #1 N 5344987 E 376132 (approx)
Hurricane #1 (Backstretch #2) N 5344560.01 E 377162.08
Jockey #1 N 5344616 E 371441 (approx)
Hurricane #3 N 5343150 E 379850 (approx)
Jeffrey's #1 N 534239 E 364345 (approx)
Locations Planned
Locations Drilled
Vulcan Minerals Inc.
2006 Drilling Program Locations
NTS 12B/2, 12B/7, 12B/8
Coordinate Grid: UTM 21 NAD27

APPENDIX B: DRILLING PROGRAM APPROVAL AND AUTHORITY TO DRILL WELL

VULCAN minerals inc

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

DRILLING PROGRAM APPROVAL - APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*[1], Vulcan Minerals Inc, as operator on behalf of Vulcan Minerals Inc, holding a subsisting licence, permit or lease issued pursuant to the *Petroleum Regulations*[2], namely; 96-105/03-106/03-107 *(licence, permit, or lease #)* hereby applies for approval to conduct a drilling program using the drilling rig Ingersoll Rand RD10 and equipment and procedures described in the detailed program dated 19 September 06.

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

Signed: ..... Date: Sept 22/06.
Operator's Representative

APPROVAL

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

1. This Drilling Program Approval shall, unless otherwise extended or terminated, expire upon the 30 day of Sept., 2007;
2. This Authorization shall be prominently displayed at the well site at all times during which operations are being conducted;
3. Evidence of financial responsibility, as required pursuant to Section 14 of the *Petroleum Drilling Regulations*[3], shall be provided by the operator to the Minister of Natural Resources;
4. The operator shall use the equipment and procedures described in the detailed program dated 19 September 2006 unless a change in the equipment or procedures is approved in writing by the Director; and
5. The operator shall comply with such other conditions as are appended to this Approval.

Signed: .....
Director

Effective Date: October 16, 2006

Drilling Program Approval No. 2006-116-01

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[1] *R.S.N. 1990, c. P-10*
[2] *CNR 1151/96*
[3] *CNR 1150/96*

VULCAN minerals inc

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

AUTHORITY TO DRILL A WELL - APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act*[1] and in compliance with section 29 of the *Petroleum Drilling Regulations*[2], Vulcan Minerals Inc., as operator, hereby applies for Authority to Drill a Well to be known as Flat Bay #5 using the equipment and procedures described in the well program dated 26 Sept, 2006. Permit, Licence or Lease to which this Program applies: 03-106

Area: Western Newfoundland		CO-ORDINATES	
Field/Pool: Bay St. Georges		Long: / Lat:	UTM (NAD 27) Northing: 5359950m Easting: 386125m
Drilling Rig: Ingersoll Rand RD10		ELEVATION	DEPTH
Rig Type: Single Hydraulic		RT/KB/RF:	T.D.: 1000 m
Drilling Contractor: Vulcan Minerals Inc.		G.L.: 150m	TVD: 1000 m
ESTIMATES		TARGET HORIZONS	
Spud Date: 1 October 06	Well Cost: 700 000	Fishell's Brook	
Days on Location: 20			

EVALUATION PROGRAM

Ten-metre sample intervals:	During high ROP rates	Conventional cores at:	N/A
Five-metre sample intervals:	60m - 1000m	Logs and Tests:	Neutron, HDI, Densilog, GR, Acoustic, caliper
Canned sample intervals:	N/A		

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m)	Cementing Program
244.5	53.6	J-55	60	Class A
177.8	25.3	H-40	250	Class A
114.3	14.1	J-55	1000	Class A
Other Equipment: 21 MPa BOP, 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: Sept 22/06

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. 2006-116-01 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: October 16, 2006

Authority to Drill a Well No. 2006-116-01-02

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

[2] *CNR 1150/96*

ADW1150.wpd

APPENDIX C: CEMENT PROPOSALS AND REPORTS

SURFACE CASING CEMENTATION PROGRAM

Revision:	**Version 2**
Operating Company:	**Vulcan Minerals Inc**
Hole Name:	**Flat Bay #5**
Rig:	**Ingersoll Rand RD10**
Field:	**Flat Bay**
Location:	**St. Georges Bay,** **Western Newfoundland, Canada**
Date Issued:	**30 October 2006**

1 Purpose

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

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

2 Owner and Operator's Name

Vulcan Minerals Inc.

3 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

4 Drilling Contractor

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

5 On-Site Representation

Greg Walsh
Cell: 709 689 4106

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

6 Timing

The proposed cement program is estimated to occur on October 30, 2006.

7 Cement Operations Program

7.1 Casing Properties

Casing	244.5mm (9 5/8-in)	177.8mm (7-in)
Depth	54-m (173-ft)	175-m (984-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

7.2 Pumping Volumes

Section	Capacity	Volume (0% Excess)	Volume (85% Excess)
Annular – Casing to Casing	0.0155 m^3/m	0.79 m^3	0.79 m^3
Annular – Casing to Open Hole	0.0118 m^3/m	1.46 m^3	2.71 m^3
Shoetrack – 10m	0.0217 m^3/m	0.22 m^3	0.22 m^3
Casing (Displacement)	0.0217 m^3/m	3.57 m^3	3.57 m^3
Total Cement Volume		**2.47 m^3**	**3.71 m^3**

7.3 Cement System

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

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

Tested Cement Strength: 21.7-MPa

Cement additives including MI Celloflake and Halliburton Barolift are on site in the case that lost circulation materials are required while cementing.

7.4 177.8mm Casing Cementation Operations

1. Ensure casing is run with sufficient centralization (1 centralizer every 2 casing joints).
2. Check mud pump efficiency and open hole excess requirement.
3. Rig up cementing equipment.

4. Conduct Safety and Procedures meeting with all personnel on location.
5. Pressure test treating lines to anticipated maximum surface pressure of 1000-kPa (note cement plug will be bumped with rig pump).
6. Prepare to conduct cement job.
7. Pump 0.5m^3 of freshwater spacer.
8. Pump pre-mix cement (estimated 3.71 m^3 assuming shoe at 175-m, 3-m rig elevation to ground level, and 85% excess required) at a rate of approximately 0.3-m^3/min. Collect at least 3 samples of pre-mixed cement at regular intervals of the pumping operation.
9. Drop 177.8mm solid top plug.
10. Chain down casing or hold down casing with topdrive to prevent floatation.
11. Displace cement with required volume fluid (estimated 3.57 m^3 assuming shoe at 175-m and 10-m shoe track) at a rate of 0.6-m^3/min assuming 95% pumping efficiency.
12. For the last 0.5m^3 of displacement with water, slow pumping by idling the triplex pump and land plug a minimum of 2000-kPa over the final pumping pressure. Collect samples of cement returns and label.
13. Bleed pressure off and ensure that the float is holding.
14. Rig down cementing equipment.

8 Contingency for 177.8mm (7-in) Intermediate Casing

8.1 Plug Does Not Bump

The scenario that the plug does not bump, displace the casing as per cement program. **Never** over displace the casing in order to bump the plug.

8.2 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.

8.3 No Cement to Surface

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

APPENDIX D: WELL TERMINATION RECORD & WELL SCHEMATIC

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

WELL TERMINATION RECORD

WELL DATA

Well Name:	Flat Bay #5	CO-ORDINATES	
Operator:	Vulcan Minerals Inc.		UTM (NAD 27)
Drilling Rig:	Ingersoll Rand RD10	Long: Lat:	Northing: 5359952.399m Easting: 386152.489m
Rig Type:	Hydraulic Single	ELEVATION	DEPTH
Drilling Contractor:	Vulcan Minerals Inc.	RT/KB/RF: 71.93m G.L.: 68.63m	TD: 719m TVD: 719m
		FOR NR USE ONLY	
Spud Date:	25 October 2006	For the purpose of interpreting subsection 154(5) of the Petroleum Drilling Regulations, the rig release date is deemed to be:	
TD Date:	16 November 2006	18 November 2006	
Rig Release Date:	18 November 2006		
Well Termination Date:	18 November 2006		

CASING AND CEMENTING PROGRAM

O.D. (mm)	WEIGHT (kg/m)	GRADE	SETTING DEPTH (m)	CEMENTING DETAILS
244.5	53.6	J-55	52	3.0m^3 1820-kg/m3 Class A, cement returns
177.8	25.6	H-40	175	3.7m^3 1820-kg/m3 Class A, cement returns

PLUGGING PROGRAM

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

from (person) Paul Molloy of the Department of Natural Resources by means of

E-mail / Telephone Conversation dated 16 November 2006

Type of Plug	Interval	Felt/Pressure Tested	Cement and Additives
Cement	35-20m	None	0.5m^3 1820-kg/m3 Class A
Cement	190-158m	Felt	1.0m^3 1820-kg/m3 Class A
Cement	719-619m	None	2.5m^3 1820-kg/m3 Class A

Lost Circulation/Overpressure Zones:

Downhole Completion/Suspension Equipment:

3 Cement Plugs – see attached sketch

(Describe and Attach Sketch)

DECLARATION

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

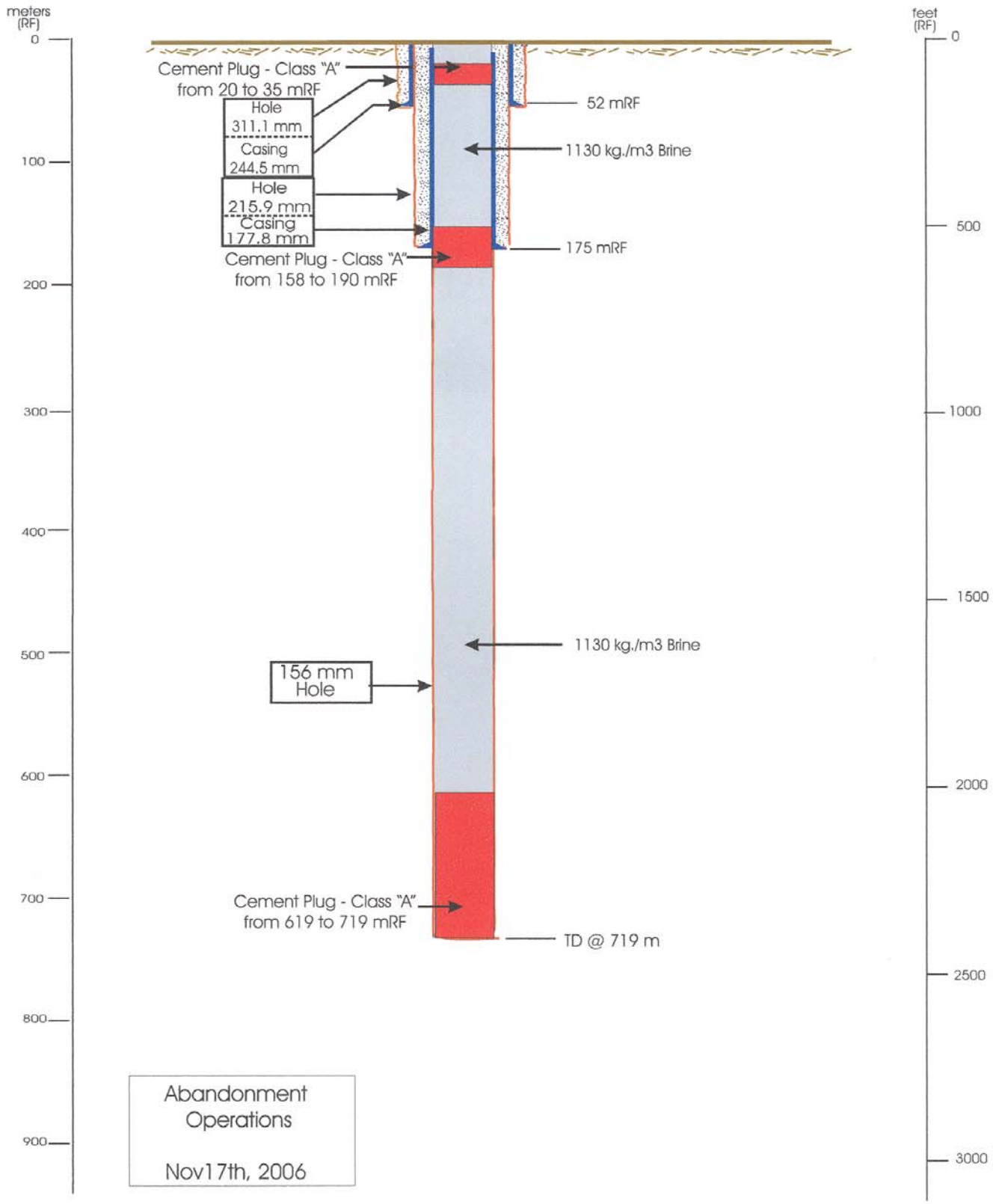
Signed ..... Title Operator's Representative

Name P.J. LARKIN Date Dec 01/06.

ACKNOWLEDGEMENT

Acknowledged by ..... Date Dec. 11/06

Director



VULCAN minerals inc

Vulcan Minerals Inc.
Flat Bay #5
Abandonment Configuration

Scale:	1 : N/A
Drawn by:	K. Metcalfe
Date:	28 Nov 2006
Drawing No:	FB#5 - Abandon
Rev:	0

APPENDIX E: COMPOSITE WELL RECORD & TIME VERSUS DEPTH CURVE

Flat Bay #5 Exploration Well, October-November 2006

Position: projection NAD 27: 386152.489-mE, 5359952.399-mN, GL + 68.63-m, RF = + 3.3-mGL

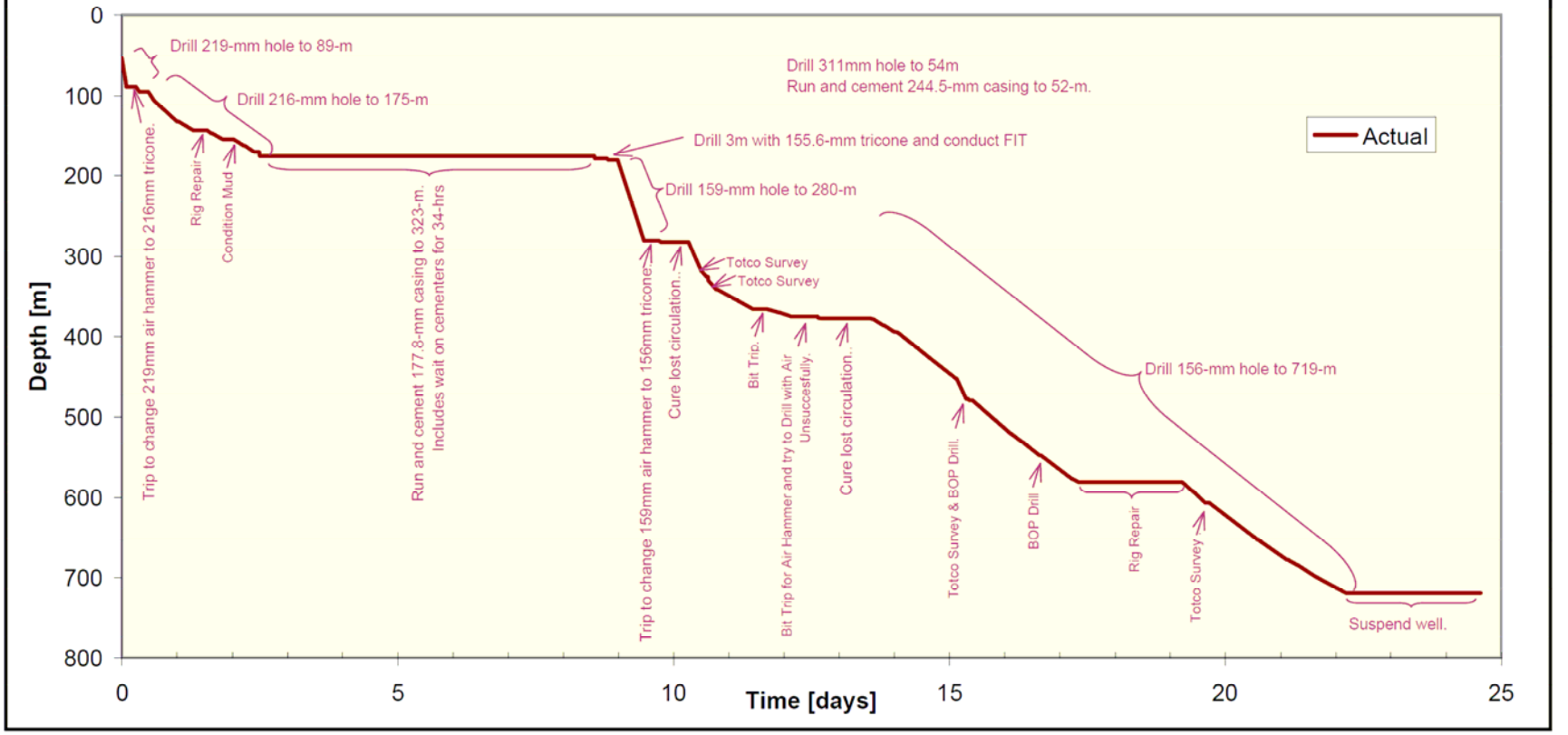
All depths are MD RF

Depth	Lithology Description	Lithology Column	ROP / Gas Curve (0 ROP (m/hr) 5; 0 Gas (%) 1)	Casing Scheme	Drilling Data: Deviation:	Bit:	BHA:	Comments:	DF & Cementing: Drilling Fluid:	Cement:	Comments:	Remarks
0	Overburden 0m to 47m			244.5-mm 53.6-kg/m @ 52.6-m					**Type:** Federal Supreme gel water; MW 1050-kg/m3; Funnel Vis 48-sec; pH 8	One stage cement job. Pump 0.5-m^3 H_2O preflush. Pump 3.0-m^3 Class A 1820 kg/m^3 cement slurry.	* 100% open hole excess * 0.5-m^3 cement returns at cellar * Tag TOC at 40-m	
50	Clayston 47m to 80m											
100	Sandstone 80m to 154m				1.00° @ 112-m Totco 3.00° @ 132-m Totco	**#1. 54-m to 90-m** 219.1-mm Mission Air Hammer; meterage: 36-m; 2-hrs; ROP: 18-m/h; RPM 40; **#2. 90-m to 175-m** 215.9-mm MW2106; meterage: 85-m; 37-hrs; ROP: 2.3-m/h; RPM 80;			**Type:** Air **Type:** Federal Supreme gel water; MW 1050-kg/m3; Funnel Vis 50-sec; pH 9	One stage cement job. Pump 0.5-m^3 water preflush. Pump 7-m^3 1820 kg/m3 class A cement. Displaced with 2.3-m^3 water.	* Cementation by Vulcan Minerals * 85% open hole excess * 0.7-m3 cement returns at cellar * Tag TOC at 115-m	
150					2.75° @ 154-m Totco 3.50° @ 175-m Totco							
200	Salt - Anhydrite 154m to 365m			177.8-mm 25.33-kg/m H-40 8Rd Short @ 175-m		**#3. 175-m to 178-m** 155.6-mm Reed SL51H; meterage: 3-m; 2.5-hrs; ROP: 1.2-m/h; RPM 80; **#4. 178-m to 280-m** 158.8-mm Mission Air Hammer; meterage: 102-m; 22-hrs; ROP: 3.3-m/h; RPM 40;		* FIT @ 178-m with 1070-kg/m^3 MW to 5516-kpa, no pressure drop.	**Type:** Air			
250												
300					5.00° @ 3161-m Totco	**#3RR. 280-m to 366-m** 155.6-mm Reed SL51H; meterage: 86-m; 27.75-hrs; ROP: 3.1-m/h; RPM 80;			**Type:** Brine water; MW 1110-kg/m3; Funnel Vis 27-sec; pH 8			
350					7.50° @ 341-m Totco							
400						**#5. 366-m to 375-m** 155.6-mm Smith SX30; meterage: 9-m; 10.25-hrs; ROP: 0.9-m/h; RPM 80; **#4RR. 375-m to 377.5-m** 158.8-mm Mission Air Hammer; meterage: 2.5-m; 2-hrs; ROP: 1.3-m/h; **#5RR. 377.5-m to 581-m** 155.6-mm Smith SX30; meterage: 203.5-m; 85.5-hrs; ROP: 2.4-m/h; RPM			**Type:** Air **Type:** Brine water; MW 1250-kg/m3; Funnel Vis 29-sec; pH 8	Cement Plug #1 at depth of 719-m. Pump 0.5-m^3 water preflush, 2.5-m3 Class A 1820-kg/m^3 cement, 4.1-m^3 drilling fluid, and spot cement plug 719-m to 619-m.	* Full returns during cement job * 30% open hole excess	
450	Basal Anhydrite 365m to 600				8.75° @ 470-m Totco					Cement Plug #2 at depth of 190-m. Pump 0.2-m^3 water, 2.5-m^3 class A 1820-kg/m^3 cement, 0.1-m^3 water and 1.1m^3 drilling fluid, spotting plug 190-m to 158m.	* Full returns during cement job * 160% open hole excess * Tag TOC at 158-m	
500												
550										Cement Plug #3 at depth of 35-m. Pump 0.2-m3 water and 0.5-m3 class A 1820-kg/m^3 cement, spotting plug 35-m to 20-m.	* Full returns during cement job	
600	Shipcove					**#6. 581-m to 719-m** 155.6-mm Reed SL43H; meterage: 138-m; 63-hrs; ROP: 2.2-m/h; RPM 80;						
650	Fischells Brook 605m to 719m				9.50° @ 607-m Totco							
700												
750												
800												
850												
900												
950												

REMARKS: Licence 03-106 — Spud Date: Oct 25, 2006 @ 10:00 — Rig Release: Nov 18, 2006 @ 24:00

Rig: Vulcan Minerals Inc. Ingersoll Rand RD-10 — Total Operational Hours: 591.00 — Percentage Operational NPT: 24.3%

	Operating Company	Vulcan Minerals	**Mob Start**	16-Oct-06
	Well Name	Flat Bay #5	**Spud Date**	25-Oct-06
	Rig	Ingersoll Rand RD10	**Rig Release**	18-Nov-06
	Field	St.Georges	**Demob End**	22-Nov-06



Total Non-Productive Time **24.32%**

APPENDIX F: DRILL CUTTINGS DESCRIPTION & LITHOLOGY

GEOLOGICAL REPORT

on

VUL FLAT BAY #5 - 2006-116-01
Flat Bay, NL

Prepared for

VULCAN MINERALS INC.

November 18, 2006

Reported to: **Patrick Laracy**

Geology by: **Aaron Vaughan**

EAST ROCK GEOCONSULTING
SUITE 700, ONE EXECUTIVE PLACE
1816 CROWCHILD TRAIL, NW
CALGARY, ALBERTA

CONTENTS

ABSTRACT

VERTICAL WELL COMPLETION

VUL FLAT BAY #5 - 2006-116-01 was spud on October 25, 2006 at 09:00hrs. The objective was to drill a vertical oil production well into the Fishells Brook Conglomerate which was the primary target. The Ship Cove Limestone, which overlies the Fishells Brook Conglomerate, was the secondary target.

The well was drilled from a surface pad location approximately 50 meters off of (north) the Flat Bay road, four kilometers west of the Trans Canada Highway, Newfoundland. (Northing: 5359952.399; Easting: 386152.489) and was drilled using Vulcan Minerals Inc. Rig #RD210

The surface hole drilled from 39m to 90m MD with a 219mm Mission air hammer drill bit before water was encountered. A conventional Hughes MW2106, 216mm tri-cone bit was used to continue the surface hole to a TD of 175.00m MD

The Extrapolated SCP of 175.00m MD was reached at 22:00 hrs on October 27, 2006.

After drilling cement to 178m with a 156mm Reed SL51H insert bit, a Mission 158mm air hammer was used to drill to 280m MD. Due to the influx of formation water, air drilling ceased and the Reed SL51H bit was again picked up and used to drill to 366m MD then pulled due to low penetration rates. A Smith SX30 insert bit was run from 366m to 581m MD and pulled for wear and nozzle blocks. After trying the Mission 158mm air hammer bit with no success, a new Reed SL43H was ran to a TD of 719m MD.
The Ship Cove Limestone was encountered at 600m MD and the Fischells Brook was noted at 605m MD.

The TD of 719.00m MD was reached at 13:30 hrs on September 17, 2006

Though major drilling problems are typically mentioned in this geological report, the author has elected to refer the reader to the various engineering and drilling reports that have been compiled on this specific topic.

WELL DATA

Operator & Licensee:	Vulcan Minerals Inc.						
Well Name:	VUL FLAT BAY #5 – 2006-116-01						
License No.:	2006-116-01						
Spud Date:	October 25, 2006						
Surface Location:	Flat Bay, NL						
Surface Coordinates:	Northing: 5359952.399; Easting: 386152.489						
Surface Casing Depth:	177.76m TVD						
Bottom Hole Depth:							
Field Name:	Flat Bay						
Elevation:	**Ground:**	68.63	**KB:**	71.93	**KB to ground:**	3.33	
Drilling Contractor / Rig:	Vulcan Minerals Inc. Rig # RD10						
Survey Contractor:	N/A						
Total Depth (TD):	719.00mMD (~719.00m TVD, ~ -561.67m SS) Nov 16, 2006 13:30 Hrs						
Hole Size:	**Surface:**	216 mm	**Intermediate:**				
	Production:	156mm					
Surface Casing:	**Size:**	177.8 mm	**From:**	0 m	**To:**	175.00 m	
	Date / Time:	October 27, 2006			**Weight:**	48.068 kg/m	
Intermediate Casing:	**Size:**	N/A	**From:**		**To:**		
	Date / Time:				**Weight:**		
Production Casing:	**Size:**	N/A	**From:**		**To:**		
	Date / Time:				**Weight:**		
Mud Type:	Gel		**From:**	0m	**To:**	39m	
	Air		**From:**	39m	**To:**	90m	
	Brine		**From:**	90m	**To:**	175m	
	Air		**From:**	178m	**To:**	280m	
	Brine		**From:**	280m	**To:**	719m	
Wireline Logging By:	N/A						
Logging Tools:	N/A						
Geological Samples:	Samples were collected from 55 m to 719.00 m MD.						
Final Well Status:	Cemented and Abandoned						

GEOLOGICAL MARKERS

KB: 71.93	**Prognosis**		**TRUE**	
Formation	**mTVD**	**mSS**	**mMD**	**~mSS**
Overburden	0.00	71.93	***0.00***	***71.93***
Claystone	65.00	6.93	***47.00***	***24.93***
Sandstone w/mnr Gypsum and Red Shale	145.00	-73.07	***80.00***	***-8.07***
Salt – Anhydrite intermingled	188.00	-116.07	***154.00***	***-82.07***
Basal anhydrite sequence minor salt	338.00	-266.07	***365.00***	***-293.07***
Ship Cove Limestone ***(secondary target)***	578.00	-506.07	***600.00***	***-528.07***
Fishells Brook Conglomerate ***(primary target)***	589.00	-517.07	***605.00***	***-533.07***
TD	850.00	-778.07	***719.00***	***-647.07***

BIT RECORD

Bit Number:	**1**	**2**	**3**	**4**
Size *(mm)*	219	216	156	158
Make:	Mission	Hughes	Reed	Mission
Type:	Air Hammer	MW2106	SL51H	Air Hammer
Serial #:	B98290	ER6108	ER5587	
Depth In	54	90	175	178
Dpeth Out	90	175	178	280
Meters Run:	36	85	3	102
Hours Run:	2	37	2.5	12.25
ROP (m/hr)	18.00	2.30	1.20	8.33

Bit Number:	**3RR**	**5**	**6**
Size *(mm)*	156	156	156
Make:	Reed	Smith	Reed
Type:	SL51H	SX30	SL43H
Serial #:	ER5587	PB2404	NM3942
Depth In	280	366	581
Dpeth Out	366	581	719
Meters Run:	86	215	138
Hours Run:	27.75	5.25	70
ROP (m/hr)	3.10	40.95	1.97

GEOLOGICAL DESCRIPTIONS

60 - 75 Mud: 100% predominantly brownish red to red with rare to trace rounded to sub rounded pebbles

75 - 80: Missed Sample though still mainly mud as above

80 - 85 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper medium to upper very coarse with rare to trace upper fine to lower medium, well to moderately well sorted, sub angular to sub rounded, minor orange to pink to amber to brownish quartz grains, rare red and green chert, trace to minor micaceous claystone and consolidated very fine sandstone to siltstone stringers, good to excellent visible porosity though mud matrix may be washed

85 - 90 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated lower medium to upper coarse with rare to trace upper fine and lower very coarse to upper very coarse, well sorted, sub angular to sub rounded, minor orange to pink to amber to brownish quartz grains, rare red and green chert, rare micaceous claystone stringers; good visible porosity in clean samples, no shows

90 - 95 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated lower medium to upper coarse with rare to trace upper fine and lower very coarse to upper very coarse, well sorted, sub angular to sub rounded, minor orange to pink to amber to brownish quartz grains, rare dolomite, rare red and green chert, rare micaceous claystone stringers, rare loosely consolidated lower fine to upper fine sandstone with slightly to moderately calcareous cement; good visible porosity in clean samples, no shows

95 - 100 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated lower medium to upper coarse with rare to trace upper fine and lower very coarse to upper very coarse, well sorted, sub angular to sub rounded, minor orange to pink to amber to brownish quartz grains, rare dolomite, rare calcite fragments, rare red and green chert, rare loosely consolidated lower fine to upper fine sandstone with slightly to moderately calcareous cement; good visible porosity in clean samples, no shows

100 - 105 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper fine to upper medium with rare to trace lower coarse to upper very coarse, well sorted, sub angular to sub rounded, minor orange to pink to amber to brownish quartz grains, rare calcite fragments, rare red and green chert, rare loosely consolidated lower fine to upper fine sandstone with slightly to moderately calcareous cement, rare mudstone stringers; good visible porosity in clean samples, no shows

105 - 110 slightly micaceous SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper fine to upper medium with trace lower fine and lower coarse to upper very coarse, moderately well to well sorted, sub angular to sub rounded, trace orange to pink to amber to brownish quartz grains, rare red and green chert, minor loosely consolidated lower very fine to upper fine sandstone with moderately to very calcareous cement; good visible porosity in clean samples, no shows

110 - 115 slightly micaceous SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper fine to upper medium with trace lower fine and lower coarse to upper very coarse, moderately well to well sorted, sub angular to sub rounded, trace orange to pink to amber to brownish quartz grains, rare red and green chert, rare dolomite, minor loosely consolidated lower very fine to upper fine sandstone with moderately to very calcareous cement; good visible porosity in clean samples, no shows

115 - 120 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper medium to upper very coarse with trace lower fine to lower medium, moderately well sorted, sub angular to sub rounded with minor to occasional angular, rare orange to amber quartz grains, rare green chert, trace dolomite, rare loosely consolidated lower very fine to upper fine sandstone with moderately to very calcareous cement; good visible porosity in clean samples, no shows

115 - 120 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper fine to upper medium with trace lower fine and lower coarse to upper very coarse, moderately well sorted, sub angular to sub rounded with trace angular, rare orange to amber quartz grains, rare green chert, trace dolomite, minor loosely consolidated and rare strongly consolidated lower very fine to upper fine sandstone with moderately to very calcareous cement; good visible porosity in clean samples, no shows

125 - 130 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper fine to lower coarse with trace to minor lower fine and occasional to abundant lower coarse to upper very coarse, moderately well sorted, sub angular to sub rounded with trace angular, rare orange to amber quartz grains, rare green, red, brown angular chert stringers, rare dolomite, rare anhydrite, trace loosely consolidated and rare strongly consolidated lower very fine to upper fine sandstone with moderately to very calcareous cement, rare limestone stringers; good visible porosity in clean samples, no shows

125 - 130 SANDSTONE: 100% clear and frosted quartz, predominantly unconsolidated upper fine to lower coarse with trace to minor lower fine and minor to occasional lower coarse to upper very coarse, moderately well sorted, sub angular to sub rounded with trace angular, rare orange to amber quartz grains, rare green, red, brown angular chert stringers, rare dolomite, rare anhydrite, trace loosely consolidated and rare strongly consolidated lower very fine to upper fine sandstone with moderately to very calcareous cement, rare limestone stringers; good visible porosity in clean samples, no shows

135 - 140 SANDSTONE: 75% clear and frosted quartz, predominantly unconsolidated upper fine to lower coarse with trace to minor lower fine and rare to trace lower coarse to upper very coarse, moderately well sorted, sub angular to sub rounded with trace angular, rare orange to amber quartz grains, rare green, red, brown angular chert stringers, rare dolomite, rare anhydrite, rare limestone stringers; good visible porosity in clean samples; SILTSTONE to VERY FINE SANDSTONE: 25% consolidated with very calcareous cement, rare limestone stringers; poor to nil visible porosity; no shows

140 - 145 SANDSTONE: 75% clear and frosted quartz, predominantly unconsolidated upper fine to lower coarse with trace to minor lower fine and rare to trace lower coarse to upper very coarse and poorly to moderately well sorted, sub angular to sub rounded with

trace angular, rare orange to amber quartz grains, rare green, red, brown angular chert stringers, rare dolomite, rare anhydrite, rare limestone stringers; good visible porosity in clean samples; SILTSTONE to VERY FINE SANDSTONE: 25% consolidated with very calcareous cement, rare limestone stringers; poor to nil visible porosity; no shows

145 - 150 LIMESTONE: 75% Appears to be ferric limestone? or calcareous mudstone? possibly redeposited by slightly acidic ground water in a fracture, fault or similar space. Though mostly mammillary (botryodial to reniform) in form, a few appeared to have good cubic crystalline form. When dissolved in acid a flocculated red ocher color was noted in the acid solution as wall as microscopic magnetic platelets (not bitumen fragments). SILTSTONE to VERY FINE SANDSTONE: 25% consolidated with very calcareous cement, rare chert stringers, rare quartz grains, rare gypsum.

150 - 155 SANDSTONE: 65% clear and frosted quartz, predominantly unconsolidated upper fine to lower coarse with trace to minor lower fine and rare to trace lower coarse to upper very coarse and poorly to moderately well sorted, sub angular to sub rounded with trace angular, rare orange to amber quartz grains, rare green, red, brown angular chert stringers; SILTSTONE to VERY FINE SANDSTONE: 20% consolidated with very calcareous cement; GYPSUM/ ANHYDRITE: 15% gypsum predominantly selenite occasional alabaster, anhydrite predominantly clear to transparent very light gray and massive

155 - 160 GYPSUM/ ANHYDRITE: 90% predominantly selenite occasional alabaster, anhydrite predominantly clear to transparent very light gray and massive; SILTSTONE to VERY FINE SANDSTONE: 10% consolidated with very calcareous cement; trace to minor sandstone predominantly quartz grains, rare dolomite, rare limestone as above

160 - 165 GYPSUM/ ANHYDRITE: 95% predominantly selenite occasional alabaster, anhydrite predominantly clear to transparent very light gray and massive; SILTSTONE to VERY FINE SANDSTONE: 5% consolidated with very calcareous cement; trace to minor sandstone predominantly quartz grains, rare dolomite, rare limestone as above

165 - 175 GYPSUM/ ANHYDRITE: 100% predominantly selenite occasional alabaster, anhydrite predominantly clear to transparent very light gray and massive minor siltstone to very fine sandstone, rare quartz grains, rare limestone as above

175 - 180 GYPSUM: 100% predominantly selenite, rare alabaster (urbanite discluded though majority of sample)

180 - 185 GYPSUM: 90% predominantly selenite, rare alabaster; ANHYDRITE: 10% anhydrite predominantly very light gray, massive; (still trace urbanite)

185 - 195 GYPSUM: 90% predominantly selenite, rare alabaster; ANHYDRITE: 10% anhydrite predominantly very light gray, massive, trace to minor halite; (still trace urbanite)

195 - 200 SALT: 90% halite; GYPSUM: 10% predominantly selenite, rare alabaster

200 - 205 ANHYDRITE: 95% predominantly very light gray to very light blue, massive; SALT: 5% halite

205 - 215 SALT: 95% halite; GYPSUM: 5% predominantly selenite, rare alabaster

215 - 220 SALT: 100% halite

220 - 235 SALT: 100% halite with rare to trace anhydrite predominantly very light gray to very light blue, massive

235 - 245 SALT: 100% halite with rare to trace anhydrite predominantly very light gray to very light blue, massive

245 - 250 SALT: 100% halite with minor anhydrite predominantly very light gray to very light blue, massive

250 - 270 SALT: 100% halite with rare to trace anhydrite predominantly very light gray to very light blue, massive

270 - 280 ANHYDRITE 100% predominantly very light gray to very light blue and translucent white, massive, minor halite, rare selenite gypsum

280 - 305 SALT: 100% halite with rare anhydrite and selenite

305 - 320 ANHYDRITE 100% predominantly translucent white, massive, rare pink quartz grains, rare chert grains, rare to trace selenite, trace halite

320 - 330 ANHYDRITE 100% predominantly translucent white with trace to minor light gray, massive, rare pink quartz grains, rare dolomite, rare to trace selenite, trace halite

330 - 335 ANHYDRITE 100% predominantly translucent white with minor to occasional light gray, massive, rare to trace selenite, trace halite

335 - 345 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare to trace selenite, abundant halite, minor to occasional light brown to tan dolomitic gypsum (hydrothermal replacement?)

345 - 365 SALT 100% halite

365 - 375 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare to trace selenite, abundant halite, minor to occasional light brown to tan dolomitic gypsum (hydrothermal replacement?)

375 - 380 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare to trace selenite, rare halite, rare white limestone

380 - 395 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare to trace selenite, rare halite, rare limestone

395 - 435 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare to trace selenite, rare halite

435 - 455 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare to trace selenite, rare halite, rare light brown to tan dolomitic gypsum (hydrothermal replacement?)

455 - 470 SALT 100% halite, rare anhydrite, rare gypsum, minor to occasional dolomitic anhydrite as above

470 - 475 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, rare light brown to tan dolomitic gypsum as above, trace to minor gray dolomite

475 - 480 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, rare light brown to tan dolomitic gypsum as above, trace to minor gray dolomite, rare dark gray to black chert fragments, trace to minor halite, rare muscovite

480 - 510 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, rare to trace light brown to tan dolomitic gypsum as above, rare to trace gray dolomite, rare brownish gray chert fragments

510 - 545 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, rare to trace gray dolomite, rare brownish gray chert fragments

545 - 575 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, trace light brown to tan dolomitic gypsum, rare to trace gray dolomite, rare brownish gray chert fragments

575 - 580 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, trace light brown to tan dolomitic gypsum, rare to trace gray dolomite, rare brownish gray chert fragments, VERY RARE LIMESTONE fragments, predominantly brownish gray, microcrystalline, even grained, massive, dense; no shows

580 - 590 ANHYDRITE 95% predominantly translucent white with rare to trace light gray, massive, rare selenite, trace light brown to tan dolomitic gypsum, rare to trace gray dolomite, rare brownish gray chert fragments, rare quartz grains; LIMESTONE 5% predominantly light to dark brownish gray , microcrystalline, even grained, massive, predominantly soft with rare firm dense; no stain or cut, no shows

590 - 600 ANHYDRITE 100% predominantly translucent white with rare to trace light gray, massive, rare selenite, trace light brown to tan dolomitic gypsum, rare to trace gray dolomite, rare brownish gray chert fragments, rare quartz grains; no stain or cut, no shows

600: Ship Cove Limestone

600 - 605 LIMESTONE 100% predominantly light brownish gray to dark cream gray, microcrystalline, even grained, massive, predominantly soft to slightly firm, dense, argillaceous, rare oolitic structure, tight; rare dolomitic fragments, no stain or cut, no shows

605: Fischells Brook

605 - 615 CONGLOMERATE 100% predominantly light brownish gray to light gray, lower fine to upper medium with trace to minor coarse clear and frosted quartz and pink to tan and rare orange feldspar grains, predominantly sub angular to angular, poor to moderately sorted, friable with mainly calcareous cement, minor silica, minor orange to pink quartz grains, abundant dolomitic fragments, rare to trace glauconite, minor calcite fragments, rare biotite, rare chert fragments, rare anhydrite fragments, rare limestone fragments, rare oolitic limestone, abundant lithic fragments, poor intergranular porosity, fluorescence, no cut, no shows

615 - 640 CONGLOMERATE 100% predominantly mid brownish gray to light gray, lower fine to upper medium with trace to minor coarse clear and frosted quartz and pink to tan and rare orange feldspar grains, predominantly sub angular to angular, poor to moderately sorted, friable with mainly calcareous cement, minor silica, minor orange to pink quartz grains, abundant dolomitic fragments, rare to trace glauconite, minor calcite fragments, rare biotite, rare oolitic limestone, abundant lithic fragments, rare anhydrite fragments, rare limestone fragments, rare multi-colored chert, poor intergranular porosity, fluorescence, no cut, no shows

640 - 665 CONGLOMERATE 100% predominantly brownish gray to light gray, lower fine to upper medium with trace to minor coarse clear and frosted quartz and pink to tan and rare orange feldspar grains, predominantly angular to sub angular, poor to moderately sorted, friable with mainly calcareous cement, occasional orange to pink quartz grains, abundant dolomitic fragments, rare to trace glauconite, minor calcareous fragments, rare biotite, rare chert fragments, rare anhydrite fragments, rare multi-colored chert, abundant lithic fragments, rare oolitic limestone, poor intergranular porosity, rare fluorescence, no cut, no shows

665 - 680 CONGLOMERATE 100% predominantly light brownish gray to light gray, upper fine to lower medium, clear to minor frosted quartz and rare multi-colored chert fragments, occasional to abundant pink to tan and orange feldspar, mainly angular to sub angular, moderately well to well sorted, inc trace glauconite, rare gypsum, rare anhydrite, occasional to abundant limestone fragments as above, minor to occasional dolomite, abundant lithic fragments, predominantly calcareous possible minor siliceous cement, rare oolitic limestone, poor intergranular porosity, rare fluorescence, no shows

680 - 695 CONGLOMERATE 100% predominantly brownish gray to light gray, upper very fine to lower medium with trace to minor upper medium to coarse clear and frosted quartz and pink to tan and rare orange feldspar grains, predominantly sub angular with minor angular, poor to moderately sorted, friable with mainly calcareous cement, occasional orange to pink quartz grains, occasional dolomitic fragments, rare to trace glauconite, minor calcareous fragments, rare biotite, rare multi-colored chert, abundant lithic fragments, poor intergranular porosity, rare fluorescence, no cut, no shows

695: Oxidized Zone - Fischells Brook

695 - 710 CONGLOMERATE 100% predominantly upper fine to lower medium, clear to minor frosted quartz and rare chert grains, pink to tan feldspar, angular to sub rounded, moderately well to well sorted, inc trace glauconite, minor to occasional dolomite,

abundant lithic fragments, predominantly calcareous possible minor siliceous cement, poor intergranular porosity, no stain or cut, no shows

710 - 719 CONGLOMERATE 100% predominantly light brown , upper fine to lower medium, clear to minor frosted quartz and rare multi-colored chert fragments, occasional to abundant pink to tan and orange feldspar, mainly sub angular to sub rounded with minor angular, moderately well to well sorted, inc trace glauconite, rare gypsum, rare anhydrite, occasional to abundant limestone fragments as above, minor to occasional dolomite, abundant lithic fragments, predominantly calcareous possible minor siliceous cement, poor intergranular porosity, no stain or cut, no shows

RESERVOIR QUALITY SUMMARY

The Fischells Brook Conglomerate was considered to be the primary target with the Ship Cove Limestone being regard as the secondary target.

The **Fischells Brook Conglomerate** was noted in sample as predominantly mid to light brownish gray to cream gray in colour. It consisted typically of lower fine to upper medium quartz grains with common feldspar. The conglomerate was predominantly sub angular to angular, poor to moderately well sorted and fairly friable. It contained many lithic fragments, chert, limestone (much of which was oolitic) and minor amounts of anhydrite (sluff from the above sequences?). The Fischells Brook Conglomerate shows trace to minor fluorescence though no cut could be established, it has poor intergranular porosity and therefore regarded as having **poor reservoir potential.**

The **Ship Cove Limestone** was noted in sample as predominantly light brownish gray to dark cream gray, microcrystalline, even grained, and massive limestone. It was predominantly soft, and dense with rare oolitic texture. The Ship Cove Limestone is considered tight with no stain or cut noted and is therefore regarded as having **poor reservoir potential.**

APPENDIX G: STRATIGRAPHIC COLUMN

East Rock GEOCONSULTING

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

Well Name:	VUL FLAT BAY #5 2006-116-01		
Location:	Flat Bay, Newfoundland		
Licence Number:	2006-116-01	**Region:**	Newfoundland
Spud Date:	Oct 25, 2006; 09:00hrs	**Drilling Completed:**	Nov 16, 2006; 13:30hrs
Surface Coordinates:	Northing: 5359952.399 Easting: 386152.489		
Bottom Hole Coordinates:	Northing: 5359952.399 Easting: 386152.489		
Ground Elevation (m):	68.63	**K.B. Elevation (m):**	3.33
Logged Interval (m):	53.50 **To:** 719.00	**Total Depth (m):**	719.00
Formation:	Ship Cove LS - Fishells Brook Congl		
Type of Drilling Fluid:	Gel, Air, Brine		

OPERATOR

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

GEOLOGIST

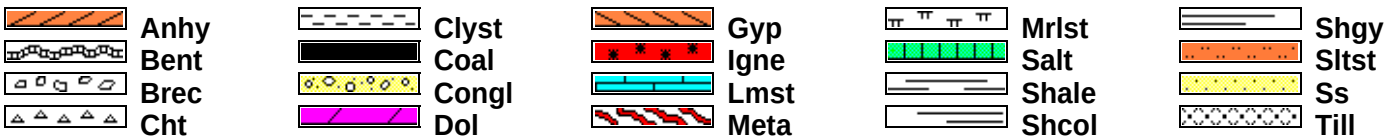
Name: Aaron Vaughan
Company: East Rock Geoconsulting
Address: Suite 700, One Executive Place
1816 Crowchild Trail NW
Calgary, Alberta, T2M 3Y7

Comments

See Geological Report

VUL FLAT BAY #5 - 2006-116-01

ROCK TYPES



ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

STRINGER
- Anhy
- Arg
- Bent
- Coal

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy

OTHER SYMBOLS

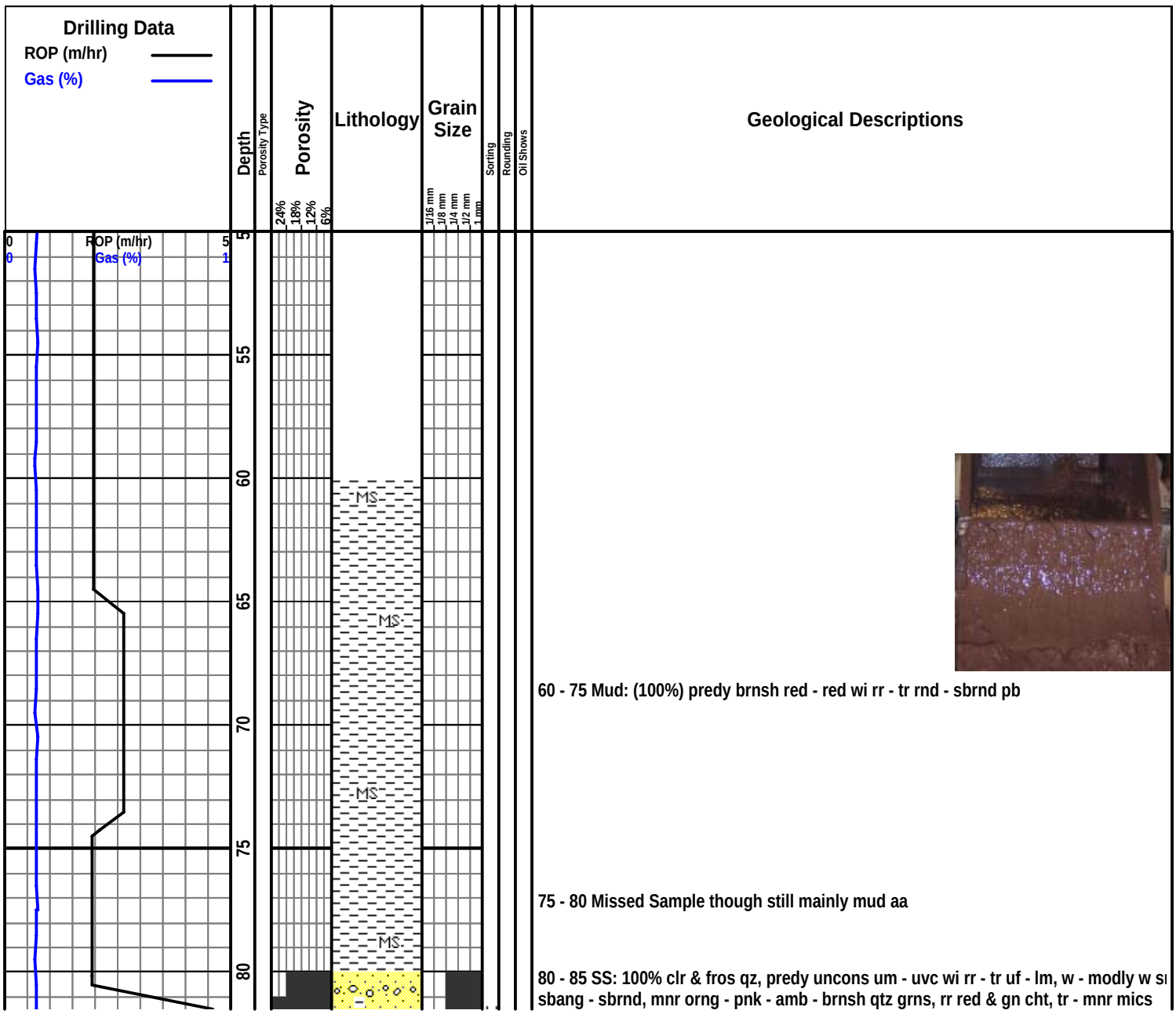
POROSITY
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

OIL SHOW
- Even

- Spotted
- Ques
- Dead

SORTING
- Well
- Moderate
- Poor

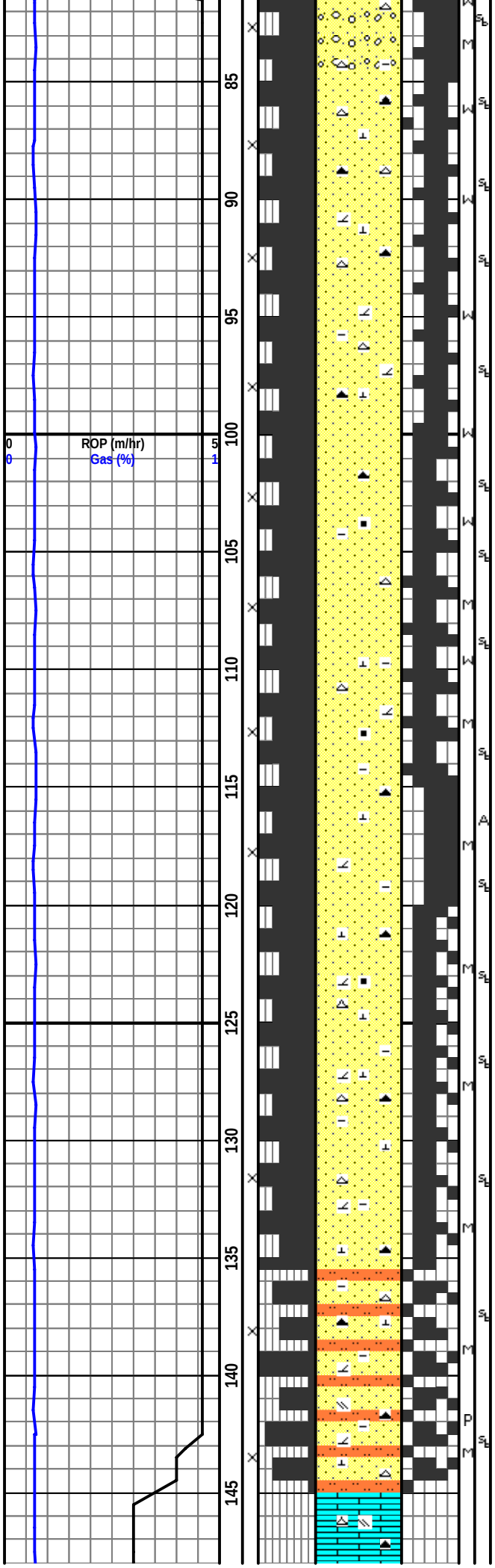
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular
- Sbang/sbrnd



60 - 75 Mud: (100%) predy brnsh red - red wi rr - tr rnd - sbrnd pb

75 - 80 Missed Sample though still mainly mud aa

80 - 85 SS: 100% clr & fros qz, predy uncons um - uvc wi rr - tr uf - lm, w - modly w sl sbang - sbrnd, mnr orng - pnk - amb - brnsh qtz grns, rr red & gn cht, tr - mnr mics



clyst & cons vf ss - sltst strgs, g - excel vis por though mud matrix may be washed

85 - 90 SS: 100% clr & fros qz, predy uncons lm - uc wi rr - tr uf & lvc - uvc, w srt, sbang - sbrnd, mnr orng - pnk - amb - brnsh qtz grns, rr red & gn cht, rr mics clyst strgs; g vis por in clean samples, n

90 - 95 SS: 100% clr & fros qz, predy uncons lm - uc wi rr - tr uf & lvc - uvc, w srt, sbang - sbrnd, mnr orng - pnk - amb - brnsh qtz grns, rr dol, rr red & gn cht, rr mics clyst strgs, rr lsy cons lf - uf ss wi sl - modly calc cmt; g vis por in clean samples, ns

95 - 100 SS: 100% clr & fros qz, predy uncons lm - uc wi rr - tr uf & lvc - uvc, w srt, sbang - sbrnd, mnr orng - pnk - amb - brnsh qtz grns, rr dol, rr cal frags, rr red & gn cht, rr lsy cons lf - uf ss wi sl - modly calc cmt; g vis por in clean samples, ns

100 - 105 SS: 100% clr & fros qz, predy uncons uf - um wi rr - tr lc - uvc, w srt, sbang - sbrnd, mnr orng - pnk - amb - brnsh qtz grns, rr cal frags, rr red & gn cht, rr lsy cons - uf ss wi sl - modly calc cmt, rr mudst strgs; g vis por in clean samples, ns

105 - 110 sl mics SS: 100% clr & fros qz, predy uncons uf - um wi tr lf & lc - uvc, modly w - w srt, sbang - sbrnd, tr orng - pnk - amb - brnsh qtz grns, rr red & gn cht, mnr lsy cons lvf - uf ss wi modly - v calc cmt; g vis por in clean samples, ns

110 - 115 sl mics SS: 100% clr & fros qz, predy uncons uf - um wi tr lf & lc - uvc, modly w - w srt, sbang - sbrnd, tr orng - pnk - amb - brnsh qtz grns, rr red & gn cht, rr dol, mnr lsy cons lvf - uf ss wi modly - v calc cmt; g vis por in clean samples, ns

115 - 120 SS: 100% clr & fros qz, predy uncons um - uvc wi tr lf - lm, modly w srt, sbang - sbrnd wi mnr - occ ang, rr orng - amb qtz grns, rr gn cht, tr dol, rr lsy cons lvf - uf ss wi modly - v calc cmt; g vis por in clean samples, n

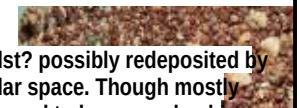
115 - 120 SS: 100% clr & fros qz, predy uncons uf - um wi tr lf & lc - uvc, modly w srt, sbang - sbrnd wi tr ang, rr orng - amb qtz grns, rr gn cht, tr dol, mnr lsy cons & rr strgly cons lvf - uf ss wi modly - v calc cmt; g vis por in clean samples, ns

125 - 130 SS: 100% clr & fros qz, predy uncons uf - lc wi tr - mnr lf & occ - abnd lc - uvc, modly w srt, sbang - sbrnd wi tr ang, rr orng - amb qtz grns, rr gn, red, brn ang cht strgs, rr dol, rr anhy, tr lsy cons & rr strgly cons lvf - uf ss wi modly - v calc cmt, ls strgs; g vis por in clean samples, n

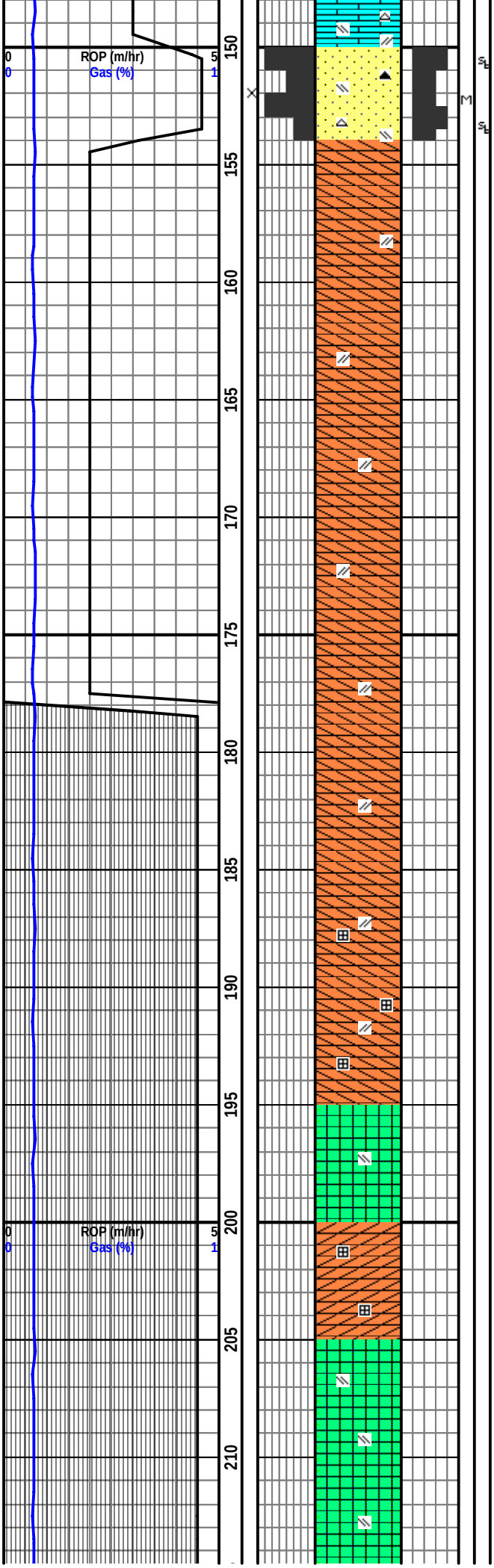
125 - 130 SS: 100% clr & fros qz, predy uncons uf - lc wi tr - mnr lf & mnr - occ lc - uvc, modly w srt, sbang - sbrnd wi tr ang, rr orng - amb qtz grns, rr gn, red, brn ang cht strgs, rr dol, rr anhy, tr lsy cons & rr strgly cons lvf - uf ss wi modly - v calc cmt, ls strgs; g vis por in clean samples, n

135 - 140 SS: 75% clr & fros qz, predy uncons uf - lc wi tr - mnr lf & rr - tr lc - uvc, modly w srt, sbang - sbrnd wi tr ang, rr orng - amb qtz grns, rr gn, red, brn ang cht strgs, rr dol, rr anhy, rr ls strgs; g vis por in clean samples; SLTST - VF SS: 25% cons wi v calc cmt, rr ls strgs; poor - nil vis por; ns

140 - 145 SS: 75% clr & fros qz, predy uncons uf - lc wi tr - mnr lf & rr - tr lc - uvc & ply - modly w srt, sbang - sbrnd wi tr ang, rr orng - amb qtz grns, rr gn, red, brn ang cht strgs, rr dol, rr anhy, rr ls strgs; g vis por in clean samples; SLTST - VF SS: 25% cons wi v calc cmt, rr ls strgs; poor - nil vis por; ns



145 - 150 LS: 75% Appears to be ferric ls? or calc mudst? possibly redeposited by slightly acidic ground water in a fracture, fault or similar space. Though mostly mammillary (botryodial - reniform) in form, a few appeared to have good cubic



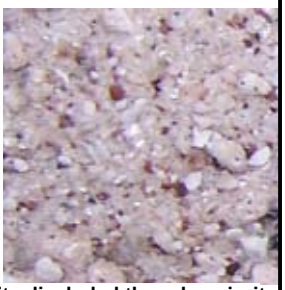
crystalline form. When dissolved in acid a flocculated red ocher color was noted the acid solution as wall as microscopic magnetic platelets (not bit fragments). SLTST - VF SS: 25% cons wi v calc cmt, rr cht strgs, rr qz grns, rr gyp.

150 - 155 SS: 65% clr & fros qz, predy uncons uf - lc wi tr - mnr lf & rr - tr lc - uvc & ply - modly w srt, sbang - sbrnd wi tr ang, rr orng - amb qtz grns, rr gn, red, brn ang cht strgs; SLTST - VF SS: 20% cons wi v calc cmt; GYP/ ANHY: 15% gyp predy selenite occ alabaster, anhy predy clr - transp v lt gy & mas

155 - 160 GYP/ ANHY: 90% predy selenite occ alabaster, anhy predy clr - transp v lt g & mas; SLTST - VF SS: 10% cons wi v calc cmt; tr - mnr ss predy qz grns, rr dol, rr ls aa

160 - 165 GYP/ ANHY: 95% predy selenite occ alabaster, anhy predy clr - transp v lt g & mas; SLTST - VF SS: 5% cons wi v calc cmt; tr - mnr ss predy qz grns, rr dol, rr ls aa

165 - 175 GYP/ ANHY: 100% predy selenite occ alabaster, anhy predy clr - transp v lt gy & mas mnr sltst - vf ss, rr qz grns, rr ls aa



175 - 180 GYP: 100% predy selenite, rr alabaster (urbanite discluded though majority of sample)

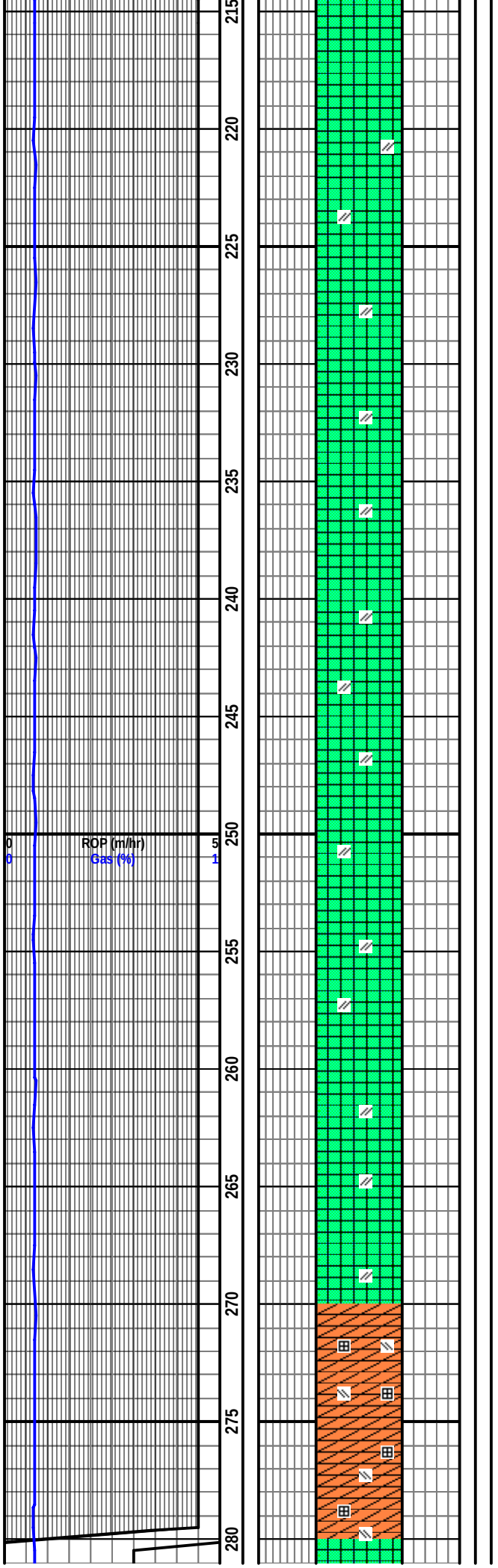
180 - 185 GYP: 90% predy selenite, rr alabaster; ANHY: 10% anhy predy v lt gy, mas; (still tr urbanite)

185 - 195 GYP: 90% predy selenite, rr alabaster; ANHY: 10% anhy predy v lt gy, mas, tr - mnr halite; (still tr urbanite)

195 - 200 SALT: 90% halite; GYP: 10% predy selenite, rr alabaster

200 - 205 ANHY: 95% predy v lt gy - v lt bl, mas; SALT: 5% halite

205 - 215 SALT: 95% halite; GYP: 5% predy selenite, rr alabaster



215 - 220 SALT: 100% halit

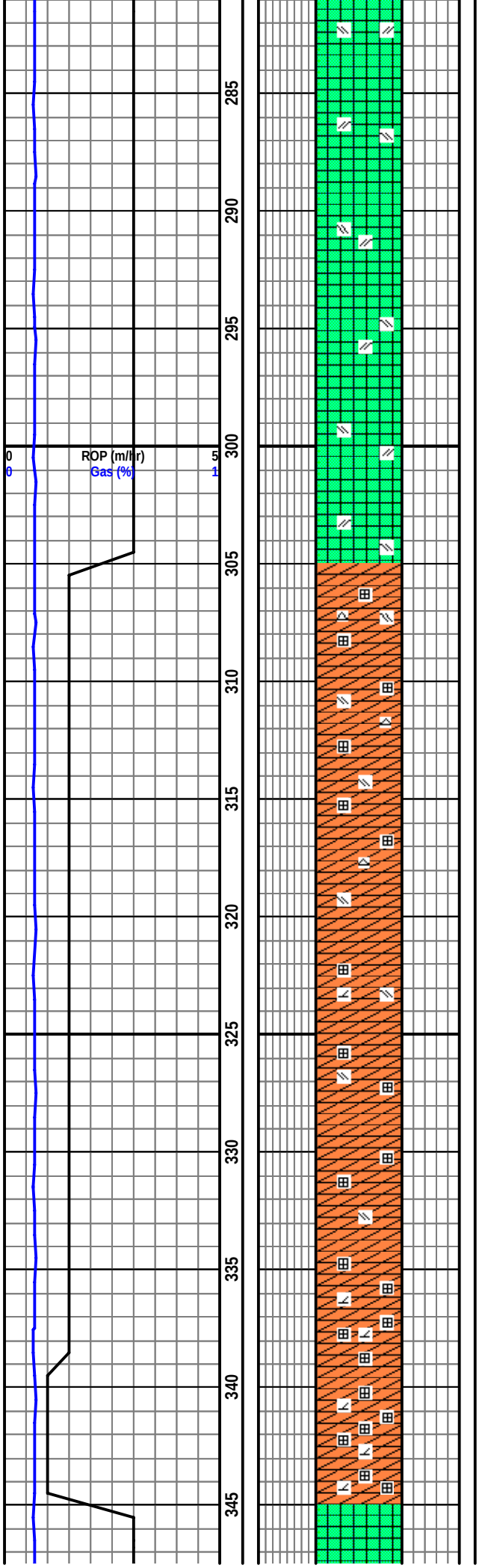
220 - 235 SALT: 100% halite wi rr - tr anhy predy v lt gy - v lt bl, mas

235 - 245 SALT: 100% halite wi rr - tr anhy predy v lt gy - v lt bl, ma

245 - 250 SALT: 100% halite wi mnr anhy predy v lt gy - v lt bl, mas

250 - 270 SALT: 100% halite wi rr - tr anhy predy v lt gy - v lt bl, mas

270 - 280 ANHY 100% predy v lt gy - v lt bl & transl wht, mas, mnr halite, rr selenite gyp



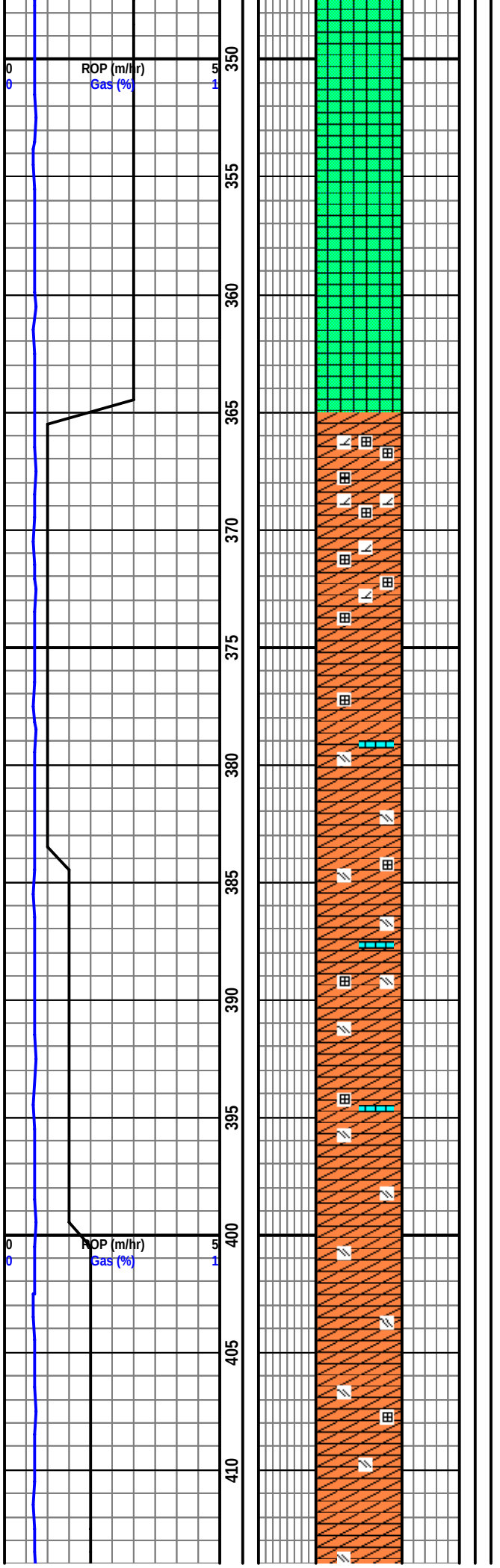
280 - 305 SALT: 100% halite wi rr anhy & selenite

305 - 320 ANHY 100% predy transl wh, mas, rr pnk qz grns, rr cht grns, rr - tr selenite tr halite

320 - 330 ANHY 100% predy transl wh wi tr - mnr lt gy, mas, rr pnk qz grns, rr dol, rr - tr selenite, tr halite

330 - 335 ANHY 100% predy transl wh wi mnr - occ lt gy, mas, rr - tr selenite, tr halite

335 - 345 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr - tr selenite, abnd halite, mnr - occ lt brn - tan dolc gyp (hydrothermal replacement?)



345 - 365 SALT 100% halite

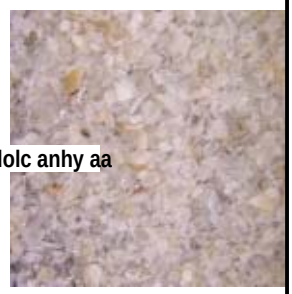
365 - 375 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr - tr selenite, abnd halite, mnr - occ lt brn - tan dolc gyp (hydrothermal replacement?)

375 - 380 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr - tr selenite, rr halite, rr wh ls

380 - 395 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr - tr selenite, rr halite, rr ls

395 - 435 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr - tr selenite, rr halite

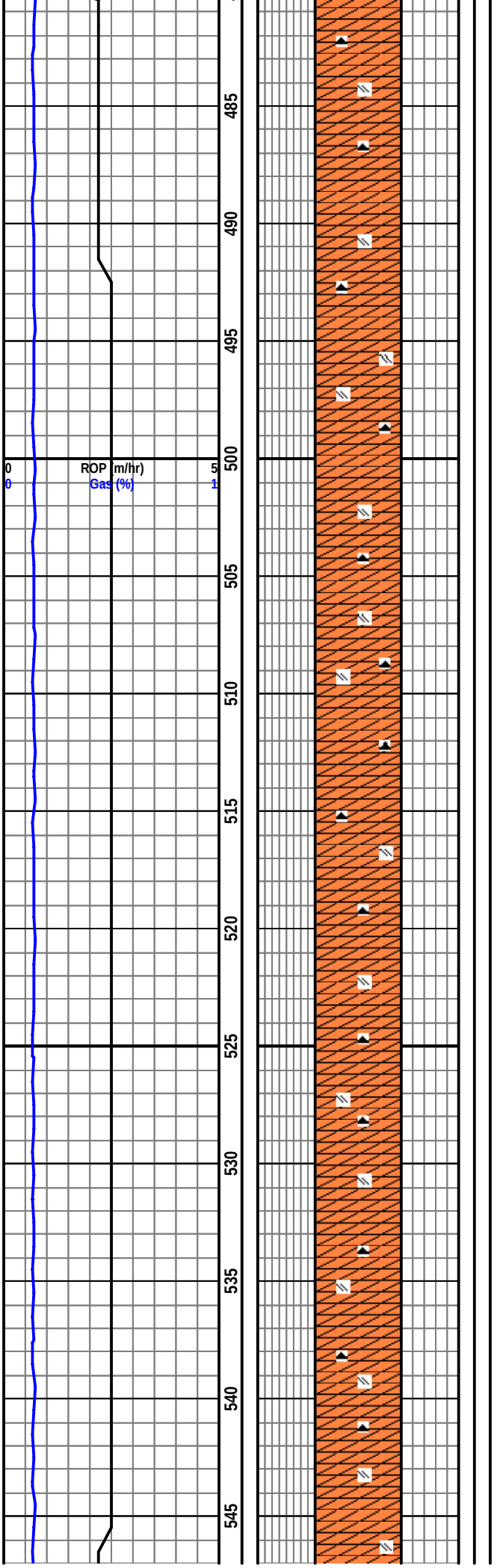
435 - 455 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr - tr selenite, rr halite, rr lt brn - tan dolc gyp (hydrothermal replacement?)



455 - 470 SALT 100% halite, rr anhy, rr gyp, mnr - occ dolc anhy aa

470 - 475 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, rr lt brn - tan dolc gyp aa, tr - mnr gy do

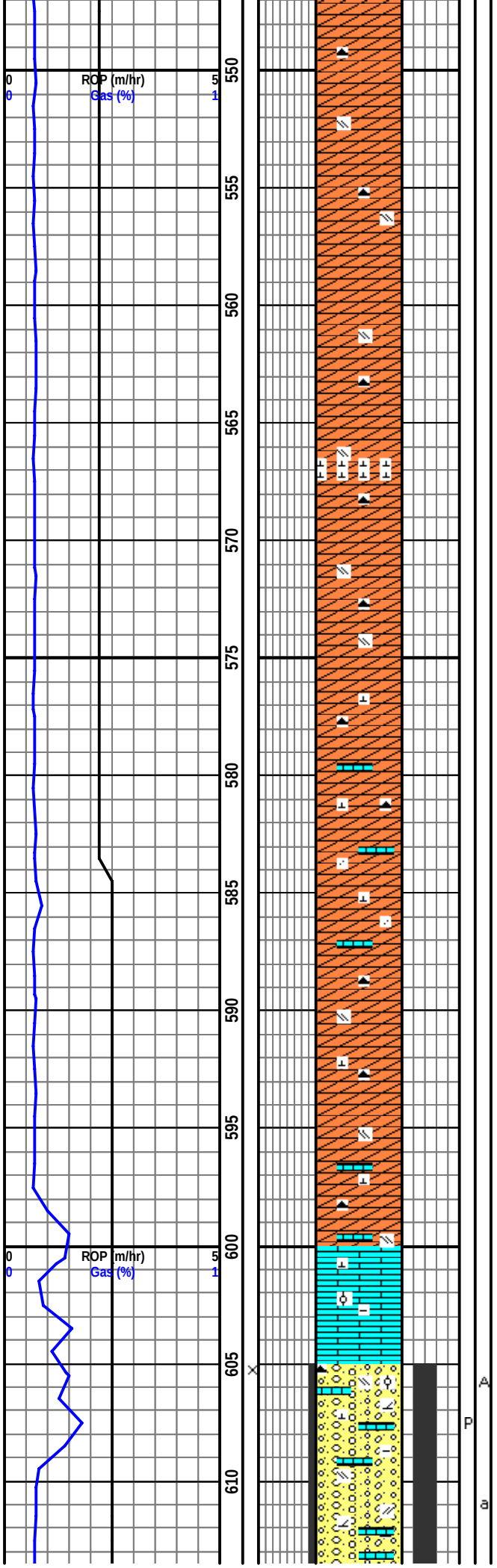
475 - 480 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, rr lt brn - tan dolc gyp aa, tr - mnr gy dol, rr dk gy - blk cht frags, tr - mnr halite, rr musc



480 - 510 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, rr - tr lt brn - tan dolc gyp aa, rr - tr gy dol, rr brnsh gy cht frags

510 - 545 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, rr - tr gy dol, rr brnsh gy cht frags

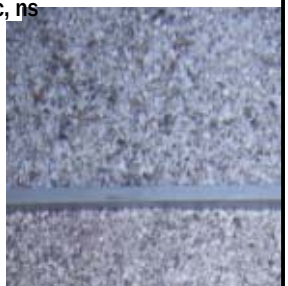
545 - 575 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, tr lt brn - tan dolc gyp, rr - tr gy dol, rr brnsh gy cht frag



575 - 580 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, tr lt brn - tan dolc gyp, rr - tr gy dol, rr brnsh gy cht frags, V RR LS frags, predy brnsh gy, mcxln, ev gr, mas, dns; ns

580 - 590 ANHY 95% predy transl wh wi rr - tr lt gy, mas, rr selenite, tr lt brn - tan dolc gyp, rr - tr gy dol, rr brnsh gy cht frags, rr qz grns; LS 5% predy lt - dk brnsh gy , mcxln, ev gr, mas, predy sft wi rr frm dns; nsoc, ns

590 - 600 ANHY 100% predy transl wh wi rr - tr lt gy, mas, rr selenite, tr lt brn - tan dolc gyp, rr - tr gy dol, rr brnsh gy cht frags, rr qz grns; nsoc, ns

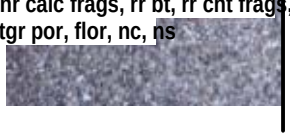


600m: Ship Cove Limestone

600 - 605 LS 100% predy lt brnsh gy - dk crm gy, mcxln, ev gr, mas, predly sft - sl firr dns, arg, rr oolc struc, tt; rr dolc frags, nsoc, ns

605m: Fischells Brook

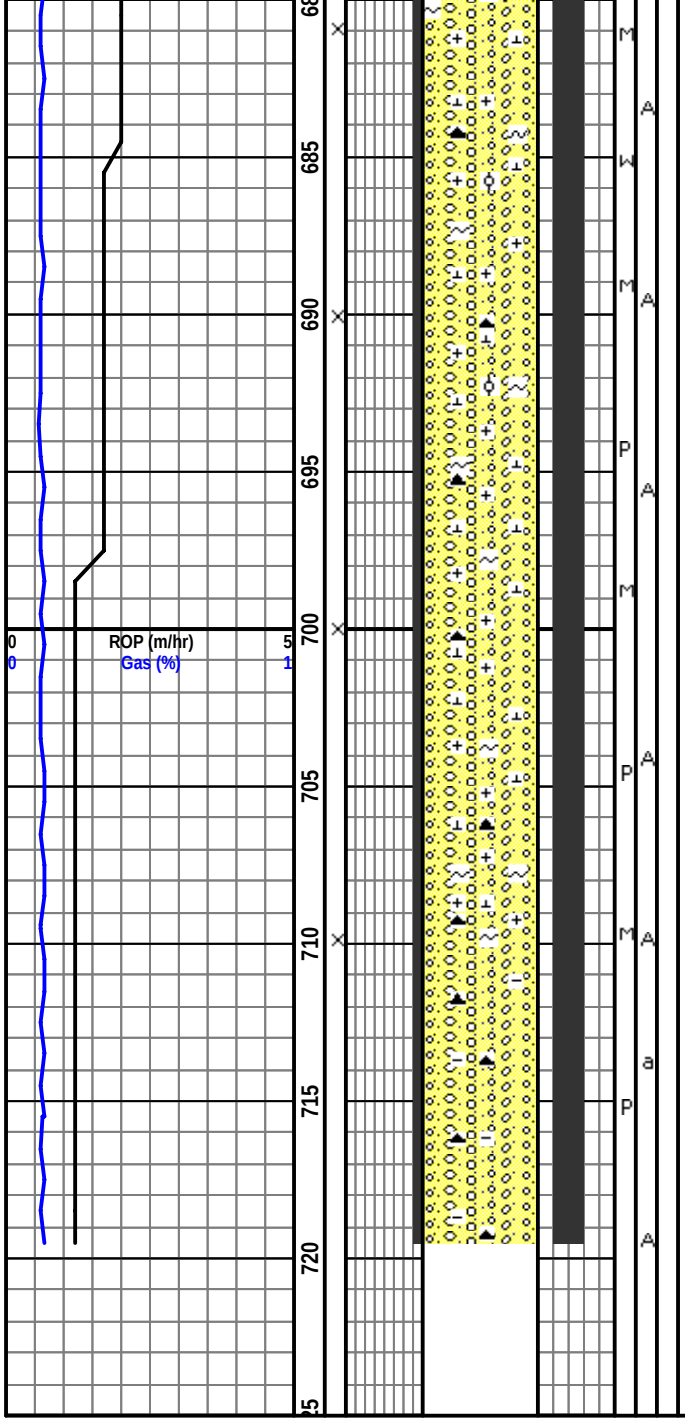
605 - 615 CGLN 100% predy lt brnsh gy - lt gy, lf - um wi tr - mnr c clr & fros qz & pnk - tan & rr orng fld grns, predy sbang - ang, p - modly srtd, fri wi mnly calc cmt, mnr sil, mnr orng - pnk qz grns, abnd dolc frags, rr - tr glauc, mnr calc frags, rr bt, rr cht frags, rr anhy frags, rr ls frags, rr oolc ls, abnd lthc frags, p intgr por, flor, nc, ns



615 - 640 CGLN 100% predy mid brnsh gy - lt gy, lf - um wi tr - mnr c clr & fros qz & pnk - tan & rr orng fld grns, predy sbang - ang, p - modly srtd, fri wi mnly calc cmt, mnr sil, mnr orng - pnk qz grns, abnd dolc frags, rr - tr glauc, mnr calc frags, rr bt, rr oolc ls, abnd lthc frags, rr anhy frags, rr ls frags, rr mcol cht, p intgr por, flor, nc, ns

640 - 665 CGLN 100% predy brnsh gy - lt gy, lf - um wi tr - mnr c clr & fros qz & pnk - tan & rr orng fld grns, predy ang - sbang, p - modly srtd, fri wi mnly calc cmt, occ orng - pnk qz grns, abnd dolc frags, rr - tr glauc, mnr calc frags, rr bt, rr cht frags, rr anhy frags, rr mcol cht, abnd lthc frags, rr oolc ls, p intgr por, rr flor, nc, ns

665 - 680 CGLN 100% predy lt brnsh gy - lt gy, uf - lm, clr - mnr fros qz & rr mcol cht frags, occ - abnt pnk - tan & orng fld, mnly ang - sbang, modly w - w srt, inc tr glau, rr gyp, rr anhy, occ - abnd ls frags aa, mnr - occ dol, abnd lthc frags, predy calc pos mnr silc cmt, rr oolc ls, p intgr por, rr flor, ns



680 - 695 CGLN 100% predy brnsh gy - lt gy, uvf - lm wi tr - mnr um - c clr & fros qz & pnk - tan & rr orng fld grns, predy sbang wi mnr ang, p - modly srtd, fri wi mnly calc cmt, occ orng - pnk qz grns, occ dolc frags, rr - tr glauc, mnr calc frags, rr bt, rr mcol cht, abnd lthc frags, p intgr por, rr flor, nc, ns

695m: Oxidized Zone Fischells Brook

695 - 710 CGLN 100% predy uf - lm, clr - mnr fros qz & rr cht grns, pnk - tan fld, ang - sbrnd, modly w - w srt, inc tr glau, mnr - occ dol, abnd lthc frags, predy calc pos mnr silc cmt, p intgr por, nsoc, ns

710 - 719 CGLN 100% predy lt brn , uf - lm, clr - mnr fros qz & rr mcol cht frags, occ - abnt pnk - tan & orng fld, mnly sbang - sbrnd wi mnr ang, modly w - w srt, inc tr glau, rr gyp, rr anhy, occ - abnd ls frags aa, mnr - occ dol, abnd lthc frags, predy calc pos mnr silc cmt, p intgr por, nsoc, ns

APPENDIX H: EMPLOYEE BENEFITS SUMMARY

Flat Bay #5: Benefits Summary

Week	Residence		Total
	NL	Other	
1	15	1	**16**
2	12	1	**13**
3	9	1	**10**
4	14	1	**15**

Average number of workers on site each week	13.5
Percentage of workers residents of NL	92.6%
Percentage of workers non-residents of NL	7.4%

Week	1: October 26 to November 1					2: November 2 to November 8				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	7			1
Supervisors	1	5			1	1	7			1
Rig Mangers	1	4			1					0
Drillers	2	7			2	2	7			2
Floorhands	4	7			4	4	7			4
Geologists			1	4	1			1	4	1
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0					0
Cementing	1	2			1					0
Testing					0					0
Administration					0					0
Security	1	7			1	1	7			1
Heavy Equipment Operators	2	7			2	2	2			2
Welders & Helpers	1	2			1					0
Fuel Hauler	1	2			1	1	2			1
Winterization					0					0
Waste Disposal					0					0
Total	**15**		**1**		**16**	**12**		**1**		**13**

Week	3: November 9 to 15					4: November 16 to 18				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	3			1
Supervisors	1	7			1	1	3			1
Rig Mangers					0					0
Drillers	2	7			2	2	3			2
Floorhands	4	7			4	4	3			4
Geologists			1	7	1			1	3	1
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0					0
Cementing					0	1	2			1
Testing					0					0
Administration					0					0
Security					0	1	1			1
Heavy Equipment Operators					0	2	2			2
Welders & Helpers					0	1	1			1
Fuel Hauler	1	2			1					0
Winterization					0					0
Waste Disposal					0	1	2			1
Total	**9**		**1**		**10**	**14**		**1**		**15**

APPENDIX I: DAILY OPERATIONAL REPORTS

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 1	DATE:	October 26, 2006
DEPTH 24:00:	106.0 m	PROGRESS: 52.0 m	Last 24 Hr Rotating Time:	6.00 hr	Ave ROP: 8.7 m/hr
OPER 09:00:	Drill 216mm hole at 130m		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Quartz & claystone	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	1	2
Size (mm)	219	216
Mfg.	Mission	
Type	Air Hammer	MW2106
Serial #	B98290	ER6108
Nozzles		Open
From (mKB)	54	90
To (mKB)	90	106
Hrs on Bit	2	4
WOB (daN)		
RPM	20	
Condition	good	
Pulled For?	water	
Meters	36	16
m/hr	18	4
Cum Hrs		

SURVEYS

DRILLING FLUID

Time	22:00
Depth(m)	97
Density	1050
Mud Grad	
Vis	50
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	88	min
Bottoms Up	10	min
Tanks	30	m3
Hole Volume	4	m3
System Vol.	34	m3

Mud & Chemicals Added:

6sxs of federal supreme

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	8.5-in		3-1/2" Reg
2	Stabilizer	8-in		2-7/8" IF
3	Drill Collars	4.75-in		3-1/2" IF

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

WELL CONTROL

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

Mud Daily Cost

Mud Cum Cost

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	5 1/4	Survey		Move Rig	
Drill w/ fluid	4	Logging		Fishing	
Drill w/ air	2	Run Casing			
Reaming		Cementing			
Rm Rathole		WOC		Safety Meeting	1/4
Cond / Circ		NU BOP's		Mix mud	
Tripping	4	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt	1		
Repair Rig		DST			
		Hndle Tools		Total Hrs	16 1/2

24 HOUR SUMMARY FOR THE DATE : October 25, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
7:30	7:45	0.25	Held pre-spud safety meeting.
7:45	9:00	1.25	Rig up diverter, ran in with air hammer and tagged cement at 40m
9:00	10:00	1.00	Drill out cement and shoe to 52.6m.
10:00	12:00	2.00	Air drill 219mm hole from 52.6m to 89m.
12:00	16:00	4.00	POOH for tricone due to excessive water and gravel in returns. Fill hole w/2m3 mud. Flow check. Rig out diverter and lay down air hammer. Make up tricone and rig in diverter.
16:00	17:30	1.50	RIH to 87m (2m of fill). Drill 216mm hole from from 89m to 95m.
17:30	20:30	3.00	POOH to 4m to add drill collars.
20:30	21:30	1.00	RIH with 216mm tricone from 4m to 95m.
21:30	0:00	2.50	Drill 216mm hole from 95m to 106m.

24 HOUR Forcast :

Continue to drill 216mm hole to section TD.

Summary of Rig Up Operations:

16Oct: Start mobilizing drilling rig and equipment. Complete mast inspection prior to raising the mast. 20Oct: Drill 216mm pilot hole with tricone from surface to TD at 54m (bedrock shale found at 47m). 21Oct: Open hole to 311mm with tricone. 22Oct: Hold safety meeting and run 9jts of 244.5mm casing with shoe at 52.6m. 23Oct: Pump 3-m3 (100% excess) 15.2ppg class A cement and displace with 3.1-m3 of water. Good cement returns. Wait on cement. Prepare diverter, rotating head, casing bowl, lay out air discharge line and flare line.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 2	DATE:	October 27, 2006
DEPTH 24:00:	145.0 m	PROGRESS: 39.0 m	Last 24 Hr Rotating Time:	17.50 hr	Ave ROP: 2.2 m/hr
OPER 09:00:	Wait on service from Battlefield for generator		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Quartz & claystone	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2		
Size (mm)	216		
Mfg.			
Type	MW2106		
Serial #	ER6108		
Nozzles	Open		
From (mKB)	90		
To (mKB)	146		
Hrs on Bit	21 1/2		
WOB (daN)			
RPM	90		
Condition	good		
Pulled For?			
Meters	56		
m/hr	2.60		
Cum Hrs			

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °

DRILLING FLUID

Time	22:00
Depth(m)	97
Density	1050
Mud Grad	
Vis	50
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	91	min
Bottoms Up	14	min
Tanks	30	m3
Hole Volume	5	m3
System Vol.	35	m3

Mud & Chemicals Added:

6sxs of federal supreme

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	8.5-in		3-1/2" Reg
2	Stabilizer	8-in		2-7/8" IF
3	Drill Collars	4.75-in		3-1/2" IF

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/2	Move Rig	
Drill w/ fluid	17 1/2	Logging		Fishing	
Drill w/ air		Run Casing			
Reaming		Cementing			
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt			
Repair Rig	6	DST			
		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	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 26, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	10:00	10.00	Drill 216 mm hole F/ 106 m To 132 m
10:00	10:30	0.50	Survey @ 132 m
10:30	17:00	6.50	Drill 216 mm hole F/ 132 m To 143 m
17:00	23:00	6.00	Repace Hydralic hose for top drive
23:00	0:00	1.00	Drill 216 mm hole F/ 143 m To 145 m

24 HOUR Forcast :

Continue to drill 216mm hole section to casing point.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 3	DATE:	October 28, 2006
DEPTH 24:00:	175.0 m	PROGRESS: 30.0 m	Last 24 Hr Rotating Time:	15.50 hr	Ave ROP: 1.9 m/hr
OPER 09:00:	Run 177.8mm casing		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	2
Size (mm)	216
Mfg.	
Type	MW2106
Serial #	ER6108
Nozzles	Open
From (mKB)	90
To (mKB)	175
Hrs on Bit	37
WOB (daN)	
RPM	90
Condition	good
Pulled For?	
Meters	85
m/hr	2.30
Cum Hrs	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

Time	02:00
Depth(m)	147m
Density	1060
Mud Grad	
Vis	60
PV	
YP	
Gels	
pH	8.5
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	94	min
Bottoms Up	17	min
Tanks	30	m3
Hole Volume	6	m3
System Vol.	36	m3

Mud & Chemicals Added:

6sxs of soda ash

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	8.5-in		3-1/2" Reg
2	Stabilizer	8-in		2-7/8" IF
3	Drill Collars	4.75-in		3-1/2" IF

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/4	Move Rig	
Drill w/ fluid	15 1/2	Logging		Fishing	
Drill w/ air		Run Casing			
Reaming		Cementing			
Rm Rathole		WOC		Safety Meeting	
Cond / Circ	5	NU BOP's		Mix mud	
Tripping	2	Test BOPs		W.O GEN	
Lubricate Rig	1 1/4	Drill Out Cmt			
Repair Rig		DST			
		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	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 27, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
	0:45	0.75	Drill 216mm hole from 145m-147
0:45	1:00	0.25	Rig Service
1:00	1:15	0.25	Survey @ 147m
1:15	5:45	4.50	Drill 216mm hole from 147m-154m
5:45	10:30	4.75	Condition mud properties. Trouble shoot problem with light plant.
10:30	15:00	4.50	Drill 216mm hole from 154m-162m.
15:00	15:30	0.50	Replace packing in wash pipe.
15:30	19:30	4.00	Drill 216mm hole from 162m-170m.
19:30	21:45	2.25	Rig Service.
21:45	22:00	0.25	Drill 216mm hole from 170m-175m.
22:00	0:00	2.00	Wiper trip to shoe. No obstructions or fill on bottom.

24 HOUR Forcast :

Pooh lay down BHA. Rig up & run 177.8mm casing as per program.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 4	DATE:	October 29, 2006
DEPTH 24:00:	175.0 m	PROGRESS: 0	Last 24 Hr Rotating Time:	0	Ave ROP: 0
OPER 09:00:	Wait on cementers		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH: Greg Walsh
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE: 709 689 4106
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

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

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

Time	22:00
Depth(m)	175
Density	1050
Mud Grad	
Vis	50
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	8.5-in		3-1/2" Reg
2	Stabilizer	8-in		2-7/8" IF
3	Drill Collars	4.75-in		3-1/2" IF

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	5 1/2	Survey	1/2	Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing	10 1/2	M/U L/D BHA	1
Reaming		Cementing			
Rm Rathole		WOC		Safety Meeting	
Cond / Circ	4 1/2	NU BOP's		Mix mud	
Tripping	1	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt			
Repair Rig		DST			
Rig Service	1	Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	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 28, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:30	0.50	Circulate and condition mud
0:30	1:00	0.50	Survey inclination at 175m
1:00	2:00	1.00	POOH to run casing
2:00	3:30	1.50	Nipple down diverter
3:30	4:30	1.00	Lay down BHA
4:30	6:00	1.50	Nipple Up diverter
6:00	8:30	2.50	Rig up to run casing. Make up guide shoe and insert float. Shoe track 10m
8:30	12:00	3.50	Run 177.8mm casing to 30m
12:00	13:00	1.00	Rig Service
13:00	15:00	2.00	Run 177.8mm casing to 79m
15:00	16:30	1.50	Circulate casing and realign topdrive
16:30	21:30	5.00	Run 177.8mm casing to 175m
21:30	0:00	2.50	Circulate and condition mud

24 HOUR Forcast :

Wait on cementers- clean mud pump and prepare well control equipment while waiting on cementers.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 5	DATE:	October 30, 2006
DEPTH 24:00:	175.0 m	PROGRESS: 0	Last 24 Hr Rotating Time:	0	Ave ROP: 0
OPER 09:00:	Wait on cementers		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH: Greg Walsh
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE: 709 689 4106
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

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

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

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

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing			
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	24
Repair Rig		DST			
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	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 29, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:00	25.00	Wait on cementers. (Daylight savings time)

24 HOUR Forcast :

Cement casing and wait on cement

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 6	DATE:	October 31, 2006
DEPTH 24:00:	175.0 m	PROGRESS: 0	Last 24 Hr Rotating Time:	0	Ave ROP: 0
OPER 09:00:	Nipple down BOP stack		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH: Greg Walsh
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE: 709 689 4106
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

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

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

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

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing	1	Wellhead	2
Rm Rathole		WOC	11 1/2	Safety Meeting	1/2
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	9
Repair Rig		DST			
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	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 30, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	9:00	9.00	Wait on cementers.
9:00	9:30	0.50	Pre-job Safety meeting prior to cementation
9:30	10:30	1.00	Cement 177.8mm casing as per program. Pump 3.7m3 1800-kg/m class A cement. Displace cement with 2.3m3 water. Approximately 0.7m3 good cement returns. Did not bump plug.
10:30	22:00	11.50	Wait on cement. Prepare BOP equipment, clean cellar, and clean mud pump.
22:00	0:00	2.00	Cut 244.5mm casing and 177.8mm casing. Prepare casing bowl.

24 HOUR Forcast :

Nipple down BOPs. Test BOPs. Commence drilling main hole section.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 7	DATE:	November 1, 2006
DEPTH 24:00:	175.0 m	PROGRESS: 0	Last 24 Hr Rotating Time: 0	Ave ROP:	0
OPER 09:00:	M/U BHA and run in hole		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Drizzel	TOOLPUSH:	Greg Walsh
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 8°C	T.P. MOBILE:	709 689 4106
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

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

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

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

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	5
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's	11 1/2	Mix mud	
Tripping		Test BOPs	7 1/2	W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST			
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	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 31, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	5:00	5.00	Cut 244.5mm casing and 177.8mm casing. Dess and weld on casing bowl.
5:00	16:30	11.50	Nipple up BOPs
16:30	0:00	7.50	Rig up to and pressure test BOPs and related well control equipment

24 HOUR Forcast :

Test BOPs. Leak off test. Commence drilling main hole section.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5				REPORT #:	8	DATE:	November 2, 2006
DEPTH 24:00:	175.0 m	PROGRESS:	0	Last 24 Hr Rotating Time:	0	Ave ROP:	0
OPER 09:00:	Repair Rig Motor			FOREMAN:	Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.:	Good	WEATHER:	Drizzel	TOOLPUSH:	Greg Walsh
CUM COST:		RIG / RIG #:	Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:	709 689 4106
FORMATION:	Anhydrite	K.B. ELEV.:	3.3 m	ROADS:	Good		

BIT PERFORMANCE

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

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

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

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:		DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	2 1/2
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	1	Test BOPs	7 1/2	W.O GEN	
Lubricate Rig		Drill Out Cmt	5 1/2	Wait on services	1
Repair Rig	6 1/2	DST			
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 1, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	7:30	7.50	Pressure Test BOPs and related well control equipment 200 psi low and 800 psi high. Function test accumulator. Close pipe rams annular open HCR: starting pressure 1500psi, drop 200psi Time to recharge 38sec.
7:30	10:00	2.50	M/U BHA and run in hole. Tag cement at 115m
10:00	15:30	5.50	Drill cement from 115m to 155m.
15:30	16:30	1.00	Wait on mechanic - motor problems
16:30	18:30	2.00	Service rig motor
18:30	23:00	4.50	Service rig motor
23:00	0:00	1.00	Pull out of hole

24 HOUR Forcast :

Repair rig motor

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 9	DATE:	November 3, 2006
DEPTH 24:00:	178.0 m	PROGRESS: 3.0 m	Last 24 Hr Rotating Time:	2.50 hr	Ave ROP: 1.2 m/hr
OPER 09:00:			FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	3
Size (mm)	156
Mfg.	Reed
Type	SL51H
Serial #	ER5587
Nozzles	open
From (mKB)	175
To (mKB)	178
Hrs on Bit	
WOB (daN)	
RPM	60
Condition	
Pulled For?	
Meters	
m/hr	
Cum Hrs	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

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

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	2 1/2	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	4 1/4	Test BOPs	1	W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	1
Repair Rig	15	DST			1/4
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 2, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:00	1.00	Continued to pull out of hole to surface
1:00	3:00	2.00	Worked on rig motor
3:00	5:00	2.00	Ran in hole with tricone bit.
5:00	12:00	7.00	Worked on rig motor removing fuel pump.
12:00	14:00	2.00	Wait on fuel pump
14:00	20:00	6.00	Installed fuel pump and cleaned tanks
20:00	22:15	2.25	Drilled cement from 155 M to 175 M
22:15	22:30	0.25	Held BOP drill piror to drilling out shoe
22:30	22:45	0.25	Drilled from 175 M to 178 M.
22:45	23:45	1.00	Pulled to 172 M. and conduct formation intregrity test. 250 psi. - 5 min with 1020-kg/m2 fluid giving a gradient of 19.7kPa/m gradient.
23:45	0:00	0.25	Pulled out of hole to change to air drill hammer and bit

24 HOUR Forcast :

Air drill 156mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5				REPORT #:	10	DATE:	November 4, 2006
DEPTH 24:00:	280.0 m	PROGRESS:	102.0 m	Last 24 Hr Rotating Time:	12.25 hr	Ave ROP:	8.3 m/hr
OPER 09:00:				FOREMAN:	Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.:	Good	WEATHER:	Drizzel	TOOLPUSH:	
CUM COST:		RIG / RIG #:	Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:	
FORMATION:	Anhydrite	K.B. ELEV.:	3.3 m	ROADS:	Good		

BIT PERFORMANCE

Bit No.	4	3RR	
Size (mm)		156mm	
Mfg.		Reed	
Type	Air Insert	SL51H	
Serial #		ER5587	
Nozzles		open	
From (mKB)	178	280	
To (mKB)	280		
Hrs on Bit	12 1/4		
WOB (daN)			
RPM	20		
Condition			
Pulled For?	Water		
Meters	102		
m/hr	8.33		
Cum Hrs	12 1/4		

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

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

BHA Length:	10.17	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:		DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air	12 1/4	Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	11 1/4	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST			
Rig Service	1/2	Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 3, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	2:30	2.50	Continued pulling out to change bit
2:30	3:45	1.25	Run in hole with hammer bit
3:45	4:30	0.75	Drill from 178 to 180 m
4:30	7:00	2.50	POOH to check hammer and bit
7:00	8:30	1.50	RIH
8:30	20:00	11.50	Drill 156 mm hole from 180 m. to 280 m
20:00	22:45	2.75	Excessive water. POOH to change to tricone bit/drilling fluid
22:45	23:15	0.50	Rig service
23:15	0:00	0.75	Make up BHA and run in hole to 280 m.

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 11	DATE:	November 5, 2006
DEPTH 24:00:	330.0 m	PROGRESS: 50.0 m	Last 24 Hr Rotating Time:	8.75 hr	Ave ROP: 5.7 m/hr
OPER 09:00:	Drill 156mm hole		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Drizzel	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	3RR
Size (mm)	156
Mfg.	Reed
Type	SL51H
Serial #	ER5587
Nozzles	open
From (mKB)	280
To (mKB)	330
Hrs on Bit	9
WOB (daN)	
RPM	
Condition	
Pulled For?	
Meters	50
m/hr	5.7
Cum Hrs	9

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °

DRILLING FLUID

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

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	93	min
Bottoms Up	16	min
Tanks	30	m3
Hole Volume	6	m3
System Vol.	36	m3

Mud & Chemicals Added:

40 sxs fishery salt
6 sxs Federal Surpreme
4 sxs Saw Dust
3 sxs Celluflake
1 sxs QuickSeal

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	29	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost
Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/2	Move Rig	
Drill w/ fluid	8 3/4	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	2
Tripping	3 3/4	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	8 3/4
Rig Service	1/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	02-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 4, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	2:30	2.50	Continue to RIH with Tricone BHA to 280m
2:30	3:30	1.00	Drill from 280m to 282m. Encounter 90% losses.
3:30	5:00	1.50	Mix and spot LCM pill at 282m.
5:00	6:15	1.25	POOH to casing shoe from 282m to 175m
6:15	7:30	1.25	Top fill hole and monitor losses. 50% returns.
7:30	9:30	2.00	Build brine fluid volume in circulating tank.
9:30	15:30	6.00	Mix and spot two LCM pills at 200m. Achieve 100% returns
15:30	21:00	5.50	Drill 156mm hole from 280m to 318m
21:00	21:15	0.25	Rig Service
21:15	23:15	2.00	Drill 156mm hole from 318m to 325m
23:15	23:45	0.50	Survey hole inclination at 316m.
23:45	0:00	0.25	Drill 156mm hole from 325m to 330m

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 12	DATE:	November 6, 2006
DEPTH 24:00:	366.0 m	PROGRESS: 36.0 m	Last 24 Hr Rotating Time:	19.00 hr	Ave ROP: 1.9 m/hr
OPER 06:00:	Drill 156mm hole		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Sunny	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	3°C	T.P. MOBILE:
FORMATION:	Salt	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	3RR	5
Size (mm)	156	156
Mfg.	Reed	Smith
Type	SL51H	SX30
Serial #	ER5587	PB2404
Nozzles	open	open
From (mKB)	280	366
To (mKB)	366	
Hrs on Bit	27.75	
WOB (daN)		
RPM	90	
Condition	TC, plugged nozzles	
Pulled For?	ROP	
Meters	86	
m/hr	3.1	
Cum Hrs	27.75	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °

DRILLING FLUID

Time	19:30
Depth(m)	366
Density	1189
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	12
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	130
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	29	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/2	Move Rig	
Drill w/ fluid	19	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	4 1/4	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service	1/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1434
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	02-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 5, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	3:30	3.50	Drill 156mm hole from 330m to 341m
3:30	4:00	0.50	Survey hole inclination at 341m
4:00	19:30	15.50	Drill 156mm hole from 341m to 366m
19:30	20:15	0.75	POOH from 365m to 366m
20:15	20:30	0.25	Rig Service
20:30	22:30	2.00	Continue to POOH from 249m to 0m
22:30	0:00	1.50	Make up 156mm tricone insert bit and RIH

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 13	DATE:	November 7, 2006
DEPTH 24:00:	377.0 m	PROGRESS: 11.0 m	Last 24 Hr Rotating Time:	10.75 hr	Ave ROP: 1.0 m/hr
OPER 06:00:	RIH with tricone		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Sunny	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	3°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	5	4RR
Size (mm)	156	158
Mfg.	Smith	Misson
Type	SX30	Air Insert
Serial #	PB2404	
Nozzles	open	
From (mKB)	366	
To (mKB)	375	
Hrs on Bit	10.25	
WOB (daN)		
RPM		
Condition		
Pulled For?	ROP	
Meters	9	
m/hr	0.9	
Cum Hrs	10.25	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °

DRILLING FLUID

Time	23:30
Depth(m)	375
Density	air
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	96	min
Bottoms Up	19	min
Tanks	30	m3
Hole Volume	7	m3
System Vol.	37	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	48	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	10 1/4	Logging		Fishing	
Drill w/ air	1/2	Run Casing		M/U L/D BHA	
Reaming	3	Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	10	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service	1/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1434
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	02-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 6, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:30	1.50	Continue to RIH with tricone to 366m
1:30	6:45	5.25	Drill 156mm hole from 366m to 370m
6:45	7:00	0.25	Rig Service
7:00	12:00	5.00	Drill 156mm hole from 370m to 375m
12:00	15:30	3.50	POOH to surface for air hammer
15:30	20:30	5.00	M/U air hammer BHA and rotating head.RIH to 320m. Blow fluid out of hole at discrete intervals.
20:30	23:30	3.00	Ream hole from 320m to 375m
23:30	0:00	0.50	Drill 158mm hole fro 375m to 377m

24 HOUR Forcast :

POOH for Tricone bit and drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 14	DATE:	November 8, 2006
DEPTH 24:00:	379.0 m	PROGRESS: 2.0 m	Last 24 Hr Rotating Time:	3.00 hr	Ave ROP: 0.7 m/hr
OPER 06:00:	Drilling ahead		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Sunny	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	3°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	4RR	5RR
Size (mm)	158	156
Mfg.	Misson	Smith
Type	Air Insert	SX30
Serial #		PB2504
Nozzles		open
From (mKB)	375	377.5
To (mKB)	377.5	379
Hrs on Bit	2.00	1.50
WOB (daN)		
RPM		
Condition	good	
Pulled For?	Water	
Meters	2.5	1.5
m/hr	1.3	1.0
Cum Hrs		11 3/4

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °

DRILLING FLUID

Time	23:30
Depth(m)	379
Density	1190
Mud Grad	
Vis	
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	96	min
Bottoms Up	19	min
Tanks	30	m3
Hole Volume	7	m3
System Vol.	37	m3

Mud & Chemicals Added:

Celluflake — Federal Supremem
Barolift
Fine sawdust
Soda Ash
QuikSeal
Mud Daily Cost
Mud Cum Cost

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	48	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	1 1/2	Logging		Fishing	
Drill w/ air	1 1/2	Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	10	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	11
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1434
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	02-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 7, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:30	1.50	Drilled 156mm hole from 377m to 377.5m.
1:30	4:15	2.75	Pulled out of hole. 30-40 Gal/min fluid
4:15	7:30	3.25	Made up tricone bit and ran in hole to 257m. Attempt to fill hole. No returnes
7:30	10:00	2.50	Mixed and spoted LCM pill and atempt to fill hole. No returnes
10:00	10:30	0.50	Pulled out to 200m.
10:30	19:00	8.50	Mixed and pumped 5 LCM pills. Top filled annulas. Circulated.100% returnes.Total losses-@15 M3
19:00	22:30	3.50	Ran in hole
22:30	0:00	1.50	Drilled 156mm hole from 377.5m. To 379m.
			Functioned tested HCR and annular preventor

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 15	DATE:	November 9, 2006
DEPTH 24:00:	426.0 m	PROGRESS: 49.0 m	Last 24 Hr Rotating Time: 22.75 hr	Ave ROP:	2.2 m/hr
OPER 06:00:	Drilling ahead		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Rain	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 3°C	T.P. MOBILE:	
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

Bit No.	5RR
Size (mm)	156
Mfg.	Smith
Type	SX30
Serial #	PB2504
Nozzles	open
From (mKB)	377.5
To (mKB)	426
Meterage [m]	49
Hrs on Bit	24.25
ROP [m/hr]	2.0
RPM	75
Condition	
Pulled For?	
Cum Meters	58.0
Cum Hrs on Bit	58.75
Cum ROP [m/hr]	0.99

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °

DRILLING FLUID

Time	20:00
Depth(m)	420
Density	1210
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	10
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	40	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	350	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	98	min
Bottoms Up	21	min
Tanks	30	m3
Hole Volume	8	m3
System Vol.	38	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	48	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	22 3/4	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service	1 1/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	02-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 8, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	4:15	4.25	Drilled 156mm hole from 379m to 386m.
4:15	4:30	0.25	Rig service/Functioned HCR
4:30	9:00	4.50	Drilled 156mm hole from 386m to 394m.
9:00	9:30	0.50	Service rig pump
9:30	10:00	0.50	Drilled from 394m to 395m.
10:00	10:30	0.50	Service rig pump
10:30	0:00	13.50	Drilled 156mm hole from 395m to 426m

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 16	DATE:	November 10, 2006
DEPTH 24:00:	492.0 m	PROGRESS: 66.0 m	Last 24 Hr Rotating Time:	21.75 hr	Ave ROP: 3.0 m/hr
OPER 06:00:	Drilling ahead		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Rain	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	5		
Size (mm)	156		
Mfg.	Smith		
Type	SX30		
Serial #	PB2504		
Nozzles	open		
From (mKB)	377.5		
To (mKB)	492		
Meterage [m]	115		
Hrs on Bit	46.00		
ROP [m/hr]	2.5		
RPM	75		
Condition			
Pulled For?			
Cum Meters	123.5		
Cum Hrs on Bit	56.25		
Cum ROP [m/hr]	2.20		

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °

DRILLING FLUID

Time	15:00
Depth(m)	420
Density	1223
Mud Grad	12
Vis	29
PV	
YP	
Gels	
pH	11
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	101	min
Bottoms Up	24	min
Tanks	30	m3
Hole Volume	9	m3
System Vol.	39	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	48	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1/2	Move Rig	
Drill w/ fluid	21 3/4	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs	1/4	W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig	1 1/4	DST		Mix LCM Pill	
Rig Service	1/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	09-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 9, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	11:45	11.75	Drilled 156mm hole from 426m to 453m.
11:45	12:00	0.25	Rig service/Functioned annular,closed 8 secs
12:00	16:15	4.25	Drilled 156mm hole from 453m to 478m.
16:15	16:45	0.50	Survey @ 470 m.
16:45	17:00	0.25	Held BOP drill
17:00	17:45	0.75	Drilled from 478m. To 480m.
17:45	19:00	1.25	Replaced hyd. hose on top drive
19:00	0:00	5.00	Drilled 156mm hole from 480m to 492m.

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 17	DATE:	November 11, 2006
DEPTH 24:00:	548.0 m	PROGRESS: 56.0 m	Last 24 Hr Rotating Time:	23.50 hr	Ave ROP: 2.4 m/hr
OPER 06:00:	Drilling ahead		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Rain	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	8°C	T.P. MOBILE:
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	5
Size (mm)	156
Mfg.	Smith
Type	SX30
Serial #	PB2504
Nozzles	open
From (mKB)	377.5
To (mKB)	548
Meterage [m]	170.50
Hrs on Bit	69.50
ROP [m/hr]	2.45
RPM	75
Condition	
Pulled For?	
Cum Meters	191.0
Cum Hrs on Bit	79.75
Cum ROP [m/hr]	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °

DRILLING FLUID

Time	18:30
Depth(m)	134
Density	1250
Mud Grad	12
Vis	29
PV	
YP	
Gels	
pH	11
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	104	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	10	m3
System Vol.	40	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	70	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	23 1/2	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service	1/2	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	09-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Mud Daily Cost

Mud Cum Cost

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 10, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	11:45	11.75	Drill 156mm hole from 492m to 521m
11:45	12:00	0.25	Rig Service - Function test HCR valve
12:00	16:30	4.50	Drill 156mm hole from 521m to 531m
16:30	16:45	0.25	Rig Service
16:45	0:00	7.25	Drill 156mm hole from 531m to 548m

24 HOUR Forcast :

Drill 156 mm hole

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 18	DATE:	November 12, 2006
DEPTH 24:00:	581.0 m	PROGRESS: 33.0 m	Last 24 Hr Rotating Time: 16.00 hr	Ave ROP:	2.1 m/hr
OPER 06:00:	Drilling ahead		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Rain	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 10°C	T.P. MOBILE:	
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

Bit No.	5
Size (mm)	156
Mfg.	Smith
Type	SX30
Serial #	PB2404
Nozzles	open
From (mKB)	377.5
To (mKB)	581
Meterage [m]	203.50
Hrs on Bit	85.50
ROP [m/hr]	2.38
RPM	75
Condition	
Pulled For?	
Cum Meters	168.0
Cum Hrs on Bit	90.00
Cum ROP [m/hr]	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °

DRILLING FLUID

Time	18:30
Depth(m)	134
Density	1130
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	11
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	106	min
Bottoms Up	29	min
Tanks	30	m3
Hole Volume	11	m3
System Vol.	41	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	75	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	16	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	4 1/4	Flow check	1/2	W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig	2 1/2	DST		Mix LCM Pill	
Rig Service	3/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	11-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 11, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:30	0.50	Rig service
0:30	0:45	0.25	Flow check-BOP drill
0:45	14:00	13.25	Drilled 156mm hole from 548m to 577m
14:00	14:15	0.25	Rig service
14:15	17:00	2.75	Drilled 156mm hole from 577m to 581m
17:00	17:15	0.25	Flow check
17:15	21:30	4.25	Pulled out of hole to 85m.
21:30	0:00	2.50	Worked on top drive
			Functioned tested pipe rams

24 HOUR Forcast :

Work on top drive

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 19	DATE:	November 13, 2006
DEPTH 24:00:	581.0 m	PROGRESS:	Last 24 Hr Rotating Time:	Ave ROP:	#DIV/0!
OPER 06:00:	Work on top drive		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Rain	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 10°C	T.P. MOBILE:	
FORMATION:	Anhydrite	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

Bit No.	5
Size (mm)	156
Mfg.	Smith
Type	SX30
Serial #	PB2504
Nozzles	open
From (mKB)	366
To (mKB)	581
Meterage [m]	215.00
Hrs on Bit	46.00
ROP [m/hr]	4.67
RPM	75
Condition	
Pulled For?	
Cum Meters	135.0
Cum Hrs on Bit	90.00
Cum ROP [m/hr]	

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °

DRILLING FLUID

Time	18:30
Depth(m)	134
Density	1130
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	11
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	106	min
Bottoms Up	29	min
Tanks	30	m3
Hole Volume	11	m3
System Vol.	41	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	75	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig	24	DST		Mix LCM Pill	
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	11-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 12, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:00	24.00	Worked on top drive

24 HOUR Forcast :

Repair top drive,make up bit,run in hole and drill

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 20	DATE:	November 14, 2006
DEPTH 24:00:	607.0 m	PROGRESS: 26.0 m	Last 24 Hr Rotating Time: 9.50 hr	Ave ROP:	2.7 m/hr
OPER 06:00:	Drill Ahead		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Clear	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 6°C	T.P. MOBILE:	
FORMATION:	Anhydrite/Limestone	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

Bit No.	6		
Size (mm)	156		
Mfg.	Reed		
Type	SL43H		
Serial #	NM3942		
Nozzles	20/20/20		
From (mKB)	581		
To (mKB)	607		
Meterage [m]	26.00		
Hrs on Bit	9.50		
ROP [m/hr]	2.74		
RPM	75		
Condition			
Pulled For?			
Cum Meters	26.0		
Cum Hrs on Bit	9.50		
Cum ROP [m/hr]	2.74		

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °

DRILLING FLUID

Time	20:00
Depth(m)	593
Density	1130
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	10
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	168
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	107	min
Bottoms Up	30	min
Tanks	30	m3
Hole Volume	12	m3
System Vol.	42	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	75	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	9 1/2	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping	6 3/4	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig	7 1/2	DST		Mix LCM Pill	
Rig Service	1/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	11-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 13, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	7:30	7.50	Rig Repair - Work on Top Drive
7:30	8:15	0.75	POOH from 60m to surface. Function Test blind rams while out of hole.
8:15	14:15	6.00	Make up bit and RIH to 581m
14:15	18:30	4.25	Drill from 581m to 592m
18:30	18:45	0.25	Rig Service
18:45	0:00	5.25	Drill from 592m to 607m

24 HOUR Forcast :

Continue to drill 155.6mm hole.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 21	DATE:	November 15, 2006
DEPTH 24:00:	655.0 m	PROGRESS: 48.0 m	Last 24 Hr Rotating Time: 22.00 hr	Ave ROP:	2.2 m/hr
OPER 06:00:	Drill Ahead		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Clear	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 6°C	T.P. MOBILE:	
FORMATION:	Anhydrite/Limestone	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

Bit No.	6		
Size (mm)	156		
Mfg.	Reed		
Type	SL43H		
Serial #	NM3942		
Nozzles	20/20/20		
From (mKB)	581		
To (mKB)	653		
Meterage [m]	72.00		
Hrs on Bit	31.50		
ROP [m/hr]	2.29		
RPM	75		
Condition			
Pulled For?			
Cum Meters	72.0		
Cum Hrs on Bit	31.50		
Cum ROP [m/hr]	2.29		

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °
607 m	9.50 °

DRILLING FLUID

Time	20:00
Depth(m)	653
Density	1130
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	168
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	109	min
Bottoms Up	32	min
Tanks	30	m3
Hole Volume	13	m3
System Vol.	43	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	86	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey	1 1/4	Move Rig	
Drill w/ fluid	22	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service	3/4	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	14-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 14, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:15	1.25	Survey at 607m
1:15	1:45	0.50	Rig Service
1:45	23:00	21.25	Drill from 607m to 653m
23:00	23:15	0.25	Rig Service
23:15	0:00	0.75	Drill from 653m to 655m

24 HOUR Forcast :

Continue to drill 155.6mm hole.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 22	DATE:	November 16, 2006
DEPTH 24:00:	698.0 m	PROGRESS: 43.0 m	Last 24 Hr Rotating Time: 23.50 hr	Ave ROP:	1.8 m/hr
OPER 06:00:	Drill Ahead		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Clear	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 6°C	T.P. MOBILE:	
FORMATION:	Anhydrite/Limestone	K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

Bit No.	6		
Size (mm)	156		
Mfg.	Reed		
Type	SL43H		
Serial #	NM3942		
Nozzles	20/20/20		
From (mKB)	581		
To (mKB)	698		
Meterage [m]	117.00		
Hrs on Bit	55.00		
ROP [m/hr]	2.13		
RPM	75		
Condition			
Pulled For?			
Cum Meters	117.0		
Cum Hrs on Bit	55.00		
Cum ROP [m/hr]	2.13		

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °
607 m	9.50 °

DRILLING FLUID

Time	20:00
Depth(m)	695
Density	1250
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	112	min
Bottoms Up	34	min
Tanks	30	m3
Hole Volume	13	m3
System Vol.	43	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	90	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	23 1/2	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service	1/2	Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	14-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 15, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	11:45	11.75	Drill from 655m to 678m
11:45	12:00	0.25	Rig Service
12:00	16:00	4.00	Drill from 678m to 684m
16:00	16:15	0.25	Rig Service
16:15	0:00	7.75	Drill from 684m to 698m

24 HOUR Forcast :

Continue to drill 155.6mm hole.

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 23	DATE:	November 17, 2006
DEPTH 24:00:	719.0 m	PROGRESS: 21.0 m	Last 24 Hr Rotating Time:	13.50 hr	Ave ROP: 1.6 m/hr
OPER 06:00:	Pull out of hole		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Clear	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	6°C	T.P. MOBILE:
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	6		
Size (mm)	156		
Mfg.	Reed		
Type	SL43H		
Serial #	NM3942		
Nozzles	20/20/20		
From (mKB)	581		
To (mKB)	719		
Meterage [m]	138.00		
Hrs on Bit	63.00		
ROP [m/hr]			
RPM	75		
Condition			
Pulled For?			
Cum Meters	138.0		
Cum Hrs on Bit	63.00		
Cum ROP [m/hr]	2.19		

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °
607 m	9.50 °

DRILLING FLUID

Time	20:00
Depth(m)	695
Density	1250
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	113	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	14	m3
System Vol.	44	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	90	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid	13 1/2	Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing	1	Wellhead	
Rm Rathole		WOC		Safety Meeting	1/2
Cond / Circ	1	NU BOP's		Mix mud	
Tripping	8	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	14-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 16, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	13:30	13.50	Drill from 698m to 719m - TD
13:30	14:30	1.00	Circulate
14:30	18:30	4.00	Flow check, pulled out of hole
18:30	22:30	4.00	Ran in hole open ended to 719 m
22:30	23:00	0.50	Held safety meeting piror to cementing
23:00	0:00	1.00	Rigged in cementing equipment to pump plug # 1

24 HOUR Forcast :

Pump cement plugs as per program

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 24	DATE:	November 18, 2006
DEPTH 24:00:	719.0 m	PROGRESS:	Last 24 Hr Rotating Time:		Ave ROP: #DIV/0!
OPER 06:00:	Tearing out rig		FOREMAN:	Bill Williams	MOBILE NO.: 709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER:	Rain	TOOLPUSH:
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.:	6°C	T.P. MOBILE:
FORMATION:		K.B. ELEV.: 3.3 m	ROADS:	Good	

BIT PERFORMANCE

Bit No.	6
Size (mm)	156
Mfg.	Reed
Type	SL43H
Serial #	NM3942
Nozzles	20/20/20
From (mKB)	581
To (mKB)	719
Meterage [m]	138.00
Hrs on Bit	63.00
ROP [m/hr]	
RPM	75
Condition	
Pulled For?	TD
Cum Meters	138.0
Cum Hrs on Bit	63.00
Cum ROP [m/hr]	2.19

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °
607 m	9.50 °

DRILLING FLUID

Time	20:00
Depth(m)	695
Density	1250
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	113	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	14	m3
System Vol.	44	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1	Bit	6.375-in		
2	Stab	6-in		2-7/8" IF
3	Drill Collar	4.75-in		3-1/2" IF

BHA Length:	13.39	Hook Load:		DP size	4.5"
Avail WOB:		Jts DP Racks		DC Conn:	3-1/2" IF
Jts DP in hole:	90	DP on Loc:	99	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing	3 1/2	Wellhead	
Rm Rathole		WOC	6	Safety Meeting	
Cond / Circ	1 1/4	NU BOP's	1 1/2	Mix mud	
Tripping	7 3/4	Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	4
Repair Rig		DST		Mix LCM Pill	
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	14-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 17, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	1:30	1.50	Pumped balanced cement plug # 1 @ 719 m.- 619 m. as per program
1:30	2:15	0.75	Pulled out to 590 m.
2:15	3:00	0.75	Circulated bottoms up
3:00	6:00	3.00	Pulled out to 190 m.
6:00	10:00	4.00	Wait on cementers
10:00	11:00	1.00	Pumped balanced cement plug # 2 @ 190 m.- 150 m. as per program
11:00	12:30	1.50	Pulled out to 130 m.
12:30	18:30	6.00	Circulated and waited on cement
18:30	19:30	1.00	Ran in and felt cement plug @ 158 m. 8000 lbs
19:30	20:30	1.00	Pulled out to 30 m.
20:30	21:00	0.50	Circulated
21:00	22:00	1.00	Pumped cement plug # 3 @ 35 m.-.20 as per program
22:00	22:30	0.50	Pulled out to 7 m circulated and flushed lines
22:30	0:00	1.50	Nipple down BOP's

24 HOUR Forcast :

Tear out rig

Vulcan Minerals

DAILY DRILLING REPORT

Flat Bay #5			REPORT #: 25	DATE:	November 19, 2006
DEPTH 24:00:	719.0 m	PROGRESS:	Last 24 Hr Rotating Time:	Ave ROP:	#DIV/0!
OPER 06:00:	Tearing out rig		FOREMAN: Bill Williams	MOBILE NO.:	709-689-9673
DAILY COST:		HOLE CND.: Good	WEATHER: Rain	TOOLPUSH:	
CUM COST:		RIG / RIG #: Ingersoll Rand RD10	TEMP.: 6°C	T.P. MOBILE:	
FORMATION:		K.B. ELEV.: 3.3 m	ROADS: Good		

BIT PERFORMANCE

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

SURVEYS

112 m	1.00 °
132 m	3.00 °
154 m	2.75 °
175 m	3.50 °
316 m	5.00 °
341 m	7.50 °
470 m	8.75 °
607 m	9.50 °

DRILLING FLUID

Time	20:00
Depth(m)	695
Density	1250
Mud Grad	
Vis	29
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Salinity (mS)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	
Make	Gardner Denver	
Model	PY-7	
Liner X Stk	6"	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.39	
Pump Press.	3,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	77	min
Bottoms Up		min
Tanks	30	m3
Hole Volume		m3
System Vol.	30	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY

No.	Item	Max OD	Min ID	Connection Size & Type
1		6.375-in		
2		6-in		2-7/8" IF
3		4.75-in		3-1/2" IF

BHA Length:	Hook Load:	DP size	4.5"
Avail WOB:	Jts DP Racks	DC Conn:	3-1/2" IF
Jts DP in hole:	DP on Loc:	DP Conn:	2-7/8" IF

VOLUMES M^3

Water added	0
Losses	0

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	24	Survey		Move Rig	
Drill w/ fluid		Logging		Fishing	
Drill w/ air		Run Casing		M/U L/D BHA	
Reaming		Cementing		Wellhead	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs		W.O GEN	
Lubricate Rig		Drill Out Cmt		Wait on services	
Repair Rig		DST		Mix LCM Pill	
Rig Service		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP 1	150
ST/Min 1	60
RSPP 2	125
ST/Min 2	30
MACP(kPa)	1400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	14-Nov-06

SOLIDS CONTROL

Shaker Make	FSI	
Shaker Mesh	180	
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : November 18, 2006 (0000 hrs - 2400 hrs)

From	To	Duration	Event
0:00	0:00	24.00	Tear out rig and prep to move. Remove wellhead. Cut casing 1m below ground level as per abandonment program. Rig Release November 18.

24 HOUR Forcast :

Tear out rig and move