Release Date : Sept. 9, 2007

VULCAN MINERALS INC

FINAL WELL REPORT

Revision:	**Version 0**
Operating Company:	**Vulcan Minerals Inc**
Well Name:	**Storm #1**
Rig:	**Ingersoll Rand RD10**
Field:	**Flat Bay**
Location:	**St. Georges Bay, Western Newfoundland, Canada**
Date:	**5 December 2005**
Revised On:	**N/A**

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

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List of Appendices

1 Introduction

Storm #1 was a well drilled by the operator, Vulcan Minerals Inc., in the Flat Bay field located in Bay of St. Georges, Newfoundland. (See map in Appendix A). The purpose of the well was to gather geological and geophysical data as a means to evaluate the economical potential of future field exploration and development for crude oil and/or natural gas production.

The drilling rig used was the Ingersoll Rand RD10, a single-type rig with 210-hp (156-kW) rating and a 70000-lb (31750-kg) hookload.

The 880.5-m from rig floor (RF) vertical well was drilled in accordance with the Drilling Program Approval #DPA2005-116-01 and Authority to Drill Well #ADW2005-116-01-01 under Permit #03-106 (see Appendix B).

The Storm #1 340-mm cellar casing was set at 11.43-mRF. The 311-mm hole was drilled to 52.78-m then the 245-mm casing was set to 52.7-m and cemented into place with cement to surface. The hole was air drilled with a 216-mm BHA to 164-mRF then the well was displaced to mud and drilled to 198.7-mRF without losses. 245-mm casing was run to 178.04-mRF and cemented into place with pre-flush returns to surface. Blow out preventors were nippled up and hi-low pressured tested against surface casing. Formation integrity test was executed at 255-m resulting in a calculated pressure gradient of 20.0-kPa/m. The hole was continued through the Lower Codroy Group, the Ship Cove formation and into the Fishell's Brook formation with a 155.6-mm BHA to a total depth of 880.5-mRF. Open hole logs that included HRLA + CNL + DSI + MCFL + TLD + Caliper were run from 592-m to 540-m. The well was abandoned with a cemented plug located from 540-m to 440-m, a non-drillable deflection device, a cement plug located at the shoe from 265-m to 235-m, and a surface cement plug from 61-m to 25-m.

2 General Information

Well Name	Storm #1
Exploration Permit	96-105
Drilling Program Approval	DPA 2005-116-01
Authority to Drill Well	ADW 2005-116-01-01
NAD 27 Coordinates	N 5363638.246 E 393460.697
Survey System	Differential Survey Related To C.M. 84G4139

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

3 Difficulties and Delays

3.1 Drill Conductor Hole

The 340 mm casing set at 10m could not hold back the overburden in order to continue with the 311 mm hole. Due to the issue of ground instability around the rig due to shallow hole sloughing, it was decided to abandon the original hole by filling the hole to surface and moving the rig 10m north.

The lesson learned create a best practice for setting the 340mm casing by digging a hole with an excavator, setting the 340mm casing at approximately 9m below ground level (in the case of Storm #1 the 340mm casing was set at 8.53m) and cementing in place with $4m^3$ to create a good shoe.

This practice was used on subsequent wells including Flat Bay #3, Hurricane #1 (Backstretch #2), and Hurricane #2 (Whip #1) and proved to mitigate the hazards of ground instability around the rig.

3.2 Clean Mud Tanks

The Storm #1 well was drilled with the Ingersoll Rand RD10 rig, which had a circulating tank without shale shakers. As a result, there were three different instances that the drilling had to cease and the string pulled to the previous casing shoe in order to clean the circulating tank with solids from the drill cuttings. The cumulative amount of non-productive time due to the lack of shale shakers was 24 hours.

3.3 Fishing for Wireline Tools

Schlumberger Wireline tools became stuck in the hole at 18:30 on 12 August 2005 with the top of fish at 557m on a second pass. The caliper log from the first pass showed that the tool was stuck at the top of a ledge located at 558m. Weatherford fishing services were acquired and fishing operations started at 09:30 on 14 August 2005 and continued unsuccessfully until 10:30 on 6 September 2005 (see Appendix K for fishing details). The cumulative amount of non-productive time due to the stuck Wireline tools was 663.75 hours (27.7 days).

4 Drilling Operations

4.1 Elevation

Well Name	Storm #1
Ground Level	111.75-m MSL
Casing Flange	Not Applicable
Rig Floor	114.55-m MSL

4.2 Total Depth

Well Name	Storm #1
Total Drilled Depth	880.5-mRF
Logged Depth	592 to 540-mRF
Plugged-Back Depth	2.8-mRF

4.3 Important Dates and Status

Well Name	Storm #1
Spud	2005-07-19
Drilling Completed	2005-08-06 at 880.5-mRF
Rig Release	2005-09-09
Well Status	Abandoned

4.4 Hole Sizes and Depths

Well Name	Storm #1
311-mm Hole	52.78-mRF
216-mm Hole	250.14-mRF
165-mm Hole	880.5-mRF

4.5 Bit Records

Storm #1								
Bit Number	**Size [mm]**	**Type**	**Depth In [mRF]**	**Depth Out [mRF]**	**Meterage [m]**	**Hours [h]**	**ROP [m/h]**	**Pulled Condition**
1	215.9	Varol EBX5305	10.98	52.78	41.8	6.5	6.43	Good
Open Hole	311	Varol CH24MS	10.98	52.78				Good
2	219.1	Mission Air Hammer	52.78	59.48	6.7	1	6.7	Good
3	215.9	Security Tricone	59.48	250.14	190.66	60.25	3.16	Worn
4	155.6	Reed HP43	250.14	255	4.86	0.5	9	Good
5	158.8	Mission Air Hammer	255	348	93	5.75	16.2	Good
4RR	155.6	Reed HP43	348	591	243	44.75	5.4	Worn
6	155.6	Hughes STR-30	591	656	65	28	2.3	Worn
7	155.6	Smith ER7042	656	775	119	53.75	2.2	Good
8	155.6	Hughes STX-35	775	880.5	105.5	37.25	2.8	Worn

4.6 Casing Record

340-mm cellar pipe was installed at 11.43-mRF.

Well Name	Storm #1	
Casing Type	Conductor	Surface
Casing Size [mm]	244.5	177.8
Weight [kg/m]	53.6	25.33
Grade	J-55	H-40
Number of Joints	5	25
Connection Type	8Rd Short	8Rd Short
Depth of Shoe [mRF]	52.7	249
Casing Hanger and Seal	N/A	Casing Head Type W

4.7 Cementing Record

Well Name	Storm #1	
Casing Size [mm]	244.5	177.8
Centralizer Spacing		As necessary
Slurry Volume [m^3]	3.0	4.8
Slurry Density [kg/m^3]	1820	1900
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]	2.9	30
Cement Base [mRF]	52.7	249
Basis of Top Estimate [Calc/CBL]	Visual	Calc

See Appendix C for cement proposals and reports.

4.8 Sidetracted Hole

Not applicable.

4.9 Drilling Fluid

The 311-mm conductor hole section was drilled with Federal Supreme gel water with final properties that included mud weight of 1210-kg/m^3, funnel viscosity 46-sec and 8pH.

The first 6.7m (52.78-m to 59.48-m) of the 216-mm surface hole section was drilled with air however the an aquifer was found and due to excessive formation water the drilling fluid was switched to a gel water for the remainder of the section. The gel water was comprised Federal Supreme gel and soda ash supplied by MI SWACO mixed with fresh water. The final properties of the gel water at section TD of 250.14-m included mud weight 1180-kg/m^3, funnel viscosity of 38-sec, and 8pH.

After drilling out cement and the first three meters beyond the 177.8-mm casing shoe with fresh water to do the formation integrity test, the fluid in the well was blown and the well was drilled with air from 255-m to 348-m. An aquifer was found and due to excessive formation water the drilling fluid was switched to a fresh water system with Polyplus additive for viscosity while drill the section from 348-m to 629-m.

The drilling fluid was switched to a gel water at 629-m that was comprised Federal Supreme gel, Polyplus, lime and soda ash supplied by MI SWACO mixed with fresh water. The final properties of the gel water at section TD of 880.5-m included mud weight 1120-kg/m^3, funnel viscosity of 38-sec, and 8pH.

4.10 Fluid Disposal

No lost circulation was experienced while drilling Storm #1 and as a result there was no downhole fluid disposal.

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

4.11 Well Kicks

Not applicable.

4.12 Formation Leak-Off Tests

Formation integrity test was executed on Storm #1 at 255-m with 1000-kg/m3 mud weight to 2600-kPa that had no pressure drop during stabilization for a calculated pressure gradient of 20.0-kPa/m

4.13 Time Distribution

Operation Type	Cumulative Time [hrs]	Cumulative Time [%]
Rig Up / Tear Out	61.75	4.3%
Drill with Fluid	227.5	16.0%
Drill with Air	15.5	1.1%
Reaming	19	1.3%
Coring	0	0.0%
Ream Rathole	3.75	0.3%
Condition & Circulate Mud	39.5	2.8%
Tripping	181.25	12.7%
Mix Drilling Fluid	4.25	0.3%
Rig Service	48.5	3.4%
Survey	2.75	0.2%
Logging	1.75	0.1%
Run Casing	15.25	1.1%
Cementing	2.5	0.2%
Wait on Cement	23.75	1.7%
Nipple Up/Down BOPs	44.75	3.1%
Test BOPs	7	0.5%
Drill out Cement	4	0.3%
Drill Stem Test	0	0.0%
Handle Tools	36.5	2.6%
Plug Back	3.5	0.2%
Fishing	112.5	7.9%
Work Pipe	0	0.0%
Mix Lost Circulation Material	1.5	0.1%
Safety Meeting	16	1.1%
BOP Drill	0.75	0.1%
Clean out Tanks	14.75	1.0%
Shut Down for Night	105.75	7.4%
Waiting on Materials	203.75	14.3%
Waiting on Services	128	9.0%
Waiting on Orders	97.25	6.8%
Pressure Integrity Test / Leak Off Test	0.5	0.0%
Make up Wellhead	1.5	0.1%
Total Operational Time	**1425.25**	**100.0%**
Total Non-Productive Time	**885.75**	**60.3%**

4.14 Deviation Plot

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

Depth	Deviation	Measurement Tool
50.87-m	0.25°	Totco
148.71-m	2.00°	Totco
255-m	1.25°	Totco
422-m	2.00°	Totco
578-m	7.00°	Totco
789-m	7.00°	Totco
865-m	6.50°	Totco

4.15 Plug & Abandonment Scheme

Well Name	Storm #1
Fluid Below Fish	1140-kg/m^3 drilling fluid
Fish	Wireline Tools from 615-mRF to 548-mRF
Cement Plug #1	0.4-m^3 Class A 1820-kg/m^3 cement from 540-mRF to 440-mRF.
Non-Drillable Device	7.6-m steel pipe from
Fluid Above Plug #1	1140-kg/m^3 drilling fluid
Cement Plug #2	1-m^3 Class A 1820-kg/m^3 cement from 265-mRF to 235-mRF.
Fluid Above Plug #2	1140-kg/m^3 drilling fluid
Cement Plug #3	1-m^3 Class A 1820-kg/m^3 cement from 61-mRF to 25-mRF.
Fluid Above Plug #3	1140-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 Corey Fitzgerald.

5.2 Cores

Not applicable.

5.3 Lithology

See Appendix F geological report completed by Corey Fitzgerald.

5.4 Stratigraphic Column

See Appendix G.

5.5 Biostratigraphic Data

Not applicable.

6 Well Evaluation

6.1 Downhole Logs

Open Hole logging for Storm #1.

Log Type	Depth Interval Logged
HRLA	592 to 540-m
CNL	592 to 540-m
DSI	592 to 540-m
MCFL	592 to 540-m
TLD	592 to 540-m
1-arm Caliper	592 to 540-m

See Appendix H for open hole well logs completed by Schlumberger.

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

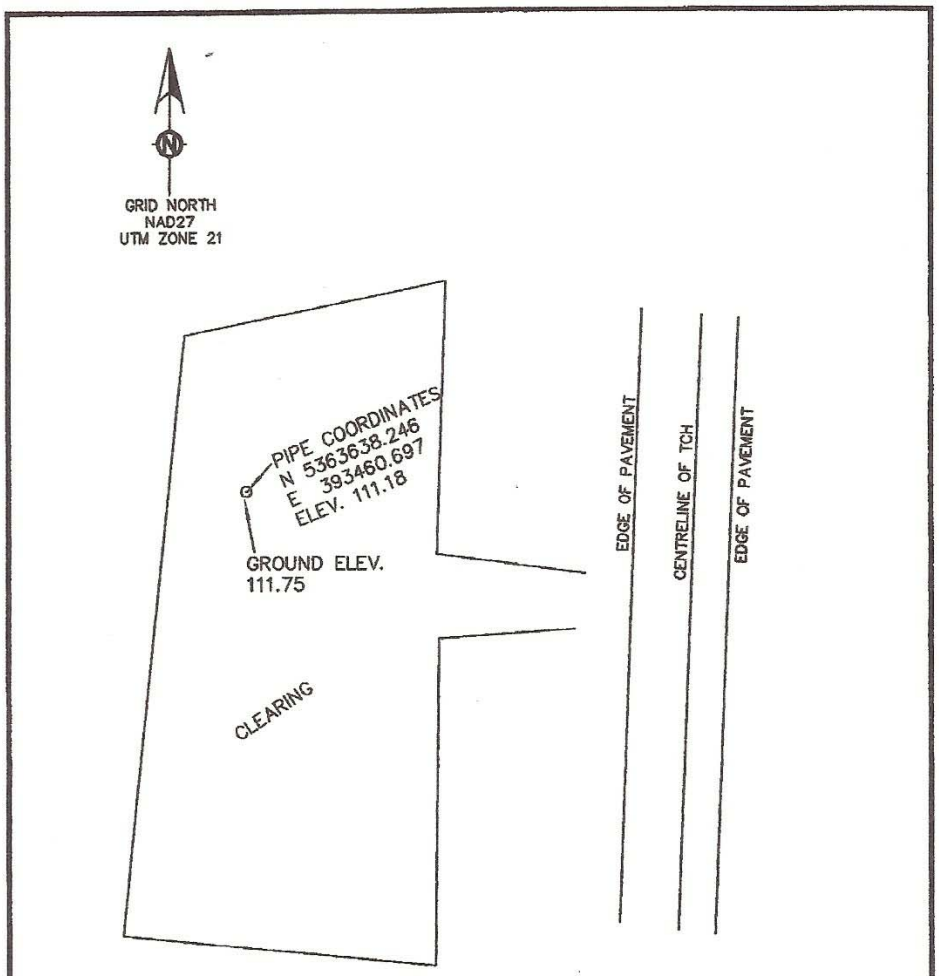
Not applicable.

6.7 Formation Flow Tests

Not applicable.

APPENDIX A: WELL LOCATION & MAP

Storm #1 Site Survey V2 (1700x2338x16M jpeg)



NOTE:
COORDINATES ARE UTM, NAD27, ZONE 21 AND ARE RELATED TO C.M. 84G4139 HAVING UTM COORDINATES OF N 5364663.527, 390620.311, ELEV 24.946.
PIPE HAS BEEN CUT BELOW GROUND LEVEL.

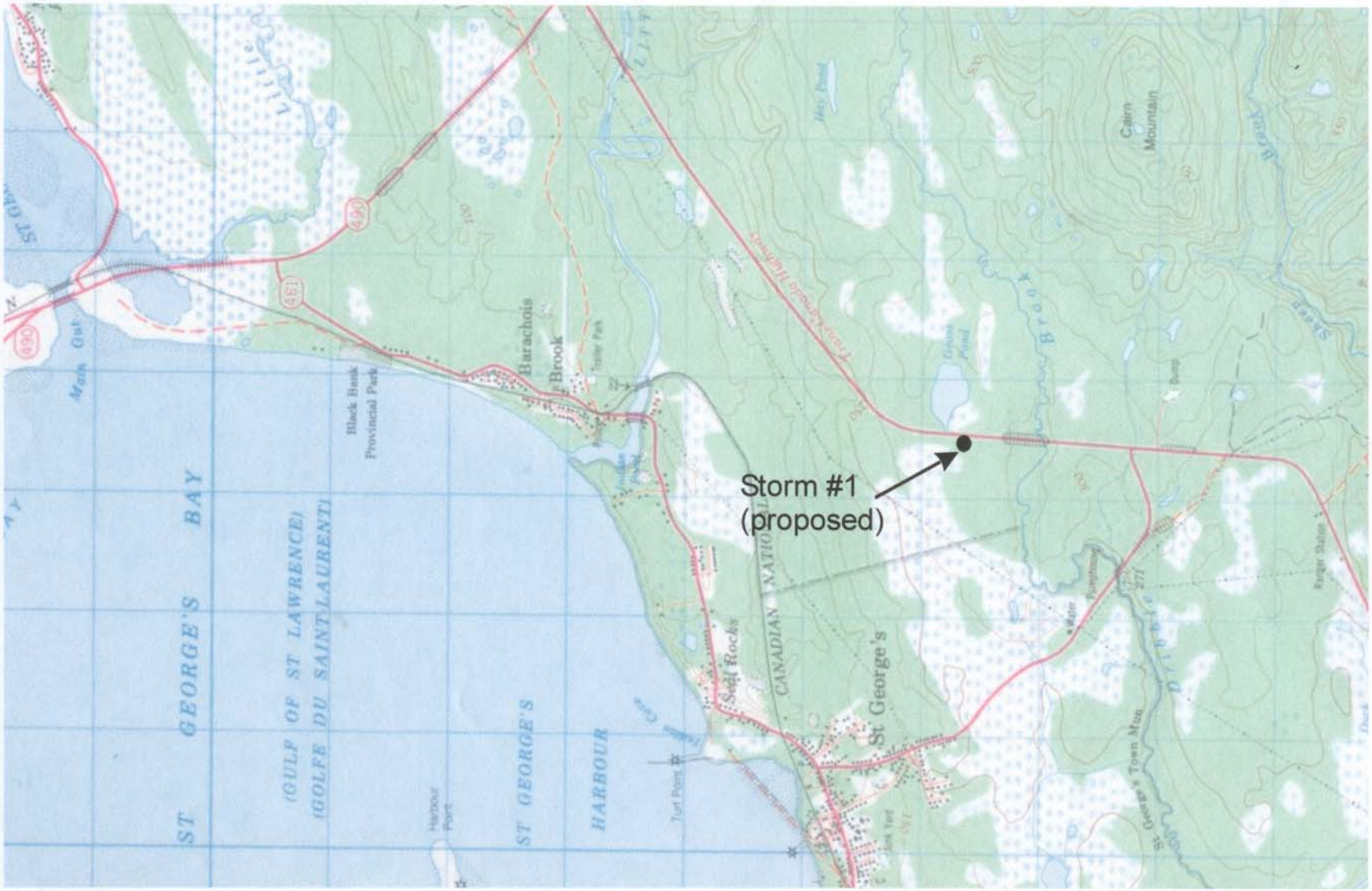
REVISED NOVEMBER 29, 2006 TO SHOW WELL NAME.

ROBIN DAVIS NEWFOUNDLAND SURVEYOR PROVINCE OF NEWFOUNDLAND

PLAN SHOWING WELL LOCATION
VULVAN MINERALS
STORM # 1
TCH, ST. GEORGE'S, NL

DWG. NO.: 5115-1
SCALE: 1 : 750
DRAWN BY: R.D.
DATE: SEPT. 12, 2005

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



VULCAN MINERALS INC

Storm # 1
WELL LOCATION MAP

NTS 12B8

Scale:	N.A.
Drawn by:	J.E.G.
Date:	2004 - 08- 02
Drawing No:	Storm #1 - PERS 2
Rev:	

APPENDIX B: DRILLING PROGRAM APPROVAL AND AUTHORITY TO DRILL WELL

GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR

Department of
Mines & Energy

DRILLING PROGRAM APPROVAL

APPLICATION

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

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

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

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

APPROVAL

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

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

Signed: .....
Director

Effective Date: July 18, 2005.

Drilling Program Approval No. 2005-116-01

GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR

Department of
Mines and Energy

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 Storm #1 using the equipment and procedures described in the well program dated 17 June, 2005. and revised 8 July 05, Permit, Licence or Lease to which this Program applies: 96-105

Area:		CO-ORDINATES	
Field/Pool:		Long: / Lat:	UTM (NAD 27) Northing: 5363595 Easting: 393475
Drilling Rig: Ingersoll Rand		ELEVATION	DEPTH
Rig Type: RD10		RT/KB/RF:	T.D.: 1000m
Drilling Contractor: Vulcan Minerals		G.L.: 95m	TVD: 1000 m
ESTIMATES		TARGET HORIZONS	
Spud Date: 12 July 2005	Well Cost: $700 000		
Days on Location: 20			

EVALUATION PROGRAM

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

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m)	Cementing Program
244.5	53.6	J55	60	Class A
177.8	25.3	H40	250	Class G as per Schlumberger Cement Program May 20, 2005
114.3	14.14	J55	1000	Class G as per Schlumberger Cement Program May 20, 2005

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

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

Signed: .....
Operator's Representative

Date: July 08/05

AUTHORIZATION

Whereas the Minister of Mines and Energy has jurisdiction under the *Petroleum Drilling Regulations*, ("the Regulations").

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

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

Signed: .....
Director

Effective Date: July 18, 2005

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

APPENDIX C: CEMENT PROPOSALS AND REPORTS

SURFACE CASING CEMENTATION PROGRAM

Revision:	**Version 1**
Operating Company:	**Vulcan Minerals Inc**
Hole Name:	**Storm #1**
Rig:	**Ingersoll Rand RD10**
Field:	**Flat Bay**
Location:	**St. Georges Bay,** **Western Newfoundland, Canada**
Date Issued:	**22 July 2005**
Date Revised:	**22 July 2005**

Purpose

This cement program is to replace the Schlumberger cement program for the 178mm casing dated 20 May 2005.

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

Owner and Operator's Name

Vulcan Minerals Inc.

Contact Person for Licence

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

Drilling Contractor

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

On-Site Representation

Bill Williams
Well Site Supervisor
Alert Oilfield Consulting Services Inc.
Cell: 709 689 9673

Greg Walsh
Well Site Supervisor
Integrated Drilling Services
Cell: 709 689 4106

Timing

The proposed cement program is scheduled to occur on July 22, 2005.

Cement Operations Program

Casing Properties

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

Pumping Volumes

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

Cement System

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

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

Tested Cement Strength: 21.7-MPa

177.8mm Casing Cementation Operations

1. Ensure casing is run with sufficient centralization (1 centralizer every 2 casing joints).
2. Check mud pump efficiency and open hole excess requirement.
3. Rig up cementing equipment and connect Gardner Denver PY7 triplex pump to freshwater tank.
4. Conduct Safety and Procedures meeting with all personnel on location.
5. Pressure test treating lines to anticipated maximum surface pressure of 1000-kPa (note cement plug will be bumped with rig pump).
6. Prepare to conduct cement job.

7. Pump 0.5m^3 of freshwater spacer.
8. Pump pre-mix cement (estimated 4.9 m^3 assuming shoe at 250-m, 3-m rig elevation to ground level, and 75% access required) at a rate of approximately 0.3-m^3/min. Collect at least 3 samples of pre-mixed cement at regular intervals of the pumping operation.
9. Drop 177.8mm solid top plug.
10. Chain down casing or hold down casing with topdrive to prevent floatation.
11. Displace cement with required volume fluid (estimated 5.2 m^3 assuming shoe at 250-m and 9-m shoe track) with Gardner Denver PY7 Triplex pump at a rate of 0.6-m^3/min assuming 95% pumping efficiency.
12. For the last 0.5m^3 of displacement with water, slow pumping by idling the triplex pump and land plug a minimum of 2000-kPa over the final pumping pressure. Collect samples of cement returns and label.
13. Bleed pressure off and ensure that the float is holding.
14. Rig down cementing equipment.

Contingency for 177.8mm (7-in) Intermediate Casing

Plug Does Not Bump

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

Back Flow After Bumping Plug

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

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	ADVA 100
MSDS Number:	D-05836
Cancelled MSDS Number:	D-05535
MSDS Date:	01/14/2004
Chemical Family Name:	Carboxylated Polyether
Product Use:	Concrete Additive
Chemical Formula:	Mixture-NA
CAS # (Chemical Abstracts Service Number):	Mixture-NA

Manufactured by:

W.R.Grace & Co.-Conn.
62 Whittemore Avenue
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Road West
Ajax, Ontario L1S 3C6

In Case of Emergency Call:

In USA: (617) 876-1400 In Canada: (905) 683-8561

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS#	Percent (max)
Polyoxyalkylene Sodium Salt	184785-41-9	25-50
Tributyl phosphate	000126-73-8	1-10

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:

Caution!
Causes eye irritation.
Causes skin irritation.
May be harmful if ingested.
Causes digestive tract irritation if ingested.
Can cause liver and kidney damage.

HMIS Rating:

Health:	1
Flammability:	1
Reactivity:	0
Personal Protective Equipment:	B (See Section 8)

Potential Health Effects:

Inhalation:
Causes respiratory tract irritation. If prolonged exposure to vapor or mist occurs, effects may be more severe resulting in coughing and breathing difficulties.
Effects include: No other effects expected unless listed below.
Eye Contact:
Eye contact causes irritation.
Prolonged eye contact can result in redness and itching.
Skin Contact:
Skin contact causes irritation.
Skin Absorption:
Not expected to be harmful if absorbed through the skin.
Ingestion:
Harmful if ingested.
If ingested, causes irritation to the linings of the mouth, esophagus and stomach.
Effects include: Nausea, pain and diarrhea.

SECTION 4 - FIRST AID MEASURES:

Skin Contact:
Wash with soap and water.
If discomfort or irritation persists, consult a physician.
Remove contaminated clothing and wash before reuse.
Eye Contact:
Flush eyes with water for at least 15 minutes while holding eyelids open.
If discomfort or irritation persists, consult a physician.
Ingestion:
Do not induce vomiting.
Never give anything by mouth to an unconscious person.
If discomfort or irritation persists, consult a physician.
Inhalation:
If symptoms develop, get fresh air. If symptoms persist, consult a physician.
If breathing has stopped, give artificial respiration then oxygen if needed.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash Point:	470°F
Flash Point Method:	Not Applicable
Lower Explosion Limit:	Not Available
Upper Explosion Limit:	Not Available
Auto-Ignition Temperature:	Not Available

NFPA Rating:

Health:	1
Flammability:	1
Reactivity:	0

Extinguishing Media: In case of fire, use water spray, dry chemical, Carbon dioxide or foam.

Special Fire Fighting Procedures:

Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to vapors or products of combustion exist. Water may be used to cool containers to prevent pressure build-up and possible auto-ignition or explosion. Avoid breathing hazardous vapors or products of combustion, keep upwind. Isolate area and keep unnecessary people away. Prevent run-off from fire control or dilution from entering streams or drinking water supplies.

No special procedures specific to this product.

Unusual Fire and Explosion Hazards:

None unless noted below.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Spills/Leaks:

Use proper personal protective equipment. Do not flush to sewer or allow to enter waterways. Keep unnecessary people away.

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container. For large spills, dike area and pump waste material into closed containers for disposal or reclamation.

SECTION 7 - HANDLING AND STORAGE

Precautionary Measures:

Do not heat product.
Avoid contact with eyes, skin and clothing.
Do not take internally.
Practice good personal hygiene to avoid ingestion.
Use only with adequate ventilation.
Wash clothing before reuse.
FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE GUIDELINES (US)

Ingredient	ACGIH TLV			OSHA PEL			Other
	TWA	STEL	Ceiling	TWA	STEL	Ceiling	
Polyoxyalkylene Sodium Salt	-	-	-	-	-		-
Tributyl phosphate	0.2 ppm TWA	-	-	0.2 ppm TWA; 2.5 mg/m3 TWA	-		-

EXPOSURE GUIDELINES (CANADA)

Employers should consult local Provincial regulatory limits for exposure guidelines which may vary locally.

Engineering Controls: Not generally required.

Personal Protective Equipment:

Respiratory Protection: Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mits is required at or above the applicable exposure limits (Consult above Exposure Guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Skin Protection: Rubber or other impervious gloves should be worn to prevent skin contact.

Eye Protection: At minimum, safety glasses with side shields should be worn where exposure to excessive dust or spray is likely.

Work/Hygienic Practices: Use good personal hygiene practices.

None beyond those noted above.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance/Odor:	White to tan liquid with a slight odor of acrylic acid.
Odor Threshold: (ppm)	Not Determined
pH:	7.0 - 9.0
Vapor Pressure: (Mm Hg)	<0.01 mmHg
Vapor Density: (Air = 1)	>1
Solubility In Water:	Miscible
Specific Gravity: (Water = 1)	~1.1
Evaporation Rate: (Butyl Acetate = 1)	Not Applicable
Boiling Point:	>212°F/100°C
Viscosity:	Unknown
Bulk Density: (Pounds/Cubic Foot)(Pcf)	Not Applicable
% Volatiles (gr/L): (70°F) (21°C)	~65 (As Water)

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions To Avoid:	None known for this product.
Hazardous Polymerization:	Will not polymerize.
Hazardous Decomposition Products:	None known for this product.

SECTION 11 - TOXICOLOGICAL INFORMATION

Ingredient(No data unless listed.)	**CAS Number**	**LD50 and LC50**
Tributyl phosphate	000126-73-8	Inhalation LC50 Rat: 28 g/m3/1H; Oral LD50 Rat: 3 g/kg; Oral LD50 Mouse: 1189 mg/kg; Dermal LD50 Rab

Carcinogenicity:

Ingredient	IARC Group 1	IARC Group 2A	IARC Group 2B	NTP Known	NTP Suspect	OSHA
Polyoxyalkylene Sodium Salt	No	No	No	No	No	No
Tributyl phosphate	No	No	No	No	No	No

Mutagenicity: Not applicable.
Teratogenicity: Not applicable.
Reproductive Toxicity: Not applicable.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate: No data available for product.
Ecotoxicity: No data available for product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Procedures:
Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. According to EPA (40 CFR § 261), waste of this product is not defined as hazardous. Dispose of waste in accordance with all applicable regulations.

SECTION 14 - TRANSPORTATION INFORMATION

Proper Shipping Name: Not Applicable
UN/NA Number: Not Applicable
Domestic Hazard Class: Nonhazardous
Surface Freight Classification: Concrete or Masonry Plasticizer & Water Reducing Compound
Label/Placard Required: Not Applicable

SECTION 15 - REGULATORY INFORMATION

REGULATORY CHEMICAL LISTS:

CERCLA (Comprehensive Response Compensation and Liability Act):
(None present unless listed below)

Chemical Name	CAS #	Wt %	CERCLA RQ

SARA Title III (Superfund Amendments and Reauthorization Act)

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	No
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

302 Reportable Ingredients (Identification Threshold 1%.):

Chemical Name	CAS #	Wt %	SARA 302 TPQ

313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

Chemical Name	CAS #	Wt %

National Volatile Organic Compound Emission Standards For Architectural Coatings:

Volatile Organic Content: (gr/L) 0

WHMIS Classification(s): D2 B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

State Regulatory Information:

California Proposition 65: WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

Massachusetts Hazardous Substance List(Identification threshold 0.001%(1ppm)):

Chemical Name	CAS #	Wt %

New Jersey Hazardous Substance List(Identification threshold (0.1%)):

Chemical Name	CAS #	Wt %

Pennsylvania Hazardous Substance List(Identification threshold 0.01%):

Chemical Name	CAS #	Wt %

CHEMICAL INVENTORY STATUS:
All chemicals in this product are listed or exempt from listing in the following countries:

US	CANADA		EUROPE	AUSTRALIA	JAPAN	KOREA	PHILIPPINES
TSCA	DSL	NDSL	EINECS/ELINCS	AICS	ENCS	ECL	PICCS
Yes	Yes	No	No	No	No	No	No

SECTION 16 - OTHER INFORMATION

Non-Hazardous Ingredient Disclosure:

Chemical Name	CAS Number
Water	007732-18-5

Prepared by: EH&S Department
Approved by: EH&S Department
Approved Date: 01/14/2004

Disclaimer:
"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."

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: Storm #1	CO-ORDINATES	
Operator: Vulcan Minerals Inc		UTM (NAD 27)
Drilling Rig: Ingersoll Rand RD10	Long: / Lat:	Northing: 5363638.246 Easting: 393460.697
Rig Type:	ELEVATION	DEPTH
Drilling Contractor: Vulcan Minerals Inc	RT/KB/RF: 114.55 G.L.: 111.75	TD: 880.5 TVD: 880.5
	FOR NR USE ONLY	
Spud Date: 20 July 2005 TD Date: 6 August 2005 Rig Release Date: 9 September 2005 Well Termination Date: 9 September 2005	For the purpose of interpreting subsection 154(5) of the Petroleum Drilling Regulations, the rig release date is deemed to be: 9 September 2005	

CASING AND CEMENTING PROGRAM

O.D. (mm)	WEIGHT (kg/m)	GRADE	SETTING DEPTH (m)	CEMENTING DETAILS
244.5	53.6	J-55	52.7	$0.5m^3$ Preflush, $3m^3$ Class A, Cement Returns
177.8	25.6	H-40	249	$0.5m^3$ Pre flush, $4.8m^3$ Class A, Preflush Returns

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Patrick Lacey
from (person) Wes Foote of the Department of Natural Resources by means of
letter dated 14 July 2005

Type of Plug	Interval	Felt/Pressure Tested	Cement and Additives
Cement	25-60 m RF	None	$0.75m^3$ Class A 1520 kg/m^3
Cement	235-265 m RF	Felt	$1m^3$ Class A 1520 kg/m^3
Non-Drillable Device	432-440 m RF	None	
Cement	440-540 m RF	None	$3m^3$ Class A 1520 kg/m^3
Fish - Logging Tools	548-615 m RF	Felt	

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.

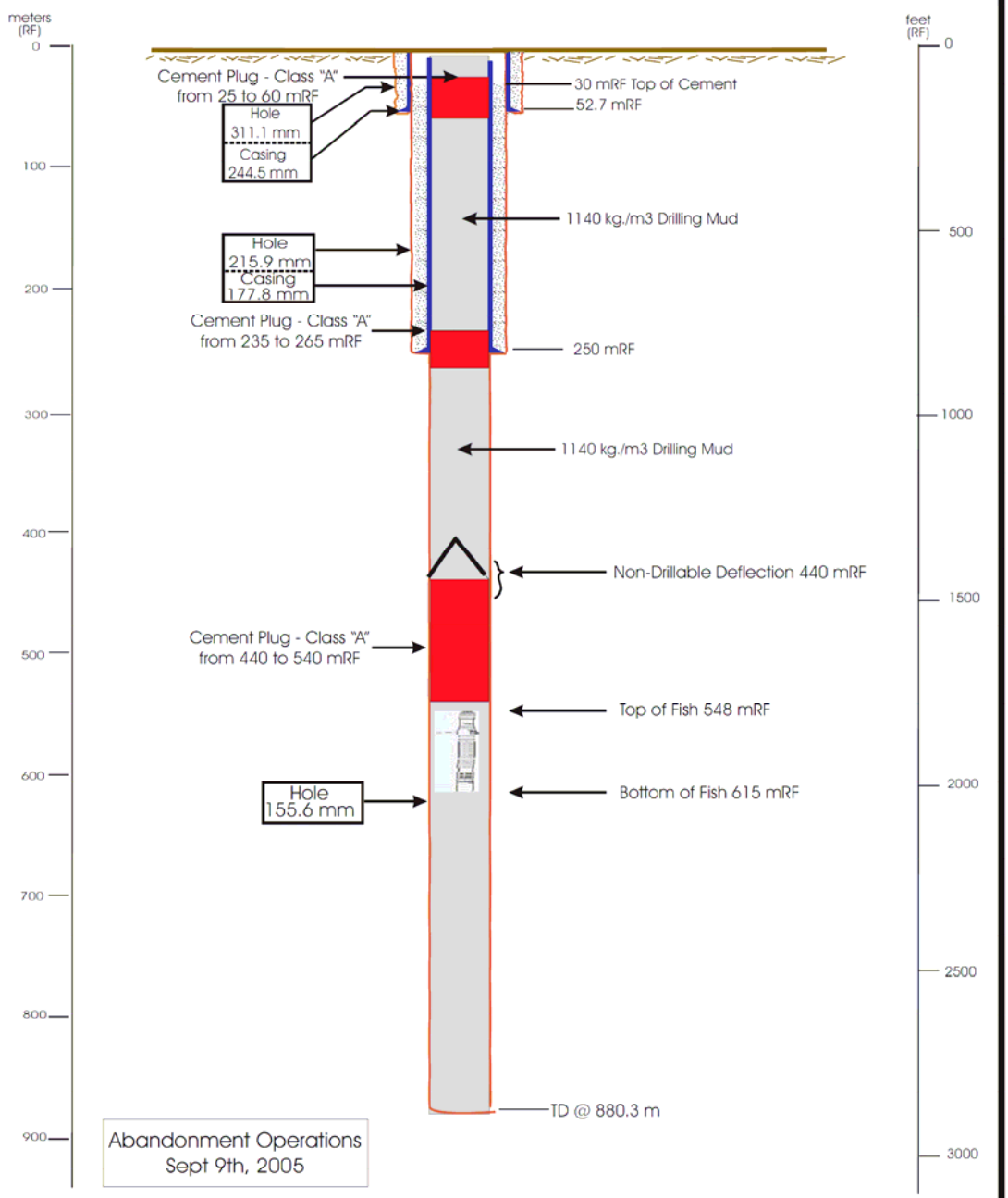
Signed ..... Title President Operator's Representative
Name P. LACEY Date Sept 20/05

ACKNOWLEDGEMENT

Acknowledged by ..... Director Date 2005-09-21

(Revised March 2004)

WTR1150.wpd



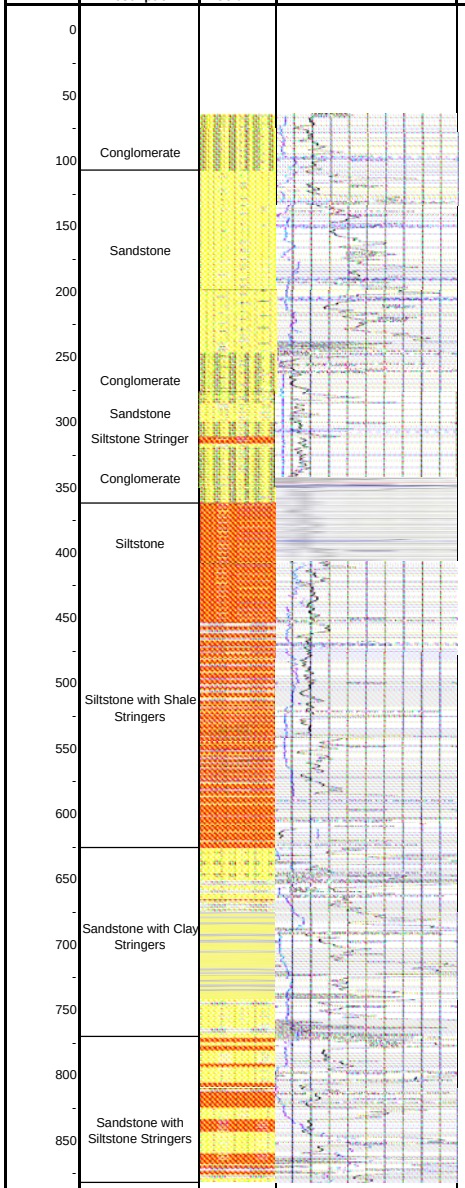
VULCAN minerals inc	**Vulcan Minerals Inc.** **Storm #1** **Abandonment Configuration**	**Scale:** 1 : N/A **Drawn by:** K. Smith **Date:** 25 Aug 2005 **Drawing No:** Storm1 - ABAND **Rev:** 4

APPENDIX E: COMPOSITE WELL RECORD & TIME VERSUS DEPTH CURVE

Storm #1 Exploration Well, July-September 2005

Position: projection NAD 27: 393460.697-mE, 5363638.246-mN, GL + 111.75-m, RF = + 2.8-mGL

All depths are MD RF

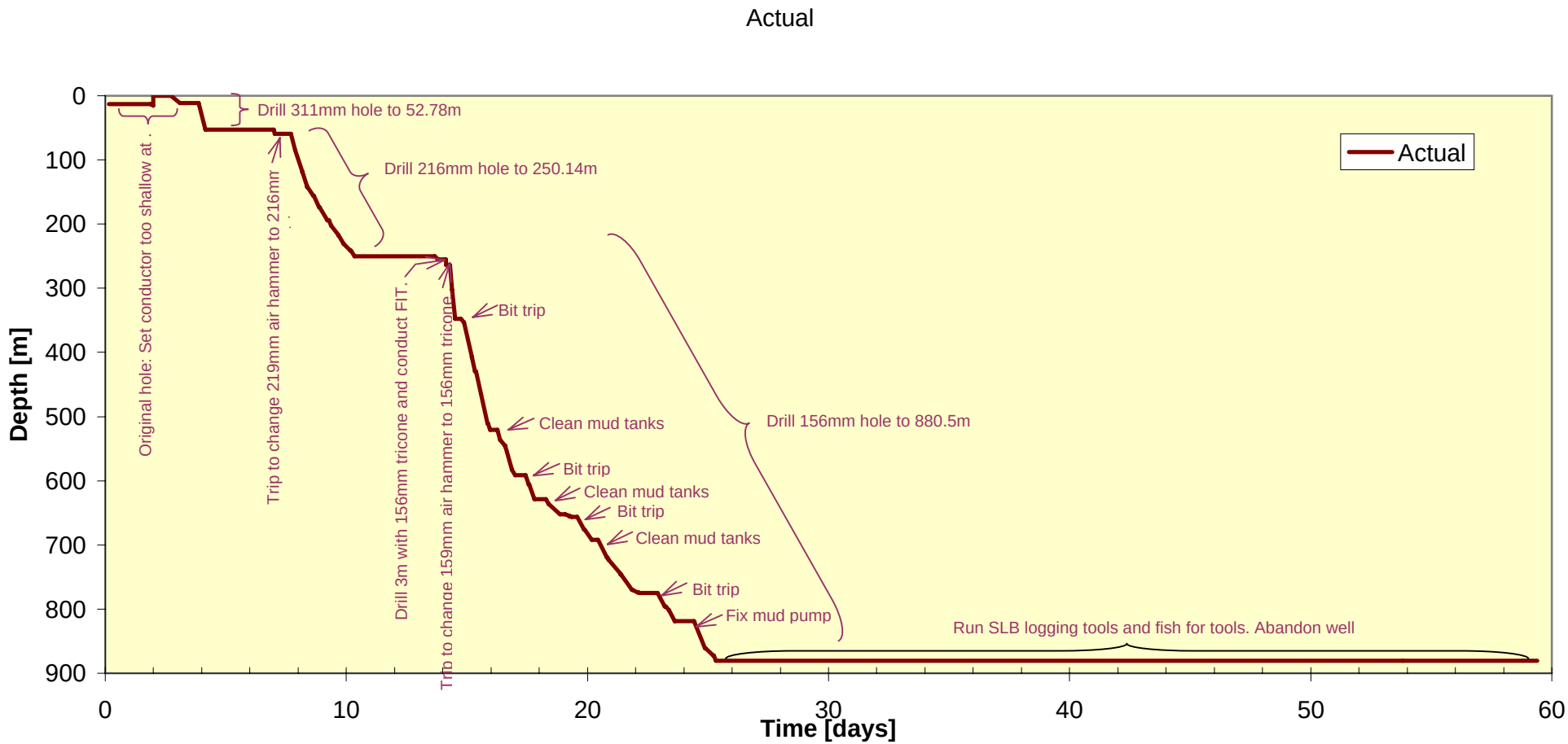


Depth	Lithology Description	Lithology Column	Casing Scheme	Drilling Data: Deviation:	Drilling Data: Bit:	Drilling Data: BHA:	Drilling Data: Comments:	DF & Cementing: Drilling Fluid:	DF & Cementing: Cement:	DF & Cementing: Comments:	Remarks
0 - 50			244.5-mm 53.6-kg/m @ 52.7-...	0.25° @ 50.87-m Totco	**#1. 10.98-m to 52.78-m** 216-mm Varol EBX5305 S/N RR01333 Tricone; meterage: 41.8-m; 6.5-hrs; ROP: 6.43-m/h; RPM 80-90	Bit .10m, Stabilizer. 4.86 m	* Open hole w/ 311-mm Varol CH24MS S/N RR01394 Tricone * Make check trip to 52.78-m before open hole to 311mm	**Type:** Federal Supreme gel water; MW 1210-kg/m3; Funnel Vis 46-sec; pH 8	One stage cement job. Pump 0.5-m^3 H^2O preflush. Pump 3-m^3 Class A 15.2-ppg cement slurry. Displace with 1.1-m^3 H^2O.	*Make two check trips to 52.78-m before running casing * 30% open hole excess * 0.5-m^3 cement returns at cellar * TOC at 29-m	
100 - 150	Conglomerate Sandstone			2.00° @ 148.71-m Totco	**#2. 52.78-m to 59.48-m** 219.1-mm Mission Air Hammer; meteraqe: 6.7-m; ROP: 6.7-m/h **#3. 59.48-m to 250.14-m** 215.9-mm Security Tricone; meterage: 190.66-m; 60.25-hrs; ROP: 3.16-m/h; RPM 80-105;	Bit .10m, Stabilizer. 4.86 m	* Hit water at 59.48-m, could not drill with air * Filled hole with mud at 59.48-m	**Type:** Air **Type:** Federal Supreme gel water; MW 1280-kg/m3; Funnel Vis 38-sec; pH 8	One stage cement job. Pump 0.5-m^3 water preflush. Pump 4.8-m^3 1900 kg/m3 class A cement. Displaced with 5.2-m^3 water.	* Cementation by Vulcan Minerals * 65% open hole excess * 1.5-m^3 preflush returns to surface * Float held * Wiper plug found at 235-m	
200 - 250			177.8-mm 25.33-kg/m H-40 8Rd Short @ 249-m	1.25° @ 255-m Totco							
250 - 300	Conglomerate Sandstone Siltstone Stringer				**#4. 250.14-m to 255-m** 155.6-mm Reed HP43 S/N LR2847; meterage: 4.86-m; ROP: 9-m/h **#5. 255-m to 348-m** 158.8-mm Mission Air Hammer S/N 1398289; meterage: 93-m; ROP: 16.2-m/h; RPM 40		* FIT @ 255-m with 1000-kg/m^3 MW to 2600-kpa, no pressure drop. * Excessive water at 255-m, could not drill with air	**Type:** Air **Type:** Fresh water with Polyplus; MW 1000-kg/m3; Funnel Vis 30-sec; pH 8	Cement Plug #1 at depth of 540-m. Pump 0.5-m^3 water preflush, 3-m3 Class A cement 1820-kg/m^3, 2.6-m^3 water, and spot cement plug 540-m to 440-m.	* Full returns during cement job * 58% open hole excess	Open Hole Logging Run by SLB Wireline HRLA: 592 to 540-m CNL: 592 to 540-m DSI: 592 to 540-m MCFL: 592 to 540-m TLD: 592 to 540-m 1-arm Caliper: 592 to 540-m
300 - 350	Conglomerate								Cement Plug #2 at depth of 265-m. Pump 0.2-m^3 water, 1-m^3 class A cement, 0.1-m^3 water and 1.5m^3 drilling fluid, spotting plug 265-m to 235m.	* Full returns during cement job * 137% open hole excess * Tag TOC at 135.7-m	
350 - 400	Siltstone				**#4RR. 348-m to 591-m** 155.6-mm Reed HP43 S/N LR2847; meterage: 243-m; 44.75-hrs; ROP: 5.4-m/h						
400 - 450				2.00° @ 422-m Totco					Cement Plug #3 at depth of 61-m. Pump 0.2-m3 water and 0.75-m3 class A cement, spotting plug 61-m to 25-m.	* Full returns during cement job	
450 - 500								MW 1010-kg/m3; Funnel Vis 33-sec; pH 8			
500 - 550	Siltstone with Shale Stringers										
550 - 600							* Tight spot while running into hole from 550-m to 650-m. Ream and wash on wiper trips				SLB Wireline Tool Left in Hole from 615-m to 548-m
600 - 650				7.00° @ 578-m Totco	**#6. 591-m to 656-m** 155.6-mm Hughes STR-30 S/N E822H; meterage: 65-m; 28-hrs; ROP: 2.3-m/h			**Type:** Federal Supreme gel water; MW 1050-kg/m3; Funnel Vis 35-sec; pH 8			
650 - 700	Sandstone with Clay Stringers				**#7. 656-m to 775-m** 155.65-mm Smith ER7042 S/N PB3458; meterage: 119-m; 53.75-hrs; ROP: 2.2-m/h			MW 1000-kg/m3; Funnel Vis 36-sec; pH 8			
700 - 750								MW 1110-kg/m3; Funnel Vis 35-sec; pH 8			
750 - 800				7.00° @ 789-m Totco	**#8. 775-m to 880.5-m** 155.6-mm Hughes STX-35 S/N 5023805; meterage: 105.5-m; 37.25-hrs; ROP: 2.8-m/h		* Lost circulation at 775 m, pumped LCM to regain full returns				
800 - 850	Sandstone with Siltstone Stringers							MW 1120-kg/m3; Funnel Vis 38-sec; pH 8			
850 - 900				6.50° @ 865-m Totco							

REMARKS: Licence 03-106 | Spud Date: Jul 19, 2005 @ 14:30 | Rig Release: Sept 9, 2005 @ 24:00

Rig: Vulcan Minerals Inc. Ingersoll Rand RD-10 | Total Operational Hours: 1425.25 | Percentage Operational NPT: 60.3%

	Operating Company	Vulcan Minerals	**Mob Start**	22-Jun-05
	Well Name	Storm #1	**Spud Date**	20-Jul-05
	Rig	Ingersoll Rand RD10	**Rig Release**	09-Sep-05
	Field	St.Georges	**Demob End**	23-Sep-05



APPENDIX F: DRILL CUTTINGS DESCRIPTION & LITHOLOGY

Geological Report
on

VULCAN MINERALS STORM # 1

in
Western Newfoundland

for
VULCAN MINERALS INC.

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

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WELL ABSTRACT

Based on seismic anomalies Vulcan Minerals decided to drill the STORM # 1 prospect. This well was spudded on July 19th, 2005 @ 1430 hrs. Surface casing was set @ 248.6 meters and a 156 mm main hole was drilled to a depth of 880.3 meters. Total Depth was reached on August 6th, 2005 @ 2300 hrs. The well was terminated in a silty sandstone and below the main targets, with no hydrocarbons encountered. Abandonment plugs are to be set.

WELL DATA SUMMARY

Operator:	Vulcan Minerals Inc.				
Client Name:	Vulcan Minerals Inc.				
Well Name:	Storm # 1				
U.W.I.#:					
Well Licence Number:	95-105				
Surface Location:	Western Newfoundland, Canada				
Surface Co-ordinates:	Northing: 5363638.246 Easting: 393460.697				
Bottom Hole Location:	Western Newfoundland, Canada				
Bottom Hole Co-ordinates:	Northing: 5363638.246 Easting: 393460.697				
Primary Objective:	Test seismic targets				
Secondary Objective:					
Spud Time and Date:	1430hrs		19/07/05		
Total Depth Time and Date:	2300hrs		6/8/05		
Well Status:	Plugged				
Elevations:Not Surveyed	**Ground:**	95.00 m	**K.B.:**	97.92 m	
Total Depth:	**Driller:**	880.30 m	**Logger:**	N/A m	
Terminating Formation:	Undefined				
Sample Interval:	**From:**	65.00 m	**To:**	880.30 m	
Gas Detector:	Yes				
Geologist:	Corey Fitzgerald				
Drilling Foreman:	Bill Williams / Tom Targett				
Comments:					

BIT RECORD

Bit #	Size (mm)	Type	Depth In (m)	Depth Out (m)	Meters Drilled	Hours	Condition
1A	156.00	Hammer	255.00	347.00	92.00	8.75	
1	156.00	Reed	347.00	591.00	244.00	48	
2	156.00	Hughes	591.00	656.00	65.00	28	
3	156.00	Smith	656.00	775.00	119.00	53.75	
4	156.00	Hughes	775.00	885.00	105.00	37.25	

MECHANICAL SUMMARY

Hole Size and Casing Summary

Stage	Hole Size (mm)	Interval (m)	Casing Size	Casing Wt/Grd/Thread
Surface	215.00	0 - 250.0	177.8mm, 25.3kg/m	H-40 STC

Mud System Summary

Mud Company:	N/A		**Intervals (m – m)**
Mud Type:	Surface:	AIR / MUD	52.8 – 260.0
	Main Hole:	AIR	260.0 - 348.0
		WATER / MUD	348.0 - 880.3

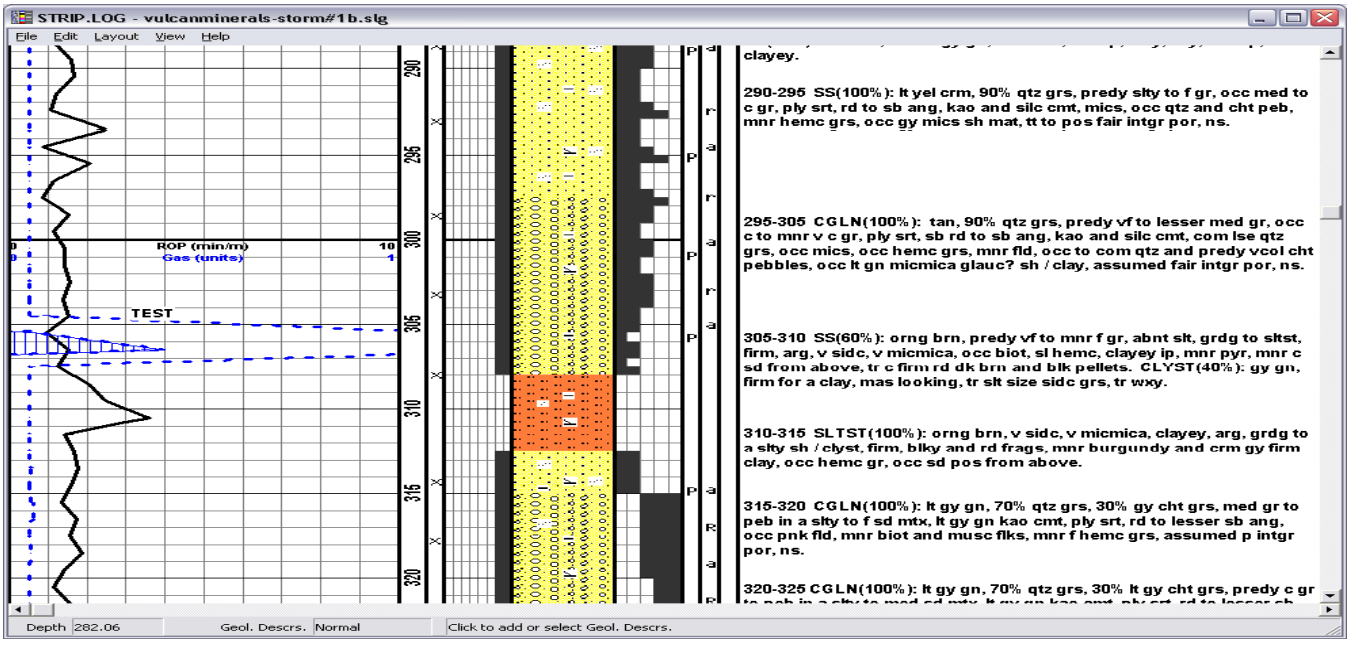
Deviation Surveys

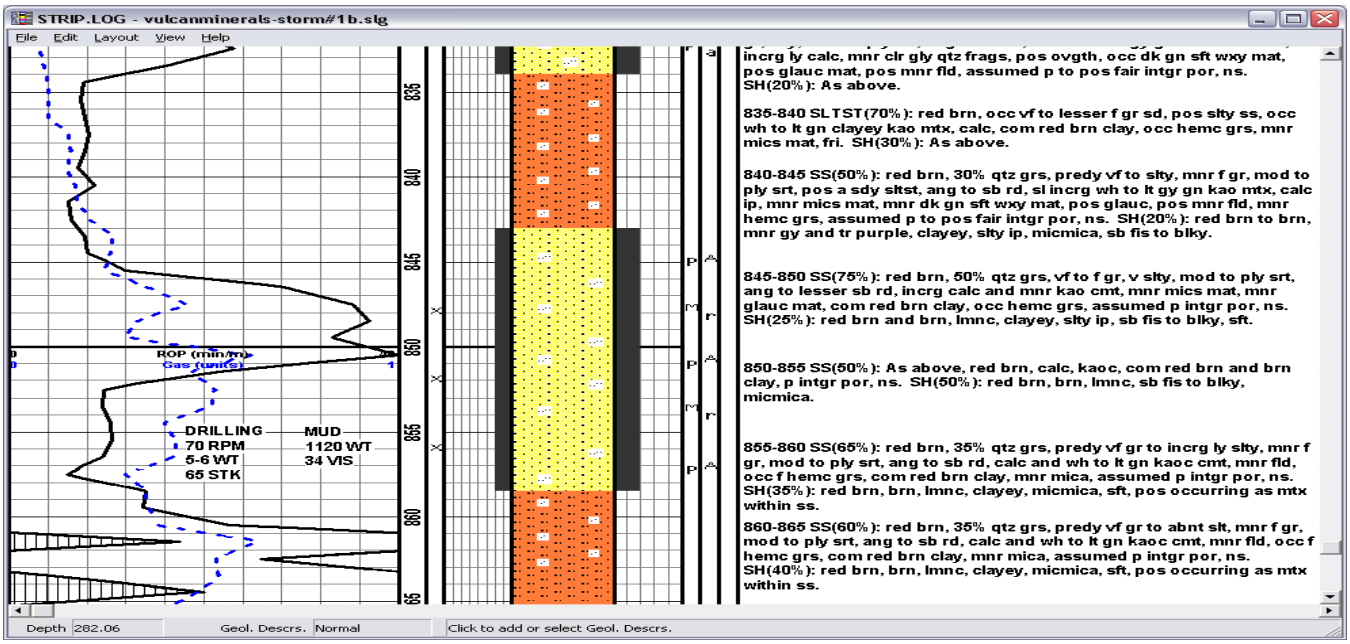
Depth	Angle
60.0	0.25
156.0	2.00
255.0	1.25
422.0	2.00
598.0	7.00
792.0	6.50

FORMATION EVALUATION

Formation Name and Depth (Subsea)

The same formation appears present from surface casing to T.D.. The formation consists of conglomerates, sandstones, siltstones and shales. Multiple cycles of fine to coarse with an overall coarsing upwards sequence seems apparent. Conglomerates and sandstones appear inmature in nature with grains predominantly angular and poorly sorted. In addition there appears to be a significant clay component with a red brown clay present throughout the entire section. Porosity is poor to possibly fair with no hydrocarbon shows. Gas readings were background (0.03 – 0.11 %) with the highest readings being recorded at 852.0 meters and 0.62 %. This target exhibits poor reservoir potential within this well. Below are 2 snapshots of the well.





DETAILED SAMPLE DESCRIPTIONS

NOT SURVEYED
G.L. 95.0 meters; K.B. 97.92 meters; K.B. to G.L. 2.92 meters

55-65 POOR SAMPLE QUALITY

65-70 CONGLOMERATE(100%) ??: pinkish to occasional light gray, 80% pink to clear and translucent quartz grains and fragments, 10 to 15% feldspar, angular to lesser sub rounded, medium to upper very coarse grained, possible pebble, very poorly sorted, possible kaolinite cement, possible red clay cement getting washed away during cleaning, siliceous, occasional quartz overgrowths, occasional green yellow fairly soft material, slightly sideritic, assumed poor to possible fair intergranular porosity, no shows.

70-75 SANDSTONE(100%): light gray to pinkish, siliceous, 80% pink to clear and translucent quartz grains and fragments, 10 to 15% feldspar, angular to lesser sub rounded, very fine to coarse grained, very poorly sorted, possible kaolinite cement, possible red clay cement getting washed away during cleaning, occasional quartz overgrowths, common gray green fairly soft material possible clay / shale, slightly sideritic, assumed poor to possible fair intergranular porosity, no shows.

75-80 CONGLOMERATE(100%): light gray to pinkish, 70% quartz grains and fragments, 10 to 15% feldspar, 10 to 15% green fairly soft blocky material possible clay / shale, angular to trace sub rounded, upper very fine to upper very coarse grained, possible minor pebble, very poorly sorted, occasional mica, occasional biotite, minor siderite, assumed poor to fair intergranular porosity, no shows.

80-85 CONGLOMERATE(100%): light gray to pinkish, 70% quartz grains and fragments, 10 to 15% feldspar, 10 to 15% green fairly soft blocky material possible clay / shale, minor sideritic material, angular to trace sub rounded, upper fine to coarse grained, poorly sorted, minor mica, occasional biotite, possible minor kaolinite cement, siliceous, poorly consolidated, trace white calcareous material, assumed poor to fair intergranular porosity, no shows.

85-90 CONGLOMERATE(100%): light gray green to pinkish, 85% quartz grains, 10% soft dark gray to gray green glauconitic material possible occurring as cement, very fine to coarse grained, angular to minor sub rounded, trace possible kaolinite and siliceous cement, minor quartz overgrowths, common feldspar, trace biotite, wkly consolidated, assumed poor intergranular porosity, no shows.

90-95 SANDSTONE(100%): light gray green to pink, predominantly medium to lower very coarse grained, poorly sorted, 90% quartz grains, angular to increasing sub rounded, occasional gray green fairly soft glauconitic material possible occurring as cement, trace kaolinite cement, occasional quartz overgrowths, trace gray shale, feldspathic, trace biotite, assumed poor to possible fair intergranular porosity, no shows.

95-100 CONGLOMERATE(100%): light gray green to pink, predominantly very fine to lower very coarse grained, poorly sorted, 80% quartz grains, slightly more argillaceous, angular to occasional sub rounded, occasional gray green glauconitic material? possible occurring as cement, increasing kaolinite cement, occasional quartz overgrowths, feldspathic, minor biotite, trace siderite, assumed poor to possible fair intergranular porosity, no shows.

100-105 SANDSTONE(100%): pinkish, 95% quartz grains, predominantly upper medium to lower very coarse grained, poorly sorted, angular to sub angular, minor green argillaceous material, trace to minor kaolinite cement, possible siliceous cement, feldspathic in part, trace biotite, assumed poor to fair intergranular porosity, no shows.

105-110 CONGLOMERATE(100%): pinkish, 95% quartz grains, predominantly very fine to lower very coarse grained, poorly sorted, angular to minor sub rounded, occasional green argillaceous material possible cement, trace to minor kaolinite cement, possible siliceous cement, feldspathic in part, trace biotite, assumed poor to fair intergranular porosity, no shows.

110-115 SANDSTONE(100%): pinkish to light gray, 90% varicolored quartz grains, medium to very coarse grained, poorly sorted, angular to sub angular, occasional green to gray green argillaceous material, trace to minor kaolinite and siliceous cement, minor quartz overgrowths, feldspathic in part, trace biotite, trace mica, assumed poor to possible fair intergranular porosity, no shows.

115-120 SANDSTONE(100%): pinkish to light gray, 95% quartz grains, predominantly very fine to medium grained, occasional coarse to lesser very coarse grained, poorly sorted, angular to sub angular, trace sub rounded, minor green argillaceous material, trace to minor kaolinite and siliceous cement, feldspathic in part, increasing mica flakes, minor biotite, assumed poor to fair intergranular porosity, no shows.

120-125 SANDSTONE(100%): pinkish to light gray, 85% quartz grains, predominantly medium to lower very coarse grained, poorly sorted, angular to minor sub rounded, occasional green argillaceous material possible cement, trace to minor kaolinite and siliceous cement, occasional quartz overgrowths, feldspathic in part, minor mica flakes, minor biotite, micaceous, trace carbonaceous material, rare coal, trace sideritic, assumed poor to fair intergranular porosity, no shows.

125-130 SANDSTONE(100%): pinkish to light gray, 90% quartz grains, medium to lower very coarse grained and lesser very fine to fine grained, poorly sorted, angular to minor sub rounded, minor siliceous and kaolinite cement, occasional gray green argillaceous material possible cement, slightly feldspathic, micaceous, trace carbonaceous material, minor sideritic material, assumed poor intergranular porosity, no shows.

130-135 SANDSTONE(100%): pink to light gray, 80% quartz grains, increasing very fine to fine grained, abundant medium to coarse grained, poorly sorted, angular to sub angular, trace siliceous and kaolinitic cement, occasional gray green argillaceous material, trace hemititic material, micaceous, trace feldspar, trace sideritic material, assumed poor to possible fair intergranular porosity, no shows.

135-140 SANDSTONE(100%): pink, 85% quartz grains, upper fine to upper coarse grained, poorly sorted, angular to sub angular, trace kaolinitic and siliceous cement, occasional gray grained and red argillaceous somewhat clay material, micaceous, trace sideritic material, trace feldspar, assumed poor to fair intergranular porosity, no shows.

140-145 SANDSTONE(100%): pinkish to light gray, 80% quartz grains, lower medium to lower very coarse grained, poorly sorted, predominantly angular to minor sub rounded, minor siliceous and kaolinitic cement, 5 to 10% gray green and red argillaceous material occurring possible as cement, minor hemititic material, slightly sideritic, micaceous, occasional quartz overgrowths, possible fair intergranular porosity, no shows.

145-150 SANDSTONE(100%): pinkish, 85% quartz grains, fine to upper coarse grained, poorly sorted, angular to minor sub rounded, minor kaolinitic and siliceous cement, occasional gray green and red hemititic argillaceous material, slightly sideritic, micaceous, poor to possible fair intergranular porosity, no shows.

150-155 SANDSTONE(100%): pinkish, 90% quartz grains, predominantly very fine to medium, common coarse grained, poorly sorted, angular to minor sub rounded, minor kaolinitic and siliceous cement, common gray green and red hemititic argillaceous material, slightly sideritic, micaceous, trace feldspar, poor to fair intergranular porosity, no shows.

155-160 SANDSTONE(100%): pinkish, 90% quartz grains, predominantly very fine to coarse grained, poorly sorted, angular to minor sub rounded, minor kaolinitic and trace siliceous cement, occasional gray green and red hemititic argillaceous material, slightly sideritic, slightly micaceous, trace feldspar, poor to fair intergranular porosity, no shows.

160-165 SANDSTONE(100%): pinkish, 90% quartz grains, very fine to increasingly coarse grained, poorly sorted, angular to minor sub rounded, minor kaolinitic and trace siliceous cement, 5% gray green and red hemititic argillaceous material, minor gray carbonaceous shale, slightly sideritic, micaceous, trace feldspar, poor to fair intergranular porosity, no shows.

165-170 SANDSTONE(100%): pinkish, 90% quartz grains, predominantly fine to coarse grained, poorly sorted, angular to minor sub rounded, minor kaolinitic and trace siliceous cement, 5% gray green and red hemititic argillaceous material, minor gray micromicaceous shale, slightly sideritic, micaceous, poor to fair intergranular porosity, no shows.

170-175 SANDSTONE(100%): pinkish, 95% quartz grains, predominantly very fine to fine grained, lesser medium to minor coarse grained, silty, poorly sorted, predominantly angular to sub angular, minor kaolinitic cement, minor red and grained argillaceous material, slightly micaceous, trace sideritic material, poor to possible fair intergranular porosity, no shows.

175-180 SANDSTONE(100%): pinkish, 95% quartz grains, predominantly very fine to lower medium grained, occasional upper medium to lower coarse grained, poorly sorted, angular to sub angular, occasional glauconitic grains, minor kaolinitic cement, friable, trace micaceous, minor red and green argillaceous material, trace sideritic, poor to possible fair intergranular porosity, no shows.

180-185 SANDSTONE(100%): pinkish, 95% quartz grains, predominantly very fine to lower medium grained, occasional upper medium to lower coarse grained, poorly sorted, angular to sub angular, occasional glauconitic grains, minor kaolinitic cement, friable, trace micaceous, minor red and green argillaceous material, trace sideritic, poor to possible fair intergranular porosity, no shows.

185-190 SANDSTONE(100%): pinkish, 90% quartz grains, predominantly very fine to lower medium grained, common silty, poorly sorted, angular to sub angular, 5% red and green fairly soft clayey material possible occurring as cement, occasional glauconitic grains, minor kaolinitic and trace siliceous cement, friable, slightly micaceous, trace sideritic, trace hemititic material, minor dark gray carbonaceous shale grains, minor feldspar, poor to possible fair intergranular porosity, less than 8 to 10%, no shows.

190-195 SANDSTONE(100%): pinkish, 90% quartz grains, predominantly very fine to lower medium grained, common medium to coarse grained, common silty, poorly sorted, angular to sub angular, 5% red and green fairly soft clayey material possible occurring as cement, minor kaolinitic and trace siliceous cement, glauconite grains, friable, slightly micaceous, trace sideritic, minor hemititic material, trace dark gray carbonaceous shale grains, minor feldspar, poor to possible fair intergranular porosity, less than 10%, no shows.

195-200 SANDSTONE(100%): pinkish, 85 to 90% quartz grains, predominantly very fine to upper medium grained, occasional coarse grained, commonly silty, predominantly angular to sub angular, minor sub rounded, 5 to 7% red and green clayey material occurring possible as cement, trace kaolinitic and siliceous cement, glauconitic grains, hemititic grains, trace mica, possible feldspar, possible fair intergranular porosity, no shows.

200-205 SANDSTONE(100%): pinkish, 85 to 90% quartz grains, predominantly silty to upper medium grained, trace lower coarse grained, predominantly angular to sub angular, < 5% red and green clayey material occurring possible as cement, trace kaolinitic and siliceous cement, glauconitic grains, hemititic grains, trace mica, trace sideritic grains, possible feldspar, possible fair intergranular porosity, no shows.

205-210 SANDSTONE(100%): pinkish, 85 to 90% quartz grains, predominantly upper very fine to upper medium grained, occasional coarse grained, decreasingly silty, predominantly angular to sub angular, 8 to 10% red and green clayey material occurring possible as cement, trace to minor kaolinitic cement, glauconitic grains, hemititic grains, trace mica, possible feldspar, poor to possible fair intergranular porosity, no shows.

210-215 SANDSTONE(100%): pinkish, 85% quartz grains, predominantly silty to upper fine grained, occasional medium to trace coarse grained, predominantly angular to occasional sub rounded, 10% red green clayey material possible cement, trace to minor kaolinite, minor glauconite, slight increase in hemititic grains, minor micaceous flakes, friable, trace dark chert grains, trace quartz overgrowths, trace feldspar, assumed fair intergranular porosity, no shows.

215-220 SANDSTONE(100%): pinkish, 85% quartz grains, predominantly very fine to upper medium grained, occasional coarse grained, predominantly angular to occasional sub rounded, 10 to 12% white red and green micaceous clayey material possible cement, trace to minor kaolinite, friable, possible trace glauconitic, minor rounded hemititic grains, minor micaceous flakes, trace dark chert grains, trace quartz overgrowths, trace feldspar, rare calcareous material, assumed fair intergranular porosity, no shows.

220-225 SANDSTONE(100%): pinkish, 85% quartz grains, upper fine to upper very coarse grained, possible conglomerate, poorly sorted, predominantly angular to sub angular, increasingly sub rounded, 10% red and green clay material possible cement, 10% kaolinite cement, occasional light and dark chert grains, micaceous in part, trace dark micaceous shale, slightly friable, assumed fair intergranular porosity, no shows.

225-230 SANDSTONE(100%): pinkish, 85% quartz grains, upper fine to very coarse grained, poorly sorted, possible conglomerate, predominantly angular to sub angular, occasional sub rounded, 10% red and green clay material possible cement, 10% kaolinite cement, occasional light and dark chert grains, micaceous in part, trace dark micaceous shale, trace coaly shale, slightly friable, assumed fair intergranular porosity, no shows.

230-235 SANDSTONE(100%): pinkish, 85% quartz grains, predominantly medium to very coarse grained, minor fine grained, possible conglomerate, poorly sorted, predominantly angular to occasional sub rounded, 10% red and green clay material possible cement, 15% kaolinite cement, increasing light and dark chert grains, micaceous in part, sideritic in part, trace dark micaceous shale, trace coaly shale, slightly friable, assumed fair intergranular porosity, no shows.

235-240 SANDSTONE(100%): pinkish, 85% quartz grains, predominantly medium to very coarse grained, minor fine grained, poorly sorted, predominantly angular to occasional sub rounded, 15% red and green clay material possible cement, 5% kaolinite cement, occasional light and dark chert grains, micaceous in part, sideritic in part, minor dark micaceous shale, assumed fair intergranular porosity, no shows.

240-245 SANDSTONE(100%): pinkish, 85% quartz grains, predominantly silty to upper fine grained, occasional medium to lesser coarse grained, poorly sorted, predominantly angular to sub angular, 5% red and green clay material possible cement, minor kaolinite cement, minor light and dark chert grains, micaceous in part, sideritic in part, minor dark micaceous shale, assumed fair intergranular porosity, no shows.

245-250 SANDSTONE(100%): pinkish, 85% quartz grains, predominantly silty to upper medium grained, occasional coarse to lesser very coarse grained, poorly sorted, predominantly angular to sub angular, 5% red, green and brown clay material possible matrix, minor kaolinite cement, minor light and dark chert grains, micaceous in part, sideritic in part, minor dark micaceous shale, trace hemititic grains, trace carbonaceous to coal grains, assumed fair intergranular porosity, no shows.

POOR SAMPLE QUALITY 250 to 255 SANDSTONE(100%): light gray pink, 85% quartz grains, very fine to very coarse grained, silty, poorly sorted, angular to sub angular, red, green and brown clay material possible matrix, minor kaolinite cement, minor light and dark chert grains, micaceous in part, sideritic in part, minor dark micaceous shale, trace hemititic grains, minor glauconitic grains, assumed fair intergranular porosity, no shows. 40% OF SAMPLE IS CEMENT FROM CASING

255-260 CONGLOMERATE(100%): light gray green and pink, 75% quartz grains, very fine to upper very coarse grained, occasional pebble, poorly sorted, sub rounded to sub angular, 15% cream and light green chert, occasional feldspar, predominantly unconsolidated, trace kaolinitic cement, minor lime green crystalline grains, assumed fair intergranular porosity, no shows.

260-265 CONGLOMERATE(100%): light gray green and pink, 75% quartz grains, very fine to upper very coarse grained, increasing pebble s, poorly sorted, sub rounded to sub angular, 20% cream, gray, and light green chert, occasional feldspar, predominantly unconsolidated, trace kaolinitic and light gray green cement, minor lime green crystalline grains, trace pyrite nodules, micaceous in cement, assumed poor intergranular porosity, no shows.

265-270 CONGLOMERATE(100%): light orange gray, 85% quartz grains, predominantly very fine to lower medium grained, lesser upper medium grained to coarse grained, silty, poorly sorted, trace kaolinitic cement, sideritic, occasional biotite and muscovite, occasional feldspar, minor hemititic grains, occasional glauconitic material, trace calcareous, assumed poor to possible fair intergranular porosity, no shows.

270-275 CONGLOMERATE(100%): light orange gray, 70% quartz grains, predominantly very fine to upper very coarse grained, occasional chert pebble, silty, poorly sorted, sub angular to sub rounded, kaolinitic cement, sideritic, occasional red brown and yellow brown silty clay, trace biotite and muscovite, occasional feldspar, minor hemititic grains, occasional glauconitic material, trace calcareous, assumed poor to possible fair intergranular porosity, no shows.

275-280 CONGLOMERATE(100%): light orange gray, 80% quartz grains, silty to upper very coarse grained with occasional chert pebble, possible silty to medium grained kaolinitic cement matrix, occasional feldspar, sub rounded to sub angular, occasional green glauconitic material, minor red brown and cream firm micromicaceous clay, assumed poor to possible fair intergranular porosity, no shows.

280-285 SANDSTONE(100%): light cream gray, 85% quartz grains, predominantly silty to medium grained, minor coarse grained, trace pebble, poorly sorted, minor kaolinitic cement, slightly friable, common loose quartz grains, sub rounded to sub angular, minor micaceous material, minor glauconitic grains, minor hemititic grains, occasional varicolored chert grains, minor shale, assumed poor to fair intergranular porosity, no shows.

285-290 SANDSTONE(80%): light gray green, 80% quartz grains, predominantly silty to upper medium grained, minor coarse grained, poorly sorted, minor chert grains upper to pebble, sub rounded to sub angular, friable, trace kaolinitic cement, trace calcareous material, trace micaceous flakes, trace pyrite, occasional hemititic grains, assumed poor to fair intergranular porosity, no shows.
SHALE(20%): red brown, lesser gray green, micromicaceous, firm in part, blocky, silty, sideritic in part, clayey.

290-295 SANDSTONE(100%): light yellow cream, 90% quartz grains, predominantly silty to fine grained, occasional medium to coarse grained, poorly sorted, rounded to sub angular, kaolinitic and siliceous cement, micaceous, occasional quartz and chert pebble, minor hemititic grains, occasional gray micaceous shale material, tight to possible fair intergranular porosity, no shows.

295-305 CONGLOMERATE(100%): tan, 90% quartz grains, predominantly very fine to lesser medium grained, occasional coarse to minor very coarse grained, poorly sorted, sub rounded to sub angular, kaolinitic and siliceous cement, common loose quartz grains, occasional micaceous, occasional hemititic grains, minor feldspar, occasional to common quartz and predominantly varicolored chert pebbles, occasional light green micromicaceous glauconitic? shale / clay, assumed fair intergranular porosity, no shows.

305-310 SANDSTONE(60%): orange brown, predominantly very fine to minor fine grained, abundant silt, grading to siltstone, firm, argillaceous, very sideritic, very micromicaceous, occasional biotite, slightly hemititic, clayey in part, minor pyrite, minor coarse sand from above, trace coarse firm rounded dark brown and black pellets.
CLAYSTONE(40%): gray green, firm for a clay, massive looking, trace silt size sideritic grains, trace waxy.

310-315 SILTSTONE(100%): orange brown, very sideritic, very micromicaceous, clayey, argillaceous, grading to a silty shale / claystone, firm, blocky and rounded fragments, minor burgundy and cream gray firm clay, occasional hemititic grained, occasional sand possible from above.

315-320 CONGLOMERATE(100%): light gray green, 70% quartz grains, 30% gray chert grains, medium grained to pebble in a silty to fine sand matrix, light gray green kaolinitic cement, poorly sorted, rounded to lesser sub angular, occasional pink feldspar, minor biotite and muscovite flakes, minor fine hemititic grains, assumed poor intergranular porosity, no shows.

320-325 CONGLOMERATE(100%): light gray green, 70% quartz grains, 30% light gray chert grains, predominantly coarse grained to pebble in a silty to medium sand matrix, light gray green kaolinitic cement, poorly sorted, rounded to lesser sub angular, occasional pink feldspar, minor biotite and muscovite flakes, minor fine hemititic grains, trace blocky firm brittle coal fragments?, trace pyrite, assumed poor intergranular porosity, no shows.

325-330 CONGLOMERATE(100%): light gray green, 75% quartz grains, 25% light gray chert grains, predominantly coarse grained to pebble in a silty to medium sand matrix, light gray green kaolinitic cement, poorly sorted, rounded to lesser sub angular, minor pink feldspar, minor biotite and muscovite flakes, minor fine hemititic grains, trace pyrite, trace calcareous material, assumed poor intergranular porosity, no shows.

330-335 CONGLOMERATE(100%): light gray green, 85% quartz grains, 15% light gray chert grains, predominantly very fine to medium grained with common coarse to lesser very coarse grained, occasional pebble, silty, light gray green kaolinitic cement, minor light white gray calcareous material (possible cement from casing), poorly sorted, rounded to lesser sub angular, minor pink feldspar, minor biotite and muscovite flakes, minor fine hemititic grains, assumed poor intergranular porosity, no shows.

335-340 CONGLOMERATE(100%): light gray green, slightly pinkish, 85% quartz grains, 15% light gray chert grains, coarse to very coarse grained with a silty to medium grained matrix, occasional pebble, light gray green kaolinitic cement, slightly calcareous, increasing light white gray calcareous material (looks like cement from casing), poorly sorted, rounded to lesser sub angular, minor pink feldspar, trace biotite and muscovite flakes, minor fine hemititic grains, trace pyrite, assumed poor intergranular porosity, no shows.

340-345 CONGLOMERATE(100%): light gray green, pinkish, 85% quartz grains, 15% light gray chert grains, predominantly very fine to medium grained with common coarse to lesser very coarse grained, occasional pebble, silty, light gray green kaolinitic and minor calcareous cement, minor light white gray calcareous material (looks like cement from casing), poorly sorted, rounded to lesser sub angular, minor pink feldspar, trace biotite and muscovite flakes, minor fine hemititic grains, assumed poor intergranular porosity, no shows.

345 - 348: SANDSTONE: 100%, pinkish, clear, translucent, off white, m to very coarse grained, moderately to poorly sorted, angular to subrounded, mainly loose quartz, common secondary quartz overgrowths, occasional pyrite nods, minor green and brown clay material, hemititic grains, frequent orange feldspar, in part sideritic, 8 to 12% inferred intergranular porosity, no shows.

348-355 CONGLOMERATE(100%): light gray green, minor pinkish, 65% quartz grains, 5% light chert grains, medium to very coarse grained with a silty to medium grained sand matrix, poorly sorted, rounded to lesser sub angular, light gray green kaolinitic and minor calcareous cement, minor light white gray calcareous material, minor pink feldspar, increasing biotite and muscovite flakes, occasional hemititic grains, minor sideritic grains, assumed poor to possible fair intergranular porosity, no shows.

355 -360: Siltstone: 100%, orange brown, off white, m to coarse silt, mainly loose quartz, friable, soft to firm, micro to mica, frequent gray clay matrix, minor kaolinitic, carbonaceous specs, hemititic grains, tight, no shows

360 - 365: Siltstone: 100%, orange brown, off white, fine to m silt, mainly loose quartz, friable, soft to firm, micro to mica, frequent gray clay matrix, minor kaolinitic, carbonaceous specs, hemititic grains, tight, no shows

365 - 370: Siltstone: 100%, orange brown, off white, m to coarse silt, mainly loose quartz, friable, soft to firm, micro to mica, frequent gray clay matrix, minor kaolinitic, carbonaceous specs, hemititic grains, tight, no shows

380-385 SILTSTONE(100%): red brown, occasional to common very fine to lesser fine grained sand, possible a very silty sandstone, calcareous, common red brown clay matrix, minor kaolinitic cement, minor hemititic grains, trace mica.

395-400 SANDSTONE / SILTSTONE(100%): red brown, predominantly very fine grained, very silty, possible a sandy siltstone, angular to sub rounded, moderately to well sorted, common hemititic grains, common red brown clay / shale fragments, calcareous, kaolinitic, limonitic, tight, no shows.

400 - 405: Shale: 50%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.
Siltstone: 50%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight,

410-415 SANDSTONE / SILTSTONE(100%): red brown, predominantly very fine grained, very silty, possible a sandy siltstone, angular to sub rounded, moderately to well sorted, common hemititic grains, common red brown clay / shale fragments, calcareous, minor thin white calcareous flakes, kaolinitic, limonitic, tight, no shows.

420-425 SANDSTONE / SILTSTONE(100%): red brown, predominantly very fine grained, very silty, possible a sandy siltstone, angular to sub rounded, moderately to well sorted, common hemititic grains, 25% red brown clay / shale fragments, calcareous, minor white calcareous flakes, common white to light green kaolinitic cement, limonitic, tight, no shows.

435-440 SANDSTONE / SILTSTONE(100%): red brown, predominantly very fine grained, very silty, possible a sandy siltstone, angular to sub rounded, moderately to well sorted, common hemititic grains, 15 to 20% red brown clay / shale fragments, calcareous, common white to light green kaolinitic cement, minor mica, limonitic, tight, no shows.

450 - 455: Shale: 50%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.
Siltstone: 50%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight,

455 - 460: Shale: 60%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.
Siltstone: 40%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.

460 - 465: Shale: 50%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.
Siltstone: 50%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.

465 - 470: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

470 - 475: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

475 - 480: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

480 - 485: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

485 - 490: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

490 - 495: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

495 - 500: Siltstone: 70%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 30%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

500 - 505: Siltstone: 70%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 30%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

505 - 510: Siltstone: 70%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 30%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

510 - 515: Siltstone: 80%, orange brown, off white, coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

515 - 520: Siltstone: 80%, orange brown, off white, coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

520 - 525: Siltstone: 80%, orange brown, off white, coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

525 - 530: Siltstone: 80%, orange brown, off white, coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows, frequent stringers of Sandstone: clear, off white, fine to m grained, well sorted, subrounded, loose quartz, calcareous hems cement, 8 to 12% inferred porosity, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

530 - 535: Siltstone: 80%, orange brown, off white, coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows, frequent stringers of Sandstone: clear, off white, fine to m grained, well sorted, subrounded, loose quartz, calcareous hems cement, 8 to 12% inferred porosity, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

535 - 540: Siltstone: 80%, orange brown, off white, coarse silt, quartz, slightly siliceous, frequent clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows, frequent stringers of Sandstone: clear, off white, fine to m grained, well sorted, subrounded, loose quartz, calcareous hems cement, 8 to 12% inferred porosity, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous, in part high iron content.

540 - 545: Siltstone: 80%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, soft, in part friable, frequent rounded clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

545 - 550: Siltstone: 70%, orange brown, off white, fine to m silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline gypsum grains, tight, no shows.
Shale: 30%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

550 - 555: Siltstone: 80%, orange brown, off white, fine to m silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, frequent crystalline clear, calcareous, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous, trace crystalline gypsum grains.

555 - 560: Siltstone: 60%, orange brown, off white, fine to m silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, frequent crystalline clear, calcareous, grading fine grained clear sandstone, tight, no shows.
Shale: 40%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous, trace crystalline gypsum grains.

560 - 565: Siltstone: 60%, orange brown, off white, fine to m silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, frequent crystalline clear, calcareous, grading fine grained clear sandstone, tight, no shows.
Shale: 40%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous, trace crystalline gypsum grains.

565 - 580: Siltstone: 60%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline clear, calcareous, grading fine grained clear sandstone, tight, no shows.
Shale: 40%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous, trace crystalline gypsum grains.

580 - 585: Siltstone: 70%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline clear, calcareous, grading fine grained clear sandstone, tight, no shows.
Shale: 30%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

585 - 595: Siltstone: 70%, orange brown, off white, m to coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, abundant orange feldspar, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline clear, calcareous, grading fine grained clear sandstone, tight, no shows.
Shale: 30%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

595 - 600: **Siltstone: 90%**, orange brown, off white, fine to m silt, occasional coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, abundant orange feldspar, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline clear calcareous, tight, no shows.
Shale: 10%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

600 - 610: Siltstone: 90%, orange brown, off white, fine to m silt, occasional coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, abundant orange feldspar, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline clear calcareous, tight, no shows.
Shale: 10%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

610 - 615: Siltstone: 90%, orange brown, off white, fine to m silt, occasional coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, abundant orange feldspar, occasional kaolinitic, hemititic grains, calcareous matrix, occasional crystalline clear calcareous, tight, no shows.
Shale: 10%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

615 - 625: Siltstone: 80%, orange brown, off white, fine to m silt, occasional coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, abundant orange feldspar, occasional kaolinitic, hemititic grains, increase in calcareous matrix, occasional crystalline clear calcareous, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

625 - 629: Siltstone: 80%, orange brown, off white, fine to m silt, occasional coarse silt, quartz, slightly siliceous, firm to soft, in part friable, frequent rounded iron clay matrix, frequent orange feldspar, occasional kaolinitic, hemititic grains, increase in calcareous matrix, occasional crystalline clear calcareous, tight, no shows.
Shale: 20%, rounded brown, green gray, firm to hard, platy to blocky, in part subfissile, silty, slightly calcareous, micromicaceous.

629 - 635: SANDSTONE: 100%, red brown, clear, off white, translucent, m to very coarse grained, moderately to poorly sorted, angular to subrounded, mainly loose quartz, conglomeratic, calcareous + siliceous cement, very hard, brittle, abundant hemitite nods, frequent white and orange crystalline calcareous, orange feldspar, minor clay material, trace micaceous and kaolinitic, sideritic, 8 to 12% inferred intergranular porosity, no shows.

635 - 640: SANDSTONE: 100%, conglomeratic, red brown, clear, off white, translucent, fine to very coarse occasional quartz pebbles, grained, moderately to poorly sorted, angular to subrounded, mainly loose quartz, calcareous + siliceous cement, very hard, brittle, abundant hemitite nods, frequent white and orange crystalline calcareous, orange feldspar, minor clay material, trace micaceous and kaolinitic, sideritic, 6 to 10% inferred intergranular porosity, no shows.

640 - 645: SANDSTONE: 100%, red brown, clear, off white, translucent, fine to coarse grained, moderately to poorly sorted, angular to subrounded, mainly loose quartz, slightly conglomeratic, calcareous + siliceous cement, very hard, brittle, abundant hemitite nods, frequent white and orange crystalline calcareous, orange feldspar, minor clay material, trace micaceous and kaolinitic, sideritic, 8 to 14% inferred intergranular porosity, no shows.

645 - 650: SANDSTONE: 100%, red brown, clear, off white, translucent, m to coarse grained, moderately to poorly sorted, angular to subrounded, mainly loose quartz, occasional pebbles, conglomeratic, calcareous + hemititic cemented, very hard, brittle, abundant hemitite grains, frequent white and orange crystalline calcareous, orange feldspar, rounded clay matrix, trace micaceous and chlorite, sideritic, 8 to 12% inferred intergranular porosity, no shows.

650-655 SANDSTONE(100%): red brown, 35% quartz grains, predominantly very fine to fine grained, lesser medium grained, trace to minor coarse grained, silty in part, poorly sorted, angular to lesser sub rounded, predominantly unconsolidated, very friable, minor kaolinite and calcareous cement, 20% red brown and green soft micromicaceous waxy clay matrix / beds, occasional to common hemititic grains, rare pyrite, occasional calcareous material, trace micaceous flakes, slightly sideritic, feldspathic, possible glauconitic, possible fair intergranular porosity, no shows.

655-660 SANDSTONE(80%): red brown, 35 to 40% quartz grains, predominantly silty to lower fine grained, minor fine to medium grained, poorly sorted, predominantly angular to occasional sub rounded, friable, minor kaolinite and possible calcareous cement, occasional pink crystalline calcite, occasional hemititic grains, rare pyrite, glauconitic in part ?, sideritic in part, feldspathic in part, possible fair intergranular porosity, no shows.
CLAY(20%): red brown and lesser green, soft, waxy micromicaceous, possible matrix to sandstone above, wkly calcareous, blocky.

660-665 SANDSTONE(50%): red brown, 15 to 20% quartz grains, fine to coarse grained, poorly sorted, angular to minor sub rounded, friable, minor kaolinite and possible calcareous cement, occasional pink crystalline calcite, hemititic with occasional hemititic grains, rare pyrite, possible glauconitic, sideritic in part, minor feldspar, possible fair intergranular porosity, no shows.
CLAY(50%): red brown and lesser green, minor gray, soft, waxy, micromicaceous, possible matrix to sandstone, blocky, silty in part.

665-670 CLAY / SHALE(65%): red brown, minor green, soft to slightly firm, hemititic, slightly sideritic, waxy in part, micromicaceous in part, blocky, silty in part.
SILTSTONE(35%): light gray, light gray green, kaolinite, 10% loose angular to sub rounded medium to very coarse quartz grains, < 5% cream and pink calcite grains, soft.

670-675 SHALE(45%): red brown, minor green, soft to slightly firm, clayey, micromicaceous, waxy in part, blocky to trace sub fissile, silty in part.
SANDSTONE(55%): red brown, clear, 35 to 40% quartz grains, very fine to medium grained, occasional coarse grains, poorly sorted, angular to minor sub rounded, predominantly unconsolidated, trace kaolinite cement, minor calcite, hemititic, sideritic in part, minor feldspar, possible clay matrix as above, assumed poor to fair intergranular porosity, no shows.

675-680 SANDSTONE(70%): red brown, clear, 35 to 40% quartz grains, very fine to medium grained, occasional coarse grains, poorly sorted, angular to minor sub rounded, predominantly unconsolidated, trace kaolinite cement, minor calcite, hemititic, sideritic in part, minor feldspar, possible clay matrix as above, assumed poor to fair intergranular porosity, no shows.
SHALE(30%): red brown, minor green, soft to slightly firm, clayey, micromicaceous, waxy in part, blocky to trace sub fissile, possible occurring as matrix for above sandstone.

680-685 SANDSTONE(85%): red brown, clear, 60% quartz grains, very fine to medium grained, occasional coarse grains, poorly sorted, angular to minor sub rounded, predominantly unconsolidated, trace kaolinite cement, occasional crystalline calcite, hemititic, sideritic in part, minor feldspar, possible red clay matrix, assumed poor to fair intergranular porosity, no shows. SHALE(15%): red brown, minor green, clayey, silty in part, soft to slightly firm, micromicaceous, waxy in part, blocky to trace sub fissile, possible occurring as matrix for above sandstone.

685-690 SANDSTONE(85%): red brown, clear, 45% quartz grains, very fine to increasingly medium grained, occasional coarse grains, poorly sorted, common translucent angular glassy quartz shards, predominantly angular, trace kaolinite and calcareous cement, quartz overgrowths, occasional crystalline calcite, hemititic, sideritic in part, minor feldspar, minor glauconite, possible red clay matrix, assumed poor to fair intergranular porosity, no shows.
SHALE(15%): red brown, decreasing green, soft to slightly firm, micromicaceous, waxy in part, clayey, sideritic in part, sub fissile, possible occurring as matrix for above sandstone.

690-695 SANDSTONE(70%): red brown, clear, 40% quartz grains, fine to predominantly medium grained, occasional coarse grains, poorly sorted, occasional translucent angular glassy quartz, angular to sub angular, trace kaolinite and calcareous cement, occasional crystalline calcite, hemititic, sideritic in part, possible red clay matrix, assumed fair intergranular porosity, no shows.
SHALE(30%): red brown to cream, soft, clayey, micromicaceous, hemititic in part, waxy in part, sideritic in part, sub fissile to fissile, possible occurring as matrix for above sandstone, silty in part.

695-700 SANDSTONE(50%): red brown, clear, 40% quartz grains, fine to predominantly medium grained, occasional coarse grains, poorly sorted, occasional translucent angular glassy quartz, angular to sub angular, trace kaolinite and calcareous cement, occasional crystalline calcite, hemititic, sideritic in part, possible red clay matrix, assumed fair intergranular porosity, no shows.
SHALE(50%): As above, minor green, clayey.

700-705 SANDSTONE(80%): red brown, clear, 60% quartz grains, predominantly very fine to fine, minor medium to coarse grained, silty in part, poorly sorted, minor glassy quartz, angular to sub angular, trace kaolinite and calcareous cement, friable, occasional crystalline calcite, occasional hemititic and sideritic grains, possible red clay matrix, assumed fair intergranular porosity, no shows.
SHALE(20%): As above, silty in part.

705-710 SANDSTONE(70%): As above, red brown, 45% quartz grains, predominantly very fine to fine, minor medium to coarse grained, increasingly silty, poorly sorted, angular to sub angular, friable, occasional crystalline calcite, hemititic and sideritic grains, possible red clay matrix, assumed fair intergranular porosity, no shows.
SHALE(30%): red brown to brown, clayey, micromicaceous, hemititic, waxy in part, silty in part, sub fissile to fissile.

710-715 SANDSTONE(80%): red brown, 50% quartz grains, predominantly silty to fine grained, lesser medium to trace coarse grained, poorly sorted, common angular glassy quartz, angular to minor sub rounded, minor kaolinite and calcareous cement, occasional glauconite cement?, occasional microcrystalline cream and pink calcite grains, occasional hemititic and feldspar grains, possible red clay matrix, assumed fair intergranular porosity, no shows.
SHALE(20%): As above.

715-720 SANDSTONE(80%): red brown, 40% quartz grains, increasingly silty to fine grained, lesser medium grained, poorly sorted, common angular glassy quartz, predominantly angular, minor kaolinite and calcareous cement, minor glauconite material, occasional cream and pink calcite grains, occasional hemititic and feldspar grains, possible red clay matrix, assumed fair intergranular porosity, no shows.
SHALE(20%): red and minor cream, clayey, micromicaceous, silty in part.

720-725 SHALE / CLAY(60%): red, red brown, lesser green, clayey, micromicaceous, waxy in part, hemititic, silty in part, subfissile to blocky.
SANDSTONE(40%): As above, silty to lower medium grained, poorly sorted, angular, trace kaolinite and green clayey cement / matrix, minor crystalline calcite, hemititic, possible red clay matrix, assumed fair intergranular porosity, no shows.

725-730 SHALE(50%): red brown, brown, minor green and gray, sub fissile to fissile, micromicaceous, occasional mica flakes, waxy in part, silty in part, hemititic.
SANDSTONE(50%): red brown, silty to upper medium grained, minor coarse grained, poorly sorted, angular to sub angular, minor kaolinitic and possible calcareous cement, friable, occasional crystalline calcite, minor hemititic grains, slightly glauconitic, feldspar, possible red clay matrix, assumed poor to fair intergranular porosity, no shows.

730-735 SANDSTONE(55%): red brown, predominantly silty to lower medium grained, minor coarse grained, poorly sorted, angular to sub angular, minor kaolinitic and calcareous cement, friable, occasional pink crystalline calcite, minor hemititic grains, increasing glauconitic material, feldspar, possible red clay matrix, assumed poor to fair intergranular porosity, no shows.
SHALE(45%): As above, red brown, brown, minor green and gray, waxy in part, silty in part, hemititic.

735-740 SHALE / CLAY(55%): red brown, brown, minor green and dark gray, trace purple, silty in part, trace carbonaceous, very clayey, micromicaceous, sub fissile to blocky, waxy in part, hemititic.
SANDSTONE(45%): red brown, 35% quartz grains, predominantly very fine to lower coarse grained, silty to very fine grained matrix, possible conglomerate, poorly sorted, angular to sub rounded, occasional glauconitic material, common red brown clay possible matrix, occasional hemititic grains, minor feldspar, assumed poor to fair intergranular porosity, no shows.

740-745 SANDSTONE(60%): red brown, 30% quartz grains, predominantly very fine to lower medium grained, silty, trace coarse grained, poorly sorted, angular to sub angular, minor kaolinitic and slightly increasing calcareous cement, friable, trace black green rounded firm grains, common red brown clay grains and possible matrix, trace glauconite, trace hemititic, assumed poor to possible fair intergranular porosity, no shows.
SHALE(40%): As above.

745-750 SHALE(65%): red brown, minor green, cream and dark gray, trace purple, As above.
SANDSTONE(35%): red brown, 30% quartz grains, predominantly very fine to lower medium grained, abundant silt, minor coarse grained, poorly sorted, angular to sub angular, minor kaolinitic and calcareous cement, friable, trace black green rounded firm grains, common red brown clay grains and possible matrix, trace glauconite, trace hemititic, assumed poor to possible fair intergranular porosity, no shows.

750-760 SANDSTONE(80%): red brown, 40% quartz grains, very fine to fine grained, abundant silt, minor medium grained, poorly sorted, angular to minor sub rounded, minor calcareous and kaolinitic cement, possible red clay matrix, friable, minor glauconitic material, hemititic, minor micaceous flakes, occasional cream and pink crystalline calcite, occasional dark green firm grains, assumed poor to possible fair intergranular porosity, no shows.
SHALE(20%): red brown, brown, sub fissile to blocky, silty in part, waxy in part, very clayey.

760-765 SANDSTONE(75%): red brown, 40% quartz grains, very fine to fine grained, abundant silt, minor medium grained, poorly sorted, angular to minor sub rounded, minor calcareous and white and light green kaolinitic cement, possible red clay matrix, friable, minor glauconitic material, hemititic, trace micaceous flakes, occasional cream and pink crystalline calcite, occasional dark green firm grains, assumed poor to possible fair intergranular porosity, no shows.
SHALE(25%): red brown, brown, minor green, sub fissile to blocky, silty in part, waxy in part, very clayey.

765-774 SANDSTONE(50%): As above, very fine to fine grained, minor medium grained, very silty, poorly sorted, angular to lesser sub rounded, cement as above, possible red clay matrix, friable, assumed poor to possible fair intergranular porosity, no shows.
SHALE(50%): red brown, brown, minor cream and green, sub fissile to occasional fissile, very clayey, silty in part.

774-780 SILTSTONE(60%): red brown, sandy, grading to a very fine grading sandstone, increasingly calcareous, minor kaolinitic cement, friable, occasional green possible glauconitic material, subrounded to sub angular quartz grains, possible hemititic, minor mica.
SHALE(40%): red brown, very clayey, sub fissile to minor fissile, micromicaceous, silty in part.

780-785 SANDSTONE(75%): red brown, 35% quartz grains, very fine to lesser fine grained, abundant silt, possible sandy siltstone, minor medium and coarse grains, sub rounded to sub angular, minor kaolinitic and calcareous cement, minor green clay cement, common red brown clay possible as cement, occasional calcareous grains, hemititic in part, micaceous in part, friable, assumed poor to fair intergranular porosity, no shows.
SHALE(25%): red brown, very clayey, micromicaceous, silty in part, sub fissile to minor fissile.

* Sandstone / Siltstone getting more light green clay cement.*

785-790 SANDSTONE(60%): light gray green, red brown, predominantly very fine to fine, abundant silt, minor medium to trace coarse grained, poorly sorted, sub rounded to lesser sub angular, increasing light gray green clayey possible kaolinitic cement, possible glauconitic, trace dark chert, hemititic in part, micaceous in part, calcareous in part, possible feldspar, assumed poor intergranular porosity, no shows.
SHALE(40%): As above.

790-795 SILTSTONE(80%): red brown, sandy, possible silty sandstone, minor light green clay cement, slightly calcareous, red brown shale grains, hemititic in part, as above.
SHALE(20%): red brown, clayey, sub fissile to fissile, micromicaceous, silty in part.

795-805 SANDSTONE(80%): red brown, predominantly very fine to fine grained, abundant silt, lesser medium grained, poorly to moderately sorted, angular to sub rounded, friable, trace kaolinitic and possible calcareous cement, common clean glassy angular quartz fragments, common red brown and brown shale / clay material, hemititic in part, common very fine dark hemititic grains, increasing crystalline calcite, minor micaceous flakes, minor green clay grains and cement, assumed fair intergranular porosity, no shows.
SHALE(20%): red brown, brown, clayey, blocky to sub fissile, silty in part, micromicaceous, waxy in part

805-815 SANDSTONE(80%): red brown, 30% quartz grains, predominantly very fine to minor fine grained, increasingly silty, moderately sorted, possible a sandy siltstone, predominantly unconsolidated, trace kaolinitic and calcareous cement, calcareous in part, common red brown clay, common hemititic grains, occasional light green glauconitic? material, minor light green clayey cement / matrix, assumed fair intergranular porosity, no shows.
SHALE(20%): As above.

815-820 SILTSTONE(50%): red brown, light gray green, occasional to common white to light green clay cement, possible kaolinitic, slightly calcareous, soft, occasional sand as above, micaceous in part, possible hemititic.
SHALE(50%): red brown to increasing brown, micromicaceous, waxy in part, silty in part, calcareous in part.

820-825 SILTSTONE/ SANDSTONE (40%): red brown, light gray green, occasional white to light green clay cement, possible kaolinitic, slightly calcareous, soft, occasional to common very fine to fine sand, possible a silty sandstone, micaceous in part, possible hemititic.
SHALE(60%): red brown to brown, minor dark gray, micromicaceous, waxy in part, silty in part, calcareous in part.

825-830 SANDSTONE(50%): light white gray, red brown, 30% quartz grains, very fine to lower medium grained, silty, poorly sorted, increasing white to light gray micaceous with occasional soft dark green grains clay matrix, sub angular to sub rounded, occasional calcareous grains, minor glassy angular brittle quartz shards, friable, common red brown shale / clay possible as matrix, assumed poor to possible fair intergranular porosity, no shows.
SHALE(50%): red brown to common brown, minor dark gray, clayey, red brown is sub fissile to weakly fissile, brown is blocky, micromicaceous, silty in part.

830-835 SANDSTONE(80%): red brown, 40% quartz grains, predominantly very fine to lesser fine grained, minor medium grained, silty, moderately to poorly sorted, angular to sub rounded, minor white to light gray green kaolinitic cement / matrix, increasingly calcareous, minor clear glassy quartz fragments, possible overgrowths, occasional dark green soft waxy material, possible glauconitic material, possible minor feldspar, assumed poor to possible fair intergranular porosity, no shows.
SHALE(20%): As above.

835-840 SILTSTONE(70%): red brown, occasional very fine to lesser fine grained sand, possible silty sandstone, occasional white to light green clayey kaolinitic matrix, calcareous, common red brown clay, occasional hemititic grains, minor micaceous material, friable.
SHALE(30%): As above.

840-845 SANDSTONE(50%): red brown, 30% quartz grains, predominantly very fine to silty, minor fine grained, moderately to poorly sorted, possible a sandy siltstone, angular to sub rounded, slightly increasing white to light gray green kaolinitic matrix, calcareous in part, minor micaceous material, minor dark green soft waxy material, possible glauconitic, possible minor feldspar, minor hemititic grains, assumed poor to possible fair intergranular porosity, no shows.
SHALE(20%): red brown to brown, minor gray and trace purple, clayey, silty in part, micromicaceous, sub fissile to blocky.

845-850 SANDSTONE(75%): red brown, 50% quartz grains, very fine to fine grained, very silty, moderately to poorly sorted, angular to lesser sub rounded, increasing calcareous and minor kaolinitic cement, minor micaceous material, minor glauconitic material, common red brown clay, occasional hemititic grains, assumed poor intergranular porosity, no shows.
SHALE(25%): red brown and brown, limonitic, clayey, silty in part, sub fissile to blocky, soft.

850-855 SANDSTONE(50%): As above, red brown, calcareous, kaolinitic, common red brown and brown clay, poor intergranular porosity, no shows.
SHALE(50%): red brown, brown, limonitic, sub fissile to blocky, micromicaceous.

855-860 SANDSTONE(65%): red brown, 35% quartz grains, predominantly very fine grained to increasingly silty, minor fine grained, moderately to poorly sorted, angular to sub rounded, calcareous and white to light green kaolinitic cement, minor feldspar, occasional fine hemititic grains, common red brown clay, minor mica, assumed poor intergranular porosity, no shows.
SHALE(35%): red brown, brown, limonitic, clayey, micromicaceous, soft, possible occurring as matrix within sandstone.

860-865 SANDSTONE(60%): red brown, 35% quartz grains, predominantly very fine grained to abundant silt, minor fine grained, moderately to poorly sorted, angular to sub rounded, calcareous and white to light green kaolinitic cement, minor feldspar, occasional fine hemititic grains, common red brown clay, minor mica, assumed poor intergranular porosity, no shows.
SHALE(40%): red brown, brown, limonitic, clayey, micromicaceous, soft, possible occurring as matrix within sandstone.

865-870 SHALE(80%): red brown, brown, limonitic, clayey, micromicaceous, soft.
SILTSTONE(20%): red brown, minor very fine grained, calcareous and white to light green kaolinitic cement, occasional fine hemititic grains, common red brown clay, micromicaceous.

870-875 SHALE(60%): red brown, brown, limonitic, clayey, micromicaceous, soft.
SILTSTONE(40%): red brown, minor very fine grained, calcareous and white to light green kaolinitic cement, occasional fine hemititic grains, common red brown clay, minor mica.

875-880 SANDSTONE(65%): red brown, 35% quartz grains, predominantly very fine grained to increasingly silty, minor fine grained, moderately to poorly sorted, angular to sub rounded, calcareous and white to light green kaolinitic cement, minor feldspar, occasional fine hemititic grains, common red brown clay, minor mica, assumed poor intergranular porosity, no shows.
SHALE(35%): red brown, brown, limonitic, clayey, micromicaceous, soft, possible occurring as matrix within sandstone.

TOTAL DEPTH 880.3 METERS

APPENDIX G: STRATIGRAPHIC COLUMN

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name:	Vulcan Minerals Storm # 1		
Location:	Western Newfoundland		
Licence Number:	96-105	**Region:**	Western Newfoundland
Spud Date:	19/07/2005 @1430hrs	**Drilling Completed:**	06/08/2005 @ 2300hrs
Surface Coordinates:	Northing: 5363638.246 Easting: 393460.697		
Bottom Hole Coordinates:	Northing: 5363638.246 Easting: 393460.697		
Ground Elevation (m):	111.75 m	**K.B. Elevation (m):**	114.67
Logged Interval (m):	55.0 **To:** 880.3	**Total Depth (m):**	880.3
Formation:	Undefined		
Type of Drilling Fluid:	Air / Water		

OPERATOR

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

GEOLOGIST

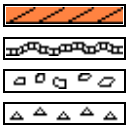
Name: Corey Fitzgerald
Company:
Address: P.O. Box 244
12 Guy Street, Jerseyside
Newfoundland.

Cores

DSTs

Comments

ROCK TYPES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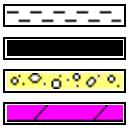
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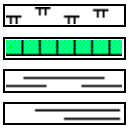
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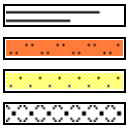
Salt
Shale
Shcol


Shgy
Sltst
Ss
Till

ACCESSORIES

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

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

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

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

OTHER SYMBOLS

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

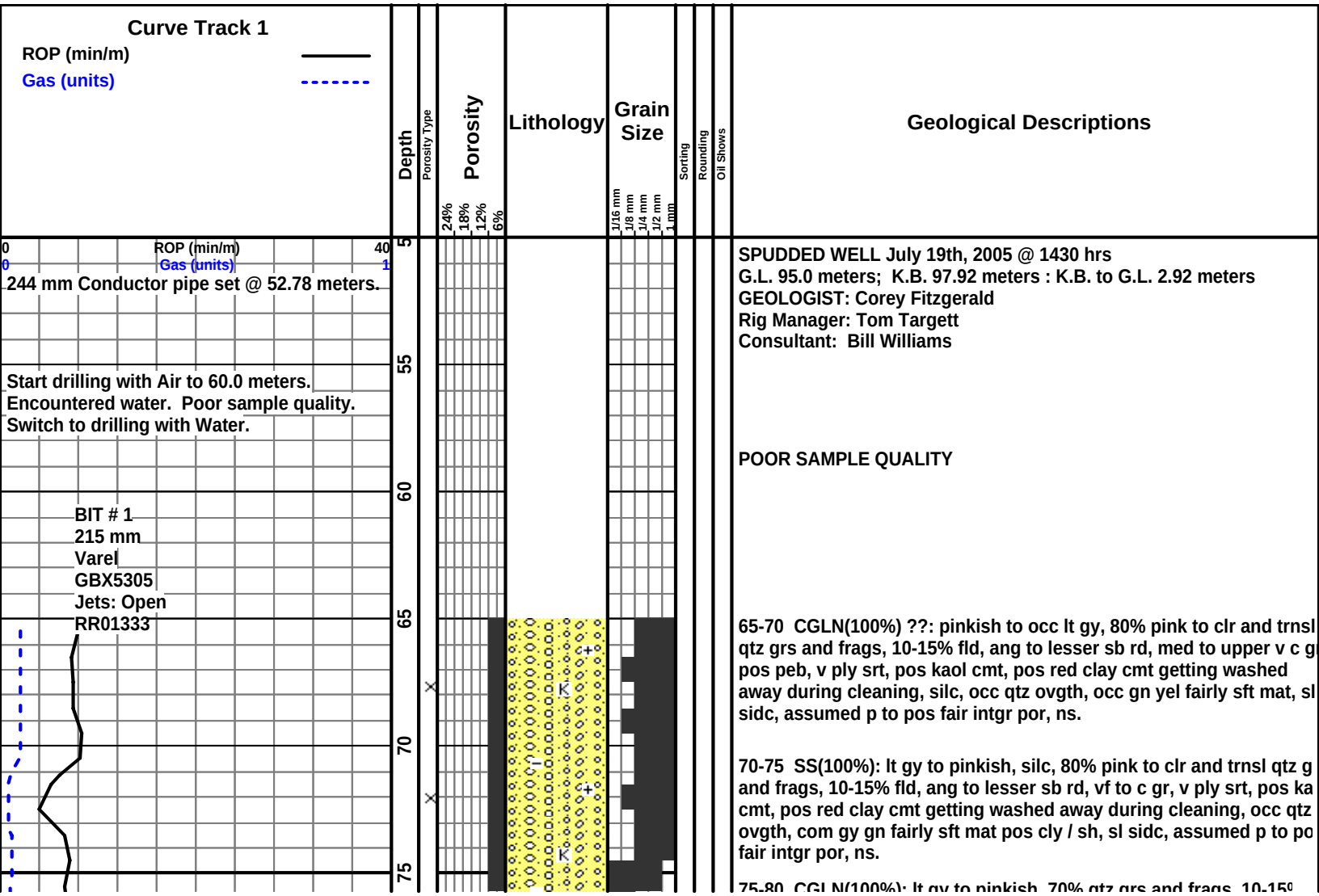
SORTING
- Well
- Moderate
- Poor

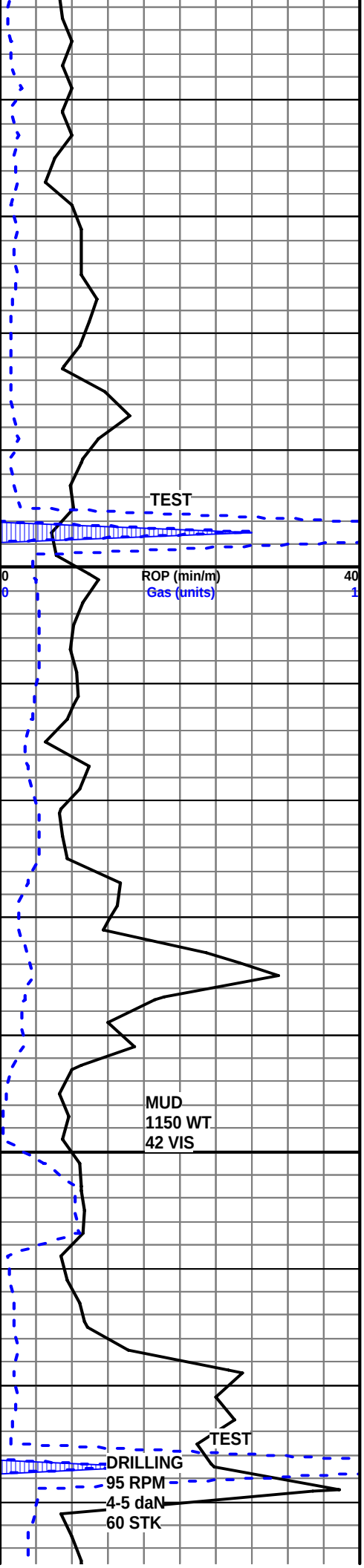
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

OIL SHOW
- Even
- Spotted
- Ques
- Dead

INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall





fld, 10-15% gn fairly soft blky mat pos cly / sh, ang to tr sb rd, upper vf to upper v c gr, pos mnr peb, v ply srt, occ mica, occ biotite, mr sid, assumed p to fair intgr por, ns

80-85 CGLN(100%): lt gy to pinkish, 70% qtz grs and frags, 10-15% fld, 10-15% gn fairly soft blky mat pos cly / sh, mnr sidc mat, ang to t sb rd, upper f to c gr, ply srt, mnr mica, occ biotite, pos mnr kaol cmt silc, ply cons, tr wh calc mat, assumed p to fair intgr por, ns.

85-90 CGLN(100%): lt gy gn to pinkish, 85% qtz grs, 10% sft dk gy t gy gn glauc mat pos occurring as cmt, vf to c gr, ang to mnr sb rd, tr pos kaol and silc cmt, mnr qtz ovgth, com fld, tr biot, wkly cons, assumed p intgr por, ns.

90-95 SS(100%): lt gy gn to pink, predy med to l v c gr, ply srt, 90% qtz grs, ang to incrg sb rd, occ gy gn fairly sft glauc mat pos occurring as cmt, tr kaol cmt, occ qtz ovgth, tr gy sh, fldc, tr biot, assumed p to pos fair intgr por, ns.

95-100 CGLN(100%): lt gy gn to pink, predy vf to l v c gr, ply srt, 80% qtz grs, sl more arg, ang to occ sb rd, occ gy gn glauc mat? pos occurring as cmt, incrg kaol cmt, occ qtz ovgth, fldc, mnr biot, tr sid, assumed p to pos fair intgr por, ns.

100-105 SS(100%): pinkish, 95% qtz grs, predy u med to l v c gr, ply srt, ang to sb ang, mnr gn arg mat, tr to mnr kaol cmt, pos silc cmt, fldc ip, tr biot, assumed p to fair intgr por, ns.

105-110 CGLN(100%): pinkish, 95% qtz grs, predy vf to l v c gr, ply srt, ang to mnr sb rd, occ gn arg mat pos cmt, tr to mnr kaol cmt, po silc cmt, fldc ip, tr biot, assumed p to fair intgr por, ns.

110-115 SS(100%): pinkish to lt gy, 90% vcol qtz grs, med to v c gr, ply srt, ang to sb ang, occ gn to gy gn arg mat, tr to mnr kaol and silc cmt, mnr qtz ovgth, fldc ip, tr biot, tr mica, assumed p to pos fair intg por, ns.

115-120 SS(100%): pinkish to lt gy, 95% qtz grs, predy vf to med gr, occ c to lesser v c gr, ply srt, ang to sb ang, tr sb rd, mnr gn arg mat, tr to mnr kaol and silc cmt, fldc ip, incrg mica flks, mnr biot, assume p to fair intgr por, ns

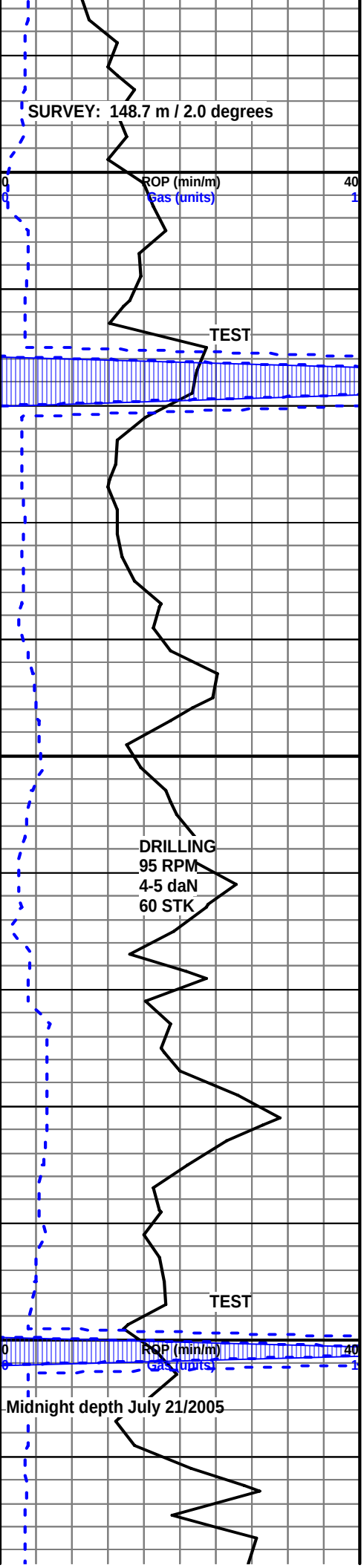
120-125 SS(100%): pinkish to lt gy, 85% qtz grs, predy med to l v c gr, ply srt, ang to mnr sb rd, occ gn arg mat pos cmt, tr to mnr kaol and silc cmt, occ qtz ovgth, fldc ip, mnr mica flks, mnr biot, mics, tr carb mat, rr coal, tr sidc, assumed p to fair intgr por, ns.

125-130 SS(100%): pinkish to lt gy, 90% qtz grs, med to l v c gr and lesser vf to f gr, ply srt, ang to mnr sb rd, mnr silc and kaol cmt, occ gy gn arg mat pos cmt, sl fldc, mics, tr carb mat, mnr sidc mat, assumed p intgr por, ns.

130-135 SS(100%): pink to lt gy, 80% qtz grs, incrg vf to f gr, abnt med to c gr, ply srt, ang to sb ang, tr silc and kao cmt, occ gy gn arg mat, tr hemc mat, mics, tr fld, tr sidc mat, assumed p to pos fair intgr por, ns.

135-140 SS(100%): pink, 85% qtz grs, u f to u c gr, ply srt, ang to sb ang, tr kao and silc cmt, occ gy gr and red arg somewhat cly mat, mics, tr sidc mat, tr fld, assumed p to fair intgr por, ns.

140-145 SS(100%): pinkish to lt gy, 80% qtz grs, l med to l v c gr, ply srt, predy ang to mnr sb rd, mnr silc and kao cmt, 5-10% gy gn an



red arg mat occurring pos as cmt, mnr hemc mat, sl sidc, mics, occ qtz ovgth, pos fair intgr por, ns.

145-150 SS(100%): pinkish, 85% qtz grs, f to u c gr, ply srt, ang to mnr sb rd, mnr kao and silc cmt, occ gy gn and red hemc arg mat, sl sidc, mics, p to pos fair intgr por, ns.

150-155 SS(100%): pinkish, 90% qtz grs, predy v f to med, com c g ply srt, ang to mnr sb rd, mnr kao and silc cmt, com gy gn and red hemc arg mat, sl sidc, mics, tr fld, p to fair intgr por, ns.

155-160 SS(100%): pinkish, 90% qtz grs, predy v f to c gr, ply srt, ar to mnr sb rd, mnr kao and tr silc cmt, occ gy gn and red hemc arg mat, sl sidc, sl mics, tr fld, p to fair intgr por, ns.

160-165 SS(100%): pinkish, 90% qtz grs, v f to incrg ly c gr, ply srt, ang to mnr sb rd, mnr kao and tr silc cmt, 5% gy gn and red hemc arg mat, mnr gy carb sh, sl sidc, mics, tr fld, p to fair intgr por, ns.

165-170 SS(100%): pinkish, 90% qtz grs, predy f to c gr, ply srt, ang to mnr sb rd, mnr kao and tr silc cmt, 5% gy gn and red hemc arg mat, mnr gy micmica sh, sl sidc, mics, p to fair intgr por, ns.

170-175 SS(100%): pinkish, 95% qtz grs, predy vf to f gr, lesser med to mnr c gr, slty, ply srt, predy ang to sb ang, mnr kao cmt, mnr red and gr arg mat, sl mics, tr sidc mat, p to pos fair intgr por, ns.

175-180 SS(100%): pinkish, 95% qtz grs, predy vf to l med gr, occ u med to l c gr, ply srt, ang to sb ang, occ glauc grs, mnr kao cmt, fri, t mics, mnr red and gn arg mat, tr sidc, p to pos fair intgr por, ns.

180-185 SS(100%): pinkish, 95% qtz grs, predy vf to l med gr, occ u med to l c gr, ply srt, ang to sb ang, occ glauc grs, mnr kao cmt, fri, t mics, mnr red and gn arg mat, tr sidc, p to pos fair intgr por, ns.

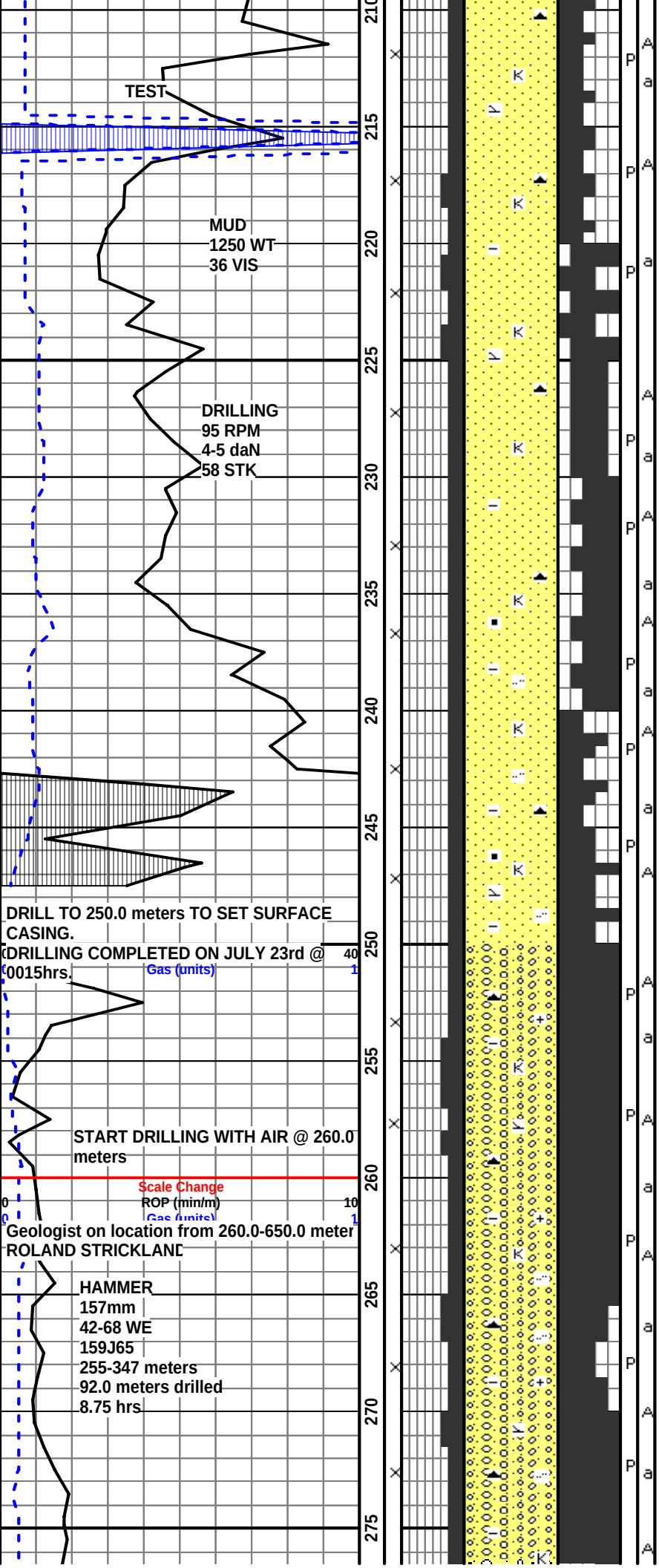
185-190 SS(100%): pinkish, 90% qtz grs, predy vf to l med gr, com slty, ply srt, ang to sb ang, 5% red and gn fairly soft clayey mat pos occurring as cmt, occ glauc grs, mnr kao and tr silc cmt, fri, sl mics, tr sidc, tr hemc mat, mnr dk gy carb sh grs, mnr fld, p to pos fair intg por, less than 8-10%, ns.

190-195 SS(100%): pinkish, 90% qtz grs, predy vf to l med gr, com med to c gr, com slty, ply srt, ang to sb ang, 5% red and gn fairly soft clayey mat pos occurring as cmt, mnr kao and tr silc cmt, glau grs, fri, sl mics, tr sidc, mnr hemc mat, tr dk gy carb sh grs, mnr fld, p to pos fair intgr por, less than 10%, ns.

195-200 SS(100%): pinkish, 85-90% qtz grs, predy vf to u med gr, occ c gr, commonly slty, predy ang to sb ang, mnr sb rd, 5-7% red and gr clayey mat occurring pos as cmt, tr kao and silc cmt, glauc grs, hemc grs, tr mica, pos fld, pos fair intgr por, ns.

200-205 SS(100%): pinkish, 85-90% qtz grs, predy slty to u med gr, tr l c gr, predy ang to sb ang, < 5% red and gn clayey mat occurring pos as cmt, tr kao and silc cmt, glauc grs, hemc grs, tr mica, tr sidc grs, pos fld, pos fair intgr por, ns.

205-210 SS(100%): pinkish, 85-90% qtz grs, predy u vf to u med gr, occ c gr, decrng ly slty, predy ang to sb ang, 8-10% red and gn claye mat occurring pos as cmt, tr to mnr kao cmt, glauc grs, hemc grs, tr mica, pos fld, p to pos fair intgr por, ns.



210-215 SS(100%): pinkish, 85% qtz grs, predy slty to u f gr, occ med to tr c gr, predy ang to occ sb rd, 10% red gn clayey mat pos cmt, tr to mnr kaol, mnr glau, slight inc in hemc grs, mnr mics flks, fri, tr dk cht grs, tr qtz ovgths, tr fld, assumed fair intgr por, ns.

215-220 SS(100%): pinkish, 85% qtz grs, predy vf to u med gr, occ c gr, predy ang to occ sb rd, 10-12% wh red and gn mics clayey mat pos cmt, tr to mnr kaol, fri, pos tr glauc, mnr rd hemc grs, mnr mics flks, tr dk cht grs, tr qtz ovgths, tr fld, rr calc mat, assumed fair intgr por, ns.

220-225 SS(100%): pinkish, 85% qtz grs, u f to u v c gr, pos cgln, ply srt, predy ang to sb ang, incrg ly sb rd, 10% red and gn clay mat pos cmt, 10% kaol cmt, occ lt and dk cht grs, mics ip, tr dk mics sh, sl fri, assumed fair intgr por, ns

225-230 SS(100%): pinkish, 85% qtz grs, u f to v c gr, ply srt, pos cgln, predy ang to sb ang, occ sb rd, 10% red and gn clay mat pos cmt, 10% kaol cmt, occ lt and dk cht grs, mics ip, tr dk mics sh, tr coaly sh, sl fri, assumed fair intgr por, ns.

230-235 SS(100%): pinkish, 85% qtz grs, predy med to v c gr, mnr f g pos cgln, ply srt, predy ang to occ sb rd, 10% red and gn clay mat p cmt, 15% kaol cmt, incrg lt and dk cht grs, mics ip, sidc ip, tr dk mics sh, tr coaly sh, sl fri, assumed fair intgr por, ns.

235-240 SS(100%): pinkish, 85% qtz grs, predy med to v c gr, mnr f gr, ply srt, predy ang to occ sb rd, 15% red and gn clay mat pos cmt, 5% kaol cmt, occ lt and dk cht grs, mics ip, sidc ip, mnr dk mics sh, assumed fair intgr por, ns.

240-245 SS(100%): pinkish, 85% qtz grs, predy slty to u f gr, occ med to lesser c gr, ply srt, predy ang to sb ang, 5% red and gn clay mat pos cmt, mnr kaol cmt, mnr lt and dk cht grs, mics ip, sidc ip, mnr dk mics sh, assumed fair intgr por, ns.

245-250 SS(100%): pinkish, 85% qtz grs, predy slty to u med gr, occ to lesser v c gr, ply srt, predy ang to sb ang, 5% red, gn and brn clay mat pos mtx, mnr kaol cmt, mnr lt and dk cht grs, mics ip, sidc ip, mnr dk mics sh, tr hemc grs, tr carb to coal grs, assumed fair intgr por, ns.

POOR SAMPLE QUALITY 250-255 SS(100%): lt gy pnk, 85% qtz grs, vf to v c gr, slty, ply srt, ang to sb ang, red, gn and brn clay mat po mtx, mnr kaol cmt, mnr lt and dk cht grs, mics ip, sidc ip, mnr dk mic sh, tr hemc grs, mnr glauc grs, assumed fair intgr por, ns. 40% OF SAMPLE IS CEMENT FROM CASING

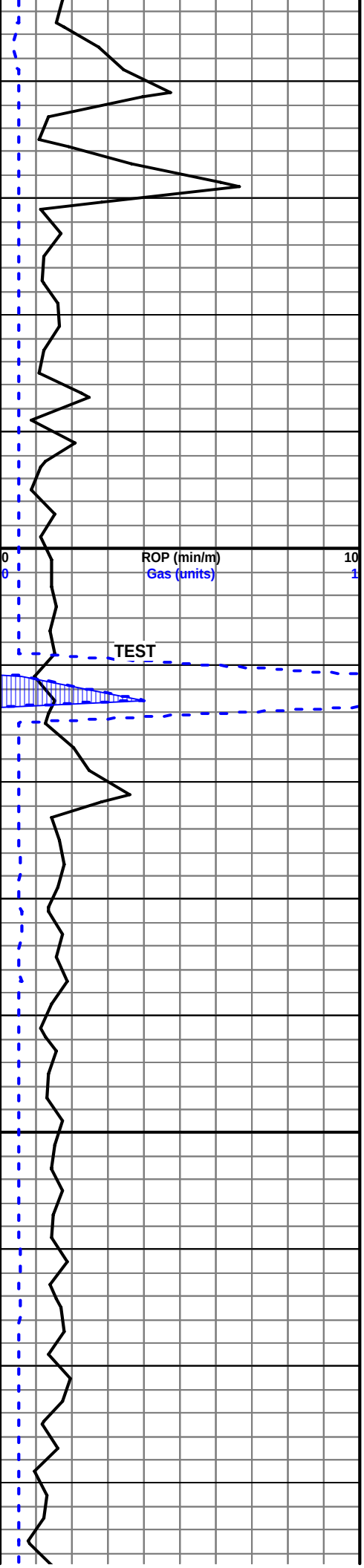
255-260 CGLN(100%): lt gy gn and pnk, 75% qtz grs, vf to u v c gr, occ peb, ply srt, sb rd to sb ang, 15% crm and lt gn cht, occ fld, pred uncons, tr kao cmt, mnr lime gn xln grs, assumed fair intgr por, ns.

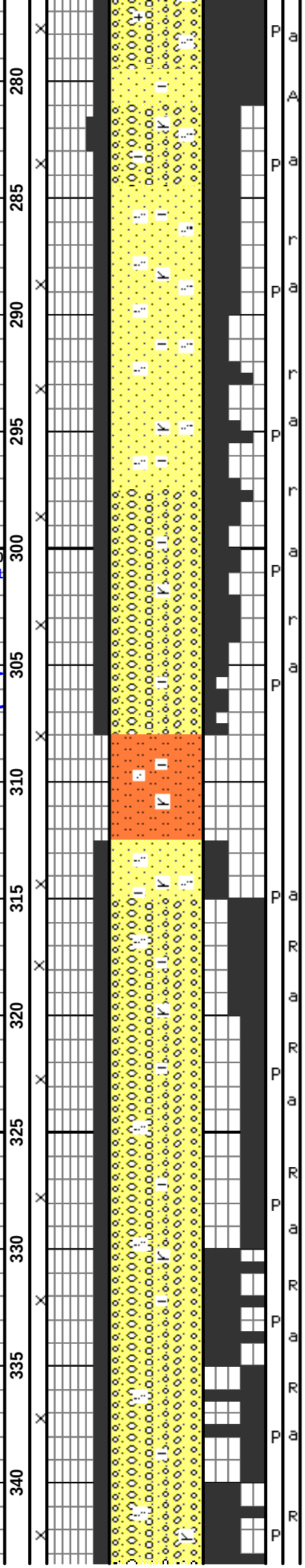
260-265 CGLN(100%): lt gy gn and pnk, 75% qtz grs, vf to u v c gr, incrg peb s, ply srt, sb rd to sb ang, 20% crm, gy, and lt gn cht, occ fld, predy uncons, tr kao and lt gy gn cmt, mnr lime gn xln grs, tr pyr nod, mics in cmt, assumed p intgr por, ns

265-270 CGLN(100%): lt orng gy, 85% qtz grs, predy vf to l med gr, lesser u med gr to c gr, slty, ply srt, tr kao cmt, sidc, occ biot and musc, occ fld, mnr hemc grs, occ glauc mat, tr calc, assumed p to pos fair intgr por, ns

270-275 CGLN(100%): lt orng gy, 70% qtz grs, predy vf to u v c gr, oc cht peb, slty, ply srt, sb ang to sb rd, kao cmt, sidc, occ red brn and yel brn slty clay, tr biot and musc, occ fld, mnr hemc grs, occ glauc mat, tr calc, assumed p to pos fair intgr por, ns.

275-280 CGLN(100%): lt orng gy, 80% qtz grs, slty to u v c gr with oc





cht peb, pos slty to med gr kao cmt mtx, occ fld, sb rd to sb ang, oc gn glauc mat, mnr red brn and crm firm micmica clay, assumed p to pos fair intgr por, ns.

280-285 SS(100%): lt crm gy, 85% qtz grs, predy slty to med gr, mnr gr, tr peb, ply srt, mnr kao cmt, sl fri, com lse qtz grs, sb rd to sb ang mnr mics mat, mnr glauc grs, mnr hemc grs, occ vcol cht grs, mnr sh, assumed p to fair intgr por, ns.

285-290 SS(80%): lt gy gn, 80% qtz grs, predy slty to u med gr, mnr c gr, ply srt, mnr cht grs up to peb, sb rd to sb ang, fri, tr kao cmt, tr calc mat, tr mics flks, tr pyr, occ hemc grs, assumed p to fair intgr por, ns. SH(20%): red brn, lesser gy gn, micmica, firm ip, blky, slty, sidc ip, clayey.

290-295 SS(100%): lt yel crm, 90% qtz grs, predy slty to f gr, occ med to c gr, ply srt, rd to sb ang, kao and silc cmt, mics, occ qtz and cht peb, mnr hemc grs, occ gy mics sh mat, tt to pos fair intgr por, ns.

295-305 CGLN(100%): tan, 90% qtz grs, predy vf to lesser med gr, occ c to mnr v c gr, ply srt, sb rd to sb ang, kao and silc cmt, com lse qtz grs, occ mics, occ hemc grs, mnr fld, occ to com qtz and predy vcol cht pebbles, occ lt gn micmica glauc? sh / clay, assumed fa intgr por, ns.

305-310 SS(60%): orng brn, predy vf to mnr f gr, abnt slt, grdg to sltst, firm, arg, v sidc, v micmica, occ biot, sl hemc, clayey ip, mnr pyr, mnr c sd from above, tr c firm rd dk brn and blk pellets. CLYST(40%): gy gn, firm for a clay, mas looking, tr slt size sidc grs, t wxy.

310-315 SLTST(100%): orng brn, v sidc, v micmica, clayey, arg, grdg to a slty sh / clyst, firm, blky and rd frags, mnr burgundy and crm gy firm clay, occ hemc gr, occ sd pos from above

315-320 CGLN(100%): lt gy gn, 70% qtz grs, 30% gy cht grs, med gr to peb in a slty to f sd mtx, lt gy gn kao cmt, ply srt, rd to lesser sb ang, occ pnk fld, mnr biot and musc flks, mnr f hemc grs, assumed p intgr por, ns.

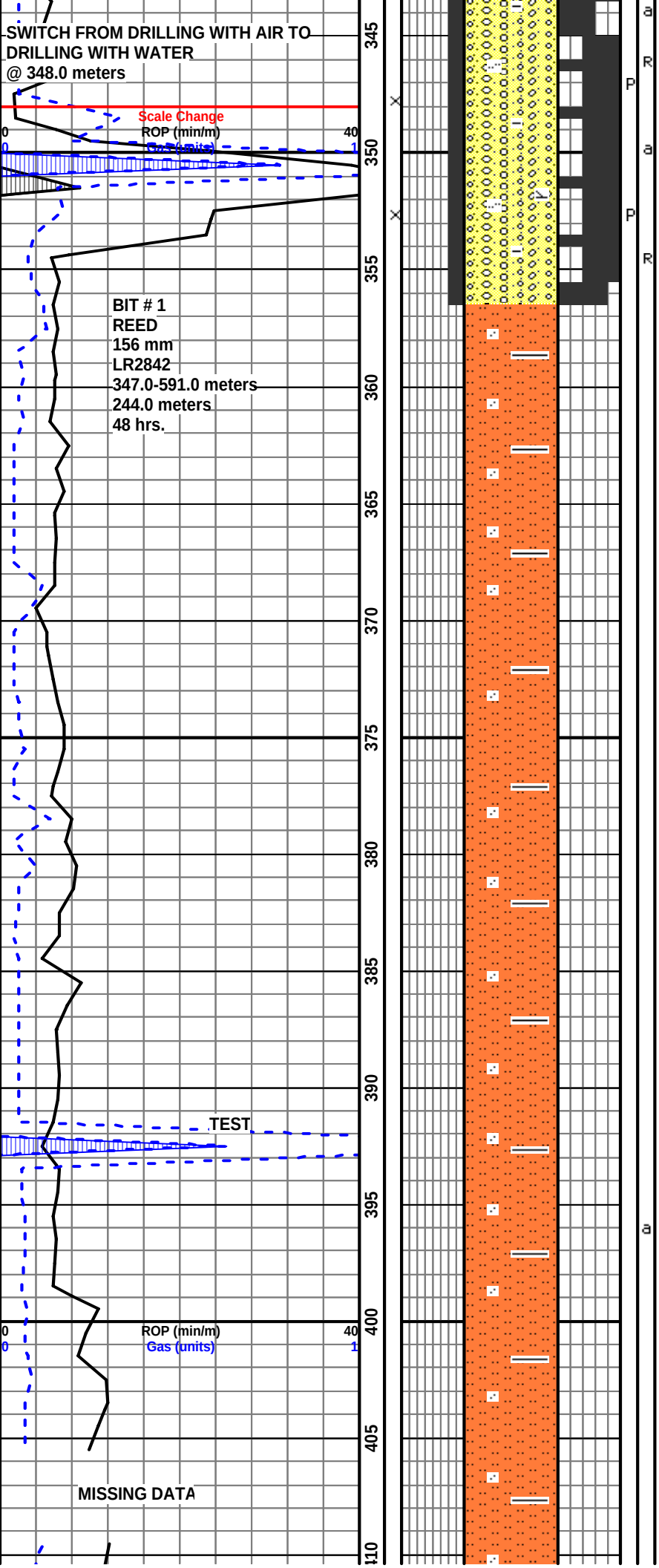
320-325 CGLN(100%): lt gy gn, 70% qtz grs, 30% lt gy cht grs, predy c gr to peb in a slty to med sd mtx, lt gy gn kao cmt, ply srt, rd to lesser sb ang, occ pnk fld, mnr biot and musc flks, mnr f hemc grs, tr blky firm brit coal frags?, tr pyr, assumed p intgr por, ns.

325-330 CGLN(100%): lt gy gn, 75% qtz grs, 25% lt gy cht grs, predy c gr to peb in a slty to med sd mtx, lt gy gn kao cmt, ply srt, rd to lesser sb ang, mnr pnk fld, mnr biot and musc flks, mnr f hemc grs, t pyr, tr calc mat, assumed p intgr por, ns.

330-335 CGLN(100%): lt gy gn, 85% qtz grs, 15% lt gy cht grs, predy vf to med gr with com c to lesser v c gr, occ pb, slty, lt gy gn ka cmt, mnr lt wh gy calc mat (pos cement from casing), ply srt, rd to lesser sb ang, mnr pnk fld, mnr biot and musc flks, mnr f hemc grs, assumed p intgr por, ns.

335-340 CGLN(100%): lt gy gn, sl pinkish, 85% qtz grs, 15% lt gy cht grs, c to v c gr with a slty to med gr mtx, occ pb, lt gy gn kao cmt, sl calc, incrg lt wh gy calc mat (looks like cement from casing), ply srt, rd to lesser sb ang, mnr pnk fld, tr biot and musc flks, mnr f hemc grs, tr pyr, assumed p intgr por, ns.

340-345 CGLN(100%): lt gy gn, pinkish, 85% qtz grs, 15% lt gy cht grs, predy vf to med gr with com c to lesser v c gr, occ pb, slty, lt gy gn kao and mnr calc cmt, mnr lt wh gy calc mat (looks like cement from casing), ply srt, rd to lesser sb ang, mnr pnk fld, tr biot and



musc flks, mnr f hemc grs, assumed p intgr por, n

345 - 348: SS: 100%, pkish, clr, trnsl, off wh, m - v c gred, mod - py s ang - sbrd, mainly lse qtz, com sec qtz ovgths, occ pyr nods, mnr gn & brn clay mat, hemc grs, freq orng fld, ip sidc, 8 - 12% inferred intgr por, ns.

348-355 CGLN(100%): lt gy gn, mnr pinkish, 65% qtz grs, 5% lt cht grs, med to v c gr with a slty to med gr sd mtx, ply srt, rd to lesser sl ang, lt gy gn kao and mnr calc cmt, mnr lt wh gy calc mat, mnr pnk fld, incrg biot and musc flks, occ hemc grs, mnr sidc grs, assumed p to pos fair intgr por, ns.

355 -360: Sltst: 100%, orng brn, off wh, m - c slt, mainly lse qtz, fri, sf - fm, mic - mica, freq gy clay mtx, mnr kao, carb specs, hemc grs, tt, ns

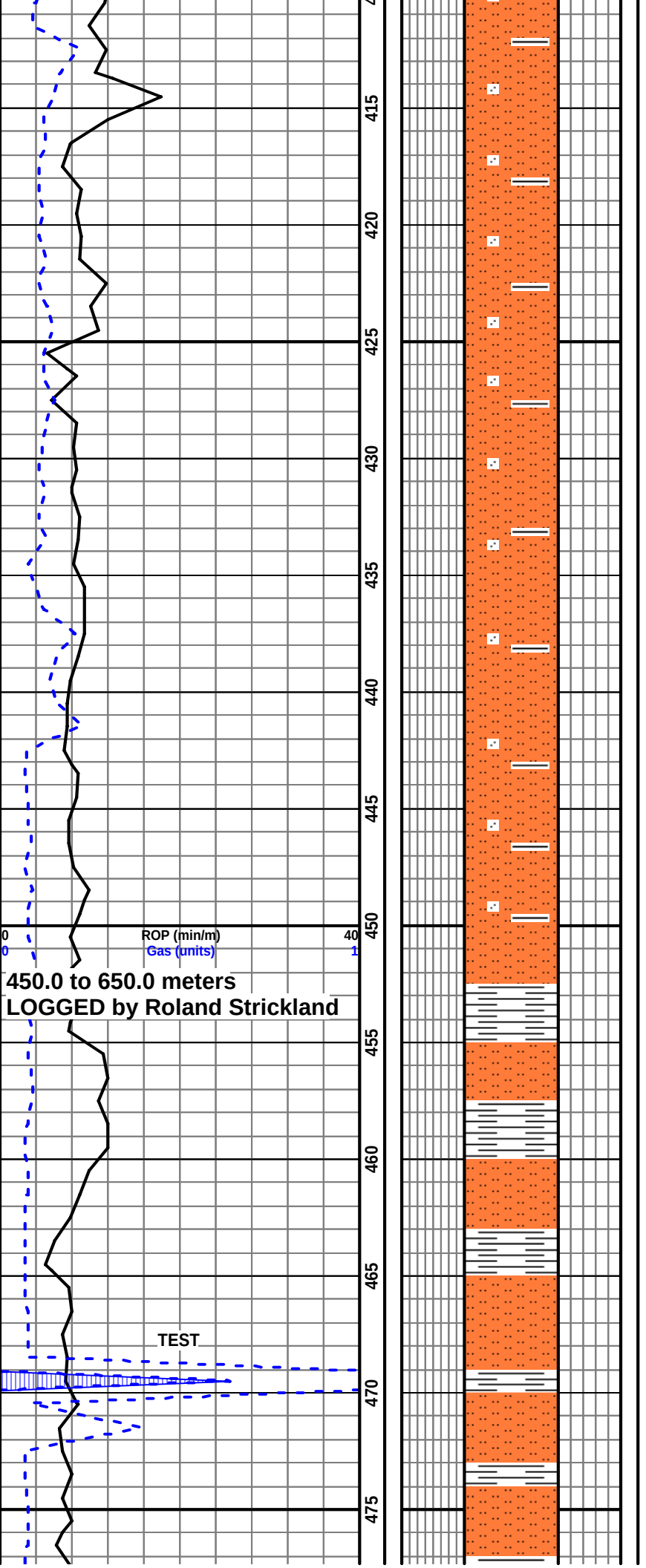
360 - 365: Sltst: 100%, orng brn, off wh, f - m slt, mainly lse qtz, fri, sf - fm, mic - mica, freq gy clay mtx, mnr kao, carb specs, hemc grs, tt, ns

365 - 370: Sltst: 100%, orng brn, off wh, m - c slt, mainly lse qtz, fri, s - fm, mic - mica, freq gy clay mtx, mnr kao, carb specs, hemc grs, tt, ns

380-385 SLTST(100%): red brn, occ to com vf to lesser f gr sd, pos a slty ss, calc, com red brn clay mtx, mnr kaoc cmt, mnr hemc grs, tr mica.

395-400 SS / SLTST(100%): red brn, predy vf gr, v slty, pos a sdy slts ang to sb rd, mod to w srt, com hemc grs, com red brn clay / sh frags calc, kao, lmnc, tt, ns.

400 - 405: Shale: 50%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty slly calcs, micmica. Sltst: 50%, orng brn, off wh, m - c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt,



410-415 SS / SLTST(100%): red brn, predy vf gr, v slty, pos a sdy slts ang to sb rd, mod to w srt, com hemc grs, com red brn clay / sh frags calc, mnr thin wh calc flks, kao, lmnc, tt, ns.

420-425 SS / SLTST(100%): red brn, predy vf gr, v slty, pos a sdy slts ang to sb rd, mod to w srt, com hemc grs, 25% red brn clay / sh frags calc, mnr wh calc flks, com wh to lt gn kao cmt, lmnc, tt, ns.

435-440 SS / SLTST(100%): red brn, predy vf gr, v slty, pos a sdy sltst, ang to sb rd, mod to w srt, com hemc grs, 15-20% red brn clay / sh frags, calc, com wh to lt gn kao cmt, mnr mica, lmnc, tt, ns.

450 - 455: Shale: 50%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty slly calcs, micmica. Sltst: 50%, orng brn, off wh, m - c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt,

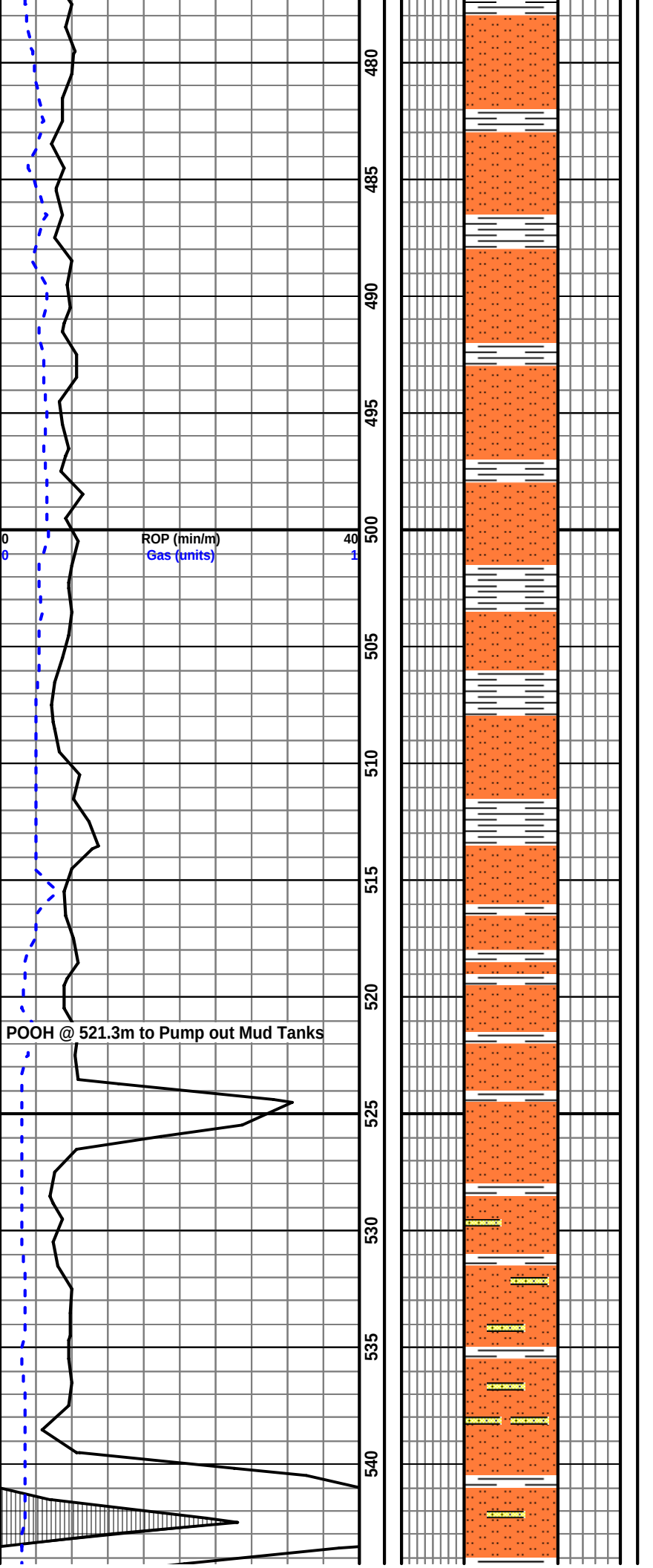
455 - 460: Shale: 60%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty slly calcs, micmica. Sltst: 40%, orng brn, off wh, m - c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns

460 - 465: Shale: 50%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty slly calcs, micica.
Sltst: 50%, orng brn, off wh, m - c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns

465 - 470: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

470 - 475: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

475 - 480: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calc



micica.

480 - 485: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

485 - 490: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

490 - 495: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

495 - 500: Sltst: 70%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 30%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

500 - 505: Sltst: 70%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 30%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

505 - 510: Sltst: 70%, orng brn, off wh, m - c slt, qtz, slly sils, freq cla mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 30%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

510 - 515: Sltst: 80%, orng brn, off wh, c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

515 - 520: Sltst: 80%, orng brn, off wh, c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

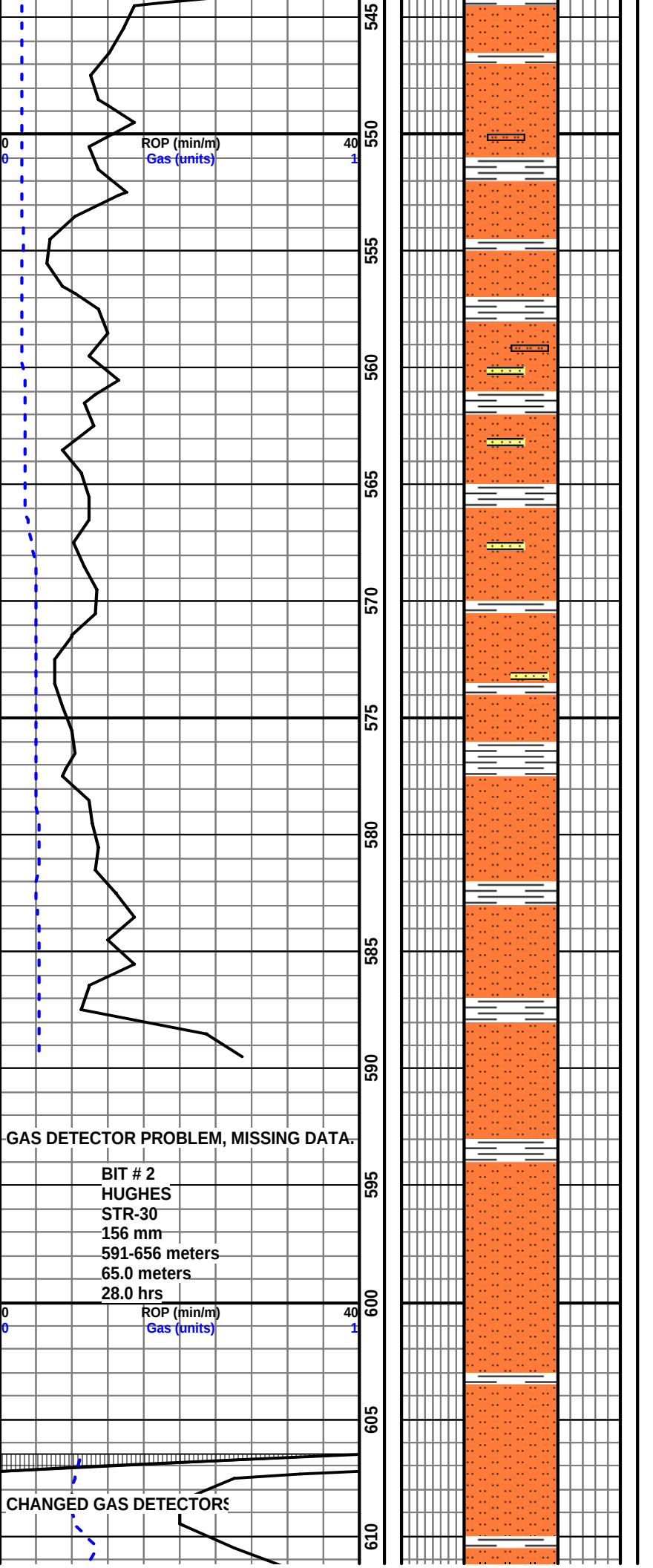
520 - 525: Sltst: 80%, orng brn, off wh, c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

525 - 530: Sltst: 80%, orng brn, off wh, c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns, freq strgs of Ss: clr, off wh, - m gred, w srt, sbrd, lse qtz, calc hems cmt, 8 -12% inferred por, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

530 - 535: Sltst: 80%, orng brn, off wh, c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns, freq strgs of Ss: clr, off wh, - m gred, w srt, sbrd, lse qtz, calc hems cmt, 8 -12% inferred por, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

535 - 540: Sltst: 80%, orng brn, off wh, c slt, qtz, slly sils, freq clay mtx, occ kao, hemc grs, calc mtx, tt, ns, freq strgs of Ss: clr, off wh, - m gred, w srt, sbrd, lse qtz, calc hems cmt, 8 -12% inferred por, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica, ip high iron content.

540 - 545: Sltst: 80%, orng brn, off wh, m - c slt, qtz, slly sils,sft, ip fri freq rd clay mtx, occ kao, hemc grs, calcs mtx, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.



545 - 550: Sltst: 70%, orng brn, off wh, f - m slt, qtz, slly sils, frm - sft, ip fri, freq rd iron clay mtx, occ kao, hemc grs, calcs mtx, occ xln gy grs, tt, ns.
Shale: 30%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

550 - 555: Sltst: 80%, orng brn, off wh, f - m slt, qtz, slly sils, frm - sft, ip fri, freq rd iron clay mtx, occ kao, hemc grs, calcs mtx, freq xln cl calc, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica, tr xln gyp grs.

555 - 560: Sltst: 60%, orng brn, off wh, f - m slt, qtz, slly sils, frm - sft, ip fri, freq rd iron clay mtx, occ kao, hemc grs, calcs mtx, freq xln cl calc, grdg f gred clr ss, tt, ns.
Shale: 40%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica, tr xln gyp grs.

560 - 565: Sltst: 60%, orng brn, off wh, f - m slt, qtz, slly sils, frm - sft, ip fri, freq rd iron clay mtx, occ kao, hemc grs, calcs mtx, freq xln cl calc, grdg f gred clr ss, tt, ns.
Shale: 40%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica, tr xln gyp grs

565 - 580: Sltst: 60%, orng brn, off wh, m - c slt, qtz, slly sils, frm - sft ip fri, freq rd iron clay mtx, occ kao, hemc grs, calcs mtx, occ xln clr calc, grdg f gred clr ss, tt, ns.
Shale: 40%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica, tr xln gyp grs.

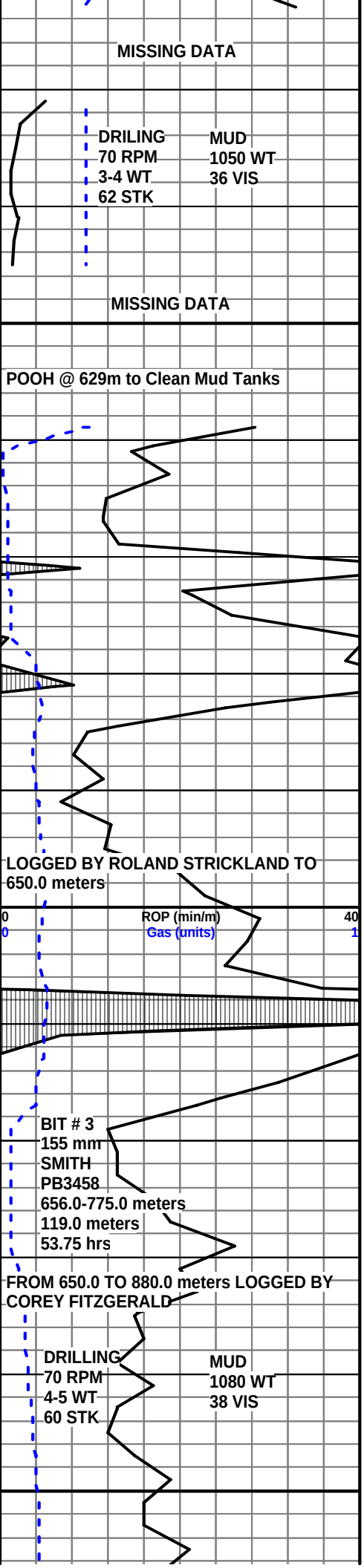
580 - 585: Sltst: 70%, orng brn, off wh, m - c slt, qtz, slly sils, frm - sft ip fri, freq rd iron clay mtx, occ kao, hemc grs, calcs mtx, occ xln clr calc, grdg f gred clr ss, tt, ns.
Shale: 30%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

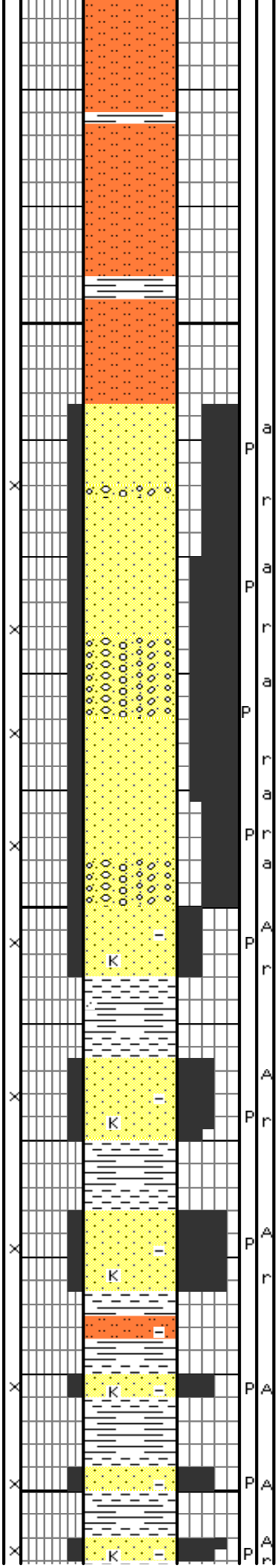
585 - 595: Sltst: 70%, orng brn, off wh, m - c slt, qtz, slly sils, frm - sft ip fri, freq rd iron clay mtx, abnt orng fld, occ kao, hemc grs, calcs mtx, occ xln clr, calc, grdg f gred clr ss, tt, ns.
Shale: 30%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

595 - 600: Sltst: 90%, orng brn, off wh, f -m slt, occ c slt, qtz, slly sils, frm - sft, ip fri, freq rd iron clay mtx, abnt orng fld, occ kao, hemc grs calcs mtx, occ xln clr calc, tt, ns.
Shale: 10%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

600 - 610: Sltst: 90%, orng brn, off wh, f -m slt, occ c slt, qtz, slly sils, frm - sft, ip fri, freq rd iron clay mtx, abnt orng fld, occ kao, hemc grs calc mtx, occ xln clr calc, tt, ns.
Shale: 10%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs micica.

610 - 615: Sltst: 90%, orng brn, off wh, f -m slt, occ c slt, qtz, slly sils





frm - sft, ip fri, freq rd iron clay mtx, abnt orng fld, occ kao, hemc grs
calcs mtx, occ xln clr calc, tt, ns.
Shale: 10%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs
micica.

615 - 625: Sltst: 80%, orng brn, off wh, f -m slt, occ c slt, qtz, slly sils,
frm - sft, ip fri, freq rd iron clay mtx, abnt orng fld, occ kao, hemc grs
inc in calcs mtx, occ xln clr calc, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs
micica.

625 - 629: Sltst: 80%, orng brn, off wh, f -m slt, occ c slt, qtz, slly sils,
frm - sft, ip fri, freq rd iron clay mtx, freq orng fld, occ kao, hemc grs
inc in calcs mtx, occ xln clr calc, tt, ns.
Shale: 20%, rd brn, gn gy, frm - hd, plty - blky, ip sbfis, slty, slly calcs
micica.

629 - 635: SS: 100%, red brn, clr, off wh, trnsl, m - vc gred, mod - py
srt, ang - sbrd, mainly lse qtz, cglic, calcs + sils cmt, v hd, brit, abnt
hem nods, freq wh & orng xln calc, orng fld, mnr clay mat, tr mics &
kao, sidc, 8 - 12% inferred intgr por, ns.

635 - 640: SS: 100%, cglic, red brn, clr, off wh, trnsl, f - vc occ qtz
pbls, gred, mod - py srt, ang - sbrd, mainly lse qtz, calcs + sils cmt, v
hd, brit, abnt hem nods, freq wh & orng xln calc, orng fld, mnr clay
mat, tr mics & kao, sidc, 6 - 10% inferred intgr por, ns.

640 - 645: SS: 100%, red brn, clr, off wh, trnsl, f - c gred, mod - py srt,
ang - sbrd, mainly lse qtz, slly cglic, calcs + sils cmt, v hd, brit, abnt
hem nods, freq wh & orng xln calc, orng fld, mnr clay mat, tr mics &
kao, sidc, 8 - 14% inferred intgr por, ns.

645 - 650: SS: 100%, red brn, clr, off wh, trnsl, m - c gred, mod - py s
ang - sbrd, mainly lse qtz, occ pbls, cglic, calcs + hemc cmtd, v hd,
brit, abnt hem grs, freq wh & orng xln calc, orng fld, rd clay mxt, tr
mics & chlor, sidc, 8 - 12% inferred intgr por, ns.

650-655 SS(100%): red brn, 35% qtz grs, predy vf to f gr, lesser med
gr, tr to mnr c gr, slty ip, ply srt, ang to lesser sb rd, predy uncons, v
fri, mnr kaol and calc cmt, 20% red brn and gn sft micmica wxy clay
mtx / beds, occ to com hemc grs, rr pyr, occ calc mat, tr mics flks, sl
sidc, fldc, pos glauc, pos fair intgr por, ns.

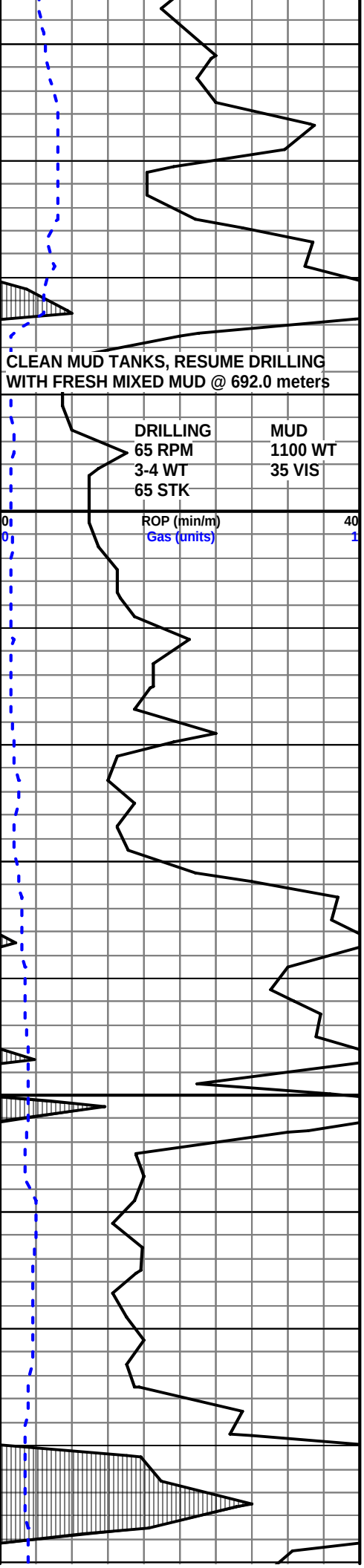
655-660 SS(80%): red brn, 35-40% qtz grs, predy slty to l f gr, mnr f to
med gr, ply srt, predy ang to occ sb rd, fri, mnr kaol and pos calc cm
occ pnk xln cal, occ hemc grs, rr pyr, glauc ip ?, sidc ip, fldc ip, pos
fair intgr por, ns. CLY(20%): red brn and lesser gn, sft, wxy micmica,
pos mtx to ss above, wkly calc, blky.

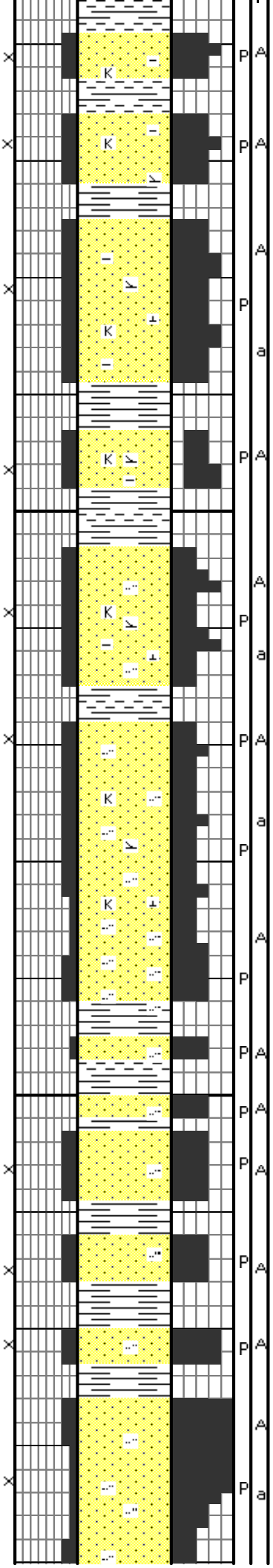
660-665 SS(50%): red brn, 15-20% qtz grs, f to c gr, ply srt, ang to
mnr sb rd, fri, mnr kaol and pos calc cmt, occ pnk xln cal, hemc with
occ hemc grs, rr pyr, pos glauc, sidc ip, mnr fld, pos fair intgr por, ns
CLY(50%): red brn and lesser gn, mnr gy, sft, wxy, micmica, pos mtx
to ss, blky, slty ip

665-670 CLY / SH(65%): red brn, mnr gn, sft to sl firm, hemc, sl sidc,
wxy ip, micmica ip, blky, slty ip. SLTST(35%): lt gy, lt gy gn, kaol,
10% lse ang to sb rd med to v c qtz grs, < 5% crm and pnk cal grs, sf

670-675 SH(45%): red brn, mnr gn, sft to sl firm, clayey, micmica, wxy
ip, blky to tr sb fis, slty ip. SS(55%): red brn, clr, 35-40% qtz grs, vf to
med gr, occ c grs, ply srt, ang to mnr sb rd, predy uncons, tr kaol
cmt, mnr cal, hemc, sidc ip, mnr fld, pos cly mtx as above, assumed
to fair intgr por, ns.

675-680 SS(70%): red brn, clr, 35-40% qtz grs, vf to med gr, occ c
grs, ply srt, ang to mnr sb rd, predy uncons, tr kaol cmt, mnr cal,
hemc, sidc ip, mnr fld, pos cly mtx as above, assumed p to fair intgr
por, ns. SH(30%): red brn, mnr gn, sft to sl firm, clayey, micmica, wx





ip, blky to tr sb fis, pos occurring as mtx for above ss.

680-685 SS(85%): red brn, clr, 60% qtz grs, vf to med gr, occ c grs, ply srt, ang to mnr sb rd, predy uncons, tr kaol cmt, occ xln cal, hemc, sidc ip, mnr fld, pos red cly mtx, assumed p to fair intgr por, ns. SH(15%): red brn, mnr gn, clayey, slty ip, sft to sl firm, micmica, wxy ip, blky to tr sb fis, pos occurring as mtx for above ss.

685-690 SS(85%): red brn, clr, 45% qtz grs, vf to incrg ly med gr, occ grs, ply srt, com trnsl ang gly qtz shards, predy ang, tr kaol and calc cmt, qtz ovgth, occ xln cal, hemc, sidc ip, mnr fld, mnr glau, pos red cly mtx, assumed p to fair intgr por, ns. SH(15%): red brn, decrng gn, sft to sl firm, micmica, wxy ip, clayey, sidc ip, sb fis, pos occurring a mtx for above ss.

690-695 SS(70%): red brn, clr, 40% qtz grs, f to predy med gr, occ c grs, ply srt, occ trnsl ang gly qtz, ang to sb ang, tr kaol and calc cmt, occ xln cal, hemc, sidc ip, pos red cly mtx, assumed fair intgr por, ns SH(30%): red brn to crm, sft, clayey, micmica, hemc ip, wxy ip, sidc ip, sb fis to fis, pos occurring as mtx for above ss, slty ip.

695-700 SS(50%): red brn, clr, 40% qtz grs, f to predy med gr, occ c grs, ply srt, occ trnsl ang gly qtz, ang to sb ang, tr kaol and calc cmt, occ xln cal, hemc, sidc ip, pos red cly mtx, assumed fair intgr por, ns SH(50%): As above, mnr gn, clayey.

700-705 SS(80%): red brn, clr, 60% qtz grs, predy vf to f, mnr med to gr, slty ip, ply srt, mnr gly qtz, ang to sb ang, tr kaol and calc cmt, fri, occ xln cal, occ hemc and sidc grs, pos red cly mtx, assumed fair intgr por, ns. SH(20%): As above, slty ip

705-710 SS(70%): As above, red brn, 45% qtz grs, predy vf to f, mnr med to c gr, incrg ly slty, ply srt, ang to sb ang, fri, occ xln cal, hemc and sidc grs, pos red cly mtx, assumed fair intgr por, ns. SH(30%): red brn to brn, clayey, micmica, hemc, wxy ip, slty ip, sb fis to fis.

710-715 SS(80%): red brn, 50% qtz grs, predy slty to f gr, lesser med to tr c gr, ply srt, com ang gly qtz, ang to mnr sb rd, mnr kaol and cal cmt, occ glau cmt?, occ mcxln crm and pnk cal grs, occ hemc and fl grs, pos red cly mtx, assumed fair intgr por, ns. SH(20%): As above.

715-720 SS(80%): red brn, 40% qtz grs, incrg ly slty to f gr, lesser med gr, ply srt, com ang gly qtz, predy ang, mnr kaol and calc cmt, mnr glau mat, occ crm and pnk cal grs, occ hemc and fld grs, pos re cly mtx, assumed fair intgr por, ns. SH(20%): red and mnr crm, clayey, micmica, slty ip.

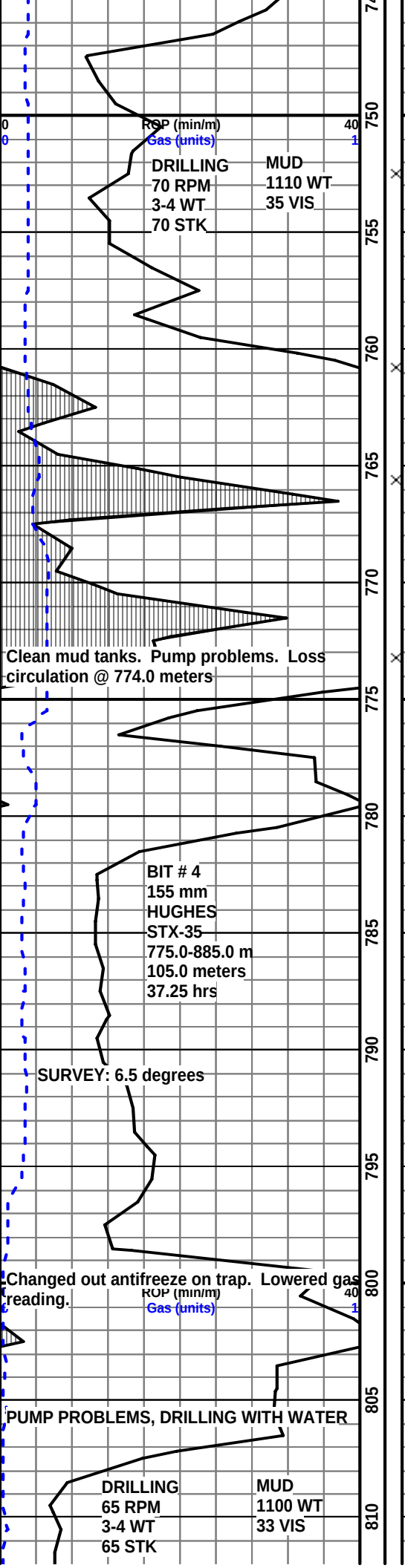
720-725 SH / CLY(60%): red, red brn, lesser gn, clayey, micmica, wx ip, hemc, slty ip, sbfis to blky. SS(40%): As above, slty to l med gr, ply srt, ang, tr kaol and gn clayey cmt / mtx, mnr xln cal, hemc, pos red cly mtx, assumed fair intgr por, ns.

725-730 SH(50%): red brn, brn, mnr gn and gy, sb fis to fis, micmica, occ mica flks, wxy ip, slty ip, hemc. SS(50%): red brn, slty to u med gr, mnr c gr, ply srt, ang to sb ang, mnr kao and pos calc cmt, fri, occ xln cal, mnr hemc grs, sl glauc, fld, pos red cly mtx, assumed p to fai intgr por, ns.

730-735 SS(55%): red brn, predy slty to l med gr, mnr c gr, ply srt, an to sb ang, mnr kao and calc cmt, fri, occ pnk xln cal, mnr hemc grs, incrg glauc mat, fld, pos red cly mtx, assumed p to fair intgr por, ns. SH(45%): As above, red brn, brn, mnr gn and gy, wxy ip, slty ip, hemc.

735-740 SH / CLY(55%): red brn, brn, mnr gn and dk gy, tr purple, slt ip, tr carb, v clayey, micmica, sb fis to blky, wxy ip, hemc. SS(45%): red brn, 35% qtz grs, predy v f to l c gr, slty to vf gr mtx, pos cgl, ply srt, ang to sb rd, occ glauc mat, com red brn clay pos mtx, occ hemc grs, mnr fld, assumed p to fair intgr por, ns.

740-745 SS(60%): red brn, 30% qtz grs, predy vf to l med gr, slty, tr c gr, ply srt, ang to sb ang, mnr kao and sl incrg calc cmt, fri, tr blk gn rd firm grs, com red brn clay grs and pos mtx, tr glau, tr hemc, assumed p to pos fair intgr por, ns. SH(40%): As above.



745-750 SH(65%): red brn, mnr gn, crm and dk gy, tr purple, As above. SS(35%): red brn, 30% qtz grs, predy vf to l med gr, abnt slt, mnr c gr, ply srt, ang to sb ang, mnr kao and calc cmt, fri, tr blk gn rd firm grs, com red brn clay grs and pos mtx, tr glau, tr hemc, assume p to pos fair intgr por, ns.

750-760 SS(80%): red brn, 40% qtz grs, vf to f gr, abnt slt, mnr med g ply srt, ang to mnr sb rd, mnr calc and kao cmt, pos red clay mtx, fri, mnr glauc mat, hemc, mnr mics flks, occ crm and pnk xln cal, occ dk gn firm grs, assumed p to pos fair intgr por, ns. SH(20%): red brn, brn, sb fis to blky, slty ip, wxy ip, v clayey.

760-765 SS(75%): red brn, 40% qtz grs, vf to f gr, abnt slt, mnr med gr, ply srt, ang to mnr sb rd, mnr calc and wh and lt gn kao cmt, pos red clay mtx, fri, mnr glauc mat, hemc, tr mics flks, occ crm and pnk xln cal, occ dk gn firm grs, assumed p to pos fair intgr por, ns. SH(25%): red brn, brn, mnr gn, sb fis to blky, slty ip, wxy ip, v clayey.

765-774 SS(50%): As above, vf to f gr, mnr med gr, v slty, ply srt, ang to lesser sb rd, cmt as above, pos red clay mtx, fri, assumed p to pos fair intgr por, ns. SH(50%): red brn, brn, mnr crm and gn, sb fis to occ fis, v clayey, slty ip.

774-780 SLTST(60%): red brn, sdy, grdg to a vf grdg ss, incrg ly calc, mnr kao cmt, fri, occ gn pos glauc mat, sbrd to sb ang qtz grs, pos hemc, mnr mica. SH(40%): red brn, v clayey, sb fis to mnr fis, micmica, slty ip.

780-785 SS(75%): red brn, 35% qtz grs, vf to lesser f gr, abnt slt, pos sdy sltst, mnr med and c grs, sb rd to sb ang, mnr kac and calc cmt, mnr gn clay cmt, com red brn clay pos as cmt, occ calc grs, hemc ip, mics ip, fri, assumed p to fair intgr por, ns. SH(25%): red brn, v clayey, micmica, slty ip, sb fis to mnr fis.

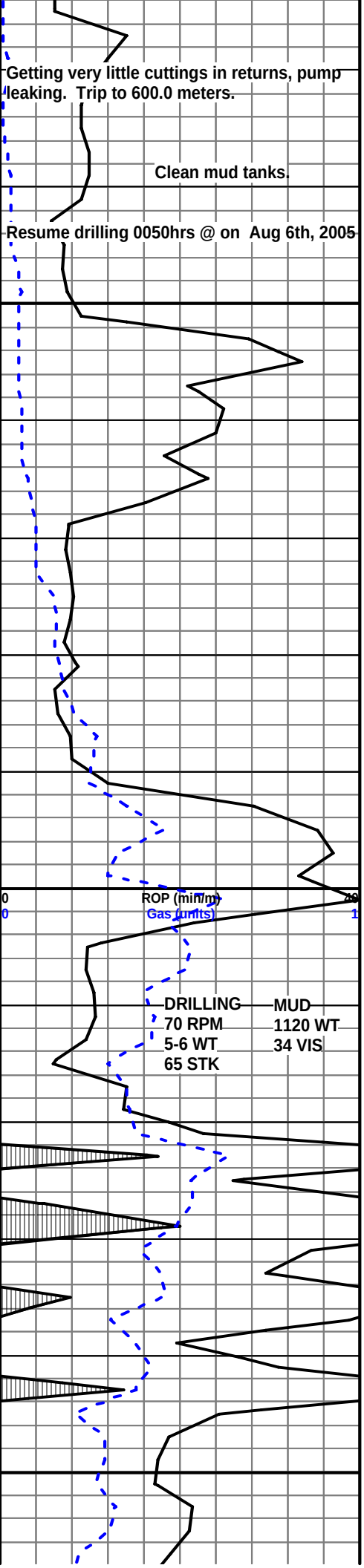
* Sandstone / Siltstone getting more light green clay cement.*

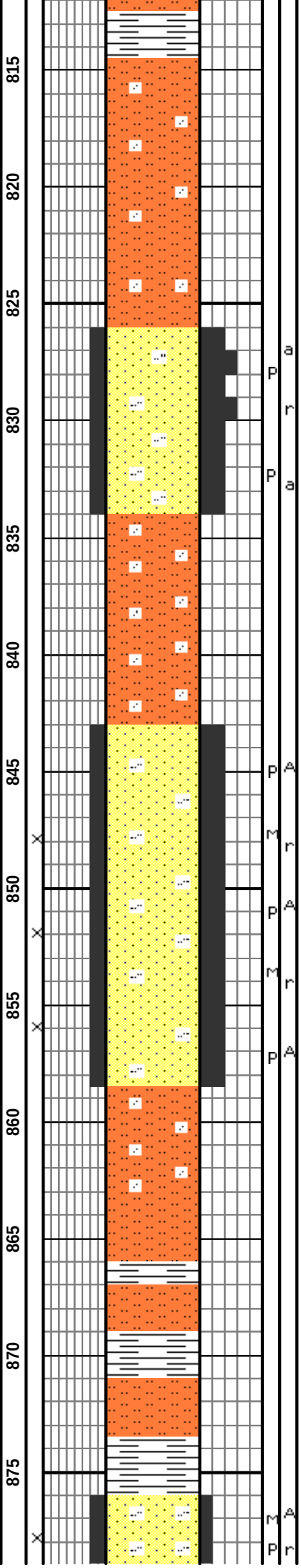
785-790 SS(60%): lt gy gn, red brn, predy vf to f, abnt slt, mnr med to tr c gr, ply srt, sb rd to lesser sb ang, incrg lt gy gn clayey pos kao cmt, pos glauc, tr dk cht, hemc ip, mics ip, calc ip, pos fld, assumed intgr por, ns. SH(40%): As above.

790-795 SLTST(80%): red brn, sdy, pos slty ss, mnr lt gn clay cmt, sl calc, red brn sh grs, hemc ip, as above. SH(20%): red brn, clayey, sb fis to fis, micmica, slty ip.

795-805 SS(80%): red brn, predy vf to f gr, abnt slt, lesser med gr, ply to mod srt, ang to sb rd, fri, tr kao and pos calc cmt, com cln gly ang qtz frags, com red brn and brn sh / clay mat, hemc ip, com vf dk hem grs, incrg xln cal, mnr mics flks, mnr gn clay grs and cmt, assumed fair intgr por, ns. SH(20%): red brn, brn, clayey, blky to sb fis, slty ip micmica, wxy ip

805-815 SS(80%): red brn, 30% qtz grs, predy vf to mnr f gr, incrg ly slty, mod srt, pos a sdy sltst, predy uncons, tr kao and calc cmt, calc ip, com red brn clay, com hemc grs, occ lt gn glauc? mat, mnr lt gn clayey cmt / mtx, assumed fair intgr por, ns. SH(20%): As above.





815-825 SLTST(50%): red brn, lt gy gn, occ to com wh to lt gn cly cmt pos kao, sl calc, sft, occ sd as above, mics ip, pos hemc. SH(50%): red brn to incrg brn, micmica, wxy ip, slty ip, calc ip.

820-825 SLTST/ SS (40%): red brn, lt gy gn, occ wh to lt gn cly cmt, pos kao, sl calc, sft, occ to com vf to f sd, pos a slty ss, mics ip, pos hemc. SH(60%): red brn to brn, mnr dk gy, micmica, wxy ip, slty ip, calc ip.

825-830 SS(50%): lt wh gy, red brn, 30% qtz grs, vf to l med gr, slty, ply srt, incrg wh to lt gy mics with occ sft dk gn grs clay mtx, sb ang to sb rd, occ calc grs, mnr gly ang brit qtz shards, fri, com red brn sh / clay pos as mtx, assumed p to pos fair intgr por, ns. SH(50%): red brn to com brn, mnr dk gy, clayey, red brn is sb fis to wk ly fis, brn is blky, micmica, slty ip.

830-835 SS(80%): red brn, 40% qtz grs, predy vf to lesser f gr, mnr med gr, slty, mod to ply srt, ang to sb rd, mnr wh to lt gy gn kao cmt mtx, incrg ly calc, mnr clr gly qtz frags, pos ovgth, occ dk gn sft wxy mat, pos glauc mat, pos mnr fld, assumed p to pos fair intgr por, ns. SH(20%): As above.

835-840 SLTST(70%): red brn, occ vf to lesser f gr sd, pos slty ss, oc wh to lt gn clayey kao mtx, calc, com red brn clay, occ hemc grs, mn mics mat, fri. SH(30%): As above.

840-845 SS(50%): red brn, 30% qtz grs, predy vf to slty, mnr f gr, mod to ply srt, pos a sdy sltst, ang to sb rd, sl incrg wh to lt gy gn kao mtx calc ip, mnr mics mat, mnr dk gn sft wxy mat, pos glauc, pos mnr fld mnr hemc grs, assumed p to pos fair intgr por, ns. SH(20%): red brn to brn, mnr gy and tr purple, clayey, slty ip, micmica, sb fis to blky.

845-850 SS(75%): red brn, 50% qtz grs, vf to f gr, v slty, mod to ply srt, ang to lesser sb rd, incrg calc and mnr kao cmt, mnr mics mat, mnr glauc mat, com red brn clay, occ hemc grs, assumed p intgr por ns. SH(25%): red brn and brn, lmnc, clayey, slty ip, sb fis to blky, sft.

850-855 SS(50%): As above, red brn, calc, kaoc, com red brn and brn clay, p intgr por, ns. SH(50%): red brn, brn, lmnc, sb fis to blky, micmica.

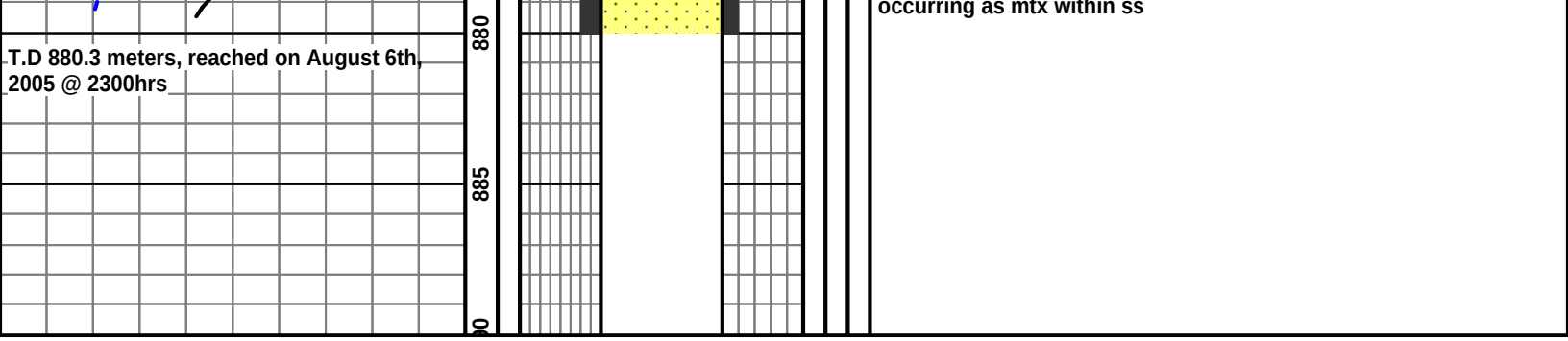
855-860 SS(65%): red brn, 35% qtz grs, predy vf gr to incrg ly slty, mnr f gr, mod to ply srt, ang to sb rd, calc and wh to lt gn kaoc cmt, mnr fld, occ f hemc grs, com red brn clay, mnr mica, assumed p intg por, ns. SH(35%): red brn, brn, lmnc, clayey, micmica, sft, pos occurring as mtx within ss

860-865 SS(60%): red brn, 35% qtz grs, predy vf gr to abnt slt, mnr f gr, mod to ply srt, ang to sb rd, calc and wh to lt gn kaoc cmt, mnr fl occ f hemc grs, com red brn clay, mnr mica, assumed p intgr por, ns SH(40%): red brn, brn, lmnc, clayey, micmica, sft, pos occurring as mtx within ss.

865-870 SH(80%): red brn, brn, lmnc, clayey, micmica, sft. SLTST(20%): red brn, mnr vf gr, calc and wh to lt gn kaoc cmt, occ f hemc grs, com red brn clay, micmica.

870-875 SH(60%): red brn, brn, lmnc, clayey, micmica, sft. SLTST(40%): red brn, mnr vf gr, calc and wh to lt gn kaoc cmt, occ f hemc grs, com red brn clay, mnr mica.

875-880 SS(65%): red brn, 35% qtz grs, predy vf gr to incrg ly slty, mnr f gr, mod to ply srt, ang to sb rd, calc and wh to lt gn kaoc cmt, mnr fld, occ f hemc grs, com red brn clay, mnr mica, assumed p intg por, ns. SH(35%): red brn, brn, lmnc, clayey, micmica, sft, pos



T.D 880.3 meters, reached on August 6th, 2005 @ 2300hrs

occurring as mtx within ss

APPENDIX H: DOWNHOLE LOGS

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

APPENDIX I: EMPLOYEE BENEFITS SUMMARY

Storm #1: Drilling Operations

	Residence		
Week	**NL**	**Other**	**Total**
1	9	0	**9**
2	14	1	**15**
3	16	1	**17**
4	15	0	**15**
5	16	0	**16**
6	13	3	**16**
7	14	4	**18**
8	14	3	**17**
9	14	3	**17**
10	17	2	**19**

Average number of workers on site each week	15.9
Percentage of workers residents of NL	89.3%
Percentage of workers non-residents of NL	10.7%

Storm #1: Benefits Table

Week	1					2				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer					0	1	3			1
Supervisors	1	7			1	1	7			1
Rig Mangers	1	3			1	1	7	1	7	2
Drillers					0	2	5			2
Floorhands	2	7			2	2	5			2
Geologists					0					0
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0					0
Cementing					0	1	1			1
Testing					0					0
Administration					0					0
Security	1	7			1	1	7			1
Heavy Equipment Operators	2	5			2	2	3			2
Welders & Helpers	1	3			1	1	4			1
Fuel Hauler	1	1			1	1	1			1
Remedial Services					0					0
Waste Disposal					0	1	1			1
Total	**9**		**0**		**9**	**14**		**1**		**15**

Storm #1: Benefits Table

Week	3					4				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer	1	3			1	1	3			1
Supervisors	1	7			1	1	7			1
Rig Mangers	1	7	1	7	2	1	7			1
Drillers	2	7			2	2	7			2
Floorhands	4	7			4	4	7			4
Geologists	1	6			1	1	7			1
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0					0
Cementing	1	2			1					0
Testing					0					0
Administration					0					0
Security	1	7			1	1	6			1
Heavy Equipment Operators	1	5			1	1	6			1
Welders & Helpers	1	2			1	1	2			1
Fuel Hauler	1	2			1	1	2			1
Remedial Services					0					0
Waste Disposal	1	1			1	1	3			1
Total	**16**		**1**		**17**	**15**		**0**		**15**

Storm #1: Benefits Table

Week	5					6				
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	2			1	1	5			1
Supervisors	1	7			1	1	1			1
Rig Mangers	1	7			1	1	7			1
Drillers	2	7			2	1	7			1
Floorhands	4	7			4	2	6			2
Geologists	1	7			1					0
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging					0			3	3	3
Cementing					0					0
Testing					0					0
Administration					0					0
Security	1	5			1	1	7			1
Heavy Equipment Operators	1	2			1	1	2			1
Welders & Helpers	1	5			1	1	1			1
Fuel Hauler	1	2			1	1	1			1
Remedial Services					0	1	2			1
Waste Disposal	2	1			2	2	1			2
Total	**16**		**0**		**16**	**13**		**3**		**16**

Storm #1: Benefits Table

Week	7					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	6			1	1	3			1
Supervisors					0	1	7			1
Rig Mangers	1	7			1	1	7			1
Drillers	2	7			2	2	7			2
Floorhands	4	6			4	4	5			4
Geologists					0					0
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging	1	5	3	7	4	1	7	2	7	3
Cementing					0					0
Testing					0					0
Administration					0					0
Security	1	4			1	1	3			1
Heavy Equipment Operators					0	1	1			1
Welders & Helpers	1	4			1					0
Fuel Hauler	1	2			1	1	1			1
Remedial Services	1	7	1	1	2	1	7	1	7	2
Waste Disposal	1	1			1					0
Total	**14**		**4**		**18**	**14**		**3**		**17**

Storm #1: Benefits Table

Week	9					10				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer					0	1	1			1
Supervisors	1	7			1	1	2			1
Rig Mangers	1	7			1	1	6			1
Drillers	2	7			2	2	6			2
Floorhands	4	5			4	4	6			4
Geologists					0					0
Mud Loggers					0					0
MWD/Directional					0					0
Wireline Logging	1	7	2	7	3	1	4	1	4	2
Cementing					0	1	2			1
Testing					0					0
Administration					0					0
Security	1	2			1					0
Heavy Equipment Operators					0	1	1			1
Welders & Helpers	1	2			1	1	1			1
Fuel Hauler	1	2			1	1	2			1
Remedial Services	1	7	1	7	2	1	4	1	4	2
Waste Disposal	1	1			1	2	2			2
Total	**14**		**3**		**17**	**17**		**2**		**19**

APPENDIX J: DAILY OPERATIONAL REPORTS

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 1	DATE:	July 12, 2005
DEPTH: mKB	PROGRESS: m in		hours (last	rotating hours (la	
OPER 06:00:			FOREMAN:	Greg Walsh	MOBILE NO.: 709-689-4601
DAILY COST:	HOLE CND.:		WEATHER:	Rain	TOOLPUSH: Tom Target
CUM COST:	RIG / RIG #:		TEMP.:	20°C	T.P. MOBILE:
FORMATION:	K.B. ELEV.:		ROADS:		

AFE# **AFE $**

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

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.	Newpark
Mud Man	
Mud Up @	1700

PUMPS

Pump No.	
Make	
Model	
Liner X Stk	
SPM	
Pump Eff.	
Pump Rate	
Pump Press.	kPa
Drillpipe AV	m/min
Drillcollar AV	m/min
Nozzle Vel	m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

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

VOLUMES **M^3**

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	12	Survey		Move Rig	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Direct. Drill	
Coring		Cementing		Rathole	
Rm Rathole		WOC		Safety Meeting	
Cond / Circ		NU BOP's		Mix mud	
Tripping		Test BOPs			
Lubricate Rig		Drill Out Cmt			
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	12

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

Boiler Hrs: (to 24:00)

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

Continued rig up. Weld mud tank, hand rails and platform for drillers remote BOP control. Fill mud tank with water. Met with Craig Rose @ 1600 hrs and discussed start up procedure for drilling conductor hole.

Next 24 hrs: Meet with crew. Two drillers,rig manager,and two floorhands for oreintation.Discuss drilling and safety procedures,Inspect drilling equipment and under direction of Mr. Rose and wellsite supervisor proceed to drill conductor hole. Rig to operate 12 hrs. per day until drillers and crews are competent with operation of equipment to break tour.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 2	DATE:	July 13,2005
DEPTH: 13.1	PROGRESS: 13 m	in 3 1/2	rotating hours (last 24 hrs.)		
OPER 06:00:			FOREMAN: Greg Walsh	MOBILE NO.:	689-4601
DAILY COST:	HOLE CND.:		WEATHER: overcast	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:		TEMP.: 15°C	T.P. MOBILE:	
FORMATION:	K.B. ELEV.:		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	2		
Size (mm)	215.9		
Mfg.	Security		
Type	BX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	0		
To (mKB)	13		
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

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.	Newpark
Mud Man	
Mud Up @	1700

PUMPS

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

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit,Stab

BHA Length:		Hook Load:		daN DP size	
Avail WOB:		Jts DP Racks	127	DC Conn:	
Jts DP in hole:	1	DP on Loc:	128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	6	Survey		Plug Back	
Drill Actual	3 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1
Tripping	1 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	12

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : #VALUE! (0000 hrs - 2400 hrs)

Held pre-tour safety meeting with new drillers and Craig Rose. Discussed proceedures and expectations while working with new equipment.Requested a nomination of ocpation, health and safety representative.Orientation of equipment and safe operating procedures with new drillers and Craig Rose. Continued to rig up. Drilled pilot conductor to 13.1 m hole sluffing in. Layed down 215.9mm air hammer. Picked up & m/u 215.9mm tri cone assembly. Start mixing gel.

Forecast: Mix gel drill 215.9mm pilot conductor using mud into compitant formation. POOH change BHA to 311mm drill conductor.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 3	DATE:	July 14, 2005
DEPTH: 10 mKB	PROGRESS: -3 m in		rotating hours (last 24 hrs.)		
OPER 06:00:			FOREMAN: Greg Walsh	MOBILE NO.:	896- 4106
DAILY COST:	HOLE CND.:		WEATHER: Overcast	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:		TEMP.: 15°C	T.P. MOBILE:	
FORMATION:	K.B. ELEV.: 2.9 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	311		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

DRILLING FLUID

Time	18:00
Depth(m)	10m
Density	1030
Mud Grad	10.1043
Vis	55
PV	
YP	
Gels	
pH	8
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		
Model		
Liner X Stk		
SPM		
Pump Eff.		
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	28	m3
Hole Volume	1	m3
System Vol.	29	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .61m Stab 3.86m

BHA Length:	4.47	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	127	DC Conn:	4 1/2 XH
Jts DP in hole:	1	DP on Loc:	128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

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

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

Boiler Hrs: (to 24:00)

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

Held pre-tour safety meeting. Mixed gel prepared prepared circulating system and mud pump. RIH with 215mm BHA attempt to drill conductor POOH and lay down joint of 340mm casing due to drill string deflecting off boulders. RIH with 311mm BHA to ream. Increase viscosity and attempt to ream pilot conductor. Changed out head on mud pump. Attempt to ream boulders problems with hole sluffing in. Run jiont of 340mm csg and continue to ream 311mm conductor to 10m.

Forecast: Drill 311mm conductor into compatent formation.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 4	DATE:	15/07/05
DEPTH: 15 mKB	PROGRESS: 5 m	in	2 1/2	rotating hours (last 24 hrs.)	
OPER 06:00:			FOREMAN: Greg Walsh	MOBILE NO.:	689-4106
DAILY COST:	HOLE CND.: Sluffing @ surface		WEATHER: overcast	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:		TEMP.: 17°C	T.P. MOBILE:	
FORMATION:	K.B. ELEV.: 2.9 m		ROADS: good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	1
Size (mm)	311
Mfg.	Varol
Type	CH24MS
Serial #	RR01394
Nozzles	open
From (mKB)	10
To (mKB)	15
Hrs on Bit	2 1/2
WOB (daN)	1ton
RPM	50
Condition	good
Pulled For?	hole problems
Meters	5
m/hr	2.0
Cum Hrs	

SURVEYS

DRILLING FLUID

Time	14:00
Depth(m)	15m
Density	1050
Mud Grad	10.3005
Vis	55
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#2
Make	GD
Model	
Liner X Stk	
SPM	
Pump Eff.	
Pump Rate	
Pump Press.	kPa
Drillpipe AV	m/min
Drillcollar AV	m/min
Nozzle Vel	m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.47	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	126	DC Conn:	4 1/2 XH
Jts DP in hole:	2	DP on Loc:	128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

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

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

Boiler Hrs: (to 24:00)

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

Held pre-tour safety meeting. Serviced rig. Circulate and condition mud while adding extention on 340mm pipe. Ream 311mm hole. POOH change tri-cone to air hammer. Ream and break boulders with air hammer. POOH change air hammer to tri-cone . Drill 31mm hole from 12.08m to 15.12m. Problems with cellar area sluffing in POOH L/D BHA and drill pipe. Rig down rig and move from well center. Prepare lease for 340mm pipe.

Forcast: Prepare to set and cement 340mm pipe. move rig on new well . Rig up , P/U BHA and condition mud.

Floorhand twisted ankle while working on mud pump. First indication was stiffness of ankle swelling developed after some time.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 5	DATE:	July 16,2005
DEPTH: 11.4 mKB	PROGRESS: m in		rotating hours (last 24 hrs.)		
OPER 06:00:			FOREMAN: Greg Walsh	MOBILE NO.:	
DAILY COST:	HOLE CND.:		WEATHER: rain	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:		TEMP.: 12°C	T.P. MOBILE:	
FORMATION:	K.B. ELEV.: 2.9 m		ROADS: good		

AFE# **AFE $**

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	#DIV/0!		
Cum Hrs			

SURVEYS

DRILLING FLUID

Time	
Depth(m)	
Density	1050
Mud Grad	10.3005
Vis	55
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#2
Make	
Model	
Liner X Stk	
SPM	
Pump Eff.	
Pump Rate	
Pump Press.	kPa
Drillpipe AV	m/min
Drillcollar AV	m/min
Nozzle Vel	m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	4 1/2 XH
Jts DP in hole:	DP on Loc:	128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	11 3/4	Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	12

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

Boiler Hrs: (to 24:00)

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

Held pre-tour safety meeting. Excavated location placed 340mm pipe @ 8.53m below ground level and cemented in place with 4m3 of 30mpa cement. Backfilled location with rock base and removed excess loose fill from location. Simultainious operations transferred mud from mud tanks to 400 barrel tank, changed out seal in power swivel & serviced derrick. Set sub over well center and positioned rig. Moved tanks and pump transferred mud back in tanks. Continued to rig up.

Forecast: Weld flow nipple onto 340mm pipe. Condition mud and prepare to drill 311mm conductor as per program.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 6	DATE:	July 17,2005
DEPTH: 52.78 mKB	PROGRESS: 41 m in		6 1/2 rotating hours (last 24 hrs.)		
OPER 06:00:			FOREMAN: Greg Walsh	MOBILE NO.:	689-4106
DAILY COST:	HOLE CND.: good		WEATHER: overcast	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:		TEMP.: 15°C	T.P. MOBILE:	
FORMATION:	K.B. ELEV.: 2.92m		ROADS: good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	1		
Size (mm)	215		
Mfg.	varol		
Type	EBX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	10.98		
To (mKB)	52.78		
Hrs on Bit	6 1/2		
WOB (daN)	2-4mt.		
RPM	80-90		
Condition			
Pulled For?	TD		
Meters	41.8		
m/hr	6.4		
Cum Hrs	9	9	9

SURVEYS

DRILLING FLUID

Time	18:00
Depth(m)	52m
Density	1105
Mud Grad	10.84005
Vis	46
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177x152	
SPM	40	
Pump Eff.	95%	
Pump Rate		
Pump Press.	400	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks		m3
Hole Volume	2	m3
System Vol.	2	m3

Mud & Chemicals Added: 22 sks gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	121	DC Conn:	4 1/2 XH
Jts DP in hole:	7	DP on Loc:	128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	2	Survey		Plug Back	
Drill Actual	6 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 3/4	NU BOP's		Safety meet	1/4
Tripping	1/2	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	12

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : July 16, 2005 (0000 hrs - 2400 hrs)

Hold pre-tour safety meeting. Transfer, build and condition drilling fluid. Installed drilling nipple and flow line on 340mm conductor set @ 10.98m. RIH to 10.5m Drill .5m cement. Drill 215mm hole from 10.98m to 52.78m. Compatent formation to set 244mm conductor. POOH and clean mud pump suction lines.

Forecast: Wiper trip with 215mm pilot bit. Open hole to 311mm. POOH and prepare to run 244mm coductor. Prepare diverter lines.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 7	DATE:	July 18, 2005
DEPTH: 52.78 mKB	PROGRESS: m in		4 1/4 rotating hours (last 24 hrs.)		
OPER 06:00:			FOREMAN: Greg Walsh	MOBILE NO.:	689-4106
DAILY COST:	HOLE CND.: good		WEATHER: Overcast	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:		TEMP.: 15°C	T.P. MOBILE:	
FORMATION:	K.B. ELEV.: 2.9 m		ROADS: good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	2		
Size (mm)	311		
Mfg.	Varel		
Type	CH24MS		
Serial #	RR01394		
Nozzles	open		
From (mKB)	10.98		
To (mKB)	52.78		
Hrs on Bit	4 1/4		
WOB (daN)	2-4mt		
RPM	80		
Condition			
Pulled For?	TD		
Meters	41.8		
m/hr	9.8		
Cum Hrs			

SURVEYS

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.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2	
Make	GD		
Model	PY7		
Liner X Stk	177-152		
SPM	40		
Pump Eff.	95%		
Pump Rate			
Pump Press.	400	kPa	
Drillpipe AV		m/min	
Drillcollar AV		m/min	
Nozzle Vel		m/sec	

MUD & CHEMICALS

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

Mud & Chemicals Added:

no chemicals mixed

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	121	DC Conn:	4 1/2 XH
Jts DP in hole:	7	DP on Loc:	128	DP Conn:	

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

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

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : July 17, 2005 (0000 hrs - 2400 hrs)

Held pre-tour Safety meeting. Checked fluid levels and lubricated rig. RIH with 215mm bit no fill on bottom hole good condition. POOH and M/U 311mm bit. Open hole from 215mm to 311mm from 10.98 t0 52.78m. Circulate hole clean POOH. Rig up flare lines, water tanks and prepare pump for cement job. RIH work minor obstruction @ 14m continue in hole to 52m. No fill on bottom. POOH conditions good. Continue to prepare flare lines.

Forecast: Carry out wiper trip. Rig up and run 244mm casing. Cement same as per program. Prepare to cut 340mm and install annular. Carry out rig inspection.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 8	DATE:	July 19, 2005
DEPTH: 52.78 mKB	PROGRESS: m in		rotating hours (last 24 hrs.)		
OPER 07:00:			FOREMAN: Greg Walsh	MOBILE NO.:	689-4106
DAILY COST:	HOLE CND.:		WEATHER: Clear	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	1		
Size (mm)	311mm		
Mfg.	Varel		
Type	CH24MS		
Serial #	RR01394		
Nozzles	open		
From (mKB)	52.78		
To (mKB)	52.78		
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?	TD		
Meters			
m/hr			
Cum Hrs			

SURVEYS

DRILLING FLUID

Time	10:00
Depth(m)	52m
Density	1205
Mud Grad	11.82105
Vis	46
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.	700	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	30	m3
Hole Volume	2	m3
System Vol.	32	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	121	DC Conn:	
Jts DP in hole:	7	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing	3	Work w/Pason	
Coring		Cementing	3/4	Work Pipe	
Rm Rathole		WOC	5	Mix LCM	
Cond / Circ	2	NU BOP's		Safety meet	1/4
Tripping	3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	12

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : July 18, 2005 (0000 hrs - 2400 hrs)

Held pre-tour safety meeting. Rig service and RIH to 52.78m with no obstructions or fill on bottom. Circ hole clean POOH and L/D stab and bit. Rig to and run 244.5 mm J55 53.6 kg/m LTC Connection casing. Shoe at 52.7m. Circ casing and hold tool box talk discussing procedures and program prior to cement job. Pumped .5 m3 water spacer ,3m3 of 15.2 lbs/gal Grade A neat cement & displaced with 1.1 M3 water. 0.5m3 of cement returns to surface. Wait on cement. Flushed pumps and surface lines, checked valves and seats in good order . Prepare for rig inspection. Cut 340mm flow line in cellar. Cut 244mm conductor and weld on casing collar.

Forecast: Install 244mm casing spool. Continueto rig up annular , rotating head and lines. Prepare for rig inspection. RIH with 215mm hammer assembly and tag cement . Complete rig inspection and hold pre-spud tool box talk. Drill cement with air hammer to shoe, survey, and drill ahead as per program.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1				REPORT #:	9	DATE:	July 20, 2005
DEPTH:	59.48 mKB	PROGRESS:	6.7 m in	1	rotating hours (last 24 hrs.)		
OPER 07:00:	Installing 244mm Csg bowl			FOREMAN:	Greg Walsh	MOBILE NO.:	689-4106
DAILY COST:	$5,342	HOLE CND.:		WEATHER:	clear	TOOLPUSH:	Tom Target
CUM COST:	$142,374	RIG / RIG #:	RD10	TEMP.:	20°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.:	2.92 m	ROADS:	good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	#1		
Size (mm)	215MM		
Mfg.	Varel		
Type	EBX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	52.78		
To (mKB)	59.49		
Hrs on Bit	1		
WOB (daN)	1-2mt		
RPM	80		
Condition			
Pulled For?	hole conditions		
Meters	6.71		
m/hr	6.7		
Cum Hrs			

SURVEYS

50.87 m	1/4 °

DRILLING FLUID

Time	10:00
Depth(m)	52.78
Density	12:10
Mud Grad	0.0049731
Vis	46
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	30	m3
Hole Volume	2	m3
System Vol.	35	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:		Hook Load:	daN DP size	114 mm
Avail WOB:		Jts DP Racks	DC Conn:	
Jts DP in hole:		DP on Loc: 128	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	Plug Back	
Drill Actual	1	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's	6 1/4	Safety meet	1/4
Tripping	3 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	12

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		
Shaker Mesh		
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 : July 19, 2005 (0000 hrs - 2400 hrs)

7:00 - 07:30 Hold pre-tour safety meeting. Service rig. 07:30 - 09:00 Install 244mm casing bowel. 09:00 - 09:45 RIH tag top of cement at 29m. 09:45 - 14:30 Install annular , rotating head and air discharge lines. 14:30 - 15:30 Drill out cement & shoe. Drill ahead with 215mm air hammer to 59.48m Encountered water unable to drill with air. 15:30 - 15:45 Survey @ 50.87M 1/4 degree. 15:45 - 18:30 POOH changed bit from hammer to tricone, RIH . 18:30 19:00 hrs Clean mud tanks and prepare to build new mud

Forecast : Condition mud and drill ahead as per program with rotary bit.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1				REPORT #:	10	DATE:	July 21, 2005
DEPTH:	140.5 mKB	PROGRESS:	81 m in	15 1/2	rotating hours (last 24 hrs.)		
OPER 07:00:	Drilling @ 156 m.			FOREMAN:	Greg Walsh	MOBILE NO.:	689-4106
DAILY COST:	$5,357	HOLE CND.:	Good	WEATHER:	fog	TOOLPUSH:	Tom Target
CUM COST:	$147,731	RIG / RIG #:	RD10	TEMP.:	15°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.:	2.92 m	ROADS:	good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	#1		
Size (mm)	215MM		
Mfg.	Varel		
Type	EBX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	52.78		
To (mKB)	140.5		
Hrs on Bit	15 1/2		
WOB (daN)	2-4		
RPM	80-105		
Condition			
Pulled For?			
Meters	87.72		
m/hr	5.7		
Cum Hrs	23	23	23

SURVEYS

60 m	0.25 deg
156 m	2.00 deg

DRILLING FLUID

Time	22:00
Depth(m)	140
Density	1160
Mud Grad	11.3796
Vis	42
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	50 spm	
Pump Press.	500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel	open	m/sec

MUD & CHEMICALS

Mud Cycle	60	min
Bottoms Up	6	min
Tanks	30	m3
Hole Volume		m3
System Vol.		m3

Mud & Chemicals Added:

gel 20 sks

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .22 Stabilizer 3.9m

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:	2-4 MT	Jts DP Racks	110	DC Conn:	
Jts DP in hole:	18	DP on Loc:	128	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		Plug Back	
Drill Actual	15 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	1/2
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	17

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : July 20, 2005 (0000 hrs - 2400 hrs)

07:00- 07:30 Held pre-tour tool box talk & serviced rig.)7:30- 08:00 Circ and condition mud.
08:00-19:00 Drill 215mm hole from 59.48m - 118.27m 19:00 - 19:15 Start of 24 hour tours Held pre-tour tool box talk.
19:15- 23:45 Drill 215mm hole from 118.27m - 140.5m 23:45 -24:00 Service rig.

Forecast: Drill 215mm hole to casing point. wiper trip condition mud for casing run.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 11	DATE:	July 22, 2005
DEPTH: 202 mKB	PROGRESS: 62 m	in 22	rotating hours (last 24 hrs.)		
OPER 07:00: 217 m			FOREMAN: Greg Walsh	MOBILE NO.:	709 689 4106
DAILY COST:	HOLE CND.: Good		WEATHER: Clear	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 25°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	#1		
Size (mm)	215MM		
Mfg.	Varel		
Type	EBX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	52.78		
To (mKB)	202		
Hrs on Bit	37 1/2		
WOB (daN)	4-5		
RPM	80-105		
Condition			
Pulled For?			
Meters	149.22		
m/hr	4.0		
Cum Hrs	45	45	45

SURVEYS

60 m	0.25 deg
156 m	2.00 deg

DRILLING FLUID

Time	22:00
Depth(m)	194m
Density	1140
Mud Grad	11.1834
Vis	34
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.	500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

12 sacks gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .22 Stabilizer 3.9m

BHA Length:	4.12	Hook Load:	5,000 daN	DP size	114 mm
Avail WOB:	5mt	Jts DP Racks	103	DC Conn:	
Jts DP in hole:	25	DP on Loc:	128	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	Plug Back	
Drill Actual	22	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig	1	DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : July 21, 2005 (0000 hrs - 2400 hrs)

00:00 - 06:15 Drill 215mm hole from 141.10 - 156.32m 06:15 - 06:30 Survey @ 148.71m 2 deg.
06:30 - 12:00 Drill 215mm hole from 156.32m - 174m . 12:00 - 12:15 Rig service.
12:15 - 20:00 Drill 215mm hole from 174m - 194.37m 20:00 - 20:30 Safety meeting / Rig service.
20:30 - 21:30 Change out head on mud pump and air filters on floor motors.
21:30 - 24:00 Drill 215mm hole from 194.37 -

Forecast: Drill ahead to casing depth

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 12	DATE:	July 23, 2005
DEPTH: 250.14 mKB	PROGRESS: 48 m	in 22 3/4	rotating hours (last 24 hrs.)		
OPER 07:00: Pulling out of hole to run casing			FOREMAN: Greg Walsh	MOBILE NO.:	709 689 4106
DAILY COST:	HOLE CND.: Good		WEATHER: Clear	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 25°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	#1		
Size (mm)	215MM		
Mfg.	Varel		
Type	EBX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	52.78		
To (mKB)	250		
Hrs on Bit	60 1/4		
WOB (daN)	4-5		
RPM	80-105		
Condition			
Pulled For?	TD		
Meters	197.22		
m/hr	3.3		
Cum Hrs	67 3/4	67 3/4	67 3/4

SURVEYS

60 m	0.25 deg
156 m	2.00 deg

DRILLING FLUID

Time	22:00
Depth(m)	250
Density	1180
Mud Grad	11.5758
Vis	38
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	96	DC Conn:	
Jts DP in hole:	32	DP on Loc:	128	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		Plug Back	
Drill Actual	22 3/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	3/4	NU BOP's		Safety meet	1/4
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Drill 215mm hole from 202m to 250.14m TD. Rigservice. Circ hole clean prior to wiper trip.

Forecast: Wiper trip. POOH L/D BHA. Rig up and run casing , cement as per program. Wait on cement.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 13	DATE:	July 24, 2005
DEPTH: 250.14 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00:			FOREMAN: Bill Williams	MOBILE NO.:	709 689 9673
DAILY COST:	HOLE CND.:	Good	WEATHER: Cloudy-rain	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	#1		
Size (mm)	215MM		
Mfg.	Varel		
Type	EBX5305		
Serial #	RR01333		
Nozzles	open		
From (mKB)	52.78		
To (mKB)	250		
Hrs on Bit	60 1/4		
WOB (daN)	4-5		
RPM	80-105		
Condition			
Pulled For?	TD		
Meters	197.22		
m/hr	3.3		
Cum Hrs	67 3/4	67 3/4	67 3/4

SURVEYS

60 m	0.25 deg
156 m	2.00 deg

DRILLING FLUID

Time	10:00
Depth(m)	250
Density	1180
Mud Grad	11.5758
Vis	38
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	96	DC Conn:	
Jts DP in hole:	32	DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

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

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wiper triped to shoe. Circulated hole clean and pulled out of hole.Held prejob safety meeting. Rigged up to run casing. Made up guide shoe,1 joint casing IPV valve and 27 joints, H-40, 25.3 kg/m, STC, 178 mm casing. Total length 249.56 m.
Tag bottom @ 250.2 m. Pull to 249 m. for space out.Held safety meeting prior to cement job. Pump .5 m3 H2o preflush. Pressure test surface lines to 5000 kpa. Pump 4.8 m3 class A cement 15.8 lb/gal + 4.65 liters dispersant. Drop wiper plug Displace with 5.2 m3 H2o.Pump pressure 2800 kpa. Bump plug @ 7000 kpa No cement returns at surface but indications of spacer. Rig out surface equipment and wait on cement

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 14	DATE:	July 25,2005
DEPTH:	250.14 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)	
OPER 07:00:			FOREMAN:	Bill Williams	MOBILE NO.: 689 9673
DAILY COST:	$6,567	HOLE CND.:	Cased	WEATHER:	Rain	TOOLPUSH:	Tom Target
CUM COST:	$182,444	RIG / RIG #:	RD10	TEMP.:	17°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.:	2.92 m	ROADS:			

AFE# **AFE $**

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	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg

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.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	1 1/2	Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC	3	Mix LCM	
Cond / Circ		NU BOP's	17	Safety meet	1/2
Tripping		Test BOPs	2	Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Continued to wait on cement to 0500 hrs. Backed off landing joint and made up casing bowl. Held safety meeting.Nippled up BOP,s choke manifold and flare lines. Rigged in BOP control lines.Rigged up to pressure test casing and BOP,s. Seal failure in pipe rams.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 15	DATE:	July 26, 2005
DEPTH: 250 mKB	PROGRESS: 0 m	in	rotating hours (last 24 hrs.)		
OPER 07:00: Trip in hole			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Cased		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

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	#DIV/0!		
Cum Hrs			

SURVEYS

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.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

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

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.12	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back		RSPP	
Drill Actual		Logging		Fishing		ST/Min	
Reaming		Run Casing		Work w/Pason		MACP(kPa)	
Coring		Cementing		Work Pipe		Calc Hole Fill	
Rm Rathole		WOC		Mix LCM		Act Hole Fill	
Cond / Circ		NU BOP's	18	Safety meet	1/2	Lst BOP Drill:	
Tripping		Test BOPs	5 1/2	Weld on Bowl		Calc Hole Fill	
Lubricate Rig		Drill Out Cmt		BOP Drill		Act Hole Fill	
Repair Rig		DST					
Slip/Cut Line		Hndle Tools		Total Hrs	24		

WELL CONTROL

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Held safety meeting.Nipple down BOP,s, repair seal in pipe ram assembly and nipple up BOP,s to 1800 hrs. Perssure test casing, BOP,s and choke manifold. Function test accumulator.

Pressure test pipe rams,blind rams,annular preventor.HCR valve,kill valve,choke line,choke manifold and safety valve. 200 psi low - 800 psi high -15 min.

Accumulator: Close - open pipe rams,close annular and open HCR. Start pressure 10200 kpa. Remaining pressure 9000 kpa. Time to recharge - 37 secs. Pipe rams close - 7 secs. Annular preventor - 10 secs. HCR - 2 secs.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 16	DATE:	July 27, 2005
DEPTH:	302 mKB	PROGRESS:	52 m in	3 1/2	rotating hours (last 24 hrs.)
OPER 07:00:	Trip out @ 348 m.		FOREMAN:	Bill Williams	MOBILE NO.: 689 9673
DAILY COST:	$6,937	HOLE CND.:	Good	WEATHER:	Cloudy	TOOLPUSH:	Tom Target
CUM COST:	$195,718	RIG / RIG #:	RD10	TEMP.:	23°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.:	2.92 m	ROADS:			

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	2	2A	
Size (mm)	155	159	
Mfg.	Reed	Misson	
Type	HP43	Air	
Serial #	LR2847	1398289	
Nozzles	open		
From (mKB)	235	255	
To (mKB)	255	302	
Hrs on Bit	3	5 1/2	
WOB (daN)	4	4	
RPM	80	40	
Condition			
Pulled For?	change		
Meters	20	47	
m/hr	6.7		
Cum Hrs		5 1/2	5 1/2

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg

DRILLING FLUID

Time	2400
Depth(m)	425
Density	1000
Mud Grad	9.81
Vis	30
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.	1,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	36	m3
Hole Volume		m3
System Vol.	36	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M. Stabilizer 3.65 m.

BHA Length:	5.67	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	88	DC Conn:	2 7/8 IF
Jts DP in hole:	40	DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	8	Survey	1	Plug Back	
Drill Actual	3 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole	3/4	WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping	6 1/4	Test BOPs	1 1/2	Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt	2 1/4	BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2587
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Completed testing BOP,s. Made up 156 mm tricone bit and ran in hole. Tagged cement @ 235 m. Held safety meeting and BOP drill prior to drilling out shoe. Drilled out float and shoe. Drilled 156 mm hole to 255 m. Surveyed @ 255 m. Pulled to shoe and conducted formation intregrity test. Fluid density - 1000 kg/m3. Pressured up to 2600 kpa - 10 min. No pressure drop.Pressure gradient -20.2 kpa/m. Pulled out of hole and made up air hammer and 159 mm bit. Ran in hole and displaced to air. Reamed from 235 m to 255 m. Drilled 159 mm hole from 255 m to 264 m. Drill string pressured up. Pulled out of hole and cleared plugged air hammer. Ran in hole and drilled from 264 m. to 302 m.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 17	DATE:	July 28, 2005
DEPTH: 430 mKB	PROGRESS: 128 m	in 17	rotating hours (last 24 hrs.)		
OPER 07:00: Drilling @ 475 m			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Rain	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	2	2A	
Size (mm)	155	159	
Mfg.	Reed	Misson	
Type	HP43	Air	
Serial #	LR2847	1398289	
Nozzles	open		
From (mKB)	348	255	
To (mKB)	422	348	
Hrs on Bit	13 3/4	5 1/2	#DIV/0!
WOB (daN)	4	4	
RPM	80	40	
Condition			
Pulled For?			
Meters	74	93	
m/hr	5.4	16.9	
Cum Hrs		5 1/2	#DIV/0!

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg

DRILLING FLUID

Time	1800
Depth(m)	390
Density	1000
Mud Grad	9.81
Vis	35
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	36	m3
Hole Volume	8	m3
System Vol.	44	m3

Mud & Chemicals Added:

Polymer 2

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M. Stabilizer 3.65 m.

BHA Length:	5.67	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	72	DC Conn:	
Jts DP in hole:	56	DP on Loc:	128	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	Plug Back	
Drill Actual	17	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	1/2
Tripping	5 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2587
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	01-Jul-28
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Drilled 159 mm hole with air from 302 m to 348 m Circulate hole clean. Pulled out of hole unable to drill, excessive water. Layed out air hammer and made up 155 mm tricone. Held safety meeting and elected OH&S rep. Ran in hole to shoe. Filled hole with water. Ran in hole and washed from 338 m to bottom. Held BOP drill. Drilled 155 mm hole from 348 m to 430 m. Surveyed @ 422 m - 2 deg.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 18	DATE:	July 29, 2005
DEPTH: 536 mKB	PROGRESS: 106 m	in 16 1/4	rotating hours (last 24 hrs.)		
OPER 07:00: Drilling @ 555 m.			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 26°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	2		
Size (mm)	155		
Mfg.	Reed		
Type	HP43		
Serial #	LR2847		
Nozzles	open		
From (mKB)	348		
To (mKB)	536		
Hrs on Bit	33 1/4		
WOB (daN)	4		
RPM	80		
Condition			
Pulled For?			
Meters	188		
m/hr	5.7		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg

DRILLING FLUID

Time	2000
Depth(m)	500
Density	1010
Mud Grad	9.9081
Vis	33
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate		
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle		min
Bottoms Up		min
Tanks	38	m3
Hole Volume	10	m3
System Vol.	48	m3

Mud & Chemicals Added:

Polymer 2

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:	14 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	58	DC Conn:	
Jts DP in hole:	70	DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES M^3

Water added	
Losses	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	16 1/4	Logging		Fishing	
Reaming	3/4	Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	3/4	NU BOP's		Safety meet	
Tripping	2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		Clean tanks	4
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2550
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Shoe	249 m
Act Hole Fill	

SOLIDS CONTROL

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

Mud Daily Cost

Mud Cum Cost

Boiler Hrs: (to 24:00)

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

Drilled 155 mm hole from 430m to 521 m. Circulated bottoms up, flow checked and pulled out of hole to shoe. Cleaned mud tanks.
Ran in hole to 461 m. Ream from 461 m to 521 m. Function tested pipe rams.
Drilled 155 mm hole from 521 m to 536 m.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 19	DATE:	July 30, 2005
DEPTH: 591 mKB	PROGRESS: 55 m	in	14 3/4	rotating hours (last 24 hrs.)	
OPER 07:00: Drilling @ 611 m.			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Cloudy	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	2	3	
Size (mm)	155	155	
Mfg.	Reed	Hughes	
Type	HP43	str-30	
Serial #	LR2847	E822H	
Nozzles	open	open	
From (mKB)	348	591	
To (mKB)	591		
Hrs on Bit	48		
WOB (daN)	4		
RPM	80		
Condition			
Pulled For?	ROP		
Meters	243		
m/hr	5.1		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg

DRILLING FLUID

Time	2400
Depth(m)	
Density	1020
Mud Grad	10.0062
Vis	35
PV	
YP	
Gels	
pH	8
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	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	75	
Pump Eff.	95%	
Pump Rate	0.01	
Pump Press.	2,000	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	4855	min
Bottoms Up	1148	min
Tanks	36	m3
Hole Volume	11	m3
System Vol.	47	m3

Mud & Chemicals Added:

Polymer 2

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:	15 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	51	DC Conn:	
Jts DP in hole:	77	DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES M^3

Water added	
Losses	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual	14 3/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	1/4
Tripping	6 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	1/4
Repair Rig	1 1/2	DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2530
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	05-Jul-29
Calc Hole Fill	
Act Hole Fill	

Mud Daily Cost

Mud Cum Cost

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Drilled 155 mm hole from 536 m to 591 m..Circulated hole clean,flow checked and pulled out of hole for bit change.Made up bit and ran in hole to548 m. Reamed from 548 m to 590 m. Circulated and pulled out to 530 m.and repaired hydraulic leak in lifting cylinder.. Held BOP drill and safety meeting. Function tested annular preventor.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 20	DATE:	July 31, 2005
DEPTH:	636 mKB	PROGRESS:	45 m in	10 1/4	rotating hours (last 24 hrs.)
OPER 07:00:			FOREMAN:	Bill Williams	MOBILE NO.: 689 9673
DAILY COST:	$8,237	HOLE CND.:	WEATHER:	Sunny	TOOLPUSH: Tom Target
CUM COST:	$230,836	RIG / RIG #:	RD10	TEMP.: 25°C	RIG PHONE: 613 980 5731
FORMATION:		K.B. ELEV.:	2.92 m	ROADS:	

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	3		
Size (mm)	155		
Mfg.	Hughes		
Type	str-30		
Serial #	E822H		
Nozzles	open		
From (mKB)	591		
To (mKB)	636		
Hrs on Bit	10		
WOB (daN)	4-5		
RPM	60-70		
Condition			
Pulled For?			
Meters	45		
m/hr	4.5		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg

DRILLING FLUID

Time	2400
Depth(m)	
Density	1050
Mud Grad	10.3005
Vis	35
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	65	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.	2,000	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	71	min
Bottoms Up	19	min
Tanks	33	m3
Hole Volume	12	m3
System Vol.	45	m3

Mud & Chemicals Added:

Federal Gel 23

Polymer 2

Lime 3

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	45	DC Conn:	
Jts DP in hole:	83	DP on Loc:	128	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	Plug Back	
Drill Actual	10 1/4	Logging		Fishing	
Reaming	2 3/4	Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 1/2	NU BOP's		Safety meet	
Tripping	1 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig	1	DST		Clean tanks	5
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2500
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	01-Jul-29
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Repaired leak in ram lifting ram.Washed and reamed to bottom. Drilled 155 mm hole from 590 m to 629 m. Circulated hole clean,surveyed and pulled out of hole to 507 m. Cleaned mud tanks and ran in hole to 540 m. Washed and reamed from 540 m to 606 m. Circulated and conditioned mud.Reamed to bottom. Drilled 155 mm hole from 629 m to 636 m.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 21	DATE:	August 1, 2005
DEPTH: 656 mKB	PROGRESS: 20 m	in 17 3/4	rotating hours (last 24 hrs.)		
OPER 07:00: Drilling @ 660 m.			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 30°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	3		
Size (mm)	155		
Mfg.	Hughes		
Type	str-30		
Serial #	E822H		
Nozzles	open		
From (mKB)	591		
To (mKB)	657		
Hrs on Bit	26		
WOB (daN)	4-5		
RPM	60-70		
Condition			
Pulled For?	ROP		
Meters	66		
m/hr	2.5		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg

DRILLING FLUID

Time	2400
Depth(m)	
Density	1080
Mud Grad	10.5948
Vis	36
PV	
YP	
Gels	
pH	8
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	65	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.	2,000	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	67	min
Bottoms Up	20	min
Tanks	30	m3
Hole Volume	12	m3
System Vol.	42	m3

Mud & Chemicals Added:

Federal gel 3

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	42	DC Conn:	
Jts DP in hole:	86	DP on Loc:	128	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		Plug Back	
Drill Actual	17 3/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1 1/2	NU BOP's		Safety meet	1/4
Tripping	2 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig	1 1/2	DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2400
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : July 31, 2005 (0000 hrs - 2400 hrs)

Drilled 155 mm hole from 636 m to 652 m. Circulated and wiper tripped to 507 m. Changed out liner and piston in mud pump. Ran in hole and washed reamed to bottom. 3 m. fill. Drilled 155 mm hole from 652 m to 656 m.Flow checked, pulled out of hole for bit change.

Held safety meeting and functioned tested pipe rams.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 22	DATE:	August 2, 2005
DEPTH: 692 mKB	PROGRESS: 36 m	in 14 1/4	rotating hours (last 24 hrs.)		
OPER 07:00: Drilling @ 715 m.			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 27°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	3	4	
Size (mm)	155	155	
Mfg.	Hughes	Smith	
Type	str-30	PB3458	
Serial #	E822H	ER7042	
Nozzles	open	open	
From (mKB)	591	656	
To (mKB)	656	692	
Hrs on Bit	26	14 1/4	
WOB (daN)	4-5	4	
RPM	60-70		
Condition			
Pulled For?	ROP		
Meters	65	36	
m/hr	2.5	2.5	
Cum Hrs		14 1/4	14 1/4

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg

DRILLING FLUID

Time	2400
Depth(m)	692
Density	1000
Mud Grad	9.81
Vis	36
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.60	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	75	min
Bottoms Up	22	min
Tanks	32	m3
Hole Volume	13	m3
System Vol.	45	m3

Mud & Chemicals Added:

Federal gel 23

Lime 1

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	38	DC Conn:	
Jts DP in hole:	90	DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES **M^3**

Water added	
Losses	

DRILLING OPERATIONS TIME BREAKDOWN

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

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2587
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Mud Daily Cost

Mud Cum Cost

Boiler Hrs: (to 24:00)

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

Pulled out of hole and made up new bit. Ran in hole to 649 m. Reamed and washed to 656 m. Drilled 155 mm hole from 656 m to 692 m. Pulled out of hole to 504 m. and cleaned mud tanks. Mixed mud and cirulated.
Functioned tested annular preventor. Held safety meeting.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 23	DATE:	August 3, 2005
DEPTH:	745 mKB	PROGRESS:	53 m in 22	rotating hours (last 24 hrs.)	
OPER 07:00:	Drilling @765m		FOREMAN: Bill Williams	MOBILE NO.:	689-9673
DAILY COST:		HOLE CND.:	Good	WEATHER: Raining	TOOLPUSH: Tom Target
CUM COST:		RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE: 613 980 5731
FORMATION:		K.B. ELEV.:	2.92 m	ROADS: Paved	

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	4		
Size (mm)	155		
Mfg.	Smith		
Type	ER7042		
Serial #	PB3458		
Nozzles	open		
From (mKB)	656		
To (mKB)	745		
Hrs on Bit	36 1/4		
WOB (daN)	4		
RPM	65		
Condition			
Pulled For?			
Meters	89		
m/hr	2.5		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg

DRILLING FLUID

Time	2400
Depth(m)	745
Density	1110
Mud Grad	10.8891
Vis	35
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	70	
Pump Eff.	95%	
Pump Rate	0.68	
Pump Press.	2,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	65	min
Bottoms Up	21	min
Tanks	30	m3
Hole Volume	14	m3
System Vol.	44	m3

Mud & Chemicals Added:

Gel 11

Salt 4

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:	20,000 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	31	DC Conn:	
Jts DP in hole:	97	DP on Loc:	128	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		Plug Back	
Drill Actual	22	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	
Tripping	1	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2300
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Circulate and Condition Mud , Run in Hole to 689m (3m of fill) , Drill From 692m to 720m , Rig Service , Drill From 720m to 745m

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 24	DATE:	August 4, 2005
DEPTH: 775 mKB	PROGRESS: 30 m	in 17 1/2	rotating hours (last 24 hrs.)		
OPER 07:00: Rig in mud pump			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Rain	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 24°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	4		
Size (mm)	155		
Mfg.	Smith		
Type	ER7042		
Serial #	PB3458		
Nozzles	open		
From (mKB)	656		
To (mKB)	775		
Hrs on Bit	53 3/4		
WOB (daN)	4		
RPM	65		
Condition			
Pulled For?	ROP		
Meters	119		
m/hr	2.2		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg

DRILLING FLUID

Time	2000
Depth(m)	775
Density	1110
Mud Grad	10.8891
Vis	35
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.68	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	66	min
Bottoms Up	21	min
Tanks	30	m3
Hole Volume	15	m3
System Vol.	45	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	27	DC Conn:	
Jts DP in hole:	101	DP on Loc:	128	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		Plug Back	
Drill Actual	17 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 1/2	NU BOP's		Safety meet	1/4
Tripping	3	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig	1/2	DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Drilled 155 mm hole from 745 m. to 774 m. Circulated and conditioned mud. Drilled 155 mm hole from 774 m to 775 m..Lost Circulation.(2-3 m3). Mixed pill and pumped. Full returns. Mud pump Down.Flow checked, pulled out of hole for bit change. Functioned tested annular preventor.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 25	DATE:	August 5, 2005
DEPTH: 802 mKB	PROGRESS: 27 m	in 10 1/4	rotating hours (last 24 hrs.)		
OPER 07:00: Pulling out to 500 m.			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Rain Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	5		
Size (mm)	155		
Mfg.	Hughes		
Type	STX-35		
Serial #	5023805		
Nozzles	open		
From (mKB)	775		
To (mKB)	802		
Hrs on Bit	10 1/4		
WOB (daN)	4		
RPM	65		
Condition			
Pulled For?			
Meters	27		
m/hr	2.6		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg

DRILLING FLUID

Time	0500
Depth(m)	802
Density	1100
Mud Grad	10.791
Vis	32
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.40	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	113	min
Bottoms Up	38	min
Tanks	30	m3
Hole Volume	15	m3
System Vol.	45	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	23	DC Conn:	
Jts DP in hole:	105	DP on Loc:	128	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	Plug Back	
Drill Actual	10 1/4	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/4	NU BOP's		Safety meet	
Tripping	4 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig	8	DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2340
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Pulled out of hole and made up new bit. Ran in Hole to shoe .Rigged in mud pump and and broke circulation.Ran in hole to 766 m.. Washed to bottom. 1 m fill. Drilled 155 mm hole fr 775 m to 796 m. Surveyed @ 789 m. 7 deg. Drilled 155 mm hole from 796 m to 802 m.

Function tested blind rams .

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 26	DATE:	August 6, 2005
DEPTH: 819 mKB	PROGRESS: 17 m	in	5 1/2	rotating hours (last 24 hrs.)	
OPER 07:00:			FOREMAN: Bill Williams	MOBILE NO.:	689 9673
DAILY COST:	HOLE CND.: Good		WEATHER: Cloudy	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS:		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	5		
Size (mm)	155		
Mfg.	Hughes		
Type	STX-35		
Serial #	5023805		
Nozzles	open		
From (mKB)	775		
To (mKB)	819		
Hrs on Bit	15 3/4		
WOB (daN)	4		
RPM	65		
Condition			
Pulled For?			
Meters	44		
m/hr	2.8		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg

DRILLING FLUID

Time	0500
Depth(m)	
Density	1100
Mud Grad	10.791
Vis	32
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.50	
Pump Press.	1,500	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	91	min
Bottoms Up	31	min
Tanks	30	m3
Hole Volume	15	m3
System Vol.	45	m3

Mud & Chemicals Added:

Gel 2

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	21	DC Conn:	
Jts DP in hole:	107	DP on Loc:	128	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		Plug Back	
Drill Actual	5 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	5 1/2

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2350
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Drilled 155 mm hole from 802 m to 819 m.Circulated hole clean and pulled out of hole to 515 m. Repaired mud pump

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 27	DATE:	August 7, 2005
DEPTH: 880.5 mKB	PROGRESS: 62 m	in 21 1/2	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Schlumberger			FOREMAN: Bill Williams	MOBILE NO.:	689-9673
DAILY COST:	HOLE CND.: Good		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 24°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	5		
Size (mm)	155		
Mfg.	Hughes		
Type	STX-35		
Serial #	5023805		
Nozzles	open		
From (mKB)	775		
To (mKB)	880.5		
Hrs on Bit	37 1/4		
WOB (daN)	4		
RPM	70		
Condition			
Pulled For?			
Meters	105.5		
m/hr	2.8		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	2400
Depth(m)	880.5
Density	1120
Mud Grad	10.9872
Vis	38
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	65	
Pump Eff.	95%	
Pump Rate	0.60	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	78	min
Bottoms Up	28	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

Gel 6

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .19. M.Float sub .35 Stabilizer 3.65 m.

BHA Length:	4.19	Hook Load:	24,000 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	13	DC Conn:	
Jts DP in hole:	115	DP on Loc:	128	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		Plug Back	
Drill Actual	21 1/2	Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1 1/2	NU BOP's		Safety meet	
Tripping	1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2300
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Run in Hole,Ream from 805 to 819m…Circulate Hole…Drill From 819 to 880.5M (TD), Circulate and Condition.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 28	DATE:	August 8, 2005
DEPTH:	880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)	
OPER 07:00:	Wait on Schlumberger	Rig Maintenance	FOREMAN:	MOBILE NO.:	649-4957
DAILY COST:		HOLE CND.: Good	WEATHER: Clear	TOOLPUSH:	Tom Target
CUM COST:		RIG / RIG #: RD10	TEMP.: 20°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1800
Depth(m)	880.5
Density	1120
Mud Grad	10.9872
Vis	35
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	65	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	75	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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	Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	3/4	NU BOP's		Safety meet	
Tripping	3 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.SCH	18 3/4
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2300
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on Schlumberger…..Rig Maintenance…Clean and Tidy up Lease…Break Down and Check Mud Pump…

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 29	DATE:	August 9, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Schlumberger			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.: Good		WEATHER: Clear / Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 21°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1800
Depth(m)	880.5
Density	1120
Mud Grad	10.9872
Vis	35
PV	
YP	
Gels	
pH	8/9/2005
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	75	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST			
Slip/Cut Line		Hndle Tools		Total Hrs	

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on Schlumceberg…Rig maintenance…Change out Piston and Liner on Mud Pump…Change out Shackles and Adjust Cables on Top Drive …Measure and Order Hydraulic Hoses…Change out Fuel ,Oil Filters on Rig and Mud Pump...

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 30	DATE:	August 10, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Schlumberger /Rig			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.: Good		WEATHER: Clear	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1600
Depth(m)	880.5
Density	1120
Mud Grad	10.9872
Vis	35
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	75	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		WOS	
Slip/Cut Line		Hndle Tools		Total Hrs	

WELL CONTROL

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

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on Schlumberger…Monitor Hole..Fill Hole .2m3…..Change Fuel Filters on Rig Motor and Mud Pump…Cut and Weld New Flange on Floor Motor Exhaust…Drain Oil From Mud Pump Power End …Change out Pony Rod Seals on Mud pump…Grind Down Connecting Rod Clamps ...

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 31	DATE:	August 11, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wiper TRIP			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Clear	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 19°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	RR#3		
Size (mm)	156		
Mfg.	Smith		
Type	PB3548		
Serial #	ER7042		
Nozzles	OPEN		
From (mKB)	880.5		
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters	-880.5		
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1900
Depth(m)	880.5
Density	1135
Mud Grad	11.13435
Vis	40
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.68	
Pump Press.	1,600	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	69	min
Bottoms Up	25	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

Gel…6

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .20….Float Sub…41….Stab…3.65….4.26m

BHA Length:	4.19	Hook Load:	6,545 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	96	DC Conn:	
Jts DP in hole:	32	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming	1 3/4	Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	3/4	NU BOP's		Safety meet	1/4
Tripping	4 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.S	5 1/2
Slip/Cut Line		Hndle Tools		Total Hrs	13 1/4

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2260
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on Schlumberger…Compl. Oil Change on Mud Pump…Load Casing on Trailer…Safety Mtg..Make up Bit (RR#3)Run in Hole to 550 Mtrs…Break Circulation,Ream and Wash to 600 Mtrs..Run in Hole From 600 to 873 Mtrs , Wash to Bottom 880 Mtrs , (7Mtrs Fill), Pull out of Hole to Shoe @ 248 Mtrs..

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 32	DATE:	August 12, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Fisherman			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	RR#3		
Size (mm)	156		
Mfg.	Smith		
Type	PB3548		
Serial #	ER7042		
Nozzles	OPEN		
From (mKB)	880.5		
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters	-880.5		
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1100
Depth(m)	880.5
Density	1140
Mud Grad	11.1834
Vis	36
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	75	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Bit .20….Float Sub…41….Stab…3.65….4.26m

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back	
Drill Actual		Logging	3 3/4	Fishing	
Reaming	2 1/2	Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	1/4
Tripping	4 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.o.Fisherman	5 1/2
Slip/Cut Line		Hndle Tools		Total Hrs	17

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Run in Hole From 248m to 545m…Ream From 545m to 650m…Run in Hole From 650m to 865m…Break Circulation at 865m ,Wash to Bottom (8 mtrs fill)... Circulate Bottoms up….Pull out of Hole…Rig up and Run Wire Line Loggs….Stuck in Hole @ 1830 hrs.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 33	DATE:	August 13, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Fisherman			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1800
Depth(m)	880.5
Density	1140
Mud Grad	11.1834
Vis	37
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	74	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Fisherman	24
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 12, 2205 (0000 hrs - 2400 hrs)

Wait on Fisherman , Pump Away all Fluid in Storage Tanks , Clean Storage Tanks

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 34	DATE:	August 14, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Double Pin Sub			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1800
Depth(m)	880.5
Density	1140
Mud Grad	11.1834
Vis	37
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	74	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	4.19	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Fisherman	
Slip/Cut Line		Hndle Tools		Total Hrs	

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 13, 2205 (0000 hrs - 2400 hrs)

Wait on Fisherman….Safety Meeting With Fisherman , Schlumberger , Re-position and Rig in Wire line Truck , Wait On Double Pin Sub , Hot Shot From Weatherford in St.John's

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 35	DATE:	August 15, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Fishing Tools			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1800
Depth(m)	880.5
Density	1140
Mud Grad	11.1834
Vis	37
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	74	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

24 Bags

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Side Door Overshot 1.78 , X/O .28 , X/O .52 , X/O .61 , X/O 1.02 =4.21m

BHA Length:	4.21m	Hook Load:	25 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	55	DC Conn:	
Jts DP in hole:	73	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1	NU BOP's		Safety meet	1/2
Tripping	5 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	9
Slip/Cut Line		Hndle Tools	8 1/4	Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 14, 2205 (0000 hrs - 2400 hrs)

Wait on Fishing Tools , Safety Meeting With Crew , Fisherman , Loggers , Make up Fishing Tools , Run in Hole ,Circulate at Shoe , Fish for Logging Tools

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 36	DATE:	August 16, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Fishing Tools			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	1800
Depth(m)	880.5
Density	1140
Mud Grad	11.1834
Vis	37
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	74	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	5 3/4	NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Tools	18
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 15, 2205 (0000 hrs - 2400 hrs)

Pull Out of Hole , Wait on Fishing Tools , (Fabricate, Weld , Install New Standpipe , Change Oil , Filters in Generate Plant , Install New Greating on Drill Floor , Rig Out Geolograph Unit ,Survey Unit ,Degrease Floor Motors and Rads , Jack up Roof in Storage Container ,Sand Blast Shackers , Prepare Catwalk For Sand Blasting...

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 37	DATE:	August 17, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Fishing Tools			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	74	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

6 Bags

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Overshot 1.91, X/O .33 , X/O .58 = 2.82

BHA Length:	2.82	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	55	DC Conn:	
Jts DP in hole:	73	DP on Loc:	128	DP Conn:	2 7/8 IF

VOLUMES **M^3**

Water added	
Losses	

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO		Survey		Plug Back	
Drill Actual		Logging		Fishing	6 3/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	
Tripping	8 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Tools	8 1/2
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
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	Derrick	
Shaker Mesh		
	Desilter	Centrifuge
Vol UF (l/min)		
U.F. (kg/m3)		
O.F. (kg/m3)		
Hours/Days		

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 16, 2205 (0000 hrs - 2400 hrs)

Wait on Fishing Tools , Make up Fishing Tools , Run in Hole , Break Circulation at Shoe , 406m , Safety Meeting , Fish For Logging Tools ,Pull out of Hole . (Frabicate and Weld Frame for Shaker ,Repair , Weld Stairs for Catwalk , Prepare Catwalk for Sand Blasting ,Cut Drain Holes in Catwalk ,Sand Blast Shaker...)

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 38	DATE:	August 18, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Parts to Repair Mud Pump			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	42	
Pump Eff.	95%	
Pump Rate	0.63	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	74	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Overshot 1.91, X/O .33 , X/O .58 = 2.82

BHA Length:	2.82	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	96	DC Conn:	
Jts DP in hole:	32	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	6 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	
Tripping	8 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	3/4	Drill Out Cmt		BOP Drill	
Repair Rig	1	DST		W.O.Parts	7
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 17, 2205 (0000 hrs - 2400 hrs)

Pull out of Hole With Fishing Tools , Clean and Inspect Fishing Tools , Run in Hole , Fish for Logging Tools , Problems With mud Pumps , (Clutch Gone on Main Pump , Flex Seal on Smaller Pump , Pull out of Hole to Shoe , Order Parts for Repairs…Change Oil and Filters on Light Tower...Start Sand Blasting Catwalk..

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 39	DATE:	August 19, 2205
DEPTH: 880.5 mKB	PROGRESS: m in		rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Orders			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	Dual Bean	
Model	V65	
Liner X Stk		
SPM	42	
Pump Eff.	95%	
Pump Rate	0.30	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	157	min
Bottoms Up	57	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Overshot 1.91, X/O .33 , X/O .58 = 2.82

BHA Length:	2.82	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole:	32	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	6 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	
Tripping	8 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	3/4	Drill Out Cmt		BOP Drill	
Repair Rig	1	DST		W.O.Parts	7
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 18, 2205 (0000 hrs - 2400 hrs)

Wait on pump parts. While waiting, sandblast and prep catwalk to paint, repair 2-in gas pump, prep shale shaker to paint, rig service on topdrive, visually inspect derrick. Fix rental pump. Circulate and condition mud. Pull out of hole and check fishing tool. Run in hole with 4.5-in side door overshot to 555-m and fish for Wireline logging tools.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 40	DATE:	August 20, 2205
DEPTH: 880.5 mKB	PROGRESS: m in		rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Orders			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	Dual Bean	
Model	V65	
Liner X Stk		
SPM	42	
Pump Eff.	95%	
Pump Rate	0.30	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	157	min
Bottoms Up	57	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Overshot 1.91, X/O .33 , X/O .58 = 2.82

BHA Length:	2.82	Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole:	32	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	2 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping	3 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	18
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 19, 2205 (0000 hrs - 2400 hrs)

Fish for logging tools/Pull out of hole with fishing tools/Clean, inspect and lay down Fishing tools/Wait on orders. (Paint shaker, fabricate and weld liner wash box for mud pump, weld hooks on catwalk for BOP lines, weld fork on loader, sandblast and prime C-can).

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 41	DATE:	August 21, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Wait on Orders /Tools			FOREMAN: Tom Targett	MOBILE NO.:	649-4957
DAILY COST:	HOLE CND.:		WEATHER: Sunny	TOOLPUSH:	Tom Target
CUM COST:	RIG / RIG #: RD10		TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.: 2.92 m		ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	Dual Bean	
Model	V65	
Liner X Stk		
SPM	42	
Pump Eff.	95%	
Pump Rate	0.30	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	157	min
Bottoms Up	57	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole: 32	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	24
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 20, 2205 (0000 hrs - 2400 hrs)

Wait on Orders/Tools, (Spray paint C-can, paint catwalk, V-door, spreader bars, catwalk stairs and belt guard on mud pump. Prepare dog house for painting. Degrease mud pump, power end and motor.)

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 42	DATE:	August 22, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Rig up for cut and thread			FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	Dual Bean	
Model	V65	
Liner X Stk		
SPM	42	
Pump Eff.	95%	
Pump Rate	0.30	
Pump Press.		kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	157	min
Bottoms Up	57	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole: 32	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Tools	24
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 21, 2205 (0000 hrs - 2400 hrs)

Wait on Tools. Safety meeting with operational and risk analysis on cut and thread execution. Wait on parts and daylight for rigging up cut and thread setup.

24 Hour Forecast: Rig up for cut and thread operation and begin to run in the hole with conventional overshot with 2 5/16-in grapple and mule shoe.

Note: Fluid level in hole stable. Rig crews on standby. Security personnel on site. Rig manager and/or well site supervisor on site 24-hours.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 43	DATE:	August 23, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Circulate and Condition Mud			FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	64	
Pump Eff.	95%	
Pump Rate	0.62	
Pump Press.	2,000	kPa
Drillpipe AV		m/min
Drillcollar AV		m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	76	min
Bottoms Up	27	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m

BHA Length:		Hook Load:	15 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole:	72	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging	5	Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1 1/2
Tripping	6	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Tools	11 1/2
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 22, 2205 (0000 hrs - 2400 hrs)

Wait on TooLs , Relocate Schlumberger Truck , Install New Clutch in Mud Pump , Install Sheaves in Derrick ,Install Pack-off Assembly ,Get Measurements , Make Adjustments , Remove Goose Neck from Top Drive , Cut Wire Line and Install Rope Socket , Pull Test on Socket to 3000 Pounds , Make up Fishing Tools , Run in Hole

24 Hour Forecast: Circulate and Condition Mud ,Raise Vis , Circulate and Try and Wash Down Over Fish

Note: Fluid level in hole stable. Rig manager and/or well site supervisor on site 24-hours.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 44	DATE:	August 24, 2205
DEPTH:	880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)	
OPER 07:00:	Latched onto Fish….Working String		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:		RIG / RIG #: RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0600
Depth(m)	406
Density	1130
Mud Grad	11.0853
Vis	34
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	90	
Pump Eff.	95%	
Pump Rate	0.87	
Pump Press.	2,500	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	54	min
Bottoms Up	19	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m

BHA Length:		Hook Load:	15 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole:	73	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	14 1/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2	NU BOP's		Safety meet	2 1/2
Tripping	5 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Tools	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 23, 2205 (0000 hrs - 2400 hrs)

Run in Hole From 192m to 542m , Rig in Pack off Assy , Circulate , Work Pipe , Wash to 556.7m

24 Hour Forecast: Work String to Try and Free Fish , Pull Fish out of Hole

Note: Fluid level in hole stable. Rig manager and/or well site supervisor on site 24-hours.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 45	DATE:	August 25, 2205
DEPTH:	880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)	
OPER 07:00:	Work Pipe , Circulate ,Try and Free fish		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:		RIG / RIG #: RD10	TEMP.: 22°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	2300
Depth(m)	556
Density	1125
Mud Grad	11.03625
Vis	37
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m

BHA Length:		Hook Load:	15 daN	DP size	114 mm
Avail WOB:		Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole:	73	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	23 3/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Tools	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 24, 2205 (0000 hrs - 2400 hrs)

Work Pipe , Circulate ,Record Line Weight , Pump Pressures ,

24 Hour Forecast: Work String to Try and Free Fish , Pull Fish out of Hole

Note: Fluid level in hole stable. Rig manager and/or well site supervisor on site 24-hours.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 46	DATE:	August 26, 2205
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Circulating Above Fish			FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1120
Mud Grad	10.9872
Vis	38
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	#REF!	DC Conn:	
Jts DP in hole:	DP on Loc:	#REF!	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		Plug Back	
Drill Actual		Logging		Fishing	15 3/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/4
Tripping	4 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	
Slip/Cut Line		Hndle Tools		Total Hrs	21

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 25, 2205 (0000 hrs - 2400 hrs)

Work Pipe to Try and Free Fish , No Luck , Realease Fish From overshot , Pull Out of Hole , Clean , Break Down , and Inspect Down Fishing Tools , Wait on Orders..

24 Hour Forecast: Wait on Tools From Edmonton

Note: Fluid level in hole stable. Rig manager and/or well site supervisor on site 24-hours.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 47	DATE:	August 27, 2205
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1120
Mud Grad	10.9872
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m 1 drill pipe 7.61

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	10 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	1/2
Tripping	9 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	2 3/4
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 26, 2205 (0000 hrs - 2400 hrs)

Service Rig. Held tool box talk with all personal involved. M/U 4 11/16" overshot with 2 5/16" basket grapple & top single of drill pipe torqued @ 30%. RIH with wire line attactched to fish. Rigged in pack off head and circulated above top of fish (no fill)
Worked pipe and latched onto top of fish/logging tools. Confirmed latch with 22,000 lbs overpull and increase in pump pressure. Preformed rig service and equipment checks and prepared for shear out of rope socket while obtaining approval.
Sheared wire line @ 5-6000 lb of overpull on cable. Rigged out wire line sheave at the crown and worked with schlumberger to pull wire line out of hole. Indications that wire line had parted around the rope socket area do to fatigued cable. Schlumberger's calculations indicated max. 3 meters of cable remaining on to of the rope socket. Rig down wire line equipment.Back off top single above 4 11/16" overshot and pull out of hole confirming new top of fish.
Continue to monitor and record well flow checks . Well stable over 24 hour period while waiting on weatherford fishing (washover tools from Edmonton)

Forecast: Continue to monitor well control and maintenace while waiting on fishing tools.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 48	DATE:	August 28, 2005
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1120
Mud Grad	10.9872
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m 1 drill pipe 7.61

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	24
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Continue to monitor Well Control recording flow checks on a hourly basis. Cleaning and maintenance of rig while waiting on washover pipe and fishing tools from Edmonton.

Forecast: Continue to monitor well control and maintenace while waiting on fishing tools.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 49	DATE:	August 29, 2005
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1120
Mud Grad	10.9872
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m 1 drill pipe 7.61

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	24
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Continue to monitor well control flow checking as required. Cleaning and rig maintenance while waiting on washover pipe and fishing tools from Edmonton. Move 30 ea. Joints of new 2 7/8" IF drill pipe on to location.

Forecast: Continue to monitor well while waiting on fishing tools.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 50	DATE:	August 30, 2005
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	" "
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 689 4106
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1120
Mud Grad	10.9872
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m 1 drill pipe 7.61

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping		Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	24
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Continue to monitor well contrrol. Flow checking well. Cleaning and rig maintenance while waiting on fishing equipment from Edmonton.

Forecast: Continue to monitor well control and maintenace while waiting on fishing tools.
M/U clean out assembly RIH picking up 30 joints of new 4 1/2" drill pipe torqueing connections twice. Tag top of fish circ. & condition mud. POOH and M/U washover assembly RIH and wash over fish.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 51	DATE:	August 31, 2205
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	" "
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 689 -4106
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	Washover		
Size (mm)	152.4		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	1.3		
Cum Hrs	1 1/4		

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1100
Mud Grad	10.791
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

20 Gel

1 lime

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Clusterite shoe .91m, 5 3/4" Washover pipe 24.92m,Drive sub .69m
2ea. X/O subs .81m, Jars 2.53m & 2 ea. X/O subs .75m **Total 30.62m**

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1	NU BOP's		Safety meet	3/4
Tripping	10 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	7 3/4
Slip/Cut Line		Hndle Tools	3 1/4	Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 30, 2205 (0000 hrs - 2400 hrs)

Continue to monitor well contrrol. Flow checking well. Cleaning and rig maintenance while waiting on fishing equipment from Edmonton until 07:00 AM. RIH to shoe with bit circ & condition mud. Prepare to & P/U 30joints of new Drill Pipe making and breaking connections twice.RIH & confirm Top of Fish @548m circ clean & POOH flow checking as required. Rig service functioned blind rams. Safety Meeting M/U washpipe assembly as per weatherford rep. confirming torque on all connections. RIH to shoe circ & condition mud. Cotinue to RIH to 541m. Circ bottoms up & washover top of fish @ 548.15m no problems. Washover F/ 548 - 554.6m.

Forecast: Continue to Washover overshot and fish for a total of 25.83m prior to tagging top of fish with the drive sub. POOH L/D Washover Assembly. Monitoring well control and maintaining mud properties.

Comments: Cleaned both suction tanks and mixed new mud. Hole coditions good during both trips.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 52	DATE:	September 1, 2205
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	" "
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 689 -4106
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	Washover		
Size (mm)	152.4		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	1.3		
Cum Hrs	1 1/4		

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1100
Mud Grad	10.791
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

20 Gel

1 lime

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Clusterite shoe .91m, 5 3/4" Washover pipe 24.92m,Drive sub .69m
2ea. X/O subs .81m, Jars 2.53m & 2 ea. X/O subs .75m **Total 30.62m**

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	9
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 3/4	NU BOP's		Safety meet	1/2
Tripping	7 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	
Slip/Cut Line		Hndle Tools	4	Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

24 HOUR SUMMARY FOR THE DATE : August 31, 2205 (0000 hrs - 2400 hrs)

Continue to wash over fish from 548 - 574m . Washed over total 17m while working string. Tagged top of fish with 2000lbs confirmed increase in pump pressure. Held rig service & safety meeting Pulled out of hole to washover assembly,flow checking as required.Safety meeting break down and lay out washover assembly. M/U srew in sub RIH to shoe circ. bottoms up.Continue to RIH to 542m circ bottoms up.Srew into top of fish @548m M/U to 800 ft/lbs and attempt to pull fish. Worked string up to 24000lbs above String wt. no success in moving fish. Unsrew string from fish @ 548m & POOH.

Forecast:M/U washover assembly to washover 98.5% of fish in hole. total 41.58m. RIH , work over top of fish and wash down to 589m. Confirm top of fish. POOH and run in with srew in assembly.

The Daily Drilling Report for September 02/05 is MISSING

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 54	DATE:	September 3, 2005
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	" "
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 689 -4106
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	Washover		
Size (mm)	152.4		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1100
Mud Grad	10.791
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Clusterite shoe .91m, 5 3/4" Washover pipe 24.92m,Drive sub .69m
2ea. X/O subs .81m, Jars 2.53m & 2 ea. X/O subs .75m **Total 30.62m**

BHA Length:	Hook Load:	daN	DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	14 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	1/4
Tripping	4 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	
Slip/Cut Line		Hndle Tools	3 3/4	Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Circ. Hold Safety meeting. Pooh f/600m flow checking as required.Lay down washpipe assembly. Rig service & function blind rams. M/U screw in sub on wash over head, extention and guide shoe. Rig service and hold tool box talk. RIH & circulate at shoe. Continue to RIH. Wash down from 533m - 573.5m. Tagged top of fish confirmed with pressure increase. Screwed into fish. Worked pipe in increments while attempting to pull fish up to 40,000lbs above string wt. No success. Attempted to back out srew in sub. Appeared to back off up hole due to loss in string wt. screwed back in and attempted to unlatch overshot. Unable to transmit torque to overshot. Back off string and POOH . 12 joints drill pipe remaining on top of screw in sub. RIH and preform 2nd mechanical back off. POOH with 5 joints of drill pipe remaining on top of screw in sub. Attempt another mechanical backoff with no success, POOH and access hole coditions wait on tools, Top of screw in assembly @531.66m

Forecast: RIH with washover pipe and wash and ream over 5 singles to top of screw in sub.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 55	DATE:	September 4, 2005
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	" "
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 689 -4106
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	Washover		
Size (mm)	152.4		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1100
Mud Grad	10.791
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Clusterite shoe .91m, 5 3/4" Washover pipe 24.92m,Drive sub .69m
2ea. X/O subs .81m, Jars 2.53m & 2 ea. X/O subs .75m **Total 30.62m**

BHA Length:	Hook Load:	daN	DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	14 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	1/2	NU BOP's		Safety meet	1/4
Tripping	4 3/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	
Slip/Cut Line		Hndle Tools	3 3/4	Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

RIH circulate above 5 remaining joints of drill pipe above srew in sub. Attempt to back off remaining drill pipe and screw in assembly with no success. Problems transmitting proper torque to screw in sub. POOH flow checking as required. Service rig while waiting on washover tools from weatherford..

Forecast: Wait on fishing tools. RIH with wash over pipe. Continue with rig maintenance while monitoring well.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 56	DATE:	September 5, 2005
DEPTH:	880.5 mKB	PROGRESS: m in	rotating hours (last 24 hrs.)		
OPER 07:00:	monitoring well & rig maintenance while waiting on washover a		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.	Washover		
Size (mm)	152.4		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr			
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1100
Mud Grad	10.791
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Clusterite shoe .91m, 5 3/4" Washover pipe 24.92m,Drive sub .69m
2ea. X/O subs .81m, Jars 2.53m & 2 ea. X/O subs .75m **Total 30.62m**

BHA Length:		Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	128	DC Conn:	
Jts DP in hole:		DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	7 1/2
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 3/4	NU BOP's		Safety meet	1/2
Tripping	4 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	3/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O. Tools	8
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on fishing tools. Service rig & held safety meeting.M/U washpipe assembly reviewed JSA on tripping with drill pipe. RIH breaking circulation at shoe. Circulate and wash to fish top at 530m. Ream and wash over fish top f/530 - 571m. Wiper trip and circulate hole clean. POOH.

Forecast:POOH L/D washpipe assembly. RIH and recover drill pipe and screw in assembly.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 57	DATE:	September 6, 2005
DEPTH:	880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)	
OPER 07:00:	monitoring well & rig maintenance while waiting on washover		FOREMAN: Greg Walsh	TOOLPUSH:	Tom Target
DAILY COST:		HOLE CND.:	WEATHER: Sunny	MOBILE NO.:	709 649 4957
CUM COST:		RIG / RIG #: RD10	TEMP.: 18°C	RIG PHONE:	613 980 5731
FORMATION:		K.B. ELEV.: 2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1120
Mud Grad	10.9872
Vis	42
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

Double Pin .22 , x/o .34 , Overshot .83 = 1.39m

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	128	DC Conn:	
Jts DP in hole:	DP on Loc:	128	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		Plug Back	
Drill Actual		Logging		Fishing	8
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	3/4	NU BOP's		Safety meet	1/4
Tripping	13 1/4	Test BOPs		Weld on Bowl	
Lubricate Rig	1/2	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	1 1/4
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

POOH and lay down wash pipe assembly. RIH to fish top assembly circ and M/U with torque and attempt to back off screw in sub. Review JSA on tripping and POOH flow checking as required recovering all drill pipe. RIH breaking circulation @ shoe & above drill pipe. M/U string to top of screw in assembly transferring torque to connection. Worked torque in an attempt to back off overshot with no success.Mechanically backed out drill string and pulled out of hole. Conducted rig service. M/U jarring assembly and RIH to 380m.

Forecast: RIH with jarring assembly and attempt to jar string free.

Comments: During mechanical back off 3ea. drill pipe were left in the hole on top of screw in assembly.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 58	DATE:	September 7, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: WAIT ON ORDERS			FOREMAN: Tom Targett	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Clear	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 14°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1125
Mud Grad	11.03625
Vis	46
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	154	DC Conn:	
Jts DP in hole:	DP on Loc:	154	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		Plug Back	
Drill Actual		Logging		Fishing	4 1/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 1/2	NU BOP's		Safety meet	
Tripping	3 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	13 1/4
Slip/Cut Line		Hndle Tools		Total Hrs	23 3/4

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Run in Hole From 380m to 545m , Break Circulation @ 545m , Latch onto Fish @ 546.90m , Jar on Fish From 01:30 hrs to 05:45hrs , Back off Fish , Circulate , Pull Out of Hole , Wait on Orders…..

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 59	DATE:	September 8, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: WAIT ON ORDERS			FOREMAN: Tom Targett	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Clear	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 14°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1125
Mud Grad	11.03625
Vis	46
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	154	DC Conn:	
Jts DP in hole:	DP on Loc:	154	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		Plug Back	
Drill Actual		Logging		Fishing	4 1/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 1/2	NU BOP's		Safety meet	
Tripping	3 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	13 1/4
Slip/Cut Line		Hndle Tools		Total Hrs	23 3/4

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on orders.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 60	DATE:	September 9, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Prepare for Plug #3 Cement Job			FOREMAN: Karla Smith	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Clear	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 14°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1125
Mud Grad	11.03625
Vis	46
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	2,800	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:	Hook Load:		daN DP size	114 mm
Avail WOB:	Jts DP Racks	154	DC Conn:	
Jts DP in hole:	DP on Loc:	154	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		Plug Back	
Drill Actual		Logging		Fishing	4 1/4
Reaming		Run Casing		Work w/Pason	
Coring		Cementing		Work Pipe	
Rm Rathole		WOC		Mix LCM	
Cond / Circ	2 1/2	NU BOP's		Safety meet	
Tripping	3 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig	1/4	Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	13 1/4
Slip/Cut Line		Hndle Tools		Total Hrs	23 3/4

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on orders. Run in hole to 300m and circulate. Run in hole from 300m to 540m. Circulate hole clean and hole pre-job safety meeting. Placed first balance cement plug from 540-m to 440-m by pumping $0.5m^3$ water spacer, $3m^3$ of Class A 15.2-ppg neat cement (58% open hole excess), $0.1m^3$ water, and displace with $2.6m^3$ drilling fluid (full returns at surface). Pulled 15 joints of drill pipe to 426m and circulated bottoms to clean drill pipe (drilling fluid contaminated with cement seen at surface). Pull out of hole to surface. Drop non-drillable device (single joint of drill pipe) down the hole. Run in hole and placed second balance cement plug from 265-m to 235-m by pumping $0.5m^3$ water space, $1m^3$ of Class A 15.2-ppg neat cement (137% open hole excess) $0.1m^3$ water, and displace with $1.5m^3$ drilling fluid (full returns at surface). Pull out of hole to surface. Wait on cement.

Forecast: Run in hole and tag top of cement at 235m. Place third balance cement plug at approximately 30m. Rig down.

Vulcan Minerals

DAILY DRILLING REPORT

Storm #1			REPORT #: 61	DATE:	September 10, 2005
DEPTH: 880.5 mKB	PROGRESS:	m in	rotating hours (last 24 hrs.)		
OPER 07:00: Prepare for Plug #3 Cement Job			FOREMAN: Karla Smith	TOOLPUSH:	Tom Target
DAILY COST:	HOLE CND.:		WEATHER: Clear	MOBILE NO.:	709 649 4957
CUM COST:	RIG / RIG #:	RD10	TEMP.: 14°C	RIG PHONE:	613 980 5731
FORMATION:	K.B. ELEV.:	2.92 m	ROADS: Good		

AFE# **AFE $**

BIT PERFORMANCE

Bit No.			
Size (mm)	200		
Mfg.			
Type			
Serial #			
Nozzles			
From (mKB)			
To (mKB)			
Hrs on Bit			
WOB (daN)			
RPM			
Condition			
Pulled For?			
Meters			
m/hr	#DIV/0!		
Cum Hrs			

SURVEYS

60 m	0.25 deg
156 m	2.00 deg
255 m	1.25 deg
422 m	2.00 deg
598 m	7.00 deg
789 m	7.00 deg
865 m	6.50 deg

DRILLING FLUID

Time	0400
Depth(m)	556
Density	1125
Mud Grad	11.03625
Vis	46
PV	
YP	
Gels	
pH	
WL (cc's)	
Filter Cake	
Sand (%)	
Solids (%)	
Oil (%)	
Pf/Mf	
MBT	
Cl (ppm)	
Ca (ppm)	
Mud Co.	MI Swaco
Mud Man	
Mud Up @	

PUMPS

Pump No.	#1	#2
Make	GD	
Model	PY-7	
Liner X Stk	177 x 152	
SPM	50	
Pump Eff.	95%	
Pump Rate	0.49	
Pump Press.	100	kPa
Drillpipe AV		m/min
Drillcollar AV	73	m/min
Nozzle Vel		m/sec

MUD & CHEMICALS

Mud Cycle	97	min
Bottoms Up	35	min
Tanks	30	m3
Hole Volume	17	m3
System Vol.	47	m3

Mud & Chemicals Added:

2 Gel

BOTTOMHOLE ASSEMBLY (No., Item, OD, ID, TJ Type)

BHA Length:		Hook Load:		daN DP size	114 mm
Avail WOB:		Jts DP Racks	154	DC Conn:	
Jts DP in hole:		DP on Loc:	154	DP Conn:	2 7/8 IF

VOLUMES M^3

Water added	
Losses	

Mud Daily Cost

Mud Cum Cost

DRILLING OPERATIONS TIME BREAKDOWN

RU / TO	14 1/2	Survey		Plug Back	
Drill Actual		Logging		Fishing	
Reaming		Run Casing		Work w/Pason	
Coring		Cementing	1	Work Pipe	
Rm Rathole		WOC	6	Mix LCM	
Cond / Circ		NU BOP's		Safety meet	
Tripping	2 1/2	Test BOPs		Weld on Bowl	
Lubricate Rig		Drill Out Cmt		BOP Drill	
Repair Rig		DST		W.O.Orders	
Slip/Cut Line		Hndle Tools		Total Hrs	24

WELL CONTROL

RSPP	
ST/Min	
MACP(kPa)	2221
Calc Hole Fill	
Act Hole Fill	
Lst BOP Drill:	
Calc Hole Fill	
Act Hole Fill	

SOLIDS CONTROL

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

Boiler Hrs: (to 24:00)

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

Wait on Cement , Run in and Tag Cement @ 235.7mtrs , Prepare for Plug #3 , Set Plug #3 @ 60.96mtrs , Pump .75 cubic meters of Class A 15.2-ppg neat Cement . Pull out of Hole ,Circulating @ Surface (7.62mtrs) Flush Stack , Rig Out…

Forecast: Start Welding On Mud Tanks , Move Poor Boy Degasser , Fabricate and Weld Shaker , Rig Out.

APPENDIX K: FISHING REPORTS

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St.John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

12-Aug 04:00 hrs. Drive to Edmonton airport and fly to St. John's NF.

23:30 hrs. Arrive in NF. Stay over night and pick up frieght at airport in the A.M.
Note : freight counter close until morning

13-Aug 07:00 hrs. Pick up frieght and drive to location 750 km one way (Stephenville).

17:00 hrs. Arrive on location. Neet with company rep. Wait for rig crew and go over job details. Inspect rig to figure way to run in hole with side door overshot. Informed that the drill pipe is ran box down reverse of a conventinal rig.

19:00 hrs. Phone into St. John's and order a double pin crossover sub. Have to make it up in four subs.

20:00 hrs. Grind plates on table to accommodate wireline coming through the table.
Wait on crossover subs.

14-Aug 09:00 hrs. Receive crossover subs. Hold safety meeting with rig crew and loggers. Make up side door overshot with cross-over subs (As per attached BHA diagram).

11:00 hrs. RIH with overshot with 1200 lb pull on line.

12:30 hrs. Lost communications with logging tool, loggers started to move the line without notifing personnel on the floor. Informed from loggers that line was still connected to the tool. Still getting high amp readings. Continue to RIH. Break circulation at 217m just above shoe while still in the casing

17:15 hrs. Hold another safety meeting before attempting to latch on the logging tool.
Break circulation and condition mud at 545m (top of tools 551.93m wireline depth.)

17:45 hrs. Make connection at 552.85m. Have not tagged logging tools no movement in line work overshot up and down checking for a change in wireline tension. Work overshot down to 555.45m. Still no movement in line or increase in tension. Pick up and work overshot back down but tagged .95m higher.

11:00 hrs. Continue to try to get back down.Pull 2 joint to see if any change in line tension or any movement in the marks on the line. Go back down and try working the wireline into the overshot go down to 100 lbs and pulling up to 3000 lbs. Give the overshot and 1/4 turn to the right and then to the left. Spoke to our office and decided to POOH and run smaller overshot

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St.John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

11:45 hrs. Ready rig POOH. Order 4 1/2" OD overshot from Nisku.Informed customer that the nearest cut and thread was avaible in Edmonton and that we would have to make certain changes to run the system. Informed by company rep to leave it and just fly the smaller overshot.

06:30 hrs. Surface overshot and lay down tools. Overshot plugged solid with bravel and rocks. Secure well. **Note :** Informed from loggers that the hole at that depth was under guaged to 5 13/16"

15-Aug Wait on tools from Edmonton. Assembly tools from the city if line parts.

16-Aug 08:30 hrs. Pick up 4 1/2" Side door Overshot dressed with 2. 5/16" Spiral Grapple c/w croosover (As per attached BHA diagram).

09:00 hrs. Put on T Bar and assembly overshot. Hold safety meeting before running in hole.

09:30 hrs. Start to RIH with overshot. Marking all tool joints. Note: Rig uses slots in the drill pipe to make up connections, most times having to rotate the pipe up to 1/2 turn each direction, to the right to torque and then to the left to break out of the top drive.

12:00 hrs. Circulate bottoms up inside the shoe, continue to RIH

13:30 hrs. Circulate 406m. 15 min continue to RIH

14:00 hrs. Tag at 436m and circulate through. Continue to RIH

15:15 hrs. Hold safety meeting. Break circulation and wash down to 555.25m started to take weight. Pick up and try to wash deeper. Work wireline up and down and tried sitting no difference. Slack tension off to 400 lbs. (line weight) give overshot a 1/4 turn to the right and then to the left, no difference. Continue to try to get deeper for 5 hours without any success
Work string up and down 10 ft (As per costumer request to try to wear the hole to get deeper) Inform the customer that we were only putting wear on the line. Noticec that when picking up off bottom that the string had a over pull like the overshot was getting wedged.

21:15 hrs. Ready rig. POOH to inspect overshot.

17-Aug 01:30 hrs. Surface overshot, inspect overshot. Find a small marks on the face of the grapple control.. no marks on the grapple.

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**St.John's NF**
	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St.John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

02:00 hrs. Redress overshot and RIH (As per customer request)

07:00 HRS. Circulate joint # 72 down and pick up joint # 73. Got to 555.15m and started to take weight Stop and try to circulate down but had to put weight on overshot and when picking up always had over pull. Tried 1/4 turns again without any success. Sat with 3000 lb tension pull on wireline and circulated at 74 strokes

13:00 hrs. Pump went down. Suggested to either POOH or pull back inside the shoe while repairs were being made. Inspect rig and took measurement for possible cut and thread.Had to figure out way to circulate and move pipe down at the same time. Spoke to Nisku office and other fishermen and came up with a way to run the tools. Informed company rep the cut and thread could be done.

18:00 hrs. W.O.O.

18-Aug 16:30 hrs. Arrive on location. Have tool box safety meeting with rig crew. Run same overshot 4 1/2" OD side door. (As per customer request.) Notified by company rep that the pump was still down but they had a smaller pump. Check out the pump and maxium flow was 52 gal/min. Suggest not to RIH if any problems accurred would not be able to clean above the tools to come back out of the hole. Surface tools and inspect Overshot, find some small marks on the guide only.

17:30 hrs. Inspect grapple and RIH

11:15 hrs. Circulate the last 2 joints down and tag at 555.15m could not circulate down any deeper. start to work the overshot. Pull 3000 lbs on the line and release tension but line stayed up 4 inches believed to be stretch in the line and the line is ready to part. (This was the first time the line ever moved). Informed the company rep that she would have to instruct me how much weight to put on the overshot because I didn't want to be responsible for parting the line I informed her that I was stepping back and I was not going to put anymore weight on the overshot unless she requested me to do so. This was the fourth run with the overshot and we had not got any deeper at any time. I would only work the tool in what I thought was a safe parameter unless instructed otherwise. She called town and I phoned Kim Davies - Fishing tool manager at St.John's branch at which time he agreeded with my decision.

19-Aug 00:30 hrs. Requested to work the wireline. Start pulling with 3000 lb tension. Go back down but tagged .2m higher as all earier attemps. Had to work overshot down and when picking up always had over pull and scuff marks on the out side of overshot indicating the toool was being pinched.

01:00 hrs. Instructed to POOH by company rep.

05:30 hrs. Surface overshot and break down.

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ.John's NF**
	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St. John's**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

06:30 hrs. Lay down tools W.O.O.

10:00 hrs. Drive to location. Measure rig to perform cut and thread. Loggers to supply tools for cutting and connecting line. Weatherford to supply tools below the table (Fishing tools and crossovers) Continue to W.O.O.

17:00 hrs. Receive the OK to order the tools from Nisku. Order second man. (Gary Austin)

20-Aug 00:00 hrs. W.O.O.

10:00 hrs. Drive to rig and devise plan to run cut and thread.

21-Aug 10:00 hrs. Drive to rig. Wait and cut and thread tools and pump parts.

15:00 hrs. Receive tools uncrate and measure tools. Take measurements for pack - off.

18:30 hrs. Secure rig S.D.F.N.

22-Aug 07:30 hrs. Arrive on location. Hold safety meeting. Rehang top shive. Respot truck.

13:00 hrs. Test fit and rehang shive. Not enough clearence for pack off.
Continue to rig in for cut and thread

17:00 hrs. Hold safety meeting. Cut wireline and connect torpedo and sinker bars.
Pull test line

20:15 hrs. Make up overshot dressed with 2 5/16" grapple and make up first connection.

21:00 hrs. Having problems with angle on the shive. Respot truck.

22:00 hrs. Continue in hole with pipe.

23-Aug 04:00 hrs. Tag at 542.61m. Rig up to circulate. Pick up pack off assembly and install. Remove sinker bar.

06:30 hrs. Break circulation and condition mud..

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
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Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St.John's**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

07:30 hrs. Start to wash down to fish top pumping 84 strokes / 350 PSI. Get to 543.61m and pump started jacking. Shut down and take apart to clean.

09:30 hrs. Hold safety meeting. Take string parameters. String weight up 1900 P.S.I. String Down 1450 P.S.I. Give string a 1/2 turn and continue washing.

10:45 hrs. Start to wash throught bridge

12:00 hrs. Make connection at 550.03m.and wash down 3m on joint # 73. Pull back and lay out sinker bar to allow washing joint down to 553.83m

13:15 hrs. Hold safety meeting. Start pumping at 63 stroke with 180 P.S.I. Pressure. got to 555.15m and worked pipe. Had to use 1/4 turns on pipe and walk pipe down to get deeper work down to 555.8m.

19:00 hrs Gary on tower.

20:30 hrs. Hard at 553.53m work pipe

24-Aug 00:00 hrs. Worked pipe to 556.76m. Pick up on pipe and lost 2m. Continued to work and wash down to fish.

03:30 hrs. Working pipe up and down. Get latched on at **556.73m** with approx. .10m of grab.

04:30 hrs. Work string from 2000 / 2600 P.S.I. No movement.

07:00 hrs. Randy on Tower. Hold tail gate meeting with company personnel on location. Continue to work pipe pulling up to 3050 P.S.I and down to 1400 P.S.I. While circulating.

0900 hrs. Receive orders to try to push down on fish noting that wireline had pull 4200 lbs. Up try to push down 6000 lbs on fish to possibily free fish tring to get overshot guide behind the logging tool and push the tool away from the ledge.

13:15 hrs. Try coming down to 950 P.S.I. And sitting on fish while circulating to clean between overshot and fish.

14:30 hrs. Gained .25m. Stop short of the 2 3/4" section of the fishing so not to pressure up and possibily losing circulation.

Con't

Weatherford Canada Partnership

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	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St.John's**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

Pull 3050 P.S.I. On fish while pumping and let string sit to try to wash out fill.
Go over job with company rep. And decide to push down on fish. No movement.

16:30 hrs. Informed from logging company that tools can handle much more compression.
Have tail gate meeting and suggest that to much compression could damage pipe or tool.
Suggest in pulling on tool.

19:00 hrs. Gary on Tower. W.O.O.
Circulate. W.O.O.

21:30 hrs. Pump Pressure 380 PSI @ 40SPM / 400PSI @ 60 SPM. Bump down on fish pulling to 3100 PSI dropping to 500 PSI.
Continue bumping down and then circulating

25-Aug 00:00 hrs. Circulate and work string

04:30 hrs. Work string from 3200 - 4000 PSI.

07:00 hrs. Randy on Tower
Go over plans with company rep to pull harder on string. Had pulled on pipe up to 4000 PSI 27,900 lbs now to increase pull to 4700 PSI (40,000 lbs). As per company request.

09:00 hrs. Start to work pipe. Starting at 4000 PSI and holding for 5 minutes then increasing pull by 100 PSI and hold for 5 minutes until such time that we reach 4700 PSI (40000 lbs.)

11:45 hrs. Reach to 4600 PSI and couldn't pull any more with rig. (Max pull 37,400 lbs).
Circulate W.O.O.

13:00 hrs. Receive instructing to release overshot and POOH to add extension and change to 3 3/8" spiral grapple.

14:00 hrs. Hold safety meeting, Have overshot released. Ready rig and prepare to POOH.

15:15 hrs. Pull first single and rig out pack off and add sinker bar.
Continue to POOH

19:00 hrs. Gary on Tower

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
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	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St. John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

Continue to POOH

20:00 hrs. Surface overshot and inspect, find bowl / guide / grapple / and control to be washed out **(Sale)**

26-Aug 00:00 hrs. Wait on Orders.

01:45 hrs. Make up overshot and thread in hole on a joint of drill pipe made up to 500 PSI. (To get latched on and then leave in hole to use as a guide to washover stuck logging tools)

08:00 hrs. Latch on to logging tools

13:00 hrs. Back off drill pipe leaving 8.27m in the hole latched on to the fish.
Back off using only 1/2 turn

15:30 hrs. Rig up to pull out of rope socket
Spool line on truck.

18:00 hrs. Rig out pack-off assembly. Complete back off. POOH
New fish top **548.46m +/-**

20:00 hrs. Lay down last joint of pipe. Secure well. S.D.F.N.

27-Aug 00:00 - 24:00 hrs. Shut down wait on tools from Nisku.

28-Aug 00:00 - 24:00 hrs. Shut down wait on tools from Nisku.

29-Aug 00:00 - 24:00 hrs. Shut down wait on tools from Nisku.

30-Aug 00:00 - 06:30 hrs. Shut down wait on tools from Nisku.

06:30 hrs. Receive tools. Unload truck. Ready rig and make up 6 1/8" Bit.
RIH

10:30 hrs. Rig up kelly hose on joint 32. Break circulation.
Continue to RIH

12:00 hrs. Lay out 30 joints of used pipe and pick up 30 new joints. RIH make and break new connections on way in hole.

Con't

Weatherford Canada Partnership

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	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St. John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

14:45 hrs. Break circulation above fish. Tag bridge at 544.75 - 545.30m. Clean up and continue to fish. Tag fish at 548.15m. Pick up 1m and circ / condition mud.
Go over job with Pat / Greg. Suggest to wash over 50% of tool and then try to pull. If unsuccessful than run 75% and try again Attempt to try not to have the logging tool fall.

15:15 hrs. POOH. Measure washpipe assembly.

19:00 hrs. Lay down bit.
Gary on Tower.

20:00 hrs. Ready rig. Pick up washover assembly (As per attached BHA diagram).

31-Aug 00:00 hrs. Conitinue to pick up washpipe.

01:30 hrs. RIH on drill pipe. Break circulation at the shoe. (Jt # 29)

04:30 hrs. Break circulationat 541m and wash to fish top.

05:15 hrs. Rotate over fish top and continue to wash over fish. Tight at 554m.

07:00 hrs. Randy on Tower. Continue washing over.

08:45 hrs. Make connection at 556.28m Washing going slow.

556.28m - 557.28m	55 minutes to washover
557.28m - 558.28m	30 minutes to washover
558.28m - 559.28m	10 minutes to washover

10:30 hrs. Washpipe took off had no resistance at 558.55m
Rotate down to 571m without tagging.

11:30 hrs. Washing goingg slow 571 - 571.5m - 55 minutes. Note getting extra torque possible from dog legs Make connection at 571.5m and wash to 573.2m

14:30 hrs. Slide down .3m without any resistance. Pressure up on top sub of washpipe.
Circulate above fish

15:00 hrs. POOH

18:30 mhrs. Surface washpipe and start to lay down same.

Con't

Weatherford Canada Partnership

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Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

19:00 hrs. Gary on Tower. Continue to lay down washpipe.

20:45 hrs. Make up screw in assembly (As per attached BHA diagram). RIH

23:15 hrs. Break circulation @ 542m and wash to fish top. Circulate bottom up.

1-Sep 00:00 hrs. Tag fish @ 548.15m (6.1m in on Jt # 72). Screw in with 500 PSI of torque 4 turns. pressured up, no circulation. Work string from 1200 - 3500 PSI. with no gain.

02:45 hrs. Back off screw in sub with 3 turns @ 2000 PSI. Hoist for washpipe.
Informed plans were changed and to run washpipe to within 1/2M of the bottom of the logging tool.
05:15 hrs. Rig to and make up washpipe.

07:00 hrs. Randy on Tower
Continue to pick up washpipe

09:00 hrs. Run in hole. Circulate at shoe. Continue to RIH.

11:00 hrs. Break circulation at 541m and circulate down to fish top. Rate 45 stroke / 32 RPM
Start washing downas follows:

574 - 575m	55 minutes
575 - 580m	averaged 30 min ea/m
581.2 - 583m	drilling brake / slide down
584m	circulate for 1/2 hr.
585 - 586.8m	30 minutes.

07:00 hrs. Gary on Tower.
Continue to wash over w/600 PSI torque. Tight hole going slow.

20:30 hrs. Pressured at 588m and lost torque. Fish dropped.

22:30 hrs. Chase fish to to 600m. 30 SPM @ 120 PSI
Circulate bottoms up POOH. Hoist and lay down washpipe.

2-Sep 03:30 hrs. Rig to and lay down washpipe.

05:30 hrs. Wait on welder

07:00 hrs. Randy on Tower
Measure up sccrew in sub inside 5 3/4" washpipe pup with carbide cut lip

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
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	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St. John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

09:30 hrs. Hold safety meeting.Pick up SIS assembly (As per attached BHA diagram). RIH

11:00 hrs. Break circulation at the shoe and continue to RIH

12:00 hrs. Circulate at 542m and chase fish to 573.5m. Tag fish and pressure up. Slow pump down to 48 strokes/ 100 PSI. Get parameters up weight 1900PSI / Down weight 14.5 PSI

14:15 hrs. Go down and tag fish get pressure increase to 160 PSI. Screw into fish. with 500 PSI. Work pipe pulling up to 2500 PSI and slowly working up to 3500 PSI.

15:30 hrs. Receive word from town to increase to maxium pull of the rig. No movement. Continue to work pipe.

16:30 hrs. Informed to back off and POOH to run washpipe. Work 1/4 turn into pipe and let out put 3/8 turn and get back off. String weight going up only 1700 PSI down 200 Psi. Retorque pipe and work torque into string. Attempt 3 back offs but with only 1750 PSI of weight left for string
Continue to work torque in pipe to release overshot.

19:00 hrs. Gary on Tower. Work right hand torque at 1000 psi f/ 1200 psi down to 2000 psi up to release overshot w/ no success, Attempt backoff w/ 2500psi pull and got backoff w/ 1/2 turn pull up w/ 1700psi appears to be backing off 8-10 joints above screw in sub,screw in and torque to 1000psi,work string f/ 1500psi to 3500psi w/ no gain

21:15 hrs Break circ and circ w/ 400psi at 40 spm,small amount of returns at flow line

22:00 hrs Back off drill pipe at 2200psi w/ 1/2 turn,pull up w/1700psi,pull out of hole to change out bottom joint of drill pipe

23:45 hrs Recovered 58 joints drill pipe, backed off at 440m,17 joints of pipe above screw in sub

Con't

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St. John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

3-Sep 00:00 hrs Make up new joint of drill pipe and run in hole

01:30 hrs Break circ and circ bttms up

01:45 hrs Screw in w/ 4 1/2 turns and work 1000psi torque,back off w/1/2 turn,pull up w/1700psi screw in and work 1200psi torque and back off w/ 1/2 turn at 2200psi hookload

02:30 hrs Pull up at 1900psi, hoist and recover 10 joints drill pipe, 5 joints left in hole on top of screw in sub,pipe backed off at 531.6m

05:15 hrs Make up new joint of drill pipe and run in hole

06:45 hrs Circ bttms up

07:15 hrs Wash in to fish top,screw in w/ 1200psi and work torque-back off drill pipe w/ 3/4 turn at 2300 psi, pull up w/ 1950psi

08:00 hrs Pull out of hole

12:00 hrs. Surface pipe and had back off at same place. Leaving 5 joints above screw in assmbly. Meet with company reps and decide to wash over to top sub. Order tools from town.

4-Sep 07:00 hrs. Arrive on location. Make up washover assembly.

10:30 hrs. RIH on drill pipe. Break circulation at the shoe. Condition mud. Continue to RIH.

13:15 hrs. Break circulation and get hole parameters Up Weight - 1900 PSI . Down Weight 1550 PSI Rate 50 Strokes / 140 PSI .
Start reaming hole. Tag at 546m and ream clean. Circ and ream each connection.

16:45 hrs. Continue to ream down tag at 554m and wash through to 557.35m (1.55 hrs.) drop through

17:30 hrs. Continue down to drive sub and tag fill 1/2m of fill clean to 571.02m.

18:30 hrs. Work pipe whlie circulating abovetop sub

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Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**SJ - 2234108**
	333 Duckworth Street	**Date Out :**	**12-Aug**
	St. John's NF A1C 1G9	**Date In :**	**7-Sep**
Rig :	**I.R. Rig # 10**	**Serv.Loc :**	**St. John's NF**
Well Name:	**Storm #1**	**Co. Rep :**	**Karla Smith**
			Greg Walsh

Resume

19:00 hrs. Gary on Tower Circ and cond. Hole
19:45 hrs Wiper trip up to 504m-9 joints and ream back to bttm,work tight hole f/ 555-557m
22:00 hrs Circ and cond. Hole
23:45 hrs Hoist washpipe

5-Sep 00:00 hrs Hoist and lay down washpipe
04:15 hrs Make up new joint of drill pipe and run in hole
06:15 hrs Circ bttms up
06:30 hrs Screw into fish w/1400psi torque, work 1300psi torque f/1500-2000psi,work 1/4 turn l.h. torque from 1400psi to 2000psi hookload, got back-off at 3/4 turn, pull up w/ 200psi gain in hookload

07:00 hrs Pull out of hole. Randy on Tower

11:00 hrs. Surface pipe and recovered all pipe no tools. W.O.O.

12:00 hrs. RIH with new joint om bottom to screw into fish.

14:30 hrs. Tag at 553m and circulate clean. Continue to fish top. Tag and circulate for 45 minutes above fish. Parameters as follows. Up weight 2100 PSI / Down weight 1500. Rate 50 Strokes - 130 PSI

14:45 hrs. Screw into fish. Work torque 1400 PSI to tighten. Continue to work torques with different weights and torques tring to release overshot.

15:30 hrs. Break circulation 40 Strokes - 600 PSI - 10 g/min
Continue to work pipe .

19:00 hrs. Gary on Tower.Work l.h. torque from 1200psi-2000psi hookload,backed off +/-60m above fish top w/ 1 turn l.h. torque,screw back in and re-torque string,work l.h. torque from 1400psi-2100psi got back-off w/ 1 turn left hand,pull up at 2100psi hookload,new fish top 546.90m
20:30 hrs Pull out of hole,recovered 72 joints drill pipe,left 3 joints on top of screw in assembly
22:45 hrs Make up screw in sub #40238-2 7/8r x 2 7/8if,3 3/4" Lee oil jar # 2149,x/o sub # 509961-2 7/8if x 2 7/8r,x/o sub-2 7/8if x 2 7/8if (rig),run in hole w/ screw in assembly

6-Sep 00:00 hrs Run in hole
00:45 hrs Break circ and circulate two bttms up at 180psi-60 spm
01:30 hrs Screw onto fish at 1.8m in on joint #72-546.90m,jar up on fish at 500psi over string
01:45 hrs. Work jar load up to 2000PSI over string w/no gain
05:45 hrs Back-off at screw in sub and circulate bttms up
07:30 hrs Pull out of hole
10:30 hrs. Surface jars W.O.O.
15:00 hrs. Decision to abandon well. Load tools.
18:00 hrs. Drive to St. John's.

7-Sep Return to Edmonton.

Thank You

Company Rep : Tom Targett

Randy Webber
Gary Austin

Comments :

Weatherford Canada Partnership

Customer :	**Vulcan Minerals**	**Ticket No. :**	**2234108**
	333 Duckworth St	**Date Out :**	**12-Aug**
	St. John's NF	**Date In :**	**7-Sep**
Rig :	**IR # 10**	**Serv.Loc :**	**St.John's NF**
Well :	**Storm # 1**	**Co. Rep :**	**Greg Walsh**

Tools Left In Hole

	Decription	S/N	
1)	X/O Sub	C11512	
2)	X/O Sub	B8604	
3)	Drive Sub	735525	
4)	Washpipe Pup	781041	
5)	Carbide Shoe	C20460	
6)	X/O Sub	783469	
7)	X/O Sub	303750	
8)	Screw In Sub	C3583	
9)	X/O Sub	D1287	
10)	X/O Sub	C11502	
11)	Overshot	693457	Dressed 2 5/16" Grapple / Control

Charges to Follow

1) **Tools left in hole to be charged out at current relacement cost**

2) **6 - Air Frieght Charges**

3) **Air Fare (To & From Edmonton) - Randy Webber / Gary Austin**

4) **Inspection & Repairs**

5) **Tool Usage - Not including above charges Approx. $ 92251.20 (Field Estimate Only)**

Company Rep : _____

Report By Randy Webber