FINAL WELL REPORT

Revision:	**Version 1**
Operating Company:	**Vulcan Minerals Inc.**
Partner Company:	**Investcan Energy Corp.**
Well Name:	**Vulcan Investcan Robinsons #1**
Rig:	**Stoneham Drilling Rig #11**
Field:	**Bay St. George Basin, Permit #03-106**
Location:	**Western Newfoundland, Canada**
Submission Date:	**19-Feb-2010**
Revised On:	**N/A**

Prepared by: Shane Halley, B.Eng Vulcan Minerals Date:	Reviewed by: Patrick Laracy, P.Geo Vulcan Minerals Date:

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List of Appendices

1 Introduction (2.2)

The Vulcan Investcan Robinsons #1 well was drilled by Vulcan Minerals Inc. (Vulcan) (pursuant to a 50/50 joint venture with Investcan Energy Corp.) to test the hydrocarbon potential of the Ship Cove, Friars Cove and Snakes Bight formations. The targets were chosen using substructure seismic data in an area that has a proven petroleum system (based on consistent oil and gas shows in the area). This exploratory oil and gas well is located about 15 km due east of the community of Robinsons, in the Bay St. George area of western Newfoundland.

The well spudded on June 31st, 2009 using Stoneham Drilling's Rig #11, drilled to 3560 mMD, was cased with 178 mm production casing and suspended. Based on numerous gas shows and data from a full suite of wireline evaluation logs run over the potential pay zones, five drill stem tests were run on this well. None of the tests flowed gas to surface though there was sweet dry gas recovered from three of the five downhole test chambers. Well site drilling supervision was provided by Mr. Bill Williams and Don Campbell and site geological work by Mr. Michael Smith. Operations management was by Mr. Terry Brooker.

2 Map (2.3)

A map showing the location of the well and the final legal site survey are included in Appendix #1.

3 General Information (2.4)

Well Name	- Vulcan Investcan Robinsons #1
Operator	- Vulcan Minerals Inc.
Partner	- Investcan Energy Corp.
Permit	- Exploration Permit #03-106
Contractor	- Stoneham Drilling
Drilling Rig	- Rig #11
Location	- NAD 27, UTM Zone 21; Northing 5 343 073.761m, Easting 379 782.967m

4 Difficulties and Delays (2.5)

See the drilling curve and time breakdown included in Appendix #2 with highlights as follows:

- There were sticking problems running the 508mm conductor casing which necessitated pulling out the partially run casing and performing a clean out trip. The casing was re-run successfully to bottom by the rig crew.
- The 340mm surface casing was run 70m deeper than planned as the formations came in deeper than expected.
- Extra time was required to nipple up the BOPs (before the 311mm section) because they were shipped in separate pieces during the ocean transport.
- Increased formation hardness dropped the average ROP from 84 m/day down to 50 m/day from 1800-2063.5 mMD KB (311mm section TD).
- While drilling the 311mm and 216mm sections there were several bit trips to change out PDCs with tri-cone insert bits after the ROP of the PDC dropped to near-zero in conglomerate layers.
- Two mis-run DSTs were attempted on August 18th and 19th. No useful data was acquired.
- Three days of downtime were attributed to a failed Kelly swivel while drilling the 216mm section.

5 Drilling Operations (3.0)

5.1 Ground Elev. - 159.24 m (ref. MSL)
KB Elev. - 6.24 m (ref. GL)

5.2 Total Depth - 3560 meters MD KB/ 3548.55 meters TVD KB

5.3 Spud Date - 1230 hrs, Jun. 31st, 2009

5.4 TD Date - 1500 hrs, Oct. 2nd, 2009

5.5 Rig Release - 1400 hrs, Oct. 15th, 2009

5.6 Well Status - well is suspended with 177.8mm casing set to 3547.6 meters.

5.7 Hole Size and Depths

- Conductor	- Drilled 508 mm hole to 88 m
- Surface	- Drilled 340 mm hole to 829 m
- Intermediate	- Drilled 244.5 mm hole to 2063.5 m
- Main	- Drilled 177.8 mm hole to 3560 m

5.0 Drilling Operations (continued)

5.8 Bit records

There were a total of 31 bit runs during the well. See Appendix #2 for details.

5.9 Casing and Cementing Record

- Conductor

Ran 508mm, 139.9kg/m, X-56 to 88m KB.
Cemented with 27.7 t Class "A" + 3% CaCl @ 1871 kg/m3. Full return to surface.

- Surface

Ran 339.7mm, 90.8 kg/m, K-55 casing to 829m KB.
Cemented with 63.5 t Class "G" + 3% CaCl @ 1600 kg/m3. Returns to surface.

- Intermediate

Ran 244.5 mm, 64.7 kg/m L-80 casing to 2058.5m KB.
Cemented with 48t Fill-Lite (w/1.3% R-3 Retarder & 1% A-11 Accelerator) + 10.1 t Class "G" w/.4% FL @ 1901 kg/m3
No cement to surface. Estimated TOC at 529m.

- Production

Ran 177.8 mm, 38.7 kg/m L-80 casing to 3547.6m KB
Cemented with 18.2t Fill-Lite (w/ 1.2% R-3 Retarder) + 11t Class "G" w/2% Micrsil @1901kg/m3
No cement to surface. Calculated TOC at 1522m.
*****a 0.53m MARKER JOINT was run at 1056m MD KB with a limiting ID of 165.1254mm (6.501")*****

5.10 Sidetracked Hole

There were no sidetracks during the well.

5.0 Drilling Operations (continued)

5.11 Drilling Fluid

The well was drilled with a simple low viscosity water-based mud. A summary table is shown below:

Casing	Depth [m]	Size [mm]	Fluid Type	Viscosity	Weight kg/m3
Conductor Pipe	88	660.4	Gel-Chem Water Based Mud	46-105	1065-1095
Surface Casing	829	444.5	Gel-Chem Water Based Mud	63-76	1065-1120
Intermediate Casing	2063.5	311.15	Polymer Water Based Mud	41-69	1005-1095
Production Casing	3560	215.9	Polymer Water Based Mud	24-71	1070-1140
Completion	3560	177.8	Water with Oxygen Scavanger, Biocide, Filming Amine and Caustic Soda		1000

5.12 Fluid Disposal

The drilling mud and cuttings were transported to the Jefferys municipal landfill for disposal in accordance with the applicable government regulations.

5.13 Fishing Operations

There were no fishing operations.

5.14 Well Kicks

There were no kicks.

5.0 Drilling Operations (continued)

5.15 Formation Leak-Off Tests

A FIT was performed on 26-July-2009; 6800 Kpa at surface with a hole depth of 840m and mud weight of 1005 kg/m3 for a calculated gradient of 17.95 kpa/m.

A FIT was performed on 23-August-2009; 11000Kpa at surface with a hole depth of 2061.48m and mud weight of 1110 kg/m3 for a calculated gradient of 16.2 kpa/m.

5.16 Time Distribution

A daily detailed time breakdown is available from the Vulcan morning reports included in Appendix #3.

5.17 Deviation Plot

Well deviation was a concern during drilling and Schlumberger Oilfield Service's Directional Drilling Services (PDM + MWD) were used while drilling from 83-1037m and 2103-3543m. The well angle was maintained below 6.5 degrees until 3186m when it was decided to let the well drift in order to maximize ROP and minimize motor sliding. The final projected inclination was 13.24 degrees at 3560m resulting in a 129.9m horizontal displacement from the vertical plan in the NW direction. A full survey listing and deviation plot is included in Appendix #1.

5.18 Suspension / Abandonment Plugs

There are no plugs in the main hole as it was cased and cemented.

5.19 Well Schematic

A schematic showing hole sizes and depths, casing sizes and depths, and cementing tops is included as Appendix #4. The final installed wellhead configuration is also included.

5.20 Fluid Samples

There were no formation fluid samples taken during the drilling of the well. However during the DST runs in the main hole 3 gas samples were obtained in the downhole testing tool. The analysis of these samples in included in Appendix #5.

6 Geological (4.0) (Prepared by Mr. Michael Smith)

The geological summary report and final geological column diagram is included in Appendix #6. A description of all cuttings collected is in the detailed report. All bagged and vialed cuttings samples and are being stored in Vulcan's St. John's office.

6.1 Sidewall cores

Twenty nine (29) sidewall cores were taken in the 216mm open hole section with Baker Inteq's RCOR tool. The core descriptions are included in the geology report in Appendix #6. The analysis of these samples is still pending at the time of this report.

6.2 Hydrocarbon Shows

The well encountered natural gas shows over a gross interval of approximately 1290 meters (net approximately 20% sandstone) with very good correlation of increased shows with sandstone beds. This is the first deep well in the Bay St. George basin and has proven the existence of a thick natural gas charged section. A full geological striplog is attached for detailed reference in Appendix #7.

7 Well Evaluation (5.0)

7.1 Logging Program

All wireline logging information is attached in Appendix #8. For reference a summary of the wireline logs run is shown below:

Hole size	Logging Depth		Services Run
	Start	Stop	
311.15 mm	2063	829	INDUCTION/GR/Caliper/SP
311.15 mm	2063	829	DENSITY/NEUTRON/GR/X-Y CAL
311.15 mm	2063	829	SONIC
311.15 mm			Zero Offset Vertical Seismic Profile
215.9 mm	3560	2063	INDUCTION/GR/Caliper/SP
215.9 mm	3560	2063	DENSITY/NEUTRON/GR/X-Y CAL
215.9 mm	3560	2063	SONIC
215.9 mm			Zero Offset Vertical Seismic Profile w/ Gamma Ray
215.9 mm			Rotary Sidewall Coring
215.9 mm			ForMation Tester (Pressure tester)
215.9 mm	3560	2063	STAR DIP/IMAGER

7.2 Drill Stem Tests

All DST information is provided in Appendix #9. A summary of the DSTs is shown below:

DST #	Hole size	Test Type	Testing Depth mMD		Result
			Top	Bottom	
1	311.15 mm	Inflate Bottom Hole	2012.9	2063.5	Failed Test - Unable to seat Tool / Packers
2	311.15 mm	Inflate Straddle	872	901	Failed Test - Unable to seat Tool / Packers
3	215.9 mm	Conventional Straddle	2963	2990	Successful Test- No gas to surface
4	215.9 mm	Conventional Straddle	2574	2640	Partial Communication around bottom packer indicated. No Initial Shut-In Recorded.
5	215.9 mm	Conventional Straddle	2517	2572	Failed test due to leaking upper packer

8 Synthetic Seismograms

The synthetic seismogram for Robinsons #1 is shown in Appendix #10.

9 Vertical Seismic Profiles/Velocity Surveys

The complete ZVSP Processing report is included in Appendix #11.

10 Formation Stimulation

A fracture stimulation program is planned for the well in 2010.

11 Benefits tracking

Included in Appendix #12 is the complete benefits tracking for the well.

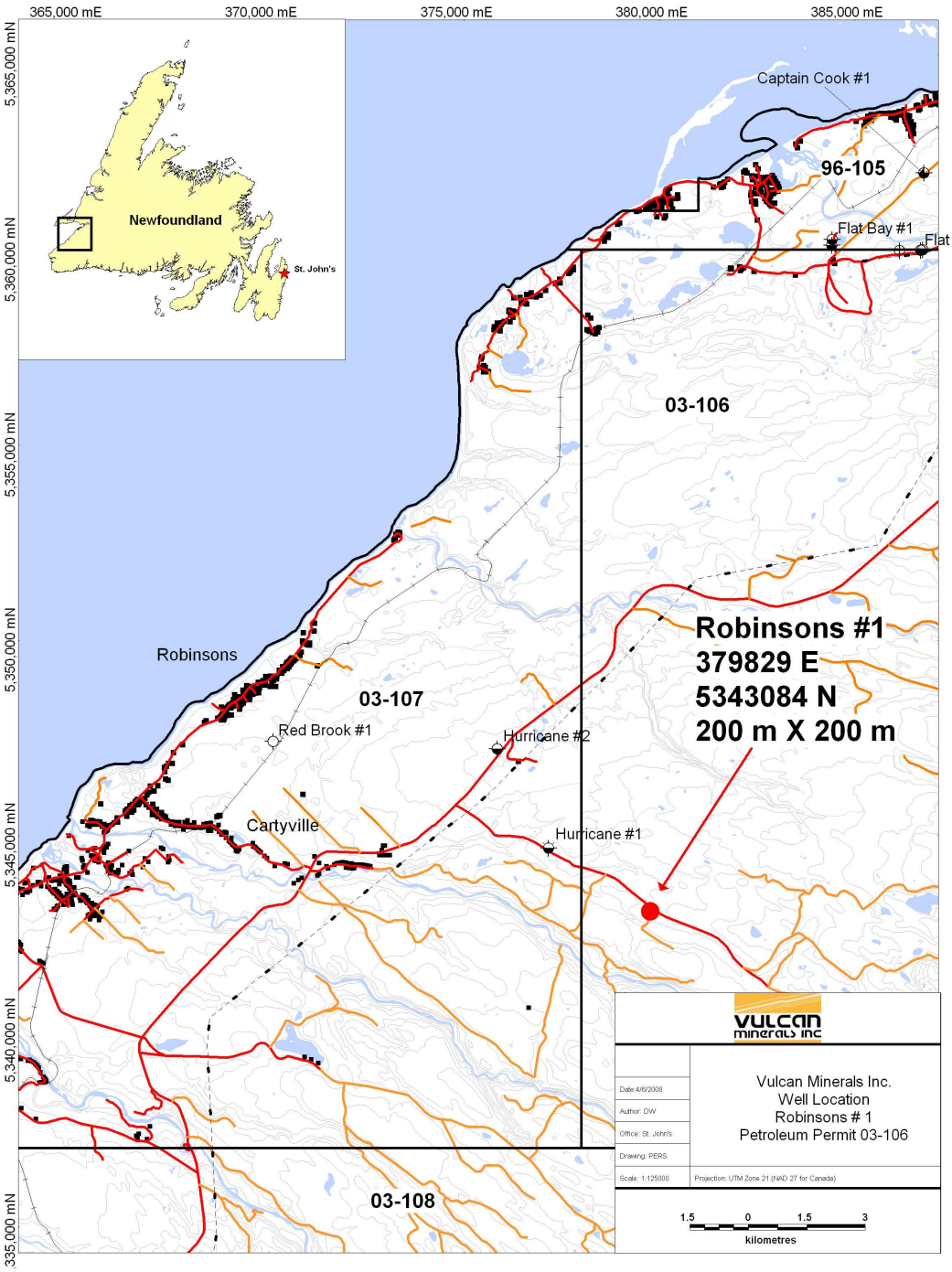
12 Drilling costs

Included in Appendix #13 is a summary of the drilling costs for the well.

13 Approvals

Included in Appendix #14 are copies of the various government approvals granted during operations.

APPENDIX 1: WELL LOCATION MAP AND DEVIATION SURVEY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370,000 mE
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5,350,000 mN
5,345,000 mN
5,340,000 mN
335,000 mN
Newfoundland
St. John's
Captain Cook #1
96-105
Flat Bay #1
Flat
03-106
Robinsons
03-107
Red Brook #1
Hurricane #2
Cartyville
Hurricane #1
Robinsons #1
379829 E
5343084 N
200 m X 200 m
03-108
vulcan minerals inc
Vulcan Minerals Inc.
Well Location
Robinsons # 1
Petroleum Permit 03-106
Date: 4/6/2008
Author: DW
Office: St. John's
Drawing: PERS
Scale: 1:125000
Projection: UTM Zone 21 (NAD 27 for Canada)
1.5 0 1.5 3
kilometres

SCHEDULE "B"

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Co./Dept.	Co.	
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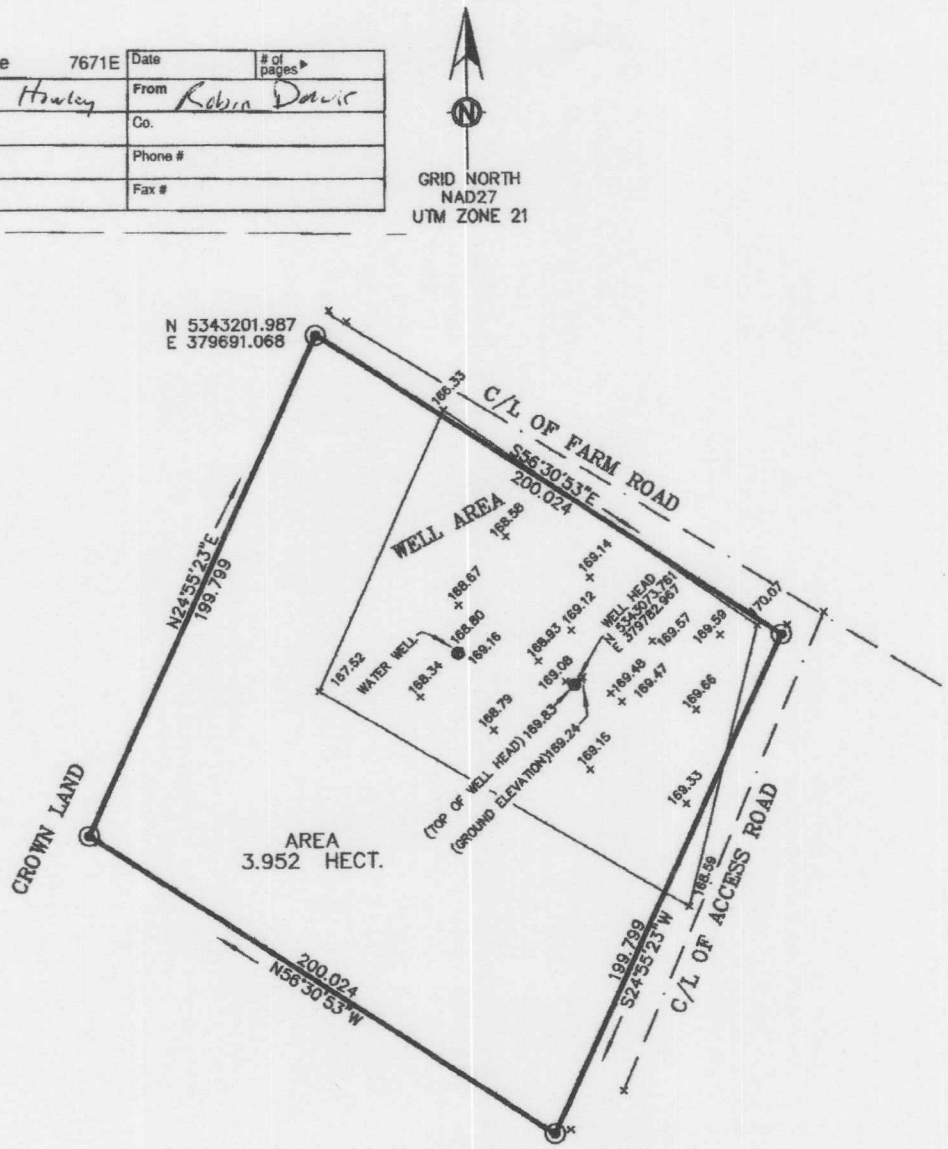
Fax #	Fax #	



COORDINATES DERIVED FROM CONTROL MONUMENT
NUMBER 84G4163 HAVING UTM COORDINATES
N 5344131.911 E 363992.416 AND AN ELEVATION OF 42.58

LEGEND
- ▲ CONTROL MONUMENT
- ◉ CAPPED IRON BAR
- ○ IRON BAR (EXISTING)
- ⊗ WELL CASE

R.DAVIS SURVEYS LTD.
FILE NUMBER 9066
JUNE 5, 2009

LEASE NO.

SCALE 1 : 2000

Robinson #1 MWD-STD+INCL Only to 3560 m Survey Report

Report Date:	October 23, 2009	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Vulcan Minerals Inc	**Vertical Section Azimuth:**	45.000°
Field:	Bay St. George Basin	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Robinsons #1 / Slot 1	**TVD Reference Datum:**	RKB
Well:	Robinsons # 1	**TVD Reference Elevation:**	175.3 m relative to MSL
Borehole:	Original Hole	**Sea Bed / Ground Level Elevation:**	169.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	-20.261°
Survey Name / Date:	Robinson #1 MWD-STD+INCL Only to 3560 m / July 16, 2009	**Total Field Strength:**	52886.734 nT
Tort / AHD / DDI / ERD ratio:	87.969° / 222.18 m / 4.808 / 0.063	**Magnetic Dip:**	69.454°
Grid Coordinate System:	NAD27 UTM Zone 21N	**Declination Date:**	September 15, 2009
Location Lat/Long:		**Magnetic Declination Model:**	BGGM 2009
Location Grid N/E Y/X:	N 5343073.761 m, E 379784.967 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.20759609°	**Total Corr Mag North -> Grid North:**	-19.053°
Grid Scale Factor:	0.99977759	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	Sub-Sea TVD (m)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)
SHL	0.00	0.00	0.00	-175.30	0.00	0.00	0.00	0.00	0.00	5343073.76	379782.97
Totco Provide by Client	23.00	1.00	85.39	-152.30	23.00	0.15	0.02	0.20	1.30	5343073.78	379783.17
Totco provide by Client	50.00	1.00	85.39	-125.31	49.99	0.51	0.05	0.67	0.00	5343073.81	379783.64
Totco provide by client	83.00	2.00	85.39	-92.32	82.98	1.17	0.12	1.53	0.91	5343073.88	379784.50
	103.36	2.62	85.39	-71.97	103.33	1.79	0.19	2.35	0.91	5343073.95	379785.32
	131.01	3.06	89.51	-44.36	130.94	2.80	0.25	3.72	0.53	5343074.01	379786.68
	158.44	3.03	90.02	-16.97	158.33	3.84	0.25	5.17	0.04	5343074.01	379788.14
	185.36	3.81	90.09	9.91	185.21	4.97	0.25	6.78	0.87	5343074.01	379789.75
	212.92	3.51	84.82	37.41	212.71	6.27	0.33	8.54	0.49	5343074.09	379791.50
	234.43	3.70	81.38	58.88	234.18	7.33	0.49	9.88	0.40	5343074.25	379792.84
	254.23	3.38	79.08	78.64	253.94	8.33	0.70	11.08	0.53	5343074.46	379794.05
	268.64	3.39	74.50	93.02	268.32	9.05	0.89	11.91	0.56	5343074.65	379794.87
	282.12	3.34	70.79	106.48	281.78	9.75	1.13	12.66	0.50	5343074.89	379795.63
	295.43	3.33	68.34	119.77	295.07	10.46	1.40	13.39	0.32	5343075.16	379796.35
	308.96	3.31	70.62	133.28	308.58	11.17	1.67	14.12	0.30	5343075.43	379797.09
	323.03	3.48	66.48	147.32	322.62	11.93	1.98	14.90	0.64	5343075.74	379797.86
	337.43	3.45	67.35	161.69	336.99	12.74	2.32	15.70	0.13	5343076.08	379798.66
	350.99	3.34	66.57	175.23	350.53	13.48	2.63	16.44	0.26	5343076.39	379799.40
	364.29	3.27	65.40	188.51	363.81	14.20	2.94	17.14	0.22	5343076.70	379800.10
	377.43	3.04	64.16	201.63	376.93	14.88	3.25	17.79	0.55	5343077.01	379800.76
	391.66	2.10	63.34	215.84	391.14	15.48	3.53	18.37	1.98	5343077.29	379801.33
	405.24	1.93	62.40	229.42	404.72	15.94	3.75	18.79	0.38	5343077.51	379801.75
	419.00	2.30	57.78	243.17	418.47	16.43	4.00	19.23	0.89	5343077.76	379802.19
	432.77	2.75	56.51	256.92	432.22	17.02	4.33	19.74	0.99	5343078.09	379802.70
	446.38	3.30	56.87	270.51	445.81	17.73	4.73	20.34	1.21	5343078.49	379803.30
	460.67	3.73	55.31	284.78	460.08	18.59	5.22	21.07	0.92	5343078.98	379804.03
	474.04	4.25	59.39	298.11	473.41	19.49	5.72	21.85	1.33	5343079.48	379804.81
	487.33	4.53	62.68	311.37	486.67	20.47	6.21	22.74	0.85	5343079.97	379805.70
	500.97	4.71	61.72	324.96	500.26	21.52	6.72	23.71	0.43	5343080.48	379806.67
	514.76	5.20	66.64	338.70	514.00	22.64	7.24	24.78	1.41	5343081.00	379807.75
	529.05	5.51	68.68	352.93	528.23	23.87	7.74	26.02	0.76	5343081.50	379808.98
	542.90	5.95	66.58	366.71	542.01	25.15	8.27	27.30	1.06	5343082.03	379810.26
	556.44	6.27	64.04	380.17	555.47	26.50	8.87	28.60	0.93	5343082.63	379811.56
	570.53	5.61	62.11	394.19	569.49	27.89	9.53	29.90	1.47	5343083.29	379812.87
	584.01	4.65	56.72	407.61	582.91	29.05	10.14	30.94	2.39	5343083.90	379813.90
	597.01	4.12	41.78	420.57	595.87	30.03	10.78	31.70	2.89	5343084.54	379814.66
	610.61	4.03	49.91	434.14	609.44	31.00	11.45	32.39	1.29	5343085.21	379815.35
	624.10	3.94	50.43	447.60	622.90	31.93	12.05	33.11	0.22	5343085.81	379816.07
	638.29	3.85	51.16	461.75	637.05	32.89	12.66	33.85	0.22	5343086.42	379816.81
	652.34	3.67	52.60	475.77	651.07	33.80	13.23	34.58	0.43	5343086.99	379817.54
	665.87	3.32	48.38	489.28	664.58	34.62	13.75	35.22	0.96	5343087.51	379818.17
	679.36	2.95	41.05	502.75	678.05	35.36	14.27	35.73	1.21	5343088.03	379818.69
	695.52	2.47	22.98	518.89	694.19	36.10	14.91	36.14	1.81	5343088.67	379819.10
	706.77	2.45	11.17	530.13	705.43	36.52	15.37	36.29	1.35	5343089.12	379819.24
	720.73	2.30	5.30	544.08	719.38	36.99	15.94	36.37	0.61	5343089.70	379819.33
	732.34	2.20	359.19	555.68	730.98	37.32	16.39	36.39	0.67	5343090.15	379819.35
	761.95	2.49	13.66	585.26	760.56	38.27	17.59	36.53	0.67	5343091.34	379819.49
	775.58	2.54	20.28	598.88	774.18	38.79	18.16	36.71	0.65	5343091.91	379819.66
	789.59	2.17	34.13	612.88	788.18	39.34	18.67	36.96	1.45	5343092.42	379819.92
	806.75	2.27	52.58	630.03	805.33	39.99	19.14	37.41	1.26	5343092.90	379820.37
	831.82	1.90	55.22	655.08	830.38	40.89	19.68	38.15	0.46	5343093.44	379821.11

	844.74	1.94	49.10	667.99	843.29	41.32	19.95	38.49	0.48	5343093.70	379821.45
	858.31	1.59	47.20	681.56	856.86	41.74	20.23	38.80	0.78	5343093.98	379821.76
	872.27	1.65	48.30	695.51	870.81	42.13	20.49	39.10	0.15	5343094.25	379822.05
	885.85	1.75	43.89	709.09	884.39	42.54	20.77	39.38	0.36	5343094.53	379822.34
	899.79	1.63	45.42	723.02	898.32	42.95	21.06	39.67	0.28	5343094.82	379822.63
	913.43	1.69	38.27	736.65	911.95	43.34	21.36	39.94	0.47	5343095.11	379822.89
	927.28	1.48	33.18	750.50	925.80	43.72	21.67	40.16	0.55	5343095.42	379823.12
	941.20	1.58	38.06	764.41	939.71	44.09	21.97	40.38	0.35	5343095.72	379823.34
	954.57	1.57	32.11	777.78	953.08	44.45	22.27	40.59	0.37	5343096.03	379823.55
	968.34	1.30	36.91	791.54	966.84	44.79	22.55	40.78	0.64	5343096.31	379823.74
	982.51	1.49	28.75	805.71	981.01	45.12	22.84	40.97	0.58	5343096.60	379823.93
	995.79	1.54	28.78	818.99	994.29	45.46	23.15	41.14	0.11	5343096.91	379824.09
	1009.85	1.59	35.30	833.04	1008.34	45.83	23.48	41.34	0.39	5343097.23	379824.30
	1023.38	1.29	32.18	846.57	1021.87	46.17	23.76	41.53	0.69	5343097.51	379824.49
Last MWD Svy 12 1/4" Section	1036.69	1.55	29.83	859.87	1035.17	46.49	24.04	41.70	0.60	5343097.80	379824.66
	1100.00	1.00	29.83	923.17	1098.47	47.85	25.26	42.40	0.26	5343099.02	379825.36
	1170.00	0.25	29.83	993.16	1168.46	48.58	25.93	42.78	0.32	5343099.68	379825.74
	1265.00	1.00	29.83	1088.15	1263.45	49.58	26.82	43.30	0.24	5343100.58	379826.25
	1362.00	1.25	29.83	1185.14	1360.44	51.42	28.48	44.24	0.08	5343102.23	379827.20
	1456.00	1.00	29.83	1279.12	1454.42	53.20	30.08	45.16	0.08	5343103.83	379828.12
	1648.00	1.50	29.83	1471.07	1646.37	57.24	33.71	47.24	0.08	5343107.47	379830.20
	1702.00	1.50	29.83	1525.05	1700.35	58.61	34.94	47.95	0.00	5343108.69	379830.90
	1801.00	1.25	29.83	1624.02	1799.32	60.90	37.00	49.13	0.08	5343110.75	379832.09
	1907.00	1.25	29.83	1730.00	1905.30	63.13	39.00	50.28	0.00	5343112.76	379833.24
	2054.00	2.00	29.83	1876.94	2052.24	67.16	42.62	52.35	0.15	5343116.37	379835.31
	2103.00	2.00	29.83	1925.91	2101.21	68.81	44.10	53.20	0.00	5343117.86	379836.16
Start MWD Svy	2157.00	2.50	29.83	1979.87	2155.17	70.85	45.94	54.26	0.28	5343119.69	379837.21
False DLS, prior to AZM	2211.36	4.46	289.25	2034.16	2209.46	71.08	47.67	52.85	3.03	5343121.42	379835.81
	2266.45	6.22	288.83	2089.01	2264.31	68.83	49.34	48.00	0.96	5343123.09	379830.96
	2295.75	6.49	289.19	2118.13	2293.43	67.41	50.40	44.94	0.28	5343124.15	379827.89
	2309.42	6.30	289.08	2131.71	2307.01	66.75	50.90	43.50	0.42	5343124.65	379826.46
	2323.33	5.27	287.41	2145.55	2320.85	66.12	51.34	42.17	2.25	5343125.09	379825.13
	2336.99	4.90	285.00	2159.16	2334.46	65.54	51.67	41.01	0.94	5343125.42	379823.96
	2350.08	5.23	289.47	2172.20	2347.50	65.00	52.02	39.90	1.18	5343125.77	379822.86
	2364.18	4.98	287.38	2186.24	2361.54	64.44	52.42	38.71	0.66	5343126.16	379821.67
	2378.64	4.72	287.74	2200.65	2375.95	63.87	52.78	37.55	0.54	5343126.53	379820.51
	2391.38	4.38	285.07	2213.35	2388.65	63.39	53.07	36.58	0.94	5343126.82	379819.54
	2405.14	4.24	281.30	2227.07	2402.37	62.85	53.31	35.57	0.69	5343127.06	379818.53
	2418.82	4.17	280.28	2240.72	2416.02	62.28	53.49	34.59	0.22	5343127.24	379817.55
	2432.99	4.31	281.00	2254.85	2430.15	61.69	53.69	33.56	0.32	5343127.44	379816.52
	2446.36	4.07	278.63	2268.18	2443.48	61.13	53.86	32.60	0.66	5343127.60	379815.56
	2459.80	4.49	278.67	2281.58	2456.88	60.54	54.01	31.60	0.94	5343127.75	379814.56
	2473.38	4.61	275.37	2295.12	2470.42	59.87	54.14	30.54	0.64	5343127.89	379813.50
	2487.56	4.72	280.17	2309.25	2484.55	59.18	54.29	29.39	0.86	5343128.04	379812.35
	2500.86	4.72	277.54	2322.51	2497.81	58.53	54.46	28.31	0.49	5343128.21	379811.27
	2514.52	4.15	276.56	2336.13	2511.43	57.88	54.59	27.26	1.26	5343128.34	379810.23
	2528.81	3.83	277.08	2350.38	2525.68	57.27	54.71	26.28	0.68	5343128.46	379809.24
	2541.93	3.49	279.51	2363.48	2538.78	56.77	54.83	25.45	0.85	5343128.58	379808.41
	2556.18	3.64	277.66	2377.70	2553.00	56.24	54.96	24.57	0.40	5343128.71	379807.53
	2569.27	4.40	280.61	2390.76	2566.06	55.70	55.11	23.67	1.80	5343128.86	379806.63
	2582.84	4.63	281.44	2404.28	2579.58	55.11	55.31	22.62	0.53	5343129.06	379805.58
	2597.24	3.61	285.82	2418.65	2593.95	54.56	55.55	21.61	2.22	5343129.30	379804.58
	2610.98	2.96	290.90	2432.36	2607.66	54.21	55.80	20.87	1.55	5343129.55	379803.83
	2624.19	3.21	297.93	2445.55	2620.85	53.96	56.09	20.22	1.03	5343129.84	379803.18
	2638.93	3.73	291.92	2460.27	2635.57	53.65	56.46	19.41	1.29	5343130.21	379802.37
	2652.53	4.30	289.22	2473.83	2649.13	53.26	56.80	18.52	1.32	5343130.55	379801.48
	2665.21	4.54	286.11	2486.48	2661.78	52.81	57.09	17.59	0.80	5343130.84	379800.55
	2678.97	2.99	299.35	2500.21	2675.51	52.45	57.42	16.75	3.85	5343131.17	379799.71
	2692.92	2.23	308.98	2514.14	2689.44	52.32	57.77	16.22	1.88	5343131.52	379799.19
	2706.24	2.89	304.53	2527.45	2702.75	52.23	58.12	15.75	1.55	5343131.87	379798.71
	2720.92	3.58	300.85	2542.11	2717.41	52.05	58.57	15.05	1.47	5343132.32	379798.01
	2734.01	3.79	299.61	2555.17	2730.47	51.84	58.99	14.32	0.51	5343132.74	379797.28
	2761.60	4.14	276.55	2582.69	2757.99	50.98	59.56	12.54	1.76	5343133.30	379795.50
	2775.45	4.80	273.20	2596.50	2771.80	50.28	59.64	11.46	1.54	5343133.39	379794.43
	2789.61	4.00	272.27	2610.62	2785.92	49.55	59.70	10.38	1.70	5343133.45	379793.34
	2802.43	2.69	278.45	2623.42	2798.72	49.07	59.76	9.63	3.18	5343133.51	379792.60
	2817.22	2.62	281.99	2638.19	2813.49	48.68	59.88	8.96	0.36	5343133.63	379791.92
	2830.18	3.28	282.71	2651.13	2826.43	48.32	60.02	8.31	1.53	5343133.77	379791.27
	2843.25	3.78	292.41	2664.18	2839.48	47.95	60.27	7.54	1.78	5343134.02	379790.51
	2857.80	4.33	300.96	2678.69	2853.99	47.63	60.74	6.63	1.68	5343134.48	379789.60
	2871.65	3.44	300.81	2692.51	2867.81	47.41	61.22	5.82	1.93	5343134.96	379788.79
	2885.27	3.80	298.31	2706.10	2881.40	47.18	61.64	5.08	0.87	5343135.39	379788.04
	2899.02	3.83	296.90	2719.82	2895.12	46.90	62.06	4.27	0.21	5343135.81	379787.23
	2912.43	3.94	298.78	2733.20	2908.50	46.63	62.49	3.46	0.38	5343136.24	379786.43

	2926.39	2.87	301.29	2747.14	2922.44	46.42	62.90	2.74	2.32	5343136.65	379785.71
	2940.21	1.74	289.91	2760.95	2936.25	46.25	63.15	2.25	2.63	5343136.90	379785.22
	2953.98	2.62	280.76	2774.71	2950.01	45.98	63.28	1.74	2.06	5343137.03	379784.71
	2966.91	3.62	287.62	2787.62	2962.92	45.63	63.46	1.07	2.47	5343137.21	379784.03
	2980.69	3.49	294.09	2801.37	2976.67	45.28	63.76	0.27	0.92	5343137.51	379783.23
	2994.76	3.31	306.56	2815.42	2990.72	45.07	64.18	-0.45	1.62	5343137.93	379782.52
	3008.46	3.64	305.91	2829.09	3004.39	44.94	64.67	-1.12	0.73	5343138.42	379781.85
	3021.91	4.27	302.63	2842.51	3017.81	44.76	65.19	-1.89	1.49	5343138.94	379781.08
	3035.44	5.23	301.46	2855.99	3031.29	44.51	65.79	-2.84	2.14	5343139.53	379780.13
	3048.91	6.04	302.28	2869.40	3044.70	44.21	66.48	-3.96	1.81	5343140.23	379779.01
	3063.35	6.03	302.98	2883.76	3059.06	43.89	67.30	-5.24	0.15	5343141.05	379777.73
	3076.72	5.58	305.53	2897.06	3072.36	43.63	68.06	-6.36	1.16	5343141.81	379776.61
	3090.57	5.16	310.13	2910.85	3086.15	43.47	68.86	-7.38	1.30	5343142.60	379775.59
	3104.38	5.08	311.11	2924.60	3099.90	43.38	69.66	-8.32	0.26	5343143.40	379774.65
	3117.81	5.58	308.46	2937.98	3113.28	43.26	70.45	-9.28	1.24	5343144.20	379773.69
	3131.54	5.56	301.69	2951.64	3126.94	43.03	71.22	-10.36	1.44	5343144.96	379772.61
	3145.49	5.61	300.79	2965.52	3140.82	42.71	71.92	-11.52	0.22	5343145.67	379771.44
	3158.75	5.88	300.52	2978.72	3154.02	42.38	72.60	-12.67	0.61	5343146.35	379770.30
	3172.05	5.95	303.15	2991.95	3167.25	42.07	73.32	-13.83	0.63	5343147.07	379769.14
	3186.28	6.82	301.53	3006.09	3181.39	41.72	74.17	-15.17	1.87	5343147.91	379767.80
	3200.41	8.09	299.04	3020.10	3195.40	41.25	75.09	-16.75	2.78	5343148.83	379766.22
	3213.77	9.09	297.82	3033.31	3208.61	40.68	76.04	-18.51	2.28	5343149.78	379764.46
	3227.96	9.77	295.82	3047.31	3222.61	39.95	77.09	-20.58	1.60	5343150.83	379762.39
	3241.40	9.68	295.88	3060.55	3235.85	39.21	78.08	-22.63	0.20	5343151.82	379760.35
	3254.57	8.45	295.57	3073.56	3248.86	38.52	78.98	-24.50	2.80	5343152.72	379758.48
	3268.54	7.96	295.42	3087.39	3262.69	37.86	79.84	-26.30	1.05	5343153.58	379756.68
	3282.21	8.68	296.62	3100.91	3276.21	37.22	80.70	-28.07	1.63	5343154.45	379754.90
	3295.66	8.87	297.37	3114.20	3289.50	36.58	81.64	-29.90	0.49	5343155.38	379753.07
	3309.34	8.44	296.90	3127.73	3303.03	35.95	82.57	-31.73	0.96	5343156.32	379751.24
	3323.39	8.65	296.00	3141.62	3316.92	35.29	83.50	-33.60	0.53	5343157.25	379749.37
	3337.46	9.54	295.14	3155.52	3330.82	34.55	84.46	-35.61	1.92	5343158.21	379747.37
	3352.25	10.07	293.74	3170.09	3345.39	33.66	85.50	-37.90	1.18	5343159.25	379745.07
	3365.50	10.92	294.18	3183.12	3358.42	32.79	86.48	-40.11	1.93	5343160.23	379742.87
	3378.04	11.37	295.70	3195.42	3370.72	31.96	87.51	-42.30	1.29	5343161.25	379740.67
	3391.88	11.49	294.96	3208.99	3384.29	31.04	88.68	-44.78	0.41	5343162.42	379738.19
	3406.35	12.16	295.58	3223.15	3398.45	30.04	89.95	-47.46	1.41	5343163.69	379735.51
	3419.41	11.97	296.52	3235.92	3411.22	29.15	91.15	-49.92	0.63	5343164.89	379733.06
	3433.19	11.99	295.97	3249.40	3424.70	28.23	92.41	-52.48	0.25	5343166.15	379730.50
	3448.17	11.67	295.77	3264.06	3439.36	27.23	93.75	-55.25	0.65	5343167.49	379727.73
	3460.80	12.14	296.30	3276.42	3451.72	26.38	94.89	-57.59	1.15	5343168.63	379725.39
	3474.10	12.36	297.12	3289.42	3464.72	25.50	96.16	-60.11	0.63	5343169.90	379722.87
	3488.23	12.19	296.14	3303.23	3478.53	24.55	97.51	-62.79	0.57	5343171.25	379720.19
	3501.86	12.25	296.75	3316.55	3491.85	23.63	98.79	-65.38	0.31	5343172.53	379717.61
	3516.01	12.57	299.21	3330.37	3505.67	22.74	100.22	-68.06	1.31	5343173.96	379714.92
	3529.26	12.68	299.17	3343.30	3518.60	21.95	101.63	-70.59	0.25	5343175.37	379712.39
Last Svy	3542.55	12.92	298.08	3356.26	3531.56	21.12	103.04	-73.17	0.77	5343176.78	379709.81
Proj to TD	3560.00	13.24	296.68	3373.25	3548.55	19.93	104.86	-76.68	0.77	5343178.60	379706.30

Survey Type: Definitive Survey

Survey Error Model: **SLB ISCWSA version 24 *** 2-D 95.00% Confidence 2.4477 sigma**

Surveying Prog:

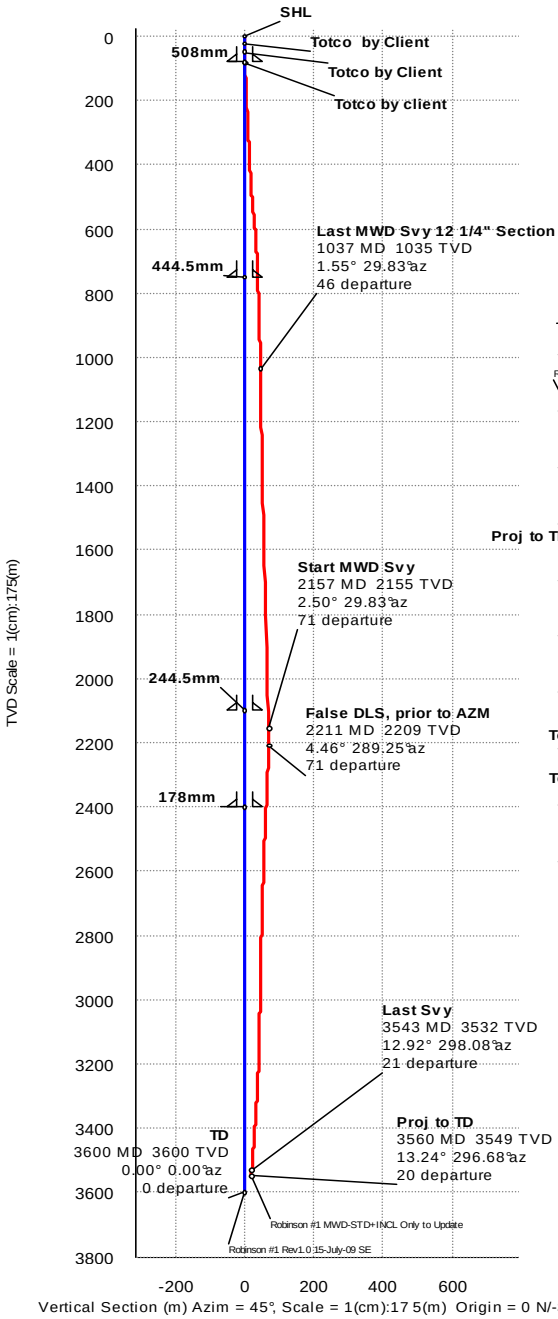
MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	6.30	Act-Stns	SLB_INC-ONLY-Depth Only	Original Hole -> Robinson #1 MWD-STD+INCL Only to 3560 m
6.30	83.00	Act-Stns	SLB_INC-ONLY	Original Hole -> Robinson #1 MWD-STD+INCL Only to 3560 m
83.00	1036.69	Act-Stns	SLB_MWD-STD	Original Hole -> Robinson #1 MWD-STD+INCL Only to 3560 m
1036.69	2103.00	Act-Stns	SLB_INC-ONLY	Original Hole -> Robinson #1 MWD-STD+INCL Only to 3560 m
2103.00	3542.55	Act-Stns	SLB_MWD-STD	Original Hole -> Robinson #1 MWD-STD+INCL Only to 3560 m
3542.55	3560.00	Act-Stns	SLB_BLIND+TREND	Original Hole -> Robinson #1 MWD-STD+INCL Only to 3560 m

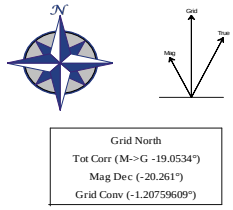
Vulcan Minerals Inc

Schlumberger

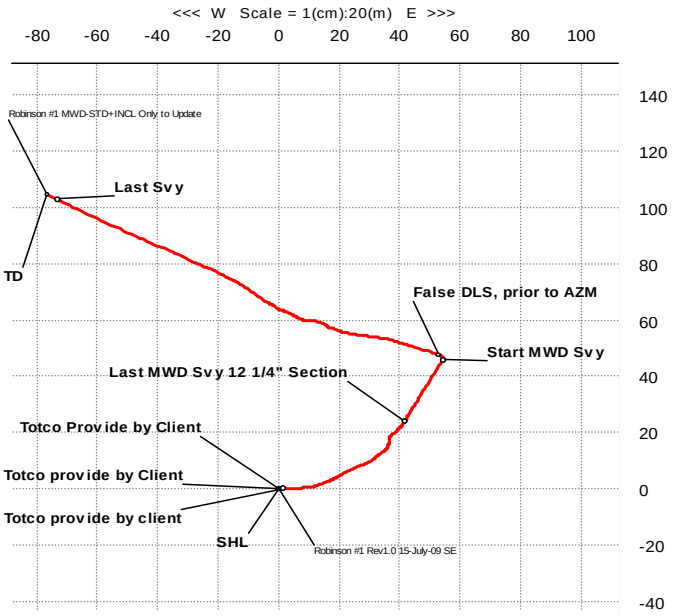
WELL	FIELD	STRUCTURE
Robinsons # 1	Bay St. George Basin	Robinsons #1

Magnetic Parameters				Surface Location				Miscellaneous			
Model: BGGM 2009	Dip: 69.454°	Date: September 15, 2009		NAD27 UTM Zone 21N		Grid Conv: -1.20759609°		Slot: Slot 1		TVD Ref: RKB (175.30 m above MSL)	
	Mag Dec: -20.261°	FS: 52886.7 nT		X= 379,782.967m E; Y= 5,343,073.761m N		Scale Fact: 0.999775923		Plan: MWD-STD+INCL Only to TD		Srvy Date: July 16, 2009	





Grid North
Tot Corr (M->G -19.0534°)
Mag Dec (-20.261°)
Grid Conv (-1.20759609°)



Legend

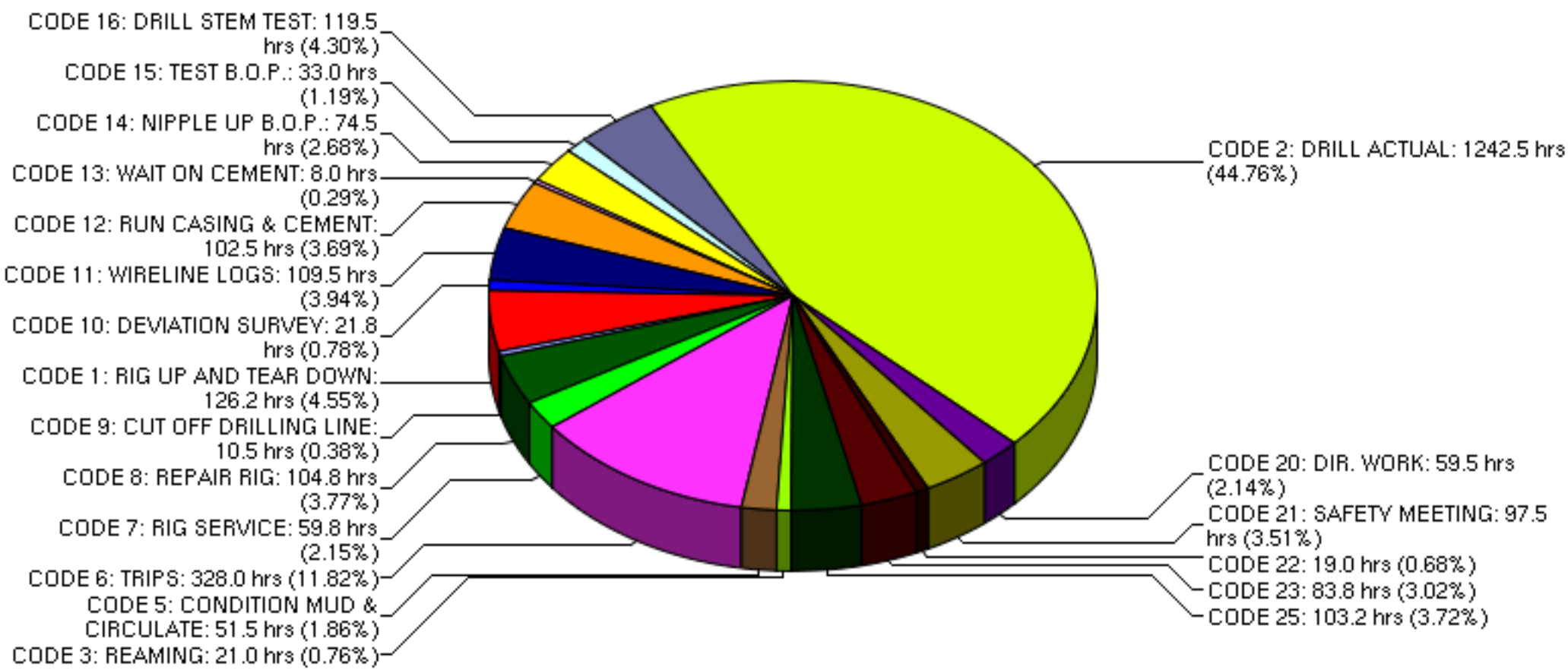
Robinson #1 MWD-STD+INCL Only to Update
Robinson #1 Rev1.0 15-July-09 SE

Quality Control
Date Drawn: January 16, 2002
Drawn by: Sareddy Escobar
Checked by:
Client OK:

APPENDIX 2: DRILLING CURVE, TIME BREAKDOWN & BIT RUN SUMMARIES

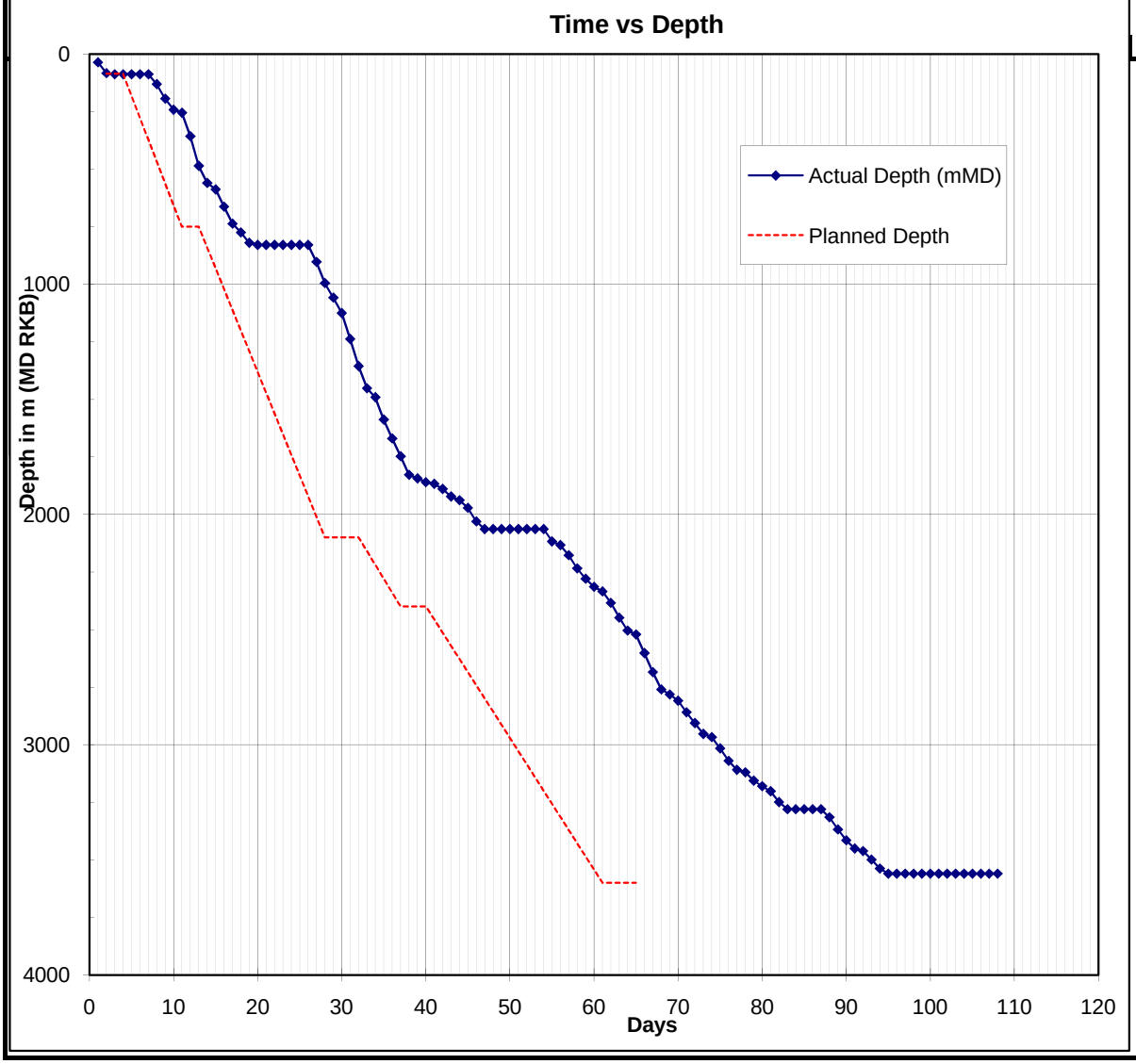
Daily Drilling Reports Time Breakdown

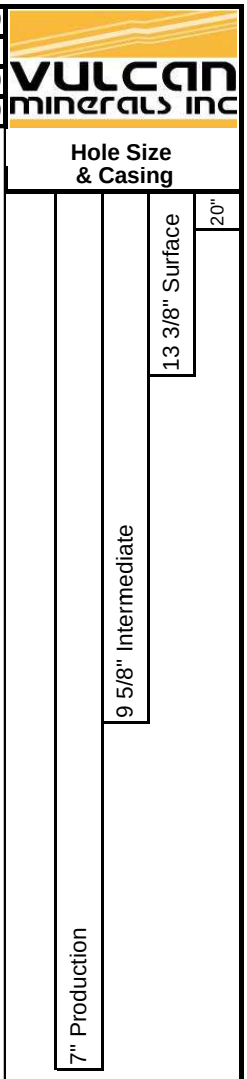
Well name:	VULCAN INVESTCAN ROBINSONS #1	Spud Date:	Jun 30,2009
Operator:	Vulcan Minerals Inc.	Release Date:	Oct 15,2009
Contractor:	Stoneham Drilling Inc.	From Date:	Jun 15,2009
Rig:	Stoneham 11	To Date:	Oct 15,2009



TOTAL HOURS: 2776.0 hrs

Operating Company	Vulcan Minerals Inc.	**Spud Date**	30-Jun-09	
Well Name	Vulcan Invescan Robinsons #1			
Rig	Stoneham #11	**Planned End Date**	30-Aug-09	
Field (if applicable)	Bay St. George Basin	**Expected End Date**	08-Oct-09	





Time vs Depth Data

Operating Company	Vulcan Minerals Inc.	**Spud Date**	30-Jun-09	**Planned End Date**	30-Aug-09
Well Name	Vulcan Invescan Robinsons #1	**To Date**		**Expected End Date**	08-Oct-09
Rig	Stoneham #11				
Field (if applicable)	Bay St. George Basin				

Plan

Operation	Planned Time	Planned Depth
Spud 26" conductor	2	85
20" Casing & Cementing	4	85
Drill to 13 3/8" casing pt	11	750
Casing and cementing	13	750
Drill to 9 5/8" casing pt	28	2100
Logging	30	2100
Casing and cementing	32	2100
Drill to 7" casing pt	37	2400
Logging	38	2400
Casing and cementing	40	2400
Drill to 4 1/2" casing pt	61	3600
Logging	62	3600
Casing and cementing	63	3600
Move rig	65	3600

Actual

Operation	Date	Actual Time (days)	Actual Depth (mMD)
Spud 17 1/2" pilot	30-Jun-09	1	36
Drilling 17 1/2" pilot	01-Jul-09	2	83
Opening up to 26"	02-Jul-09	3	88
Problems running 20"	03-Jul-09	4	88
26" clean-out trip	04-Jul-09	5	88
Ran 20" casing	05-Jul-09	6	88
Install Divertor	06-Jul-09	7	88
Pressure Testing	07-Jul-09	8	131
Drilling 17 1/2"	08-Jul-09	9	194
Controlled Drilling 17 1/2"	09-Jul-09	10	242
Drilling 17 1/2" hole	10-Jul-09	11	255
POOH for directional tools	11-Jul-09	12	357
Drilling 17 1/2" hole	12-Jul-09	13	486
Drilling 17 1/2" hole	13-Jul-09	14	560
POOH to change BHA	14-Jul-09	15	588
Drilling 17 1/2" hole	15-Jul-09	16	663
Drilling 17 1/2" hole	16-Jul-09	17	737
POOH to change bit	17-Jul-09	18	775
Drilling 17 1/2" hole	18-Jul-09	19	820
POOH to run casing	19-Jul-09	20	829
Casing	20-Jul-09	21	829
Cementing and cut divertor	21-Jul-09	22	829
Nippling up BOPS	22-Jul-09	23	829
Nippling up BOPS	23-Jul-09	24	829
Nippling up BOPS	24-Jul-09	25	829
Pressure Testing	25-Jul-09	26	829
RIH 12 1/4" BHA- drilling	26-Jul-09	27	903
Drilling	27-Jul-09	28	995
POOH to change to PDC	28-Jul-09	29	1058
Drilling	29-Jul-09	30	1125
Drilling	30-Jul-09	31	1238
Drilling	31-Jul-09	32	1356
POOH to change PDC	01-Aug-09	33	1452
Drilling	02-Aug-09	34	1491
Drilling	03-Aug-09	35	1588
Drilling	04-Aug-09	36	1670
Drilling	05-Aug-09	37	1747
POOH to chng PDC to Insert	06-Aug-09	38	1828
POOH to chng Insert for PDC	07-Aug-09	39	1843
POOH to chng PDC to Insert	08-Aug-09	40	1860
Drilling	09-Aug-09	41	1867
Drilling	10-Aug-09	42	1889
Drilling	11-Aug-09	43	1922
POOH for bit- Insert	12-Aug-09	44	1938
Drilling	13-Aug-09	45	1971
Drilling	14-Aug-09	46	2030
TD section- dummy trip	15-Aug-09	47	2063.5
Wireline logs (2 trips)	16-Aug-09	48	2063.5
VSP, clean out trip and testing	17-Aug-09	49	2063.5
DST#1failed	18-Aug-09	50	2063.5
DST#2failed	19-Aug-09	51	2063.5
Running casing	20-Aug-09	52	2063.5
Running Casing and Cement	21-Aug-09	53	2063.5
Cement and Pressure Test	22-Aug-09	54	2063.5
FIT; Drilling 8.5" section	23-Aug-09	55	2117
Drilling, POOH due to low ROP (bit ringe	24-Aug-09	56	2133
Drilling 8.5" section	25-Aug-09	57	2177
Drilling	26-Aug-09	58	2234
Drilling	27-Aug-09	59	2279
POOH to change bit and pickup Directio	28-Aug-09	60	2314
Drilling	29-Aug-09	61	2334
Drilling	30-Aug-09	62	2384
Drilling	31-Aug-09	63	2448
Drilling	01-Sep-09	64	2504
Tripped out to change PDC to insert	02-Sep-09	65	2521
Drilling	03-Sep-09	66	2602
Drilling	04-Sep-09	67	2685
POOH to change back to Insert due to lo	05-Sep-09	68	2760
Drilling	06-Sep-09	69	2782
Drilling	07-Sep-09	70	2809
Drilling	08-Sep-09	71	2859
Drilling	09-Sep-09	72	2906
Drilling	10-Sep-09	73	2953
POOH to change bit	11-Sep-09	74	2967
Drilling	12-Sep-09	75	3016
Drilling	13-Sep-09	76	3070
Drilling	14-Sep-09	77	3109
POOH to change bit	15-Sep-09	78	3120
Drilling	16-Sep-09	79	3156
POOH to change to insert	17-Sep-09	80	3180
Drilling	18-Sep-09	81	3202
Drilling	19-Sep-09	82	3249
Drilling	20-Sep-09	83	3280
POOH for rig repair	21-Sep-09	84	3280
Waiting on Swivel	22-Sep-09	85	3280
Waiting on Swivel	23-Sep-09	86	3280
Waiting on Swivel	24-Sep-09	87	3280
Trip in, Drilling	25-Sep-09	88	3315
Drilling	26-Sep-09	89	3368
Drilling	27-Sep-09	90	3415
Drilling- POOH for bit	28-Sep-09	91	3451
RIH- Drilling	29-Sep-09	92	3462
Drilling	30-Sep-09	93	3499
Drilling	01-Oct-09	94	3538
Drilling- Well TD, POOH	02-Oct-09	95	3560
On surface, Waiting on Baker	03-Oct-09	96	3560
Run VSP	04-Oct-09	97	3560
Run Imager and Pressure tool	05-Oct-09	98	3560
Run RCOR and wiper trip	06-Oct-09	99	3560
DST#3	07-Oct-09	100	3560
DST#3 & RIH DST#4	08-Oct-09	101	3560
DST#4	09-Oct-09	102	3560
DST#4 & RIH DST#5	10-Oct-09	103	3560
DST#5 and POOH	11-Oct-09	104	3560
Run 7" casing	12-Oct-09	105	3560
Cementing and begin tear-out	13-Oct-09	106	3560
Rig-down	14-Oct-09	107	3560
Rig-down	15-Oct-09	108	3560

Prepared By	S. Halley	**Approved By**	
Date	15-Dec-09	**Date**	

Bit Run Summary
Vulcan Investcan Robinsons #1

Run	No.	Size (mm)	Mfr	Type	IADC	Serial No.	Depth Out (mMD)	Depth Drilled (m)	Hours	ROP (m/hr)	Weight	RPM	Date Run
1	1	660	SMITH	XR+C		MR1995			1.5		3	160	2009-Jun-30
2	1	455	SMITH	SDGH		ER8679	82	82	21.5	3.81	02/10	160	2009-Jun-30
3	2	660	SMITH	XR+C		MR1995	53	53	6.5	8.15	5	160	2009-Jul-01
4	2RR	660	SMITH	XR+C		MR1995	82	82	12.75	6.43	06/10	170	2009-Jul-01
5	2RR	660	SMITH	XR +C		MR1995			20.25		3	200	2009-Jul-04
6	3	455	REED	T41C		ND0530	223	135	38.5	3.51	05/06	185	2009-Jul-08
7	3	455	REED	T41C		ND0530	253	165	48.5	3.4	02/08	150/185	2009-Jul-09
8	4	455	REED	T51C		DT2849	559	306	56.5	5.42	15/18	60	2009-Jul-13
9	4RR	445	REED	T51C		DT2849	775	522	119.25	4.38	18/25	30/35	2009-Jul-16
10	3RR	445	REED	T41C		ND0530	829	54	20.5	2.63	18/23	30	2009-Jul-18
11	6	311	HUGHES	GX-28DX	527	5160463	1058	229	50.75	4.51	12/19	30/50	2009-Jul-27
12	7	311	HUGHES	HC506ZX		7011417	1491	433	89.5	4.84	10/14	80/100	2009-Aug-01
13	8	311	HUGHES	HCM506ZX		7006301`	1796	305	79	3.86	10/13	55/70	2009-Aug-05
14	8	311	HUGHES	HCM506ZX		7006301	1843	352	92.25	3.82	08/15	55/75	2009-Aug-06
15	9	311	HUGHES	HR53DDX		6040255	1860	17	13.25	1.28	08/14	45/50	2009-Aug-08
16	10	311	HUGHES	HC506Z		7213027	1867	7	6.5	1.08	07/12	50	2009-Aug-08
17	RR11	311	HUGHES	HR53DDX		6040255	1934	67	38.25	1.75	10/19	50/55	2009-Aug-11
18	12	311	REED	M4188ZDH	527	CK4615	2063	129	59.25	2.18	0/20	45/85	2009-Aug-15
19	RR12	311	REED	M4188ZDH	527	CK4615	2063	0	0				2009-Aug-16
20	13	216	REED	DSX811M-A9		113204	2133	70	23.75	2.95	06/10	30/40	2009-Aug-23
21	14	216	HUGHES	MX30GDX	537	5139598	2314	181	85.25	2.12	02/18	45/115	2009-Aug-28
22	15	216	HUGHES	HC506ZX		7114737	2508	194	77	2.52	04/08	35	2009-Sep-01
23	16	216	REED	R30APDH	537	CW7148	2761	253	69.75	3.63	14/16	35/47	2009-Sep-05
24	17	216	HUGHES	HC505ZX		7116166	2803	42	13.75	3.05	05/06	30	2009-Sep-06
25	18	216	HUGHES	MX-30GDX		6063824	2967	164	77	2.13	13/40	12/40	2009-Sep-10
26	19	216	REED	R30APDH	537	AP6465	3110	143	62.5	2.29	13/14	40	2009-Sep-14
27	20	216	HUGHES	HC506ZX		7116724	3180	70	41	1.71	03/05	25/30	2009-Sep-17
28	21	216	HUGHES	GX-38CDX	547	5135908	3284	104	53.25	1.95	10/15	30/60	2009-Sep-21
29	22	216	REED	R34MPDH	547	AN2958	3451	167	80.75	2.07	06/14	30/43	2009-Sep-28
30	23	216	HUGHES	GX-44GDX	617	6067291	3560	109	64.75	1.68	15	50/63	2009-Oct-02
31	RR	216	HUGHES	GX-44GDX	617	6067291	3560	0	0				2009-Oct-12

APPENDIX 3: DAILY REPORTS

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**1**		**Date:**	**30-Jun-09**
Depth:	36.0	**mKB**	**Progress:**	26.0	**Drilling:**	8.50	**hrs ROP, m/hr:**	3.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Surveying after drilliing 444 mm pilot hole to 56 mKB								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Type	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	REMARKS
1	444	SDGH	ER8619	10.0		26.0	8.50	3 x 15.9	100 - 170	2-5000	Purchased RR bit

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Bit Sub, 2-230 mm DC, 438 mm string stab,1 pony 230 mm collar,1-203 mm DC			**Pump Pressure:**	1000 **kPa**
Liner	(mm)	152	165	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230.0	**mm**	**Drill Pipe O.D.**		**mm**
SPM		110		**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	(m^3/min)	1.87		**Jet Velocity:**		**m/sec**	**Hydraulic HP:**		**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	Drift	Azimuth	North	East	**Time**	19:00		**Gel**	50		
23.00	1.00				**Density**	1025		**Caustic**	1		
50.00	1.00				**Vis.**	41		**Envirofloc**			
					pH	8.5		**Kelzan**			
					W.L.	16.0		**Cello**			
					P.V.	10.0		**Bicarb**			
					Y.P.	4.5		**Alcomer**			
					Gel S.	3.5 / 8 / 10		**Drispac R**			
					Filter Ck	2.0		**Desco**			
					Solids %	16.0		**Barite**			
					Oil	0.000		**Lignite**			
								Primaseal			
								SAPP			
								Soda Ash	2		
								Sawdust		**Day Cost**	$1,841
								Mud Van	2	**Well Cost**	$1,991

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1700+
Daily Water		**Cum. Wate**		**Overflow Density**			1120
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			1.5
Mud Lost		**Cum. Mud**		**Operating hours**			11.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out	7.50	**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	8.50	**10. Survey**	1.00	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Directional Wk**	
5. Circ. & Cond.	0.50	**13. WOO**	2.25	**21. Safety Meeting**	1.00
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	3.00
7. Rig Service	0.25	**15. Test BOP**		**23**	
8. Rig Repair		**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Worked on bleed off lines and pop valves for mud pumps, mixed mud

Picked op BHA. Waited on verification of spud - no survey unit on location. Spudded 455 mm hole @ 30 June 12:30 hrs. from 10 mKB

Drilled 455 mm hole to 28 M pumped high vis sweep, no cuttings increase. Surveyed - 1 deg.

Drilled 455 mm hole from 28 M to 36 M. in a mix of competant sands and silts

Survey unit borrowed from St. Johns was modified to run on wireline by rig crews.

Safety meetings prior to picking-up BHA, prior to spud and 2-crew hand over meetings

Note: costs are field estimates and do not reflect: crew subsistence, geology or engineering charges

Shane We need a 7 5/8 reg pick-up nubbin (to hook the tugger onto). We also would like to have TV hook-up ASAP!

Daily Cost:	$36,775	**Cumulative Cost:**	$928,164	**Weather:**	Plus 12 - 25, light wind, clear
				Mud Type	Gel-Chem
Foremen	**Bill Williams & Hale Yardley**	**Rig Phone**	709-649-7106	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**2**			**Date:**	**01-Jul-09**
Depth:	21.0	**mKB**	**Progress:**	47 / 11	**Drilling:**	14.50	**hrs ROP, m/hr:**	4.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling 660 mm conductor hole to 53 md @ 6+ m/hr								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Type	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
1	444	SDGH	ER8619	10.0	83.0	73.0	21.50	3 x 15.9	100 - 170	2-10,000	1-3-SS-G-5-I-WT-BHA
2	660	XH+C	MR1995	10.0	21.0	11.0	1.50	3x14.3+19	100 - 170	2-5,000	Purchased RR bit

		Pump 1	Pump 2	**Drilling Assembly:**	Bit / Sub, 2-230 mm DC, 438 mm stab,1 pony 230 mm DC, 2-203 mm DC, 165 mm D				
Model		PZ-11	PZ-11				**Pump Pressure:**	3000	**kPa**
Liner	(mm)	152	165	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165	**mm**	**Drill Pipe O.D.**		**mm**
SPM		70	70	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	(m^3/min)		2.20	**Jet Velocity:**		**m/sec**	**Hydraulic HP:**		**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	0:00		**Gel**	65		
23.00	1.00				**Density**	1065		**Caustic**			
50.00	1.00				**Vis.**	46		**Envirofloc**			
					pH	8.5		**Kelzan**			
					W.L.	13.0		**Cello**			
					P.V.	14.0		**Bicarb**			
					Y.P.	7.5		**Alcomer**			
					Gel S.	3.5 / 8.5 / 10		**Drispac R**			
					Filter Ck	2.0		**Desco**			
					Solids %	4.0		**Barite**			
					Oil	n/a		**Lignite**			
								Primaseal			
								SAPP			
								Soda Ash			
								Sawdust		**Day Cost**	$2,367
								Mud Van	2	**Well Cost**	$4,358

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1800+
Daily Water		**Cum. Wate**		**Overflow Density**			1050
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			1.5
Mud Lost		**Cum. Mud**		**Operating hours**			20.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	14.50	**10. Survey**	0.75	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Directional Wk**	
5. Circ. & Cond.	0.75	**13. WOO**		**21. Safety Meeting**	0.75
6. Trip	3.50	**14. Nipple Up BOP**		**22. Handle Tools**	2.00
7. Rig Service	1.00	**15. Test BOP**		**23 Crew Hand-off Mtg**	0.50
8. Rig Repair	0.25	**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Drilled ahead with 444 mm pilot bit ran gel sweeps and started second pump at 69 md.

Drilled to 83 md, circulated hole clean. Tightened loose lock nut on blocks; tripped back to surface, laid down drill collars and 444 m bit

Held safety meeting prior to installing 660 mm bit and installed. Strap welded bit to bit sub.

Drilled ahead from 10 m with bit #2 to 23 m

Bill Williams left this evening for days off.

Dug shallow bermed pits at Hurricane location to store drill cuttings.

Shane: can we please get another 2-way radio charger and another radio and for the motorman, or just a base station the rig manager can use?

Prev Cost	**$928,164**	**Today**	**$47,640**	**Total Cost**	**$975,804**	**Weather:**	Plus 12 - 25, light wind, clear
						Mud Type	Gel-Chem
Foremen	**Bill Williams & Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**3**			**Date:**	**02-Jul-09**	
Depth:	88.0	**mKB**	**Progress:**	67.0	**Drilling:**	13.50	**hrs**	**ROP, m/hr:**	5.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Picking-up tongs to run 508 mm casing									**KB elev:**	**175.30 m.**
										KB - GL	**6.30 m.**

Bit	Size	Type	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
2	660	XH+C	MR1995	10.0	88.0	78.0	15.00	3x14.3+19	100 - 170	2-11,000	1-1-WT-A-2-I-NO-TD

		Pump 1	Pump 2	Drilling Assembly:	Bit / Sub, 2-230 mm DC, 438 mm stab,1 pony 230 mm DC, 2-203 mm DC, 165 mm D			
Model		PZ-11	PZ-11			**Pump Pressure:**	4500	**kPa**
Liner	(mm)	152	165	**BHA Length:**	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**
SPM		70	70	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	(m^3/min)		2.20	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:14	19:00	**Gel**	66		
23.00	1.00				**Density**	1090	1090	**Caustic**	1		
50.00	1.00				**Vis.**	68	95	**Envirofloc**			
87.00	2.25				**pH**	8.0	8.0	**Kelzan**	1		
					W.L.	10.0		**Cello**			
					P.V.	21.0		**Bicarb**			
					Y.P.	12.5		**Alcomer**			
					Gel S.	8 / 22 / 26		**Drispac R**			
					Filter Ck	2.5		**Desco**			
					Solids %	5.6		**Barite**			
					Oil	n/a		**Lignite**			
								Primaseal			
								SAPP			
								Soda Ash			
								Sawdust	48	**Day Cost**	$3,271
								Mud Van	1	**Well Cost**	$7,629

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1800+
Daily Water		**Cum. Wate**		**Overflow Density**			1070
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			1.5
Mud Lost		**Cum. Mud**		**Operating hours**			18.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	13.50	**10. Survey**		**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Miscellaneous**	1.50
5. Circ. & Cond.	3.00	**13. WOO**		**21. Safety Meeting**	0.50
6. Trip	4.25	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	0.50	**15. Test BOP**		**23 Crew Hand-off Mtg**	0.75
8. Rig Repair		**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Drilled ahead with 660 mm conductor hole. Cleaned-out plugged trash pump suction @ replaced suction line air bag . Drilled to 88 md @ 18:15 hrs.

Circulated hole clean, wiper tripped to surface - no fill on bottom, circulated, dropped survey and tripped out for 508 mm conductor.

Laid down 230 mm dcs, removed bit straps and removed 660 mm bit.

Prev Cost	**$975,804**	**Today**	**$56,164**	**Total Cost**	**$1,031,968**	**Weather:**	Plus 10 - 27, pt cloudy
						Mud Type	Gel-Chem
Foremen		**Hale Yardley**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	4		**Date:**	03-Jul-09
Depth:	88.0 **mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Completing reinstall of rotary table and preparing to run back in with bit & NBR to clean hole							**KB elev:**	175.30 m.
								KB - GL	6.30 m.

Bit	Size	Type	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:				
Model		PZ-11	PZ-11				**Pump Pressure:**	4500 kPa
Liner	(mm)	152	165	**BHA Length:**	m	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 mm	**Drill Pipe O.D.**		mm
SPM		70	70	**D.C. Annular Vel.:**	m/min	**D.P Annular Vel.:**		m/min
Vol.	(m^3/min)		2.20	**Jet Velocity:**	m/sec	**Hydraulic HP:**		kW

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	10:00	19:00	**Gel**	42		
23.00	1.00				**Density**	1070	1080	**Caustic**			
50.00	1.00				**Vis.**	52	100	**Envirofloc**			
87.00	2.25?				**pH**	8.0	8.0	**Kelzan**			
					W.L.	13.0		**Cello**			
					P.V.	13.0		**Bicarb**			
					Y.P.	8.0		**Alcomer**			
					Gel S.	7		**Drispac R**			
					Filter Ck	3.0		**Desco**			
					Solids %	4.0		**Barite**			
					Oil	n/a		**Lignite**			
								Primaseal			
								SAPP			
								Soda Ash			
								Sawdust	48	**Day Cost**	$1,752
								Mud Van		**Well Cost**	$9,381

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**	15.00	**20. Miscellaneous**	6.00
5. Circ. & Cond.		**13. WOO**		**21. Safety Meeting**	0.50
6. Trip	1.50	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	0.50	**15. Test BOP**		**23 Crew Hand-off Mtg**	0.50
8. Rig Repair		**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Completed the trip out of hole and bit removal after cutting straps and repairing bit carriage.
Removed rotary table - and installed false table required 5 hours
Rigged to run 88.5 m of 508 mm ABBVetco 192.4 kg/m, RL-4S conductor casing by 08:00
20" conductor became hung-up just below the 30" conductor at 17m. Circulated and worked to 25 mKB. Mud had reduced density and viscosity suggesting water flow from below conductor. Increasesed viscosity and by 14:30 made-up the 3rd joint to pound through cobbles that appeared to have scratched casing. Repaired circulating swedge and notched out false floor as conductor collars were snagging on it as they were worked through 1 hr
By 18:30 made-up the 4th joint of conductor and by midnight had worked it from about 36 to 42 mKB - progress getting slower.

Prev Cost	**$1,031,968**	**Today**	**$29,080**	**Total Cost**	**$1,061,048**	**Weather:**	Plus 10 - 27, pt cloudy
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	5		**Date:**	04-Jul-09
Depth:	88.0 **mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Rigging to run 508 mm conductor for the second time							**KB elev:**	175.30 m.
								KB - GL	6.30 m.

Bit	Size	Type	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
2RR	660	XH+C	MR1995	88	88			3x14.3+19	150 - 250	2-3,000	Clean-out

		Pump 1	Pump 2	Drilling Assembly:	660 mm bit, 657 mm NBS, 1-230 mm dc, X/O, 2-203 mm DC, X/O, 4-165 mm dc			
Model		PZ-11	PZ-11			**Pump Pressure:**	5000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**
SPM		70	70	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	(m^3/min)		2.20	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:14		**Gel**	15		
23.00	1.00				**Density**	1095		**Caustic**			
50.00	1.00				**Vis.**	105		**Enviroflo c**			
83.00	2.00				**pH**	8.5		**Kelzan**	1		
					W.L.	8.0		**Cello**			
					P.V.	33.0		**Bicarb**			
					Y.P.	19.0		**Alcomer**			
					Gel S.	12 / 16 / 20		**Drispac R**			
					Filter Ck	2.5		**Desco**			
					Solids %	6.0		**Barite**			
					Oil	n/a		**Lignite**			
								Primaseal			
						cold mud		**SAPP**			
						in tanks		**Soda Ash**			
								Sawdust	6	**Day Cost**	$1,188
								Mud Van	2	**Well Cost**	$9,381

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill		**10. Survey**	0.25	**18. Squeeze Cement**	
3. Ream	7.00	**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**	4.00	**20. Miscellaneous**	7.00
5. Circ. & Cond.	1.00	**13. WOO**		**21. Safety Meeting**	0.50
6. Trip	1.00	**14. Nipple Up BOP**		**22. Handle Tools**	2.00
7. Rig Service	0.75	**15. Test BOP**		**23 Crew Hand-off Mtg**	0.50
8. Rig Repair		**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Continued to work and pound in 508 mm conductor to 44 m, not making any further progress. Spoke with Terry and elected to pull conductor and ream hole
Safety meeting and laid down 4 joints of conductor - from 01:30 - 04:30. Conductor came out without any over-pull !
Removed rotary table and from 07:30 - 13:30 made-up BHA and began to ream hole from 16 mKB @ 14:00
Washed and reamed entire hole section with a dozen spots taking minor weight and torque spikes and minor fine sands and gravel returns at shaker
23:15 No fill on bottom, resurveyed with wireline to confim 2 degree inclination.
Mixed a 20 m3 pill to 1210 kg/m3 to spot at 25 mKB on the trip out for conductor to help stabilize that water sand for the 4+ hours it takes before conductor .
is in the hole

Prev Cost	**$1,061,048**	**Today**	**$47,303**	**Total Cost**	**$1,108,351**	**Weather:**	Plus 10 - 27,o'cast, lt rain
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	6		**Date:**	05-Jul-09
Depth:	88.0 **mKB**	**Progress:**	0.0	**Drilling:**	0.00 **hrs**	**ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Weld cooling on diverter flange, installing rotary table,							**KB elev:**	175.30 m.
								KB - GL	6.30 m.

Bit	Size	Type	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:				
Model		PZ-11	PZ-11			**Pump Pressure:**		**kPa**
Liner	(mm)	152	165	**BHA Length:**	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**
SPM		70	70	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	(m^3/min)		2.20	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:26	17:30	**Gel**	5		
23.00	1.00				**Density**	1130	1110	**Caustic**	1		
50.00	1.00				**Vis.**	60	46	**Envirofloc**			
83.00	2.00				**pH**	8.5	8.5	**Kelzan**	1		
					W.L.	10.0		**Cello**			
					P.V.	21.0		**Bicarb**			
					Y.P.	10.0		**Alcomer**			
					Gel S.	3 / 5 / 7		**Drispac R**			
					Filter Ck	2.0		**Desco**			
					Solids %	8.0		**Barite**			
					Oil	n/a		**Lignite**			
						run csg	prior to cmt	**Primaseal**			
								SAPP			
								Soda Ash	1		
								Sawdust		**Day Cost**	$1,530
								Mud Van	1	**Well Cost**	$10,911

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**	**8.50**	**20. Miscellaneous**	**2.00**
5. Circ. & Cond.	**2.75**	**13. WOC**	**4.00**	**21. Safety Meeting**	**1.00**
6. Trip	**1.25**	**14. Nipple Up BOP**	**1.00**	**22. Handle Tools**	**2.00**
7. Rig Service	**0.75**	**15. Test BOP**		**23 Crew Hand-off Mtg**	**0.75**
8. Rig Repair		**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Completed mixing barite pill, tripped out of hole, spotted 20 m3 of 1120 kg/m3 barite pill at 25 m to help hold back potential water zone
From 05:30 laid down rotary table and installed false table.
Ran 7 joints of ABB Vetco X-56, 192.4 kg/m RL-$S length 88.56 m to 88 mKB - circulated last 4 joints down and landed by 16:15. Circulated hole and
Cemented with: 8 m3 water and 21.5 m3 (27.7 t) 75% XS of "A" + 3% CaCl @ 1871 kg/m3 and displaced with 14.23 m3 of water - which gives a calculated 8m
of cement inside the conductor. CIP @ 18:20 with 10 m3 of mildly to wildly contaminated cement and 5 m3 of good cement returns. Annulus held ok when
surface valve on circulating swedge was closed and WOC from 18:30 hrs.
Cut conductor and welded on flange to install 20" diverter system

Prev Cost	**$1,108,351**	**Today**	**$79,878**	**Total Cost**	**$1,188,229**	**Weather:**	Plus 8 - 17,o'cast, lt rain
						Mud Type	Gel-Chem
Foremen		**Hale Yardley**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**7**			**Date:**	**06-Jul-09**
Depth:	88.0	**mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Making-up surface BHA								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88				11.9 / 2-15.9 / 19			

		Pump 1	Pump 2	Drilling Assembly:	Bit, S.Sub, 2-230 DC, Stab, 1-230 pony, 1-203 DC, Jars, 1-203 DC, 12-165 DC, 8 HW
Model		PZ-11	PZ-11		**Pump Pressure:** **kPa**
Liner	(mm)	152	165	**BHA Length:** **m**	**Strap:** **Board:**
Stroke	(mm)	279	279	**Drill Collar O.D.** 230/203/165 **mm**	**Drill Pipe O.D.** **mm**
SPM				**D.C. Annular Vel.:** **m/min**	**D.P Annular Vel.:** **m/min**
Vol.	(m^3/min)			**Jet Velocity:** **m/sec**	**Hydraulic HP:** **kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**			
23.00	1.00				**Density**	1080		**Caustic**			
50.00	1.00				**Vis.**	48		**Envirofloc**			
83.00	2.00				**pH**	8.5		**Kelzan**			
					W.L.	9.5		**Cello**			
					P.V.	21.0		**Bicarb**			
					Y.P.	5.0		**Alcomer**			
					Gel S.	2 / 3 / 4		**Drispac R**			
					Filter Ck	2.0		**Desco**	2		
					Solids %	5.0		**Barite**	162		
					Oil	n/a		**Lignite**			
						Mud in		**Primaseal**			
						Tanks		**SAPP**			
								Soda Ash			
								Sawdust		**Day Cost**	$7,290
								Mud Van	1	**Well Cost**	$18,418

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1060.0
Daily Water		**Cum. Wate**		**Overflow Density**			1700+
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			1.4
Mud Lost		**Cum. Mud**		**Operating hours**			20.0

Core: **Size/Type:** **Zone:** **In:** **Out:** **Recovery:**
DST: **Zone:** **Interval:** **Times:**
DST: **Zone:** **Interval:** **Times:**

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Miscellaneous**	
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**	**21.75**	**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP**		**23 Crew Hand-off Mtg**	**0.75**
8. Rig Repair		**16. Drillstem Test**		**Total Hours**	**24.00**

REMARKS

Completed welding and cooling diverter flange, installed rotary table, installed 20" diverter spool & diverter.
Recharged accumulator system with N2 bottles from Air Liquide
Installed flow "T" & flow line, hammered-up diverter connections, installed accumulator lines to diverter and HCR, installed 6" diverter line

Prev Cost	**$1,188,229**	**Today**	**$75,927**	**Total Cost**	**$1,264,156**	**Weather:**	Plus 8 - 17,o'cast, clear
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**8**			**Date:**	**07-Jul-09**	
Depth:	131.0	**mKB**	**Progress:**	43.0	**Drilling:**	5.50	**hrs ROP, m/hr:**	7.80	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drill 455 mm hole to 147 m with 4,000 dan and fanning hole to reduce angle build								**KB elev:**	**175.30 m.**	
									KB - GL	**6.30 m.**	

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88		43	5.50	11.9 / 2-15.9 / 19	150+	6 - 10,000	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, S.Sub, 2-230 DC, Stab, 1-230 pony, 1-203 DC, Jars, 1-203 DC, 12-165 DC, 8 HW			**Pump Pressure:**	7500 **kPa**
Liner	(mm)	152	165	**BHA Length:**	116.66 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**			**mm**
SPM		90	90=	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**			**m/min**
Vol.	(m^3/min)		2.40	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**			**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**			
23.00	1.00				**Density**	1065		**Caustic**			
50.00	1.00				**Vis.**	76		**Envirofloc**			
83.00	2.00				**pH**	10.5		**Kelzan**			
105.00	2.00				**W.L.**	12.0		**Cello**			
130.00	3.00				**P.V.**	20.0		**Bicarb**			
					Y.P.	8.0		**Alcomer**			
					Gel S.	18/43/55		**Drispac R**			
					Filter Ck	2.5		**Desco**			
					Solids %	4.0		**Barite**			
					Oil	n/a		**Lignite**			
						cement		**Primaseal**			
						contaminated		**SAPP**			
						from drill out		**Soda Ash**			
								Sawdust		**Day Cost**	$75
								Mud Van	1	**Well Cost**	$18,418

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1060.0
Daily Water		**Cum. Wate**		**Overflow Density**			1700+
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			1.4
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**6.50**	**10. Survey**	**0.25**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Miscellaneous**	
5. Circ. & Cond.	**0.50**	**13. WOC**	**1.25**	**21. Safety Meeting**	**1.25**
6. Trip		**14. Nipple Up BOP**	**6.25**	**22. Handle Tools**	**5.50**
7. Rig Service	**0.75**	**15. Test BOP & FIT**	**0.75**	**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**	**0.50**	**Total Hours**	**24.00**

REMARKS

Completed diverter instalation and diverter line, functioned annular (30 sec to close) and HCR (1 sec to close)

Made-up BHA and tripped in hole

13:00 conducted diverter / casing pressure test to 1 Mpa for 10 minutes with air pressure holding constant. Conducted BOP drill and advised Terry that all drill out requirements were met. Waited on authority to drill ahead and installed flow "T" extension to allow for higher flow rate.

16:00 Drilled out cement from 79 md and drilled ahead from 88 m to 91 mKB

17:15 conducted FIT test to 500 kPa pressure stabilized to 460 kPa for 10 minutes

19:00 Drilled ahead from 91 m to 105 m

Survey.Held BOP drill

24:00 Drilled from 105 m to 131 m.

Prev Cost	**$1,264,156**	**Today**	**$113,256**	**Total Cost**	**$1,377,412**	**Weather:**	Plus 8 - 14,sunny
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**9**			**Date:**	**08-Jul-09**		
Depth:	194.0	**mKB**	**Progress:**	63.0	**Drilling:**	18.25	**hrs ROP, m/hr:**	3.50	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drill 455 mm hole @204 m with 2 dan and fanning hole to reduce angle build								**KB elev:**	**175.30 m.**	
									KB - GL	**6.30 m.**	

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88		106	24.75	11.9 / 2-15.9 / 19	180+	2.5 da	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, S.Sub, 2-230 DC, Stab, 1-230 pony, 1-203 DC, Jars, 1-203 DC, 12-165 DC, 8 HW		**Pump Pressure:**	8000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	198.51 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**	
SPM		85	80	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		2.58	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	51		
23.00	1.00				**Density**	1070		**Caustic**			
50.00	1.00				**Vis.**	54		**Envirofloc**			
83.00	2.00				**pH**	10.4		**Kelzan**			
105.00	2.00				**W.L.**	12.9		**Cello**			
130.00	3.00				**P.V.**	15.0		**Bicarb**	3		
157.00	3.00				**Y.P.**	4.0		**Alcomer**			
186.00	4.00				**Gel S.**	04/32/49		**Drispac R**			
198.00	3.75				**Filter Ck**	3.0		**Desco**	2		
					Solids %	4.0		**Barite**			
					Oil	n/a		**Lignite**			
								Primaseal			
								Sulfamic acid	7		
								Soda Ash			
								Sawdust	45	**Day Cost**	$1,148
								Mud Van	1	**Well Cost**	$18,831

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**18.25**	**10. Survey**	**1.25**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Miscellaneous**	
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip	**0.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair	**2.50**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

04:30 Control Drilled 455 mm hole from 131 m to147 m. WOB 4-6 da
07:00 Pulled out to 80 m and repaired suction line on mud pumps
13:30 ran in hole and control drilled to 160 m
14:15 Wireline survey and rig service.
20:30 Control Drilled 455 mm hole from 160 m to184 m. WOB 4-6 da
20:30 Wireline survey
24:00 Control Drilled 455 mm hole from 187 m to194 m. WOB 2-3 da

Prev Cost	**$1,377,412**	**Today**	**$28,899**	**Total Cost**	**$1,406,311**	**Weather:**	Plus 8 - 14,sunny
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**10**			**Date:**	**09-Jul-09**	
Depth:	242.0	**mKB**	**Progress:**	48.0	**Drilling:**	18.25	**hrs**	**ROP, m/hr:**	2.60	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pull out of hole to run directional tools									**KB elev:**	**175.30 m.**
										KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88		106	24.75	11.9 / 2-15.9 / 19	180+	2.5 da	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, S.Sub, 2-230 DC, Stab, 1-230 pony, 1-203 DC, Jars, 1-203 DC, 12-165 DC, 8 HW			**Pump Pressure:**	8000 **kPa**
Liner	(mm)	152	165	**BHA Length:**	198.51 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**			**mm**
SPM		85	80	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**			**m/min**
Vol.	(m^3/min)		2.58	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**			**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	51		
23.00	1.00				**Density**	1080		**Caustic**			
50.00	1.00				**Vis.**	61		**Envirofloc**			
83.00	2.00				**pH**	8.6		**Kelzan**			
105.00	2.00				**W.L.**	18.0		**Cello**			
130.00	3.00				**P.V.**	22.0		**Bicarb**	3		
157.00	3.00				**Y.P.**	7.0		**Alcomer**			
186.00	4.00				**Gel S.**	2.5/61/70		**Drispac R**			
198.00	3.75				**Filter Ck**	4.0		**Desco**	2		
212.00	2.50				**Solids %**	5.0		**Barite**			
224.00	3.00				**Oil**	n/a		**Lignite**			
								Primaseal			
								Sulfamic acid	7		
								Soda Ash			
								Sawdust	45	**Day Cost**	$3,231
								Mud Van	1	**Well Cost**	$22,062

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**18.75**	**10. Survey**	**1.00**	**18. Squeeze Cement**	
3. Ream	**2.50**	**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Miscellaneous**	
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.25**
8. Rig Repair	**0.50**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

04:45 Control Drilled 455 mm hole from 194 m to201 m. WOB 4-6 da
05:45 Wireline survey and rig service.
20:30 Control Drilled 455 mm hole from 201 m to205 m. WOB 4-6 da
09:00 Repair leak on kelly gooseneck
14:15 Control Drilled 455 mm hole from 205 m to215 m. WOB 2-3 da
14:30 Wireline survey
17:15 Drilled 455 mm hole from 215 m to226 m. WOB 7-8 da
18:30 Troubleshoot pason computer
19:00 Wireline survey
21:30 C Drilled 455 mm hole from 226 m to242 m. WOB 7-8 da
24:00 Work tight hole @ 225-226 m. Backream free and clean up.

Prev Cost	**$1,406,311**	**Today**	**$28,411**	**Total Cost**	**$1,434,722**	**Weather:**	Plus 8 - 14,sunny
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**11**			**Date:**	**10-Jul-09**	
Depth:	255.0	**mKB**	**Progress:**	13.0	**Drilling:**	9.00	**hrs ROP, m/hr:**	1.30	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs: Work on mud pumps									**KB elev:**	**175.30 m.**	
									KB - GL	**6.30 m.**	

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 da	
4	444	Reed - 515X	DT4829	253					120	12 da	

		Pump 1	Pump 2	Drilling Assembly:	Bit, S.Sub, 2-230 DC, Stab, 1-230 pony, 1-203 DC, Jars, 1-203 DC, 12-165 DC, 8 HW				
Model		PZ-11	PZ-11				**Pump Pressure:**	8000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	198.51 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**	
SPM		85	80	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		2.58	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	24		
23.00	1.00				**Density**	1125		**Caustic**			
50.00	1.00				**Vis.**	61		**Envirofloc**			
83.00	2.00				**pH**	8.6		**Kelzan**			
103.36	2.62	88.30			**W.L.**	14.9		**Cello**			
131.01	3.06	88.30			**P.V.**	15.0		**Bicarb**			
158.44	3.03	88.10			**Y.P.**	7.0		**Alcomer**			
185.36	3.81	88.88			**Gel S.**	2.5/49/88		**Drispac R**			
212.92	3.51	83.61			**Filter Ck**	3.0		**Desco**	1		
234.43	3.70	80.17			**Solids %**	7.5		**Barite**			
254.23	3.38	77.87			**Oil**	n/a		**Lignite**			
					Temp	46.8		**Primaseal**			
								Sulfamic acid	2		
								Soda Ash			
								Sawdust	66	**Day Cost**	$1,655
								Mud Van	1	**Well Cost**	$23,717

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**9.25**	**10. Survey**	**0.25**	**18. Squeeze Cement**	
3. Ream	**1.00**	**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Miscellaneous**	**2.50**
5. Circ. & Cond.	**0.25**	**13. WOC**		**21. Safety Meeting**	**0.75**
6. Trip	**9.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

01:00 Work tight area @ 225 m.
01:30 Wireline survey and rig service.
08:00 Control Drilled 455 mm hole from 242 m to253 m. WOB 4-6 da
08:15 Condition mud
14:00 Trip out lay out BHA
17:15 Safety meeting,make up directional tools,RIH to 90 m.
20:15 Test MWD tools,RIH survey every stand.
24:00 C Drilled 455 mm hole from 253 m to263 m. WOB 15 da

Prev Cost	**$2,458,834**	**Today**	**$69,114**	**Total Cost**	**$2,527,948**	**Weather:**	Plus 8 - 23,sunny
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**12**			**Date:**	**11-Jul-09**	
Depth:	357.0	**mKB**	**Progress:**	102.0	**Drilling:**	18.00	**hrs**	**ROP, m/hr:**	5.60	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 382 m.									**KB elev:**	**175.30 m.**
										KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 da	
4	444	Reed - 515X	DT4829	253					120	12 da	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Motor,Float sub,Non Mag XO,NM MWD Collar,NM XO, 9.5" NM DC,XO , 1- 8"		**Pump Pressure:**	15000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	337.48 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**	
SPM		85	80	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		2.58	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	34		
23.00	1.00				**Density**	1115		**Caustic**			
50.00	1.00				**Vis.**	53		**Envirofloc**			
83.00	2.00				**pH**	8.6		**Kelzan**	2		
103.36	2.62	88.30			**W.L.**	11.8		**Cello**	1		
131.01	3.06	88.30			**P.V.**	15.0		**Bicarb**			
158.44	3.03	88.10			**Y.P.**	5.0		**Alcomer**			
185.36	3.81	88.88			**Gel S.**	1.2/10/20		**Drispac R**			
212.92	3.51	83.61			**Filter Ck**	2.0		**Desco**	1		
234.43	3.70	80.17			**Solids %**	7.0		**Barite**			
254.23	3.38	77.87			**Oil**	n/a		**Lignite**			
268.64	3.39	73.29			**Temp**	52.8		**Primaseal**			
282.12	3.34	69.58						**Sulfamic acid**	2		
295.43	3.33	67.17						**Soda Ash**			
308.96	3.31	69.41						**Sawdust**	30	**Day Cost**	$2,391
337.43	3.45	66.14						**Mud Van**	1	**Well Cost**	$26,109

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**18.00**	**10. Survey**	**0.25**	**18. Squeeze Cement**	
3. Ream	**0.50**	**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pum**	**3.75**
5. Circ. & Cond.	**0.25**	**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

08:00 C Drilled 455 mm hole from 264 m to290 m. WOB 15 da
09:15 Change out seatin mud pump
17:30 Drilled to 331 m.
19:00 Reamed coal seam @ 343 m. 346 m, and 350 m.
22:00 Drilled to 352 m.
23:00 Changed out head in # 2 pump and work coal seams
24:00 C Drilled 455 mm hole from 350 m to357 m. WOB 15 da

Prev Cost	**$2,527,948**	**Today**	**$34,332**	**Total Cost**	**$2,562,280**	**Weather:**	Plus 8 - 23,sunny
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**13**			**Date:**	**12-Jul-09**
Depth:	468.0	**mKB**	**Progress:**	111.0	**Drilling:**	18.00	**hrs ROP, m/hr:**	6.30	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 506 m.								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 da	
4	444	Reed - 515X	DT4829	253		215	32.50		95	23 da	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Motor,Float sub,Non Mag XO,NM MWD Collar,NM XO, 9.5" NM DC,XO , 1- 8"		**Pump Pressure:**	17000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	337.48 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**	
SPM		95	95	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		3.01	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	32		
23.00	1.00				**Density**	1125		**Caustic**	1		
50.00	1.00				**Vis.**	55		**Envirofloc**			
83.00	2.00				**pH**	8.6		**Kelzan**	3		
103.36	2.62	88.30			**W.L.**	8.0		**Cello**			
364.29	3.27	64.19			**P.V.**	18.0		**Bicarb**			
377.43	3.04	62.95			**Y.P.**	9.0		**Alcomer**			
391.66	2.10	62.13			**Gel S.**	3.5/12/18		**Drispac R**	2		
405.24	1.93	61.19			**Filter Ck**	1.5		**Desco**			
419.00	2.30	56.57			**Solids %**	7.5		**Barite**			
432.77	2.75	55.30			**Oil**	n/a		**Lignite**			
446.38	3.30	55.66			**Temp**	58.5		**Primaseal**			
460.67	3.73	54.10						**Sulfamic acid**			
474.04	4.25	58.18						**Soda Ash**			
								Sawdust		**Day Cost**	$2,771
								Mud Van	1	**Well Cost**	$29,180

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**17.50**	**10. Survey**	**1.75**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pum**	**3.50**
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

03:30 C Drilled 455 mm hole from 357 m to375 m. WOB 15-22 da
05:15 Change out seat / head in mud pump
05:45 Drilled to 380 m.
07:45 Change out 2 heads in mud pump
12:30 Drilled to 408 m.
13:30 Changed out head & seat in # 1 pump.
24:00 Drilled 455 mm hole and accumulate suveys from 408 m to 468 m. WOB 15 - 26 da

Prev Cost	**$2,566,083**	**Today**	**$37,545**	**Total Cost**	**$2,603,628**	**Weather:**	Plus 12 - 23,cloud
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**14**			**Date:**	**13-Jul-09**
Depth:	559.0	**mKB**	**Progress:**	91.0	**Drilling:**	18.00	**hrs ROP, m/hr:**	4.80	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pull out of hole to dial up motor to 1.5 deg.								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 da	
4	444	Reed - 515X	DT4829	253		215	32.50		95	23 da	

		Pump 1	Pump 2	Drilling Assembly:	Bit, Motor,Float sub,Non Mag XO,NM MWD Collar,NM XO, 9.5" NM DC,XO , 1- 8"				
Model		PZ-11	PZ-11				**Pump Pressure:**	17000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	337.48 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165 **mm**	**Drill Pipe O.D.**		**mm**	
SPM		95	95	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		3.01	**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	32		
23.00	1.00				**Density**	1125		**Caustic**	1		
50.00	1.00				**Vis.**	55		**Envirofloc**			
83.00	2.00				**pH**	8.6		**Kelzan**	3		
103.36	2.62	88.30			**W.L.**	8.0		**Cello**			
364.29	3.27	64.19			**P.V.**	18.0		**Bicarb**			
377.43	3.04	62.95			**Y.P.**	9.0		**Alcomer**			
391.66	2.10	62.13			**Gel S.**	3.5/12/18		**Drispac R**	2		
405.24	1.93	61.19			**Filter Ck**	1.5		**Desco**			
419.00	2.30	56.57			**Solids %**	7.5		**Barite**			
432.77	2.75	55.30			**Oil**	n/a		**Lignite**			
487.33	4.53	61.47			**Temp**	67.1		**Primaseal**			
500.97	4.71	60.51						**Sulfamic acid**			
514.76	5.20	65.43						**Soda Ash**			
529.05	5.51	67.47						**Sawdust**		**Day Cost**	$2,771
542.90	5.95	65.37						**Mud Van**	1	**Well Cost**	$29,180

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**18.75**	**10. Survey**	**1.75**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pum**	**2.25**
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

11:00 Drilled 455 mm hole from 468 m to 527 m. WOB 26 da
11:45 Change out seat / head in mud pump
13:15 Drilled to 527 m.
14:00 Change out seat & valve in # 1 mud pump
14:30 Drilled to 529 m.
15:30 Changed out valve & seat in # 1 pump.
24:00 Drilled 455 mm hole and accumulate suveys from 529 m to 559 m. WOB 22 - 26 da

Prev Cost	**$2,603,628**	**Today**	**$46,481**	**Total Cost**	**$2,650,109**	**Weather:**	Plus 21,cloud
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**15**			**Date:**	**14-Jul-09**
Depth:	588.0	**mKB**	**Progress:**	29.0	**Drilling:**	7.50	**hrs ROP, m/hr:**	3.80	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 611 m								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 da	
4	444	Reed - 515X	DT4829	253		215	32.50		95	23 da	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Motor,stab,9.5" pony collar,Float sub,Non Mag XO,NM MWD Collar,NM XO, 9.5			**Pump Pressure:**	17000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	342.84	**m**	**Strap:**	**Board:**		
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165	**mm**	**Drill Pipe O.D.**		**mm**	
SPM		95	95	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		3.01	**Jet Velocity:**		**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	12		
23.00	1.00				**Density**	1125		**Caustic**	2		
50.00	1.00				**Vis.**	55		**Envirofloc**			
83.00	2.00				**pH**	8.6		**Kelzan**	0		
103.36	2.62	88.30			**W.L.**	8.0		**Cello**			
364.29	3.27	64.19			**P.V.**	18.0		**Bicarb**			
377.43	3.04	62.95			**Y.P.**	9.0		**Alcomer**			
391.66	2.10	62.13			**Gel S.**	3.5/12/18		**Drispac R**	2		
405.24	1.93	61.19			**Filter Ck**	1.5		**Desco**			
419.00	2.30	56.57			**Solids %**	7.5		**Barite**			
432.77	2.75	55.30			**Oil**	n/a		**Lignite**			
487.33	4.53	61.47			**Temp**	43.2		**Primaseal**			
542.90	5.95	65.37						**Sulfamic acid**			
556.44	6.27	62.83				mud static		**Soda Ash**			
570.53	5.61	60.90						**Sawdust**	32	**Day Cost**	$1,368
584.01	4.65	55.51						**Mud Van**	1	**Well Cost**	$33,528

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**7.50**	**10. Survey**	**3.75**	**18. Squeeze Cement**	
3. Ream	**0.75**	**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pum**	**1.25**
5. Circ. & Cond.	**1.25**	**13. WOC**		**21. Safety Meeting**	**0.75**
6. Trip	**8.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

01:30 Circulate piror to trip to dial up motor
07:15 Pull out of hole.Safety meeting with schlum.
10:30 Directional work,l,pick up string stab and pony collar
11:00 Change out tugger line
14:30 run in hole,test mwd tools and wash to bottom from 570 m.
18:15 Drilled 455 mm hole and accumulate suveys from 559 m to 571 m.
19:30 Changed out valve & seat in # 1 pump.
24:00 Drilled 455 mm hole and accumulate suveys from 571 m to 588 m.

Prev Cost	**$2,650,221**	**Today**	**$38,199**	**Total Cost**	**$2,688,420**	**Weather:**	Plus 19,sunny
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**16**			**Date:**	**15-Jul-09**
Depth:	663.0	**mKB**	**Progress:**	75.0	**Drilling:**	20.50	**hrs ROP, m/hr:**	3.60	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 687 m								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 da	
4	444	Reed - 515X	DT4829	253		215	32.50		95	23 da	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Motor,stab,9.5" pony collar,Float sub,Non Mag XO,NM MWD Collar,NM XO, 9.5			**Pump Pressure:**	17000	**kPa**
Liner	(mm)	152	165	**BHA Length:**	342.84	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	230/203/165	**mm**	**Drill Pipe O.D.**		**mm**	
SPM		95	95	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)		3.01	**Jet Velocity:**		**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:00		**Gel**	2		
23.00	1.00				**Density**	1115		**Caustic**			
50.00	1.00				**Vis.**	63		**Envirofloc**			
83.00	2.00				**pH**	9.2		**Kelzan**	0		
103.36	2.62	88.30			**W.L.**	12.8		**Cello**			
364.29	3.27	64.19			**P.V.**	11.0		**Bicarb**			
377.43	3.04	62.95			**Y.P.**	6.0		**Alcomer**			
391.66	2.10	62.13			**Gel S.**	8/31/35		**Drispac R**	1		
405.24	1.93	61.19			**Filter Ck**	2.0		**Desco**			
419.00	2.30	56.57			**Solids %**	7.0		**Barite**			
597.01	4.12	40.57			**Oil**	n/a		**Lignite**	1		
610.61	4.03	48.70			**Temp**	64.4		**Primaseal**			
624.10	3.94	49.22						**Sulfamic acid**			
638.29	3.85	49.95						**Soda Ash**			
652.34	3.67	51.39						**Sawdust**		**Day Cost**	$391
								Mud Van	1	**Well Cost**	$33,919

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1710.0
Daily Water		**Cum. Wate**		**Overflow Density**			1060
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			12.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**20.50**	**10. Survey**	**1.00**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pum**	**1.50**
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

07:00 Drilled 455 mm hole and accumulate suveys from 588 m to 609 m.
07:15 Change valve & seat in # 1 pump
16:00 Drilled 455 mm hole and accumulate suveys from 609 m to 640 m.
16:45 Change head in mud pump
20:45 Drilled 455 mm hole and accumulate suveys from 640 m to 654 m.
21:30 Change seat & valve in # 2 pnmp
24:00 Drilled 455 mm hole and accumulate suveys from 654 m to 663 m.

Prev Cost	**$2,672,480**	**Today**	**$50,333**	**Total Cost**	**$2,722,813**	**Weather:**	Plus 19,cloud
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**17**			**Date:**	**16-Jul-09**
Depth:	737.0	**mKB**	**Progress:**	74.0	**Drilling:**	21.75	**hrs ROP, m/hr:**	3.40	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling (rotating) ahead @ 756 m without MWD signal, tentative casing TD at 757 m								**KB elev:**	**175.30 m.**
									KB - GL	**6.30 m.**

Bit	Size	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
3	444	Reed - 415X	ND0530	88	253	165	48.50	11.9 / 2-15.9 / 19	180+	2.5 Kda	
4	444	Reed - 515X	DT4829	253		484	105.25	3x 17.5/12.7	95 / 125	18-23 Kda	

		Pump 1	Pump 2
Model		PZ-11	PZ-11
Liner	(mm)	152	165
Stroke	(mm)	279	279
SPM		95	95
Vol.	(m^3/min)		3.01

Drilling Assembly: Bit, Mtr, stab,9.5" Short DC,Float sub, XO, NM MWD DC, XO, 9.5" NM DC,XO
1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWDP **Pump Pressure:** 17000 **kPa**

BHA Length:	342.84	**m**	**Strap:**		**Board:**	
Drill Collar O.D.	230/203/165	**mm**	**Drill Pipe O.D.**		**mm**	
D.C. Annular Vel.:		**m/min**	**D.P Annular Vel.:**		**m/min**	
Jet Velocity:		**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
103.36	2.62	88.30		
364.29	3.27	64.19		
391.66	2.10	62.13		
419.00	2.30	56.57		
610.61	4.03	48.70		
652.34	3.67	51.39		
665.87	3.32	47.17		
679.83	2.95	39.84		
706.77	2.45	9.96		

MUD

Time	6:00	
Density	1120	
Vis.	61	
pH	9.5	
W.L.	12.4	
P.V.	10.0	
Y.P.	8.5	
Gel S.	14.5/37/44	
Filter Ck	2.0	
Solids %	7.5	
Oil	n/a	
Temp	68.1	

MUD ADDITIVES

Gel			
Caustic	1		
Envirofloc			
Kelzan	5		
Cello			
Bicarb			
Newedge	6		
Drispac R	3		
Desco			
Barite			
Lignite			
PHPA	1		
Sulfamic acid			
Soda Ash			
Sawdust		**Day Cost**	$3,481
Mud Van	1	**Well Cost**	$33,919

Fluid Inventory				Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**	**Underflow Density**			1960.0
Daily Water		**Cum. Wate**	**Overflow Density**			1220
Daily Gas		**Cum. Gas**	**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**	**Operating hours**			24.0

Core: **Size/Type:** **Zone:** **In:** **Out:** **Recovery:**
DST: **Zone:** **Interval:** **Times:**
DST: **Zone:** **Interval:** **Times:**

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**1.25**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pumps**	
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Drilled from 663 - 687 m with 1/2 slides to drop hole angle with 18 - 23 kdaN WOB, 3 m3/min of mud @ 17 mPa pressure

08:00 - 16:00 Drilled ahead to 715 m with continued slides

16:00 - 23:59 Drilled ahead to 737 m in red-brown shales, silts & sands

Minor difficulties obtaining surveys

Schlumber Motor: 5/6 4 stage medium speed with 1.5 degree setting and .032 rev/l

Prev Cost	**$2,722,813**	**Today**	**$42,919**	**Total Cost**	**$2,765,732**	**Weather:**	Plus 19,cloud
						Mud Type	Gel-Chem
Foremen	**Hale Yardley & Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**18**			**Date:**	**17-Jul-09**
Depth:	775.0	**mKB**	**Progress:**	38.0	**Drilling:**	14.00	**hrs**	**ROP, m/hr:**	2.70	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling (sliding) ahead @ 783 m - back on bottom @ 06:45 hrs									**KB elev:**	**175.30 m.**
										KB - GL	**6.30 m.**

Bit	Size/Make	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	Weight	I O D L B G O R
4	444 Reed	T51C 515X	DT4829	253	775	522	119.25	3x 17.5/12.7	95 / 125	18-23 Kda	2-3-RG-G-6-2-SD-HR
5 (RR3)	444 Reed	T41C 415X	ND0530	775		484		2x17.5/11.9/19			

		Pump 1	Pump 2
Model		PZ-11	PZ-11
Liner	(mm)	152	165
Stroke	(mm)	279	279
SPM		95	95
Vol.	(m^3/min)		3.01

Drilling Assembly: Bit, Mtr, stab,9.5" Short DC,Float sub, XO, NM MWD DC, XO, 9.5" NM DC,XO
1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT **Pump Pressure:** 17000 **kPa**

BHA Length:	342.84	**m**	**Strap:**		**Board:**	
Drill Collar O.D.	230/203/165	**mm**	**Drill Pipe O.D.**		**mm**	
D.C. Annular Vel.:		**m/min**	**D.P Annular Vel.:**		**m/min**	
Jet Velocity:		**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
103.36	2.62	88.30		
364.29	3.27	64.19		
391.66	2.10	62.13		
419.00	2.30	56.57		
610.61	4.03	48.70		
652.34	3.67	51.39		
665.87	3.32	47.17		
679.83	2.95	39.84		
706.77	2.45	9.96		

MUD

Time	6:00	
Density	1115	
Vis.	58	
pH	8.6	
W.L.	11.6	
P.V.	10.0	
Y.P.	8.5	
Gel S.	11/36/41	
Filter Ck	1.5	
Solids %	7.0	
Oil	n/a	
Temp	65.2	

MUD ADDITIVES

Gel			
Caustic	1		
Envirofloc			
Kelzan	5		
Cello			
Bicarb			
Newedge	7		
Drispac R	7		
Desco			
Barite			
Lignite			
PHPA	1		
Sulfamic acid			
Soda Ash			
Sawdust		**Day Cost**	$4,393
Mud Van	1	**Well Cost**	$41,794

Fluid Inventory				Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**	**Underflow Density**			1980.0
Daily Water		**Cum. Wate**	**Overflow Density**			1220
Daily Gas		**Cum. Gas**	**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**	**Operating hours**			24.0

Core: **Size/Type:** **Zone:** **In:** **Out:** **Recovery:**
DST: **Zone:** **Interval:** **Times:**
DST: **Zone:** **Interval:** **Times:**

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**14.50**	**10. Survey**	**1.00**	**18. Squeeze Cement**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Work on mud pumps**	
5. Circ. & Cond.	**1.25**	**13. WOC**		**21. Safety Meeting**	**0.25**
6. Trip	**4.25**	**14. Nipple Up BOP**		**22. Handle Tools**	**0.75**
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair	**1.00**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Drilled from 737 - 756 m with 18 - 20 kdaN WOB, 3 m3/min of mud @ 17 mPa pressure. Lost MWD signal drilled ahead

08:00 - 16:00 Drilled ahead to770 m and worked on pump

16:00 - 17:45 Drilled ahead to 775 m in red-brown shales, silts & sands circ and tripped bit on hours. A few minor tight spots hole generally good
R&R: bit, MWD tool and Jars

Bit #3 rerun with 48.5 hrs and excellent condition

Prev Cost	**$2,765,732**	**Today**	**$54,175**	**Total Cost**	**$2,819,907**	**Weather:**	Plus 14-9, drizzle
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**19**			**Date:**	**18-Jul-09**		
Depth:	820.0	**mKB**	**Progress:**	45.0	**Drilling:**	15.25	**hrs ROP, m/hr:**	2.95	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Wiper trip @ surface casing TD of 829 m								**KB elev:**	**175.30 m.**	
									KB - GL	**6.30 m.**	

Bit	Size/Make	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
5 (RR3)	444 Reed	T41C 415X	ND0530	775		45	15.25	2x17.5/11.9/19	95 / 125	18 - 20	

		Pump 1	Pump 2
Model		PZ-11	PZ-11
Liner	(mm)	152	165
Stroke	(mm)	279	279
SPM		95	95
Vol.	(m^3/min)		3.01

Drilling Assembly: Bit, Mtr, stab,9.5" Short DC,Float sub, XO, NM MWD DC, XO, 9.5" NM DC,XO
1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT **Pump Pressure:** 17000 **kPa**

BHA Length:	342.84	**m**	**Strap:**		**Board:**	
Drill Collar O.D.	230/203/165	**mm**	**Drill Pipe O.D.**			**mm**
D.C. Annular Vel.:		**m/min**	**D.P Annular Vel.:**			**m/min**
Jet Velocity:		**m/sec**	**Hydraulic HP:**			**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
103.36	2.62	88.30		
364.29	3.27	64.19		
391.66	2.10	62.13		
419.00	2.30	56.57		
610.61	4.03	48.70		
652.34	3.67	51.39		
665.87	3.32	47.17		
679.83	2.95	39.84		
706.77	2.45	9.96		
732.30	2.20	359.20		
775.60	2.54	20.30		
789.60	2.20	34.10		
806.70	2.27	52.60		

MUD

Time	9:00	
Density	1120	
Vis.	63	
pH	8.5	
W.L.	12.8	
P.V.	10.0	
Y.P.	9.5	
Gel S.	9/29/31	
Filter Ck	1.5	
Solids %	7.5	
Oil	n/a	
Temp	58.5	

MUD ADDITIVES

Gel	32		
Caustic	2		
Envirofloc			
Kelzan	4		
Cello			
Bicarb			
Newedge			
Drispac R			
Desco			
Barite			
Lignite			
PHPA	1		
Sulfamic acid			
Soda Ash			
Sawdust		**Day Cost**	$3,294
Mud Van	1	**Well Cost**	$45,088

Fluid Inventory				Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**	**Underflow Density**			1980.0
Daily Water		**Cum. Wate**	**Overflow Density**			1220
Daily Gas		**Cum. Gas**	**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**	**Operating hours**			24.0

Core: **Size/Type:** **Zone:** **In:** **Out:** **Recovery:**
DST: **Zone:** **Interval:** **Times:**
DST: **Zone:** **Interval:** **Times:**

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**15.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	**0.50**
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**		**20. Wk on mud pumps**	**2.25**
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	
6. Trip	**3.00**	**14. Nipple Up BOP**		**22. Handle Tools**	**1.00**
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**	**0.50**	**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Completed R&R of MWD, tripped in hole good, washed to bottom no fill, patterned bit and drilled 775 - 784 m, worked on mud pumps

08:00 - 16:00 Drilled ahead to803 m and worked on pump, held diverter BOP drill

16:00 - 17:45 Drilled ahead to 820 m in red-brown shales, silts & sands. Hit anhydrite @ 815 m. worked on mud pumps and conducted BOP drill

Prev Cost	**$2,819,907**	**Today**	**$40,275**	**Total Cost**	**$2,860,182**	**Weather:**	Plus 14-19, drizzle overcast
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**20**			**Date:**	**19-Jul-09**		
Depth:	829.0	**mKB**	**Progress:**	9.0	**Drilling:**	5.25	**hrs ROP, m/hr:**	1.70	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Runining 339 mm casing to 240m - slow going, mud very thick								**KB elev:**	**175.30 m.**	
									KB - GL	**6.30 m.**	

Bit	Size/Make	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
5 (RR3)	444 Reed	T41C 415X	ND0530	775	829	54	20.50	2x17.5/11.9/19	95 / 125	18 - 20	1-1-WT-A-4-2-RG-TD

		Pump 1	Pump 2
Model		PZ-11	PZ-11
Liner	(mm)	152	165
Stroke	(mm)	279	279
SPM		95	95
Vol.	(m^3/min)		3.01

Drilling Assembly: Bit, Mtr, stab,9.5" Short DC,Float sub, XO, NM MWD DC, XO, 9.5" NM DC,XO
1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWDP **Pump Pressure:** 17000 **kPa**

BHA Length:	342.84	**m**	**Strap:**		**Board:**	
Drill Collar O.D.	230/203/165	**mm**	**Drill Pipe O.D.**			**mm**
D.C. Annular Vel.:		**m/min**	**D.P Annular Vel.:**			**m/min**
Jet Velocity:		**m/sec**	**Hydraulic HP:**			**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
103.36	2.62	88.30		
364.29	3.27	64.19		
391.66	2.10	62.13		
419.00	2.30	56.57		
610.61	4.03	48.70		
652.34	3.67	51.39		
665.87	3.32	47.17		
679.83	2.95	39.84		
706.77	2.45	9.96		
732.30	2.20	359.20		
775.60	2.54	20.30		
789.60	2.20	34.10		
806.70	2.27	52.60		

MUD

Time	10:00	15:00
Density	1120	1120
Vis.	81	125
pH	8.0	9.5
W.L.	24.5	16.4
P.V.	10.0	16.0
Y.P.	19.5	34.0
Gel S.	15/17/19	36/32/34
Filter Ck	4.0	2.0
Solids %	7.5	7.5
Oil	n/a	n/a
Ca (mg/l)	520.0	240.0
Cl (mg/l)	6200.0	5700.0
MBT	62.5	62.5
Temp	54.8	54.8

MUD ADDITIVES

Gel			
Caustic			
Envirofloc			
Kelzan			
Cello			
Bicarb			
Newedge			
Drispac R			
Desco			
Barite			
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision	1	**Day Cost**	$1,075
Mud Van	1	**Well Cost**	$46,163

Fluid Inventory				Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1980.0
Daily Water		**Cum. Wate**		**Overflow Density**			1220
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			500.0
Mud Lost		**Cum. Mud**		**Operating hours**			10.0

Core: **Size/Type:** **Zone:** **In:** **Out:** **Recovery:**
DST: **Zone:** **Interval:** **Times:**
DST: **Zone:** **Interval:** **Times:**

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill	**5.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Core		**12. Casing/Cement**	**1.50**	**20. Wk on mud pumps**	
5. Circ. & Cond.	**3.75**	**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip	**10.75**	**14. Nipple Up BOP**		**22. Handle Tools**	**0.75**
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair	**0.50**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Continued to drill ahead in ahydrite to casing depth of 829 m @ 06:00, worked on pump again , began wiper trip
Mud clobbered from Ca contamination in anhydrite and will not flow out of pipe readily on trip -
08:00 - 16:00 Circulated tight hole @ 298 m, tripped out to 227 m and tripped back in hole and circulated and conditioned Ca contaminated mud

16:00 - 23:59 Tripped out for surface casing; laid down 229 mm DC, removed motor and mud motor held safety meeting and rigged to run 70 joints of
339.7 mm surface casing and levelled rig

Prev Cost	**$2,860,182**	**Today**	**$37,805**	**Total Cost**	**$2,897,987**	**Weather:**	Plus 14-19, mix of clear, cld, drizzle
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1	**Day:**	21	**Date:**	20-Jul-09
Depth:	829.0 **mKB**	**Progress:**	0.0 **Drilling:**	**hrs ROP, m/hr:**	**Rig:** Stoneham # 11
Operation @ 0800 hrs:	Removing diverter flange off conductor; preparing to install surface casing bowl				**KB elev:** 175.30 m.
the next day					**KB - GL** 6.30 m.

Bit	Size/Make	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:					
Model		PZ-11	PZ-11				**Pump Pressure:**		**kPa**
Liner	(mm)	152	165	**BHA Length:**	**m**	**Strap:**	**Board:**		
Stroke	(mm)	279	279	**Drill Collar O.D.**	**mm**	**Drill Pipe O.D.**		**mm**	
SPM				**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)			**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	20:30		**Gel**	14	**CaC03**	28
103.36	2.62	88.30			**Density**	1100		**Caustic**	10		
364.29	3.27	64.19			**Vis.**	56		**Envirofloc**			
391.66	2.10	62.13			**pH**	8.7		**Kelzan**		**Inventory**	**Correction**
419.00	2.30	56.57			**W.L.**	17.6		**Cello**			
610.61	4.03	48.70			**P.V.**	11.0		**Bicarb**			
652.34	3.67	51.39			**Y.P.**	7.0		**Newedge**			
665.87	3.32	47.17			**Gel S.**	8 /15 / 17		**Drispac R**	6		
679.83	2.95	39.84			**Filter Ck**	1.5		**Desco**	9		
706.77	2.45	9.96			**Solids %**	6.0		**Barite**			
732.30	2.20	359.20			**Oil**	n/a		**Lignite**			
775.60	2.54	20.30			**Ca (mg/l)**	120.0		**PHPA**	1		
789.60	2.20	34.10			**Cl (mg/l)**	4700.0		**Sawdust**	-34		
806.70	2.27	52.60			**MBT**	55.0		**Soda Ash**	25		
					Temp	38.6		**Supervision**	1	**Day Cost**	$5,817
								Mud Van	1	**Well Cost**	$51,980

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. Cut Drill Line**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Fishing**	
4. Level Rig	**1.25**	**12. Casing/Cement**	**18.00**	**20. Wk on mud pumps**	
5. Circ. & Cond.	**4.00**	**13. WOC**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Completed rig levelling and rigged to and ran 340 mm surface casing to 296 m - filling every 5 joints

08:00 - 16:00 Continued to run surface casing to 770 m, filling casing every 5 joints.

Ran 69 joints of 339.7 mm, 90.8 kg/m, K-55, BT&C length 830 m to 829 mKB - took 18 hours

16:00 - 23:59 Ran casing to bottom @ 17:30 hours. Circulated and conditioned mud, took flow line temperatures and verified compatability of cement blend with observed circulating flow line temp of 37 +/- C., held safety meeting, rigged to and began to cement casing at 22:30 hrs.

THIS AM: CIP @ 00:30 with 3 m3 of clobbered mud to 19 m3 of good cement returns.

could flush out the conductor and flow line.

NOTE: Temperature of drilling mud at the shaker box has been added on this report going back to day 11 @ 255 meters.

Prev Cost	**$2,897,987**	**Today**	**$93,946**	**Total Cost**	**$2,991,933**	**Weather:**	Plus 15-22, clear
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1	**Day:**	22	**Date:**	21-Jul-09
Depth:	829.0 **mKB**	**Progress:**	0.0 **Drilling:**	**hrs ROP, m/hr:**	**Rig:** Stoneham # 11
Operation @ 0800 hrs:	Welding 340 mm casing bowl, stripping surface mud				**KB elev:** 175.30 m.
the next day					**KB - GL** 6.30 m.

Bit	Size/Make	Make IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2
Model		PZ-11	PZ-11
Liner	(mm)	152	165
Stroke	(mm)	279	279
SPM			
Vol.	(m^3/min)		

Drilling Assembly:

Pump Pressure: kPa

BHA Length: m **Strap:** **Board:**

Drill Collar O.D. mm **Drill Pipe O.D.** mm

D.C. Annular Vel.: m/min **D.P Annular Vel.:** m/min

Jet Velocity: m/sec **Hydraulic HP:** kW

SURVEYS

Depth	Drift	Azimuth	North	East
103.36	2.62	88.30		
364.29	3.27	64.19		
391.66	2.10	62.13		
419.00	2.30	56.57		
610.61	4.03	48.70		
652.34	3.67	51.39		
665.87	3.32	47.17		
679.83	2.95	39.84		
706.77	2.45	9.96		
732.30	2.20	359.20		
775.60	2.54	20.30		
789.60	2.20	34.10		
806.70	2.27	52.60		

MUD

Time		
Density		
Vis.		
pH		
W.L.		
P.V.		
Y.P.		
Gel S.		
Filter Ck		
Solids %		
Oil		
Ca (mg/l)		
Cl (mg/l)		
MBT		
Temp		

MUD ADDITIVES

Gel		**CaC03**	
Caustic			
Envirofloc			
Kelzan			
Cello			
Bicarb			
Newedge			
Drispac R			
Desco	3		
Barite			
Lignite			
PHPA			
Sawdust			
Soda Ash	17		
Supervision		**Day Cost**	$971
Mud Van	1	**Well Cost**	$52,980

Fluid Inventory				Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**	**Underflow Density**			
Daily Water		**Cum. Wate**	**Overflow Density**			
Daily Gas		**Cum. Gas**	**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**	**Operating hours**			

Core: **Size/Type:** **Zone:** **In:** **Out:** **Recovery:**

DST: **Zone:** **Interval:** **Times:**

DST: **Zone:** **Interval:** **Times:**

1. Rig up/Out		**9. W/O Welder**	6.00	**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	4.00
4. Level Rig		**12. Casing/Cement**	0.50	**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. WOC**	4.00	**21. Safety Meeting**	0.50
6. Trip		**14. Nipple Up BOP**	8.75	**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	0.25
8. Rig Repair		**16. BOP Drill**		**Total Hours**	24.00

REMARKS

00:00 - 08:00 Completed cementing of 340 mm casing, pressure tested casing to 10 mPa for 10 minutes, WOC and cleaned partially set-up cement from flow line and shaker boxes. Cut conductor and removed diverter, cleaned cement from same

08:00 - 16:00 Did rough cut on casing and cleaned-out cement, completed tank clean (vac truck drivers had houred out) and rigged to strip mud began to strip surface mud from 13:00 and waited on welder (he had houred out too) cleaned-up cement from cellar

16:00 - 23:59 Stripped mud and waited on welder. Began to weld Stream Flo 340 x 240 mm 35 mPa model CC-29 casing bowl

Prev Cost	$2,991,933	**Today**	$315,662	**Total Cost**	$3,307,595	**Weather:**	Plus 15-22, clear
						Mud Type	Gel-Chem
Foremen	Hale Yardley		**Rig Phone**	709-649-7106		**Taken By:**	Terry Brooker / Shane Halley

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	23			**Date:**	22-Jul-09		
Depth:	829.0 **mKB**	**Progress:**	0.0	**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11		
Operation @ 0800 hrs:	Rigging up BOPs, completing mud stripping to allow time to mix polymer							**KB elev:**	175.30 m.		
the next day								**KB - GL**	6.30 m.		

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311			829							

		Pump 1	Pump 2	Drilling Assembly:					
Model		PZ-11	PZ-11				**Pump Pressure:**		**kPa**
Liner	(mm)	152	152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**		**mm**	**Drill Pipe O.D.**		**mm**
SPM				**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	(m^3/min)			**Jet Velocity:**		**m/sec**	**Hydraulic HP:**		**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**			**Gel**		**CaC03**	
103.36	2.62	88.30			**Density**			**Caustic**		**Percol**	2
364.29	3.27	64.19			**Vis.**			**Envirofloc**	10		
391.66	2.10	62.13			**pH**	9.5		**Kelzan**			
419.00	2.30	56.57			**W.L.**			**Cello**			
610.61	4.03	48.70			**P.V.**			**Bicarb**			
652.34	3.67	51.39			**Y.P.**			**Newedge**			
665.87	3.32	47.17			**Gel S.**			**Drispac R**			
679.83	2.95	39.84			**Filter Ck**			**Desco**			
706.77	2.45	9.96			**Solids %**			**Barite**			
732.30	2.20	359.20			**Oil**			**Lignite**			
775.60	2.54	20.30			**Ca (mg/l)**	1160.0		**PHPA**			
789.60	2.20	34.10			**Cl (mg/l)**	1450.0		**Sawdust**			
806.70	2.27	52.60			**MBT**			**Soda Ash**			
					Temp			**Supervision**		**Day Cost**	$3,410
						Building	Fresh Mud	**Mud Van**	1	**Well Cost**	$56,361

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. W/O Welder**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Level Rig		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**	**23.75**	**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Strip surface mud and weld casing bowl

08:00 - 16:00 Slowly allow casing bowl weld to cool to 40C from 15:00 nipple-up BOPs, continued to strip surface mud

16:00 - 23:59 Continued to install 346 mm, 35 mPa BOPs, and strip drilling mud

Prev Cost	**$3,307,595**	**Today**	**$29,931**	**Total Cost**	**$3,337,526**	**Weather:**	Plus 15-20, clear
						Mud Type	Gel-Chem
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	24			**Date:**	23-Jul-09		
Depth:	829.0 **mKB**	**Progress:**	0.0	**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11		
Operation @ 0800 hrs:	Pressure testing manifold and BOPs							**KB elev:**	175.30 m.		
the next day								**KB - GL**	6.30 m.		

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311 / HC	GX-28DX		829							
		527X									

		Pump 1	Pump 2	Drilling Assembly:						
Model		PZ-11	PZ-11					**Pump Pressure:**		**kPa**
Liner	(mm)	152	152	**BHA Length:**		**m**	**Strap:**	**Board:**		
Stroke	(mm)	279	279	**Drill Collar O.D.**		**mm**	**Drill Pipe O.D.**		**mm**	
SPM				**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)			**Jet Velocity:**		**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**			**Gel**		**CaC03**	
103.36	2.62	88.30			**Density**	1005		**Caustic**		**Percol**	4
364.29	3.27	64.19			**Vis.**	41		**Envirofloc**	16		
391.66	2.10	62.13			**pH**	9.1		**Kelzan**	5		
419.00	2.30	56.57			**W.L.**	18.4		**Cello**			
610.61	4.03	48.70			**P.V.**	7.0		**Bicarb**			
652.34	3.67	51.39			**Y.P.**	4.0		**Newedge**			
665.87	3.32	47.17			**Gel S.**	1.5 / 2 / 2.5		**Drispac**	8		
679.83	2.95	39.84			**Filter Ck**	0.5		**Desco**			
706.77	2.45	9.96			**Solids %**	0.0		**Barite**			
732.30	2.20	359.20			**Oil**	0.000		**Lignite**			
775.60	2.54	20.30			**Ca (mg/l)**	80.0		**PHPA**	3		
789.60	2.20	34.10			**Cl (mg/l)**	1450.0		**Sawdust**			
806.70	2.27	52.60			**MBT**			**Soda Ash**			
					Temp			**Supervision**		**Day Cost**	$10,423
						Building	Fresh Mud	**Mud Van**	1	**Well Cost**	$66,784

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out	2.50	**9. W/O Welder**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Level Rig		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. WOC**		**21. Safety Meeting**	0.50
6. Trip		**14. Nipple Up BOP**	20.00	**22. Handle Tools**	
7. Rig Service	0.50	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	0.50
8. Rig Repair		**16. BOP Drill**		**Total Hours**	24.00

REMARKS

00:00 - 08:00 Continued to rig-up BOPs installing individual components and strip surface mud

08:00 - 16:00 Continued to rig-up BOPS installed HCR, OCLV, I & OKLV & completed mud stripping @ 10:30, continued to mix polymer mud for intermediate hole section

16:00 - 23:59 Spotted degasser and manifold, hooked-up choke, degasser and flair tank lines

Total Surface mud stripped / processed = 130 m3, Total surface mud remaining on location - 175 m3, total solids in offsite storage 210 m3

Prev Cost	$3,337,526	**Today**	$84,773	**Total Cost**	$3,422,299	**Weather:**	Plus 10-20, clear - pt cldy
						Mud Type	Gel-Chem
Foremen	Hale Yardley		**Rig Phone**	709-649-7106		**Taken By:**	Terry Brooker / Shane Halley

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1		**Day:**	25	**Date:**	24-Jul-09
Depth:	829.0 **mKB**	**Progress:** 0.0	**Drilling:**	**hrs ROP, m/hr:**	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pressure testing BOPs - having trouble with upper kelly cock installation & closing!				**KB elev:**	175.30 m.
the next day					**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311 / HC	GX-28DX		829							
		527X									

		Pump 1	Pump 2	Drilling Assembly:					
Model		PZ-11	PZ-11				**Pump Pressure:**		**kPa**
Liner	(mm)	152	152	**BHA Length:**	**m**	**Strap:**	**Board:**		
Stroke	(mm)	279	279	**Drill Collar O.D.**	**mm**	**Drill Pipe O.D.**		**mm**	
SPM				**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol.	(m^3/min)			**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	Drift	Azimuth	North	East	Time			Gel		CaC03	
103.36	2.62	88.30			Density	1005		Caustic		Percol	3
364.29	3.27	64.19			Vis.	41		Envirofloc	3		
391.66	2.10	62.13			pH	9.1		Kelzan	3		
419.00	2.30	56.57			W.L.	18.4		Cello			
610.61	4.03	48.70			P.V.	7.0		Bicarb			
652.34	3.67	51.39			Y.P.	4.0		Newedge			
665.87	3.32	47.17			Gel S.	1.5 / 2 / 2.5		Drispac	4		
679.83	2.95	39.84			Filter Ck	0.5		Desco			
706.77	2.45	9.96			Solids %	0.0		Barite			
732.30	2.20	359.20			Oil	0.000		Lignite			
775.60	2.54	20.30			Ca (mg/l)	80.0		PHPA	2		
789.60	2.20	34.10			Cl (mg/l)	1450.0		Sawdust			
806.70	2.27	52.60			MBT			Soda Ash	3		
					Temp			Supervision		Day Cost	$6,534
						Building	Fresh Mud	Mud Van	1	Well Cost	$73,318

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out level sul	2.25	**9. W/O Welder**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Level Rig & Catwalk		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**	1.50	**21. Safety Meeting**	0.75
6. Trip	7.25	**14. Nipple Up BOP**	6.00	**22. Handle Tools**	
7. Rig Service	0.50	**15. Test BOP & FIT**	5.25	**23 Crew Hand-off Mtg**	0.50
8. Rig Repair		**16. BOP Drill**		**Total Hours**	24.00

REMARKS

00:00 - 08:00 Continued to rig-up BOPs adjusted flow "T" and kill line to accommodate BOP stack, began to pressure best blind rams and manifold

08:00 - 16:00 Continued to pressure test manifold to 1.5 & 10 mPa. Cranes were ready to lift sub. Attempted to install wear bushing prior to trip in hole - unable to get wear ring past flow "T", Tripped in hole to take the weight off the sub prior to lifting it with 2-83T cranes

16:00 - 23:59 Held safety meeting, rigged to and raised sub structure 6+ inches and blocked-up, then had to raise the cat walk, and manifold - degasser centered BOPs, tripped out of hole and pumped cement plug out of drill collar and removed flow "T" for re-re-refabrication!

Prev Cost	$3,422,299	**Today**	$57,217	**Total Cost**	$3,479,516	**Weather:**	Plus 10-20, clear - pt cldy
						Mud Type	Gel-Chem
Foremen	Hale Yardley		**Rig Phone**	709-649-7106		**Taken By:**	Terry Brooker / Shane Halley

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1				**Day:**	26		**Date:**	25-Jul-09		
Depth:	829.0 **mKB**	**Progress:**	0.0	**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11		
Operation @ 0800 hrs:	Driling 311 mm intermediate hole @ 3+ m/hr to 840 m - prep to do FIT in anhydrite							**KB elev:**	175.30 m.		
the next day								**KB - GL**	6.30 m.		

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311 / HC	GX-28DX	5160463	829				3 x 17.5			
		527X									

	Pump 1	Pump 2	Drilling Assembly: Bit, Sub, Mtr ,305 mm stab, Float sub, XO, NM MWD DC, XO, 9.5" NM DC, XO					
Model	PZ-11	PZ-11	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT	**Pump Pressure:**		**kPa**		
Liner (mm)	152	152	**BHA Length:**	**m**	**Strap:**		**Board:**	
Stroke (mm)	279	279	**Drill Collar O.D.**	**mm**	**Drill Pipe O.D.**		**mm**	
SPM			**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**		**m/min**	
Vol. (m^3/min)			**Jet Velocity:**	**m/sec**	**Hydraulic HP:**		**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	Drift	Azimuth	North	East	Time			Gel		CaC03	
103.36	2.62	88.30			Density	1005		Caustic		Percol	
364.29	3.27	64.19			Vis.	41		Envirofloc			
391.66	2.10	62.13			pH	9.1		Kelzan			
419.00	2.30	56.57			W.L.	18.4		Cello			
610.61	4.03	48.70			P.V.	7.0		Bicarb			
652.34	3.67	51.39			Y.P.	4.0		Newedge			
665.87	3.32	47.17			Gel S.	1.5 / 2 / 2.5		Drispac			
679.83	2.95	39.84			Filter Ck	0.5		Desco			
706.77	2.45	9.96			Solids %	0.0		Barite			
732.30	2.20	359.20			Oil	0.000		Lignite			
775.60	2.54	20.30			Ca (mg/l)	80.0		PHPA			
789.60	2.20	34.10			Cl (mg/l)	1450.0		Sawdust			
806.70	2.27	52.60			MBT			Soda Ash			
					Temp			Supervision		Day Cost	
								Mud Van	1	Well Cost	$73,393

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			
Daily Water		**Cum. Wate**		**Overflow Density**			
Daily Gas		**Cum. Gas**		**Flow Rate, l/min**			
Mud Lost		**Cum. Mud**		**Operating hours**			

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. W/O Welder**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Level Rig & Catwalk		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**4.25**	**14. Nipple Up BOP**	**7.25**	**22. Handle Tools**	**5.00**
7. Rig Service	**0.50**	**15. Test BOP & FIT**	**6.00**	**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Completed the removal of the flow "T" and continued pressure testing the stabbing valve, inside BOP, Upper pipe rams, annular I & LKLV, HCR, to 1000 & 10,000 kPa for 15 minutes each. Installed upper kelly cock

08:00 - 16:00 Completed pressure testing upper kelly cock, and lower pipe rams. Function Tested Accumulator. Pressure before 20.5 mPa., after 3 functions 13.5 mPa. Recharge time (with 1 of 2 recharge pumps on) 4 minutes, Precharge pressure 7 mPa. Installed flow "T", rigged in degasser and flare tank

16:00 - 23:59 Made-up directional BHA and tripped in hole, conducted 4 surveys (temperature) on trip on from 250m to 670m

Temperature Readings : 250 m - 27 c, 670 m - 27 c, 815 m - 28.5 c,

Mud Motor: 5:6 3 stage @ 1.5 degrees bend with .029 rev/l

Prev Cost	**$3,479,516**	**Today**	**$41,800**	**Total Cost**	**$3,521,316**	**Weather:**	Plus 10-15 wind, showers
						Mud Type	Polymer
Foremen	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1				**Day:**	27		**Date:**	26-Jul-09		
Depth:	903.0	**mKB**	**Progress:**	74.0	**Drilling:**	15.50	**hrs ROP, m/hr:**	4.70	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Driling 311 mm intermediate hole @ 4+ m/hr to 938 m in anhydrite again								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311 / HC	GX-28DX	5160463	829		74	15.50	3 x 17.5	70 + 45	12 - 16	
		527X									

		Pump 1	Pump 2	Drilling Assembly:	Bit, Sub, Mtr ,305 mm stab, Float sub, XO, NM MWD DC, XO, 9.5" NM DC, XO			
Model		PZ-11	PZ-11	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT	**Pump Pressure:**	7500	**kPa**	
Liner	(mm)	152	152	**BHA Length:**	230.00	**m**	**Strap:**	**Board:**
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0 **mm**
SPM		85	85	**D.C. Annular Vel.:**	54.0	**m/min**	**D.P Annular Vel.:**	45.0 **m/min**
Vol.	(m^3/min)		2.46	**Jet Velocity:**	57.0	**m/sec**	**Hydraulic HP:**	**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	Drift	Azimuth	North	East	Time			Gel		CaC03	
806.70	2.27	52.60			Density	1005		Caustic		Percol	
831.80	1.90	55.22			Vis.	41		Envirofloc			
844.70	1.96	49.10			pH	9.1		Kelzan			
858.30	1.59	47.20			W.L.	18.4		Cello			
872.30	1.65	48.30			P.V.	7.0		Bicarb			
886.00	1.75	43.89			Y.P.	4.0		Newedge			
					Gel S.	1.5 / 2 / 2.5		Drispac			
					Filter Ck	0.5		Desco			
					Solids %	0.0		Barite			
					Oil	0.000		Lignite			
					Ca (mg/l)	80.0		PHPA			
					Cl (mg/l)	1450.0		Sawdust			
					MBT			Soda Ash			
					Temp			Supervision	1	Day Cost	$175
								Mud Van	1	Well Cost	$68,744

Fluid Inventory					Desilter	Desander	Centrifuge
Daily Oil		**Cum. Oil**		**Underflow Density**			1880.0
Daily Water		**Cum. Wate**		**Overflow Density**			1000
Daily Gas		**Cum. Gas**		**Flow Rate,m3/min**			0.8
Mud Lost		**Cum. Mud**		**Operating hours**			24.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. W/O Welder**		**17. Plug Back**	
2. Drill	**15.00**	**10. Survey**	**1.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out	**3.25**	**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**0.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**	**1.25**	**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**	**0.50**	**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Tripped in hole, BOP drill, drilled out from 01:00 - 04:15 and drilled ahead to 840 m with 33 degrees circulating temperature

08:00 - 16:00 Conducted FIT with 6800 km at surface; had problems with pressure leaking back through pump. Finaly obtained a reliable reading with 300 kPa pressure drop to 6500 kPa in 15 minutes with an 18 kPa/m gradient. Held BOP drill. Drilled to 865 m with circulating temperature to 38 degrees

16:00 - 23:59 Drilling ahead with full rotations into Fischells Brook course sands, minor torque spikes, reduced WOB to 14 kdaN

BOP drill & discussion. Circulating temperature to 43 C

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m

Prev Cost	**$3,521,316**	**Today**	**$26,492**	**Total Cost**	**$3,547,808**	**Weather:**	Plus 10-15 wind, showers
						Mud Type	Polymer
Foreman	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**28**			**Date:**	**27-Jul-09**	
Depth:	995.0	**mKB**	**Progress:**	92.0	**Drilling:**	20.25	**hrs ROP, m/hr:**	4.50	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Driling 311 mm intermediate hole @ 4+ m/hr to 1023 m in coarse sands and clays								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311 / HC	GX-28DX	5160463	829		166	35.75	3 x 17.5	70 Motor	16 - 20	
		527X							45 - 30		

		Pump 1	Pump 2	Drilling Assembly:	Bit, Sub, Mtr ,305 mm stab, Float sub, XO, NM MWD DC, XO, 9.5" NM DC, XO			
Model		PZ-11	PZ-11	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	8500	**kPa**
Liner	(mm)	152	152	**BHA Length:**	230.00 **m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		85	85	**D.C. Annular Vel.:**	45.0 **m/min**	**D.P Annular Vel.:**	37.0	**m/min**
Vol.	(m^3/min)		2.46	**Jet Velocity:**	57.0 **m/sec**	**True Hydraulic HP:**	312.0	**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	Drift	Azimuth	North	East	Time	9:00		Gel		CaC03	
806.70	2.27	52.60			Density	1020		Caustic	1	Percol	
831.80	1.90	55.22			Vis.	47		Envirofloc		Sulphamic	9
844.70	1.96	49.10			pH	10.1		Kelzan	12		
858.30	1.59	47.20			W.L.	9.4		Cello			
872.30	1.65	48.30			P.V.	10.0		Bicarb	6		
886.00	1.75	43.89			Y.P.	10.5		Newedge	6		
899.80	1.63	45.42			Gel S.	3.5/4.5/5		Drispac	17		
913.40	1.69	38.72			Filter Ck	0.5		Desco			
927.30	1.48	33.18			Solids %	1.0		Barite			
941.20	1.58	38.06			Oil	0.000		Lignite			
954.60	1.57	32.11			Ca (mg/l)	520.0		PHPA	9		
968.30	1.30	36.90			Cl (mg/l)	2800.0		Sawdust			
					MBT	5.0		Soda Ash	12		
					Temp	42.0		Supervision		Day Cost	$13,511
					ESPolymer	0.6		Mud Van	1	Well Cost	$87,979

Fluid Inventory				Tests	Date	Centrifuge	
Total circulating Vol.				**Last Casing Test**	26-Jul-09	**Underflow Density**	1880.0
Today losses down hole		**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1005
Today losses at surface		**Total surf.**				**Flow Rate,m3/min**	0.8
Today total losses		**Cumulative**				**Operating hours**	24.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. W/O Welder**		**17. Plug Back**	
2. Drill	**20.25**	**10. Survey**	**1.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Drilled ahead from 903 to 939 m @ 5.5 m/hr with accumulated surveys

08:00 - 16:00 Drilled ahead to 966 m @ 3.8 m/hr with accumulated surveys

16:00 - 23:59 Drilled to 995 m @ 4.4 m/hr in generally coarse sands and clays with accumulated surveys

Drilled all day with full rotations with 16 - 20 kdaN WOB & 70 motor plus 35 - 48 table RPM

Max bottom hole temperature to 46.5 degrees.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m

Prev Cost	**$3,547,808**	**Today**	**$58,789**	**Total Cost**	**$3,606,597**	**Weather:**	Plus 12-19 drizzle
						Mud Type	Polymer
Foreman	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**29**			**Date:**	**28-Jul-09**	
Depth:	1058.0	**mKB**	**Progress:**	63.0	**Drilling:**	16.00	**hrs ROP, m/hr:**	3.90	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Tripping hole with bit #7 - slipping and cutting line @ 717 m								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
6	311 / HC	GX-28DX	5160463	829	1058	229	51.75	3 x 17.5	70 Motor	16 - 20	3--8-BT-G-E-4-WT-PR
		527X							45 - 30		
7	311 / HC	HC506ZX	7011417	1058				6 X 11.1			
		M323									

	Pump 1	Pump 2						
Drilling Assembly:	Bit, Sub, Mtr ,305 mm stab, Float sub, XO, NM MWD DC, XO, 9.5" NM DC, XO							
Model	PZ-11	PZ-11	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT			**Pump Pressure:**	8500	**kPa**
Liner (mm)	152	152	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
Stroke (mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM	85	85	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**
Vol. m^3/min @ 95%		2.46	**Jet Velocity:**	57.0	**m/sec**	**True Hydraulic HP:**	351.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		

MUD

Time	9:15	
Density	1035	
Vis.	55	
pH	9.5	
W.L.	7.8	
P.V.	14.0	
Y.P.	16.5	
Gel S.	4.5/7/8	
Filter Ck	0.5	
Solids %	2.0	
Oil	0.000	
Ca (mg/l)	500.0	
Cl (mg/l)	4900.0	
MBT	10.0	
Temp	44.2	
XSPolymer	0.3	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	11	**T-352**	1
Cello		**Defoamer**	3
Bicarb			
Newedge	5		
Drispac	4		
Desco			
Barite			
Lignite			
PHPA	8		
Sawdust	5		
Soda Ash			
Supervision		**Day Cost**	$7,279
Mud Van	1	**Well Cost**	$95,258

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	114.3		
Today losses down hole	4.0	**Total hole**	4.0
Today losses at surface	2.8	**Total surf.**	2.8
Today total losses	6.8	**Cumulative**	6.8

BOP & Casing Tests	Date
Last Casing Test	26-Jul-09
Last BOP Test	26-Jul-09

Centrifuge	
Underflow Density	1820.0
Overflow Density	1020
Flow Rate,m3/min	0.8
Operating hours	22.0

Core: _____ **Size/Type:** _____ **Zone:** _____ **In:** _____ **Out:** _____ **Recovery:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

DST: _____ **Zone:** _____ **Interval:** _____ **Times:** _____

1. Rig up/Out		**9. W/O Welder**		**17. Plug Back**	
2. Drill	**16.00**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**3.75**	**14. Nipple Up BOP**		**22. Handle Tools**	**0.75**
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Drilled ahead from 995 to 1023 m @ 4.1 m/hr with accumulated surveys in Fishells brook coarse sands and clays

08:00 - 16:00 Drilled ahead to 1051 m @ 4 m/hr with accumulated surveys and full rotations

16:00 - 23:59 Drilled to 1058 m @ 3.9 m/hr @ 18:30 circulated bottom hole sample and trip bit for PDC and lay down Schlumberger

Max bottom hole temperature to 48 degrees.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m

Prev Cost	**$3,606,597**	**Today**	**$40,943**	**Total Cost**	**$3,647,540**	**Weather:**	Plus 12-19 o/cst
						Mud Type	Polymer
Foreman	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**30**			**Date:**	**29-Jul-09**	
Depth:	1125.0	**mKB**	**Progress:**	67.0	**Drilling:**	13.00	**hrs**	**ROP, m/hr:**	5.15	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 5 +/- m/hr to 1156 m									**KB elev:**	**175.30 m.**
the next day										**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
7	311 / HC	HC506ZX	7011417	1058		67	13.00	6 X 11.1	65 - 85	8 - 10	
		M323									

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT			**Pump Pressure:**	9000	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.46	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0	**m/sec**	**True Hydraulic HP:**	351.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	

MUD

Time	9:15	
Density	1050	
Vis.	59	
pH	8.5	
W.L.	7.8	
P.V.	17.0	
Y.P.	18.5	
Gel S.	5/7.5/8	
Filter Ck	0.5	
Solids %	3.0	
Oil	0.000	
Ca (mg/l)	460.0	
Cl (mg/l)	5200.0	
MBT	12.5	
Temp	34.2	
XSPolymer	0.5	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	4	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	5	**T-352**	
Cello		**Defoamer**	1
Bicarb			
Newedge	16		
Drispac	7		
Desco			
Barite			
Lignite			
PHPA	21		
Sawdust	6		
Soda Ash	13		
Supervision		**Day Cost**	$9,491
Mud Van	1	**Well Cost**	$104,750

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	115.4			**Last Casing Test**	26-Jul-09	**Underflow Density**	1790.0
Today losses down hole	4.0	**Total hole**	8.0	**Last BOP Test**	26-Jul-09	**Overflow Density**	1035
Today losses at surface	3.2	**Total surf.**	6.0	**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	7.2	**Cumulative**	14.0	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6393**	**Drag up**	**4**	**Torque**	**8-10**	**Background**	**0.15**
RSPP #1	**75**	**2557**			**Drag Dn**	**4**			**Connection**	**0.15**
RSPP #2	**75**	**2496**			**Hook Load**	**72**			**Trip**	**0.37**

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill	**13.00**	**10. Survey**	**0.50**	**18. Wash to Btm**	**0.50**
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**4.25**	**14. Nipple Up BOP**		**22. Handle Tools**	**3.00**
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Completed laying down directional tools, and made-up conventional BHA on PDC bit tripped in hole and slipped and cut drilling line

08:00 - 16:00 Continued to trip in hole and washed 20 m to bottom - no undergauge hole Drilled ahead from 10:30 from 1058 - 1088 m @ 6 m/hr

16:00 - 23:59 Drilled to 1125 m @ 5.3 m/hr in coarse sands and clays with 8-10 kdaN WOB & 65 - 85 RPM with torque in the 9000 range - often spiking to 15,000+ ft/#'s . We control drill in order not to over torque the drill string and create bit whirl and higher stress loads on the PDC as the string torque releases.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m

Prev Cost	**$3,647,540**	**Today**	**$52,161**	**Total Cost**	**$3,699,701**	**Weather:**	Plus 12-26 clear
						Mud Type	Polymer
Foreman	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**31**			**Date:**	**30-Jul-09**	
Depth:	1238.0	**mKB**	**Progress:**	113.0	**Drilling:**	21.50	**hrs**	**ROP, m/hr:**	5.26	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 6 +/- m/hr to 1275 m									**KB elev:**	**175.30 m.**
the next day										**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
7	311 / HC	HC506ZX	7011417	1058		180	34.50	6 X 11.1	80 - 105	10 - 13	
		M323									

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	**BHA Length:**	230.00	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		85	85	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**
Vol.	m^3/min @ 95%		2.46	**Jet Velocity:**	71.0	**m/sec**	**True Hydraulic HP:**	390.0	**kW**

1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT	**Pump Pressure:**	10,000	**kPa**

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	

MUD

Time	8:40	
Density	1055	
Vis.	59	
pH	10.0	
W.L.	7.6	
P.V.	17.0	
Y.P.	18.0	
Gel S.	5/7/8	
Filter Ck	0.5	
Solids %	3.0	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	7100.0	
MBT	10.0	
Temp	46.0	
XSPolymer	0.6	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	2
Newedge			
Drispac			
Desco			
Barite	45		
Lignite			
PHPA	4		
Sawdust	4		
Soda Ash	8		
Supervision		**Day Cost**	$3,719
Mud Van	1	**Well Cost**	$108,469

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	115.4			**Last Casing Test**	26-Jul-09	**Underflow Density**	1700.0
Today losses down hole	1.5	**Total hole**	9.5	**Last BOP Test**	26-Jul-09	**Overflow Density**	1025
Today losses at surface	1.7	**Total surf.**	7.7	**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	3.2	**Cumulative**	17.2	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6353**	**Drag up**	**5**	**Torque**	**8-10**	**Background**	**0.07**
RSPP #1	**75**	**2550**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**2500**			**Hook Load**	**75**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.50**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.25**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Drilled ahead from 1125 to 1157 m with 8-10 kdan, 70 - 90 RPM in coarse sands and clays @ 4.4 m/hr with occasional 15+ kft/# torque spikes

08:00 - 16:00 Continued to dril ahead to 1192 m and surveyed. Increased WOB to 10-13 kdaN and RPM to 100+ with no increase in torque @ 5 m/hr

16:00 - 23:59 Drilled ahead and surveyed in sandy red-beds to 1238 @ 6.3 m/hr

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,699,701**	**Today**	**$30,035**	**Total Cost**	**$3,729,736**	**Weather:**	Plus 12-21 o/cast, rain
						Mud Type	Polymer
Foreman	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**32**			**Date:**	**31-Jul-09**	
Depth:	1350.0	**mKB**	**Progress:**	112.0	**Drilling:**	21.50	**hrs ROP, m/hr:**	5.21	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drillng ahead @ 5+ m/hr to 1385 m in Sprout Falls - silty, sandy shales								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
7	311 / HC	HC506ZX	7011417	1058		292	56.00	6 X 11.1	80 - 105	10 - 13	
		M323									

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT				**Pump Pressure:**	12,000	**kPa**
Stroke	(mm)	279	279	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.46	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0	**m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	

MUD

Time	9:15	
Density	1060	
Vis.	57	
pH	9.5	
W.L.	8.0	
P.V.	16.0	
Y.P.	17.5	
Gel S.	4.5/7/8	
Filter Ck	0.5	
Solids %	3.5	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	7900.0	
MBT	10.0	
Temp	47.4	
XSPolymer	0.7	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	3
Newedge			
Drispac			
Desco			
Barite			
Lignite			
PHPA	7		
Sawdust	3		
Soda Ash	11		
Supervision		**Day Cost**	$2,668
Mud Van	1	**Well Cost**	$111,137

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	131.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1780.0
Today losses down hole	3.0	**Total hole**	12.5	**Last BOP Test**	26-Jul-09	**Overflow Density**	1020
Today losses at surface	3.5	**Total surf.**	11.2	**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	6.5	**Cumulative**	23.7	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6312**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**2800**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**2750**			**Hook Load**	**78**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.50**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 08:00 Drilled ahead from 1238 to 1277 m with 10-13 kdan, 90 - 105 RPM in red bed clays @ 5.5 m/hr with occasional 15+ kft/# torque spikes

08:00 - 16:00 Continued to dril ahead to 1315 m @ 4.9 m/hr

16:00 - 23:59 Drilled ahead in sandy, silty shales to 1350 @ 6.2 m/hr

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,729,736**	**Today**	**$34,564**	**Total Cost**	**$3,764,300**	**Weather:**	Plus 12-21 o/cast, rain
						Mud Type	Polymer
Foreman	**Hale Yardley**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**33**			**Date:**	**01-Aug-09**
Depth:	1452.0	**mKB**	**Progress:**	102.0	**Drilling:**	21.50	**hrs ROP, m/hr:**	4.74	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 4+ m/hr to 1475 m in Sprout Falls - silty, sandy shales								**KB elev:**	**175.30 m.**
the next day									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
7	311 / HC	HC506ZX	7011417	1058		394	77.50	6 X 11.1	70-90	10 - 13	
		M323									

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	**BHA Length:**	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT	230.00	**m**	**Strap:**	**Pump Pressure:**	12,000 **kPa**
Stroke	(mm)	279	279	**Drill Collar O.D.**		229/203/165	**mm**	**Drill Pipe O.D.**	**Board:**	127.0 **mm**
SPM		85	85	**D.C. Annular Vel.:**		45.0	**m/min**	**D.P Annular Vel.:**		37.0 **m/min**
Vol.	m^3/min @ 95%		2.46	**Jet Velocity:**		71.0	**m/sec**	**True Hydraulic HP:**		468.0 **kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	6:16		**Gel**		**CaC03**	
982.50	1.49	28.75			**Density**	1065		**Caustic**	3	**Percol**	
995.80	1.51	28.78			**Vis.**	61		**Envirofloc**		**Sulphamic**	
1009.80	1.59	35.30			**pH**	9.5		**Kelzan**		**T-352**	
1023.40	1.29	32.18			**W.L.**	8.1		**Cello**		**Defoamer**	1
1037.90	1.55	39.16			**P.V.**	19.0		**Bicarb**		**2K-7**	3
1099.00	1.00	Wireline	Survey		**Y.P.**	18.0		**Newedge**			
1168.00	0.25	"	"		**Gel S.**	4.5/7/8		**Drispac**			
1265.00	1.00	"	"		**Filter Ck**	0.5		**Desco**			
1360.00	1.25	"	"		**Solids %**	3.5		**Barite**			
1456.00	1.00	"	"		**Oil**	0.000		**Lignite**			
					Ca (mg/l)	40.0		**PHPA**	9		
					Cl (mg/l)	8200.0		**Sawdust**	3		
					MBT	12.5		**Soda Ash**			
					Temp	49.4		**Supervision**		**Day Cost**	$3,014
					XSPolymer	0.7		**Mud Van**	1	**Well Cost**	$114,151

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests		Centrifuge	
Total circulating Vol.	139.6			**Last Casing Test**	26-Jul-09	**Underflow Density**	1740.0
Today losses down hole	4.5	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1055
Today losses at surface	4.3	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	8.8	**Cumulative**	32.5	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6271**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3320**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**3280**			**Hook Load**	**81**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.50**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**1.00**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 24:00 Drilled ahead from 1350 to 1452 m with 10-13 kdan, 80 - 100 RPM in red bed clays @ 4.75 m/hr with occasional 15+ kft/# torque spikes

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,764,300**	**Today**	**$28,687**	**Total Cost**	**$3,792,987**	**Weather:**	Plus 12-21 cloud/sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**34**			**Date:**	**02-Aug-09**	
Depth:	1452.0	**mKB**	**Progress:**	39.0	**Drilling:**	12.00	**hrs ROP, m/hr:**	3.25	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drillng ahead @ 5-6+ m/hr to 1525 m in Sprout Falls - silty, sandy shales								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
7	311 / HC	HC506ZX	7011417	1058	1491	433	86.00	6 X 11.1	70-100	10-13	
8	311 / HC	HC506ZX		1491				3x11.1/3x10.2	70	10	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT				**Pump Pressure:**	16,000	**kPa**
Stroke	(mm)	279	279	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.46	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0	**m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	6:16		**Gel**		**CaC03**	
982.50	1.49	28.75			**Density**	1070		**Caustic**	5	**Percol**	
995.80	1.51	28.78			**Vis.**	62		**Envirofloc**		**Sulphamic**	
1009.80	1.59	35.30			**pH**	9.5		**Kelzan**	2	**T-352**	
1023.40	1.29	32.18			**W.L.**	8.0		**Cello**		**Defoamer**	1
1037.90	1.55	39.16			**P.V.**	19.0		**Bicarb**		**2K-7**	3
1099.00	1.00	Wireline	Survey		**Y.P.**	18.0		**Newedge**	6		
1168.00	0.25	"	"		**Gel S.**	4.5/7/8		**Drispac**	8		
1265.00	1.00	"	"		**Filter Ck**	0.5		**Desco**			
1360.00	1.25	"	"		**Solids %**	4.0		**Barite**			
1456.00	1.00	"	"		**Oil**	0.000		**Lignite**			
					Ca (mg/l)	280.0		**PHPA**	22		
					Cl (mg/l)	9000.0		**Sawdust**			
					MBT	12.5		**Soda Ash**	1		
					Temp	50.4		**Supervision**		**Day Cost**	$8,514
					XSPolymer	0.7		**Mud Van**	1	**Well Cost**	$122,666

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	141.9			**Last Casing Test**	26-Jul-09	**Underflow Density**	1740.0
Today losses down hole	2.5	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1060
Today losses at surface	2.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	4.9	**Cumulative**	37.4	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6231**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3320**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**3280**			**Hook Load**	**81**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**12.00**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip	**10.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 13:00 Drilled ahead from 1452 m to 1491 m with 10-13 kdan, 80 - 100 RPM in red bed clays @ 4.75 m/hr with occasional 15+ kft/# torque spikes
1300 - 2400 Hoist for bit change. Changed oil in drawworks motor and transmission.Functioned blind rams.
Ran in hole. (12 chipped cutters on bit and 1 missing cutter.)

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,792,987**	**Today**	**$40,643**	**Total Cost**	**$3,833,630**	**Weather:**	Plus 12-30 cloud/sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**35**			**Date:**	**03-Aug-09**	
Depth:	1588.0	**mKB**	**Progress:**	74.0	**Drilling:**	21.25	**hrs ROP, m/hr:**	3.48	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drillng ahead @ 4-5+ m/hr to 1615 m in Sprout Falls - silty, sandy shales								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
8	311 / HC	HC506ZX	7006301	1491			19.50	3x11.1/3x10.2	70	10	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	**BHA Length:**	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
SPM		85	85	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
Vol.	m^3/min @ 95%		2.46	**Jet Velocity:**	71.0	**m/sec**	**True Hydraulic HP:**	468.0	**kW**	

Pump Pressure: 16,000 **kPa**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	6:05		**Gel**		**CaC03**	
982.50	1.49	28.75			**Density**	1075		**Caustic**	2	**Percol**	
995.80	1.51	28.78			**Vis.**	62		**Envirofloc**		**Sulphamic**	
1009.80	1.59	35.30			**pH**	8.5		**Kelzan**	2	**T-352**	
1023.40	1.29	32.18			**W.L.**	8.0		**Cello**		**Defoamer**	
1037.90	1.55	39.16			**P.V.**	19.0		**Bicarb**		**2K-7**	
1099.00	1.00	Wireline	Survey		**Y.P.**	15.5		**Newedge**	6		
1168.00	0.25	"	"		**Gel S.**	4.5/7/8		**Drispac**	8		
1265.00	1.00	"	"		**Filter Ck**	0.5		**Desco**			
1360.00	1.25	"	"		**Solids %**	4.5		**Barite**			
1456.00	1.00	"	"		**Oil**	0.000		**Lignite**			
1552.00	1.00	"	"		**Ca (mg/l)**	180.0		**PHPA**	2		
					Cl (mg/l)	9200.0		**Sawdust**	14		
					MBT	12.5		**Soda Ash**	3		
					Temp	45.8		**Supervision**		**Day Cost**	$905
					XSPolymer	1.0		**Mud Van**	1	**Well Cost**	$122,666

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	149.5			**Last Casing Test**	26-Jul-09	**Underflow Density**	1740.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1065
Today losses at surface	3.5	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	4.0	**Cumulative**	41.4	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6190**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3460**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**3510**			**Hook Load**	**81**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**0.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

0:00 -00:45 Continued to run in hole

00:45 - 24:00 Drilled ahead from 1491 m to 1582 m with 10-13 kdan, 65-80 RPM in red bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,833,630**	**Today**	**$36,254**	**Total Cost**	**$3,869,884**	**Weather:**	Plus 20 Rain
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**36**			**Date:**	**04-Aug-09**
Depth:	1670.0	**mKB**	**Progress:**	82.0	**Drilling:**	22.25	**hrs ROP, m/hr:**	3.69	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 4-5+ m/hr to 1696 m in Sprout Falls - silty, sandy shales								**KB elev:**	**175.30 m.**
the next day									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
8	311 / HC	HC506ZX	7006301	1491			19.50	3x11.1/3x10.2	70	10	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		85	85	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**		37.0	**m/min**
Vol.	m^3/min @ 95%		2.46	**Jet Velocity:**	71.0	**m/sec**	**True Hydraulic HP:**		468.0	**kW**

Pump Pressure: 16,000 **kPa**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	6:05		**Gel**		**CaC03**	
982.50	1.49	28.75			**Density**	1075		**Caustic**	6	**Percol**	
995.80	1.51	28.78			**Vis.**	64		**Envirofloc**		**Sulphamic**	
1009.80	1.59	35.30			**pH**	10.5		**Kelzan**		**T-352**	
1023.40	1.29	32.18			**W.L.**	10.8		**Cello**		**Defoamer**	
1037.90	1.55	39.16			**P.V.**	20.0		**Bicarb**		**2K-7**	2
1099.00	1.00	Wireline	Survey		**Y.P.**	17.0		**Newedge**			
1168.00	0.25	"	"		**Gel S.**	4/6/7		**Drispac**	8		
1265.00	1.00	"	"		**Filter Ck**	0.5		**Desco**			
1360.00	1.25	"	"		**Solids %**	0.5		**Barite**			
1456.00	1.00	"	"		**Oil**	0.000		**Lignite**			
1552.00	1.00	"	"		**Ca (mg/l)**	60.0		**PHPA**	4		
1648.00	1.50	"	"		**Cl (mg/l)**	9500.0		**Sawdust**	3		
					MBT	12.5		**Soda Ash**	4		
					Temp	49.1		**Supervision**		**Day Cost**	$1,701
					XSPolymer	1.0		**Mud Van**	1	**Well Cost**	$125,272

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	157.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1840.0
Today losses down hole	1.5	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1065
Today losses at surface	6.8	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	8.3	**Cumulative**	49.7	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6190**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3000**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**2980**			**Hook Load**	**86**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.25**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 17:15 Drilled ahead from 1582 m to 1648 m with 10-13 kdan, 65-80 RPM in grey bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes
17:15 - 17:45 Wireline survey. 1.5 deg.
17:45 - 24:00 Drilled ahead from 1648 m to 1670 m with 10-13 kdan, 55-80 RPM in grey bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,869,884**	**Today**	**$25,176**	**Total Cost**	**$3,895,060**	**Weather:**	Plus 20 cloud
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**37**			**Date:**	**05-Aug-09**
Depth:	1747.0	**mKB**	**Progress:**	77.0	**Drilling:**	21.75	**hrs ROP, m/hr:**	3.54	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 3-4+ m/hr to 1774 m in Sprout Falls - silty, sandy shales								**KB elev:**	**175.30 m.**
the next day									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
8	311 / HC	HC506ZX	7006301	1491			69.00	3x11.1/3x10.2	70	10	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**		37.0	**m/min**
Vol.	m^3/min @ 95%		2.58	**Jet Velocity:**	71.0	**m/sec**	**True Hydraulic HP:**		468.0	**kW**

Pump Pressure: 17,000 **kPa**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	6:05		**Gel**		**CaC03**	
982.50	1.49	28.75			**Density**	1075		**Caustic**	6	**Percol**	
995.80	1.51	28.78			**Vis.**	61		**Envirofloc**		**Sulphamic**	
1009.80	1.59	35.30			**pH**	10.0		**Kelzan**	2	**T-352**	
1023.40	1.29	32.18			**W.L.**	9.6		**Cello**		**Defoamer**	
1037.90	1.55	39.16			**P.V.**	20.0		**Bicarb**		**2K-7**	1
1099.00	1.00	Wireline	Survey		**Y.P.**	15.5		**Newedge**	8	**Sapp**	5
1168.00	0.25	"	"		**Gel S.**	4/6/7		**Drispac**	10	**Dyna det**	1
1265.00	1.00	"	"		**Filter Ck**	0.5		**Desco**			
1360.00	1.25	"	"		**Solids %**	4.5		**Barite**			
1456.00	1.00	"	"		**Oil**	0.000		**Lignite**			
1552.00	1.00	"	"		**Ca (mg/l)**	80.0		**PHPA**	10		
1648.00	1.50	"	"		**Cl (mg/l)**	9700.0		**Sawdust**	3		
1702.00	1.50	"	"		**MBT**	12.5		**Soda Ash**	1		
1801.00	1.25	"	"		**Temp**	51.4		**Supervision**		**Day Cost**	$8,440
					XSPolymer	1.0		**Mud Van**	1	**Well Cost**	$133,712

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	158.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1840.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1065
Today losses at surface	4.9	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	5.4	**Cumulative**	55.1	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**6222**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3000**			**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**2980**			**Hook Load**	**86**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.25**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 17:15 Drilled ahead from 1670 m to 1702 m with 10-13 kdan, 65-80 RPM in grey bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes

17:15 - 17:45 Wireline survey. 1.5 deg.

17:45 - 24:00 Drilled ahead from 1702 m to 1747 m with 10-13 kdan, 75-80 RPM in grey bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,895,060**	**Today**	**$43,643**	**Total Cost**	**$3,938,703**	**Weather:**	Plus 28 Sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**38**			**Date:**	**06-Aug-09**	
Depth:	1828.0	**mKB**	**Progress:**	81.0	**Drilling:**	21.50	**hrs ROP, m/hr:**	3.77	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Circulate @ 1843 m. piror to bit trip								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
8	311 / HC	HC506ZX	7006301	1491	1843	352	89.00	3x11.1/3x10.2	50	10-15	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, Shock Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	**BHA Length:**	230.00	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**		37.0	**m/min**
Vol.	m^3/min @ 95%		2.58	**Jet Velocity:**	71.0	**m/sec**	**True Hydraulic HP:**		468.0	**kW**

Pump Pressure:	17,000	**kPa**									

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	

MUD

Time	6:05	
Density	1080	
Vis.	63	
pH	9.5	
W.L.	9.2	
P.V.	21.0	
Y.P.	15.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	5.0	
Oil	0.000	
Ca (mg/l)	80.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	53.1	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	5	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	2
Bicarb		**2K-7**	1
Newedge	4	**Sapp**	3
Drispac	10	**Dyna det**	1
Desco	6		
Barite			
Lignite			
PHPA	4		
Sawdust	14		
Soda Ash			
Supervision		**Day Cost**	$3,620
Mud Van	1	**Well Cost**	$137,332

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	163.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1800.0
Today losses down hole	1.0	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1070
Today losses at surface	9.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	10.0	**Cumulative**	65.0	**Next BOP Test**	8/9/2009 ??	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3512**	6141	**1815**	**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**3520**		**1815**	**Hook Load**	**88**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.50**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.25**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**1.25**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 17:45 Drilled ahead from 1747 m to 1801 m with 10-13 kdan, 65-80 RPM in grey bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes
17:45 - 18:15 Wireline survey. 1.5 deg.
18:15 - 24:00 Drilled ahead from 1801 m to 1828 m with 10-15 kdan, 75-80 RPM in grey bed clays @ 4.0 m/hr with occasional 15+ kft/# torque spikes

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,938,703**	**Today**	**$30,875**	**Total Cost**	**$3,969,578**	**Weather:**	Plus 28 Sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**39**			**Date:**	**07-Aug-09**
Depth:	1843.0	**mKB**	**Progress:**	15.0	**Drilling:**	6.75	**hrs ROP, m/hr:**	2.22	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 1-2+ m/hr to 1845 m in Sprout Falls -, possible conglomerate.								**KB elev:**	**175.30 m.**
the next day									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
8	311 / HC	HC506ZX	7006301	1491	1843	352	89.00	3x11.1/3x10.2	70	10-15	
9	311	HR-S35DX	6040255	1843							

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT			**Pump Pressure:**	15,000	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57	**m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0	**m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	

MUD

Time	6:05	
Density	1080	
Vis.	63	
pH	9.5	
W.L.	9.2	
P.V.	21.0	
Y.P.	15.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	5.0	
Oil	0.000	
Ca (mg/l)	80.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	53.1	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	10	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	3	**T-352**	
Cello		**Defoamer**	2
Bicarb		**2K-7**	1
Newedge	9	**Sapp**	4
Drispac	20	**Dyna det**	4
Desco	8		
Barite			
Lignite			
PHPA	6		
Sawdust	58		
Soda Ash			
Supervision		**Day Cost**	$9,830
Mud Van	1	**Well Cost**	$147,163

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	169.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1800.0
Today losses down hole	0.3	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1070
Today losses at surface	1.5	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	1.8	**Cumulative**	66.9	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3512**	6141	**1815**	**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**3520**		**1815**	**Hook Load**	**88**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**6.75**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.75**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**8.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	**0.25**
8. Rig Repair	**6.00**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 06:00 Drilled ahead from 1828 m to 1843 m with 10-15 kdan, 65-80 RPM in possible conglomerate @ 2-3 m/hr.
06:00 - 15:00 Circulate bottoms up. Pull out for bit change.Possible conglomerate
15:00 - 21:00 Functioned upper pipe ram and noticed ram block did not retrack back into ram cavity.
Opened doors on double gate.ram block not attached to ram,two bolts backed off.Installed and retouqured bolts,closed gates.
21:00 - 24:00 Functioned tested all rams and hcr valve. Made up tricone insert bit, layed out shock sub,picked up new jars and ran in hole to 382 M.
01:00 Closed upper and lower pipe rams and perssure tested rams and gates to 1500 kpa low and 10000 kpa high - 15 min. each test. - ok.
Functioned tested accumulator. 3 function test.Open HCR, Close auunlar, close pipe ram.
Start pressure 20250 kpa. Remaining pressure 10500 kpa. Time to recharge 2 min. 30 secs.
Annular close 32 secs. Start press 20250 kpa. End press 12225 kpa.. Upper rams close 4 secs. Start 12225 end 10750 kpa..
HCR start press 10750, end 10500 kpa. Pason choke 30 secs to close.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,970,378**	**Today**	**$49,625**	**Total Cost**	**$4,020,003**	**Weather:**	Plus 18 Rain
						Mud Type	Polymer
Foreman		**Bill Williams**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**40**			**Date:**	**08-Aug-09**
Depth:	1860.0 **mKB**	**Progress:**	17.0	**Drilling:**	13.20	**hrs ROP, m/hr:**	1.29	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Running in hole with PDC bit @ 1600 m							**KB elev:**	**175.30 m.**
the next day								**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9	311 / HC	HR-S35-DX	6040255	1843	1860	17	13.20	3 X 18	50	10-15	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	13,000	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	45.0 **m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	

MUD

Time	6:45	
Density	1085	
Vis.	69	
pH	10.0	
W.L.	7.6	
P.V.	26.0	
Y.P.	16.5	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	5.0	
Oil	0.000	
Ca (mg/l)	80.0	
Cl (mg/l)	9900.0	
MBT	12.5	
Temp	39.4	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	3	**T-352**	
Cello		**Defoamer**	2
Bicarb		**2K-7**	1
Newedge	9	**Sapp**	4
Drispac	20	**Dyna det**	4
Desco	8		
Barite			
Lignite			
PHPA	6		
Sawdust	58		
Soda Ash			
Supervision		**Day Cost**	$7,041
Mud Van	1	**Well Cost**	$154,204

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	169.0		
Today losses down hole	0.3	**Total hole**	
Today losses at surface	1.5	**Total surf.**	
Today total losses	1.8	**Cumulative**	66.9

BOP & Casing Tests	Date
Last Casing Test	26-Jul-09
Last BOP Test	26-Jul-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1800.0
Overflow Density	1070
Flow Rate,m3/min	0.8
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**75**	**3512**	6141	**1815**
RSPP #2	**75**	**3520**		**1815**

Hole Condition kdaN & Kft/#			
Drag up	**5**	**Torque**	**10+**
Drag Dn	**5**		
Hook Load	**88**		

Total Gas Readings (%)	
Background	**0.07**
Connection	**0.07**
Trip	

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill	**13.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.00**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**6.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**	**1.25**	**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 - 01:45 Closed upper and lower pipe rams and perssure tested rams and gates to 1500 kpa low and 10000 kpa high - 15 min. each test. - ok.
Functioned tested accumulator. 3 function test.Open HCR, Close auunlar, close pipe ram.
Start pressure 20250 kpa. Remaining pressure 10500 kpa. Time to recharge 2 min. 30 secs.
Annular close 32 secs. Start press 20250 kpa. End press 12225 kpa.. Upper rams close 4 secs. Start 12225 end 10750 kpa..
01:45-02:45 Slip & cut 12.5 M. drilling line
02:45-08:00 Run in hole.
08:00-21:00 Drilled 311 mm hole from 1843 m to 1860 m.
21:00-2400 Circulate bottoms up,pump weighted pill,flow check and hoist for bit change

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$3,970,378**	**Today**	**$49,625**	**Total Cost**	**$4,020,003**	**Weather:**	Plus 18 Rain
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**41**			**Date:**	**09-Aug-09**
Depth:	1867.0 **mKB**	**Progress:**	7.0	**Drilling:**	13.20 **hrs**	**ROP, m/hr:**	0.53	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 1-2+ m/hr to 1868 m in Sprout Falls -, possible conglomerate.							**KB elev:**	**175.30 m.**
the next day								**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9	311 / HC	HR-S35-DX	6040255	1843	1860	17	13.20	3 X 18	50	10-15	
10	311 / HC	HC506Z	7213027	1860	1867	7	6.50	3x11.2 3x 10.3	50-70	8-12	

		Pump 1	Pump 2	Drilling Assembly:	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Model		PZ-11	PZ-11	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT			**Pump Pressure:**	13,000	**kPa**
Liner	(mm)	152	152	**BHA Length:**	218.57 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
SPM		85	85	**D.C. Annular Vel.:**	45.0 **m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
Vol.	m^3/min @ 95%		2.58	**Jet Velocity:**	71.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	6:45		**Gel**		**CaC03**	
982.50	1.49	28.75			**Density**	1085		**Caustic**	3	**Percol**	
995.80	1.51	28.78			**Vis.**	78		**Envirofloc**		**Sulphamic**	
1009.80	1.59	35.30			**pH**	10.7		**Kelzan**	1	**T-352**	
1023.40	1.29	32.18			**W.L.**	8.0		**Cello**		**Defoamer**	1
1037.90	1.55	39.16			**P.V.**	27.0		**Bicarb**		**2K-7**	1
1099.00	1.00	Wireline	Survey		**Y.P.**	17.5		**Newedge**	1	**Sapp**	
1168.00	0.25	"	"		**Gel S.**	4/6/7		**Drispac**	4	**Dyna det**	
1265.00	1.00	"	"		**Filter Ck**	0.5		**Desco**			
1360.00	1.25	"	"		**Solids %**	5.0		**Barite**			
1456.00	1.00	"	"		**Oil**	0.000		**Lignite**			
1552.00	1.00	"	"		**Ca (mg/l)**	40.0		**PHPA**	2		
1648.00	1.50	"	"		**Cl (mg/l)**	9900.0		**Sawdust**			
1702.00	1.50	"	"		**MBT**	12.5		**Soda Ash**			
1801.00	1.25	"	"		**Temp**	37.8		**Supervision**		**Day Cost**	$2,199
					XSPolymer	1.0		**Mud Van**	1	**Well Cost**	$156,404

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	171.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1800.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1070
Today losses at surface	0.8	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	1.0	**Cumulative**	67.9	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**5**	**Torque**	**10+**	**Background**	**0.07**
RSPP #1	**75**	**3512**	6141	**1815**	**Drag Dn**	**5**			**Connection**	**0.07**
RSPP #2	**75**	**3520**		**1815**	**Hook Load**	**88**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill	**13.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.00**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**6.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**	**1.25**	**23 Crew Hand-off Mtg**	**0.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 -04:3(Continue to pull out of hole.
04:30 -09:00 Ream from 1828 m to bottom. Tight @ 1828 m to 1832 m.
09:00-17:15 Drilled 311 mm hole from 1860 m to 1867 m.
17:15-24:00 Flow checked,pumped pill and hoist for bit change due to ROP.
Function upper and lower pipe and blind rams.
Bit # 10, 20 chipped cutters with cutter face missing from 10 cutters.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$4,074,789**	**Today**	**$25,713**	**Total Cost**	**$4,100,502**	**Weather:**	Plus 23 Sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**42**			**Date:**	**10-Aug-09**
Depth:	1889.0 **mKB**	**Progress:**	22.0	**Drilling:**	17.25 **hrs**	**ROP, m/hr:**	1.28	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drillng ahead @ 1-2+ m/hr to 1868 m in Sprout Falls -, possible conglomerate.							**KB elev:**	**175.30 m.**
the next day								**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
10	311 / HC	HC506Z	7213027	1860	1867	7	6.50	3x11.2 3x 10.3	50-70	8-12	
9 RR	311 / HC	HR-S35-DX	6040255	1867		22	16.25	3 X 18	50	15 -18	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO					
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT				**Pump Pressure:**	15,500	**kPa**
Stroke	(mm)	279	279	**BHA Length:**	218.57	**m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	45.0	**m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0	**m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	

MUD

Time	6:45	
Density	1080	
Vis.	67	
pH	10.4	
W.L.	8.6	
P.V.	25.0	
Y.P.	15.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	5.0	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	9900.0	
MBT	12.5	
Temp	39.6	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	4	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	1
Drispac	2	**Dyna det**	1
Desco	1	**Walnut**	3
Barite	25		
Lignite			
PHPA	1		
Sawdust	17		
Soda Ash			
Supervision		**Day Cost**	$2,528
Mud Van	1	**Well Cost**	$158,933

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	118.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1800.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1070
Today losses at surface	4.1	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	4.6	**Cumulative**	72.5	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**75**	**3512**	6141	**1815**
RSPP #2	**75**	**3520**		**1815**

Hole Condition kdaN & Kft/#			
Drag up	**5**	**Torque**	**10+**
Drag Dn	**5**		
Hook Load	**88**		

Total Gas Readings (%)	
Background	**0.07**
Connection	**0.07**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**17.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**5.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00 -00:3(Continue to pull out of hole.

00:30 -06:00Make up insert bit and Run in hole,no fill.

06:00-24:00 Profile bit and Drilled 311 mm hole from 1867 m to 1889 m.

Functioned upper and lower pipe rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$4,074,789**	**Today**	**$25,713**	**Total Cost**	**$4,100,502**	**Weather:**	Plus 23 Sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**43**			**Date:**	**11-Aug-09**	
Depth:	1922.0	**mKB**	**Progress:**	33.0	**Drilling:**	21.25	**hrs**	**ROP, m/hr:**	1.55	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Circulate piror to trip for bit									**KB elev:**	**175.30 m.**
the next day										**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9 RR	311 / HC	HR-S35-DX	6040255	1867		22	38.00	3 X 18	50	15 -18	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT	**Pump Pressure:**	15,500	**kPa**		
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	45.0 **m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	

MUD

Time	6:45	
Density	1090	
Vis.	78	
pH	10.6	
W.L.	7.8	
P.V.	27.0	
Y.P.	16.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	5.6	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	9900.0	
MBT	12.5	
Temp	48.2	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite			
Lignite			
PHPA	1		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,449
Mud Van	1	**Well Cost**	$160,383

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	173.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1800.0
Today losses down hole	0.8	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1070
Today losses at surface	2.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	0.8
Today total losses	2.8	**Cumulative**	75.3	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**75**	**3750**	6141	**1890**
RSPP #2	**75**			

Hole Condition kdaN & Kft/#			
Drag up	**6**	**Torque**	**6-9**
Drag Dn	**6**		
Hook Load	**94**		

Total Gas Readings (%)	
Background	**0.07**
Connection	**0.07**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.25**	**10. Survey**	**1.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**1.00**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-16:00 Drilled 311 mm hole from 1889 m to 1907 m.
16:00-17:00 Wireline survey @ 1907 1.25 deg.
17:00-24:00 Drilled 311 mm hole from 1907 m to 1922 m.
Functioned annular preventor & lower pipe rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$4,134,224**	**Today**	**$26,444**	**Total Cost**	**$4,160,668**	**Weather:**	Plus 23 Sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**44**			**Date:**	**12-Aug-09**	
Depth:	1938.0	**mKB**	**Progress:**	16.0	**Drilling:**	10.50	**hrs**	**ROP, m/hr:**	1.52	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drill ahead at 1946m. 1.3 m/hr									**KB elev:**	**175.30 m.**
the next day										**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9 RR	311 / HC	HR-S35-DX	6040255	1867	1934	67	44.30	3 X 18	50	15 -18	4-2-WT-M-E-0-NO-TQ
10	311 / Reed	M4188ZDH	**CK4616**	1934		**4**	**4**	3 X 18	50	15 -18	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	15,500	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	45.0 **m/min**	**D.P Annular Vel.:**	37.0	**m/min**	
				Jet Velocity:	71.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	

MUD

Time	7:11	
Density	1090	
Vis.	70	
pH	10.6	
W.L.	8.0	
P.V.	25.0	
Y.P.	14.5	
Gel S.	3/5/6	
Filter Ck	0.5	
Solids %	5.6	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	9900.0	
MBT	12.5	
Temp	45.2	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	4	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite			
PHPA	2		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,154
Mud Van	1	**Well Cost**	$162,537

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	179.0		
Today losses down hole	1.1	**Total hole**	
Today losses at surface	1.8	**Total surf.**	
Today total losses	2.9	**Cumulative**	77.8

BOP & Casing Tests	Date
Last Casing Test	26-Jul-09
Last BOP Test	26-Jul-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1800.0
Overflow Density	1070
Flow Rate,m3/min	0.8
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**72**	**3280**	6141	**1930**
RSPP #2	**72**	**3280**		

Hole Condition kdaN & Kft/#			
Drag up	**6**	**Torque**	**6700ft/lb**
Drag Dn	**6**		
Hook Load	**94**		

Total Gas Readings (%)	
Background	**0.07**
Connection	**0.07**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**10.50**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.75**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**10.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-07:30 Drilled 311 mm hole from 1922 m to 1934 m.

07:30-09:15 Circulate and condition for a trip

09:15-15:00 Pull out of hole for Torque. Conduct flow checks as required, Function Blind rams. Change bit.

15:00-20:15 Run in the hole. Held BOP drill and discussed duties and shut in procedures with crew.

20:15-24:00 Pattern bit. Drill from 1934 to 1938m with 18000DaN, 50RPM, 7000ft/Lb, 16400kPa.. Function annular.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, Sprout Falls ___?

Prev Cost	**$4,160,668**	**Today**	**$129,645**	**Total Cost**	**$4,290,313**	**Weather:**	Plus 21 Sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**45**			**Date:**	**13-Aug-09**	
Depth:	1971.0	**mKB**	**Progress:**	33.0	**Drilling:**	22.50	**hrs ROP, m/hr:**	1.50	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drill ahead at 1990m. 1.6 m/hr								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9 RR	311 / HC	HR-S35-DX	6040255	1867	1934	67	44.30	3 X 18	50	15 -18	4-2-WT-M-E-0-NO-TQ
10	311 / Reed	M4188ZDH	**CK4616**	1934		**37**	**25**	3 X 18	1	15 -18	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	15,500	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	47.5 **m/min**	**D.P Annular Vel.:**	41.0	**m/min**	
				Jet Velocity:	89.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	

MUD

Time	7:13	
Density	1095	
Vis.	68	
pH	10.6	
W.L.	8.2	
P.V.	25.0	
Y.P.	14.0	
Gel S.	3/4.5/5.5	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	10000.0	
MBT	12.5	
Temp	47.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	2
Bicarb		**2K-7**	
Newedge	1	**Sapp**	
Drispac	2	**Dyna det**	
Desco	8	**Walnut**	
Barite		**Lime Hydrate**	1
Lignite			
PHPA	1		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,998
Mud Van	1	**Well Cost**	$164,535

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date
Total circulating Vol.	178.4			**Last Casing Test**	26-Jul-09
Today losses down hole	2.2	**Total hole**		**Last BOP Test**	26-Jul-09
Today losses at surface	1.6	**Total surf.**		**Next Casing Test**	1000 rotating hrs
Today total losses	3.8	**Cumulative**	81.1	**Next BOP Test**	

Centrifuge	
Underflow Density	1930.0
Overflow Density	1080
Flow Rate,m3/min	400.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**75**	**3850**	6141	**1962**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**8**	**Torque**	**7000**
Drag Dn	**9**		
Hook Load	**94**		

Total Gas Readings (%)

Background	**0.07**
Connection	**0.07**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.50**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled 311 mm hole from 1938m to 1971m. 22.5 hrs drilling, average ROP 1.5m/hr. on rig service functioned Upper pipe rams, Lower pipe rams and motor kills.

One centrifuge is down.

one First aid incident. Finger tip crushed while changing heads in mud pump.

filling pit for the VSP

8 hazard ID's

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,290,313**	**Today**	**$38,001**	**Total Cost**	**$4,328,314**	**Weather:**	Plus 21 Overcast
						Mud Type	Polymer
Foreman	**Bill Williams/Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**46**			**Date:**	**14-Aug-09**	
Depth:	2030.0	**mKB**	**Progress:**	59.0	**Drilling:**	22.75	**hrs ROP, m/hr:**	2.50	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drill ahead at 1990m. 1.6 m/hr								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9 RR	311 / HC	HR-S35-DX	6040255	1867	1934	67	44.30	3 X 18	50	15 -18	4-2-WT-M-E-0-NO-TQ
10	311 / Reed	M4188ZDH	**CK4616**	1934		**96**	**48**	3 X 18	70	15 -18	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	16,500	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**		**Board:**	
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	47.5 **m/min**	**D.P Annular Vel.:**	41.0	**m/min**	
				Jet Velocity:	89.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
982.50	1.49	28.75		
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	

MUD

Time	6:27	
Density	1095	
Vis.	69	
pH	10.7	
W.L.	8.2	
P.V.	25.0	
Y.P.	14.0	
Gel S.	3/4.5/5.5	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	10100.0	
MBT	12.5	
Temp	49.7	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	1
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	**1**
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	2	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite	30	**Lime Hydrated**	
Lignite			
PHPA	2		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$3,252
Mud Van	1	**Well Cost**	$167,788

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date
Total circulating Vol.	176.0			**Last Casing Test**	26-Jul-09
Today losses down hole	3.0	**Total hole**		**Last BOP Test**	26-Jul-09
Today losses at surface	3.3	**Total surf.**		**Next Casing Test**	1000 rotating hrs
Today total losses	6.3	**Cumulative**	87.9	**Next BOP Test**	

Centrifuge	
Underflow Density	1920.0
Overflow Density	1080
Flow Rate,m3/min	400.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**75**	**3850**	6100	**1963**
RSPP #2	**75**	**3850**		**1963**

Hole Condition kdaN & Kft/#			
Drag up	**8**	**Torque**	**7000**
Drag Dn	**8**		
Hook Load	**97**		

Total Gas Readings (%)	
Background	**0.50**
Connection	**0.50**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.75**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled 311 mm hole from 1971m to 2030m. 22.75 hrs drilling, average ROP 2.5m/hr. on rig service functioned Upper pipe rams, Lower pipe rams and annular.

1 near miss reported

One centrifuge is down.

1591 L used oil sent to disposal at Pardy's waste management

Fiberglass storage tank received for mud storage

8 hazard ID's

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,328,314**	**Today**	**$38,064**	**Total Cost**	**$4,366,378**	**Weather:**	Plus 21 clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**47**		**Date:**	**15-Aug-09**	
Depth:	2063.5 **mKB**	**Progress:**	33.5	**Drilling:**	11.75 **hrs**	**ROP, m/hr:**	2.85	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Log with Baker Atlas second run.							**KB elev:**	**175.30 m.**
the next day								**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9 RR	311 / HC	HR-S35-DX	6040255	1867	1934	67	44.30	3 X 18	50	15 -18	4-2-WT-M-E-0-NO-TQ
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	3 X 18	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	16,500	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**	2065.73	**Board:**	2063.50
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	47.5 **m/min**	**D.P Annular Vel.:**	41.0	**m/min**	
				Jet Velocity:	89.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.59	35.30		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	6:26	
Density	1095	
Vis.	70	
pH	10.1	
W.L.	8.0	
P.V.	25.0	
Y.P.	14.5	
Gel S.	3/4.5/5.5	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	10700.0	
MBT	12.5	
Temp	51.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	1
Cello		**Defoamer**	3
Bicarb		**2K-7**	1
Newedge	3	**Sapp**	
Drispac	3	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite			
PHPA	2		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,501
Mud Van	1	**Well Cost**	$170,290

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date
Total circulating Vol.	183.0			**Last Casing Test**	26-Jul-09
Today losses down hole	1.6	**Total hole**		**Last BOP Test**	26-Jul-09
Today losses at surface	2.2	**Total surf.**		**Next Casing Test**	1000 rotating hrs
Today total losses	3.8	**Cumulative**	91.7	**Next BOP Test**	

Centrifuge	
Underflow Density	1920.0
Overflow Density	1080
Flow Rate,m3/min	400.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**36**	**3680**	6100	**1963**
RSPP #2	**36**	**3680**		**1963**

Hole Condition kdaN & Kft/#			
Drag up	**8**	**Torque**	**7000**
Drag Dn	**8**		
Hook Load	**97**		

Total Gas Readings (%)	
Background	**0.50**
Connection	**0.50**
Trip	

1. Rig up/Out	**0.50**	**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**11.75**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**4.25**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**5.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**	**0.25**	**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-10:15 Drilled 311 mm hole from 2030m to 2058m average ROP 2.5m/hr.

10:15-1045 Deviation Survey at 2041m. 2 deg

10:45-11:00 Accumulator 3 function test

11:00-11:15 Rig service. Function upper rams

11:15-13:30 Drill from 2058 to 2063m.

11`:30-21:0(Circulate bottom up. Wiper trip to 1700m. No fill. Level rig while circulating. Circulate after wipertrip to increase vis to 90sec.

21;00-24:00 Pull out of the hole to log

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls) Friars Cove at 2004

Prev Cost	**$4,366,378**	**Today**	**$32,242**	**Total Cost**	**$4,398,620**	**Weather:**	Plus 20 over cast rain
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**48**			**Date:**	**16-Aug-09**
Depth:	2063.5 **mKB**	**Progress:**	33.5	**Drilling:**	11.75	**hrs ROP, m/hr:**	2.85	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	VSP completeat o7:00, Run in the hole for wipertrip.							**KB elev:**	**175.30 m.**
the next da	**DST or Run intermediate casing**							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
9 RR	311 / HC	HR-S35-DX	6040255	1867	1934	67	44.30	3 X 18	50	15 -18	4-2-WT-M-E-0-NO-TQ
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	3 X 18	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Sub, 2-NM DC, 308 mm string stab XO				
Liner	(mm)	152	152	1-203 mm DC -Jars- 1-203 DC, X/O,12-165 mm DC, 8-HWT		**Pump Pressure:**	16,500	**kPa**	
Stroke	(mm)	279	279	**BHA Length:**	218.57 **m**	**Strap:**	2065.73	**Board:**	2063.50
SPM		85	85	**Drill Collar O.D.**	229/203/165 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		2.58	**D.C. Annular Vel.:**	47.5 **m/min**	**D.P Annular Vel.:**	41.0	**m/min**	
				Jet Velocity:	89.0 **m/sec**	**True Hydraulic HP:**	468.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	7:28	
Density	1095	
Vis.	90	
pH	10.0	
W.L.	7.6	
P.V.	25.0	
Y.P.	14.5	
Gel S.	3/4.5/5.5	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	10700.0	
MBT	12.5	
Temp	51.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	7	**T-352**	**1**
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	3	**Sapp**	
Drispac	8	**Dyna det**	
Desco		**Walnut**	
Barite	36	**Lime Hydrate**	3
Lignite			
PHPA	1		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$8,089
Mud Van	1	**Well Cost**	$170,290

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	183.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1800.0
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1065
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	400.0
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**36**	**3680**	6100	**1963**
RSPP #2	**36**	**3680**		**1963**

Hole Condition kdaN & Kft/#

Drag up	**8**	**Torque**	**7000**
Drag Dn	**8**		
Hook Load	**97**		

Total Gas Readings (%)

Background	**0.50**
Connection	**0.50**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**20.75**	**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip	**2.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-02:15 Finish pull out of the hole to log. Lay down 9"DC's. Trip calculated 13.26 actual 13.53. Strap = 2065.73m, Board 2063.5m. Functioned UPR and BR
02:15-14:30 Log with Baker Atlas Run #1 ZDL, CN, HDIL, GR, XY Cal. Run #2 XMAC, GR. Monitor trip tank.
14:30-15:30 Rig down logger's sheave. Run in 11 stands. Pull out without filling to leave mud 30m below GL for VSP survey
15:30- 24:0(Rig to and conduct Velocity Survey Profile VSP
Check all valves and seats in mud pump.

. 8 Hazzard ID submitted.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls) Friars Cove at 2004

Prev Cost	**$4,398,620**	**Today**	**$40,372**	**Total Cost**	**$4,438,992**	**Weather:**	Plus 23 Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	49		**Date:**	17-Aug-09	
Depth:	2063.5 **mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	DST							**KB elev:**	175.30 m.
the next da	**DST or Run intermediate casing**							**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	open	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	Bit, Bit Sub, 3-203 mm DC, Jars, X/O ,12-165 mm DC, 8-HWT			**Pump Pressure:**	12,700	**kPa**
Liner	(mm)	152	152	**BHA Length:**	308.00	**m**	**Strap:**	2065.73	**Board:**	2063.50
Stroke	(mm)	279	279	**Drill Collar O.D.**	1.2	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		95	95	**D.C. Annular Vel.:**	68.0	**m/min**	**D.P Annular Vel.:**		46.0	**m/min**
Vol.	m^3/min @ 95%		2.90	**Jet Velocity:**	NA	**m/sec**	**True Hydraulic HP:**		468.0	**kW**

SURVEYS					MUD			MUD ADDITIVES			
Depth	**Drift**	**Azimuth**	**North**	**East**	**Time**	8:32		**Gel**		**CaC03**	
995.80	1.51	28.78			**Density**	1100		**Caustic**		**Percol**	
1009.80	1.51	28.78			**Vis.**	102		**Envirofloc**		**Sulphamic**	
1023.40	1.29	32.18			**pH**	9.7		**Kelzan**	4	**T-352**	
1037.90	1.55	39.16			**W.L.**	7.6		**Cello**		**Defoamer**	
1099.00	1.00	Wireline	Survey		**P.V.**	30.0		**Bicarb**		**2K-7**	
1168.00	0.25	"	"		**Y.P.**	21.0		**Newedge**		**Sapp**	
1265.00	1.00	"	"		**Gel S.**	5/7.5/8.5		**Drispac**	3	**Dyna det**	
1360.00	1.25	"	"		**Filter Ck**	0.5		**Desco**		**Walnut**	
1456.00	1.00	"	"		**Solids %**	6.0		**Barite**	30	**Lime Hydrated**	
1552.00	1.00	"	"		**Oil**	0.000		**Lignite**			
1648.00	1.50	"	"		**Ca (mg/l)**	50.0		**PHPA**			
1702.00	1.50	"	"		**Cl (mg/l)**	10900.0		**Sawdust**			
1801.00	1.25	"	"		**MBT**	12.5		**Soda Ash**			
1907.00	1.25	"	"		**Temp**	34.1		**Supervision**		**Day Cost**	$3,786
2041.00	2.00	"	"		**XSPolymer**	1.0		**Mud Van**	1	**Well Cost**	$182,166

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	184.0			**Last Casing Test**	26-Jul-09	**Underflow Density**	1920.0
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1085
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	400.0
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**		**Operating hours**	4.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**7**	**Torque**	**7000**	**Background**	**0.18**
RSPP #1	**36**	**3025**	6100	**1963**	**Drag Dn**	**9**			**Connection**	**0.18**
RSPP #2	**36**	**3025**		**1963**	**Hook Load**	**93**			**Trip**	**0.55**

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**7.25**	**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**2.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**10.50**	**14. Nipple Up BOP**		**22. Handle Tools**	**1.75**
7. Rig Service	**0.00**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-07:15 Finish conduct Velocity Survey Profile VSP

02:15-14:15 Trip in hole for wiper trip. Slip and cut drilling line, 10m fill. Shane Halley, Terry Brooker and Cameron Merkley arrived on site.

14:15-16:45 Circulate and condition mud for DST operations.

16:45-24:00 Pull out to pick up DST tools. L/D 203mm DC's Function Blind rams

22:00-24:00 Ssafty meeting, pick up DST tools.

FA incident. Derrickman stepped backward from the tailgate of the testers truck and fell to the ground. Sustained bruising to left lower back

. Taken for medical examination. 7 hazards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,438,992**	**Today**	**$171,386**	**Total Cost**	**$4,610,378**	**Weather:**	Plus 19 Raining
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**50**			**Date:**	**18-Aug-09**	
Depth:	2063.5	**mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs**	**ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	DST									**KB elev:**	**175.30 m.**
the next da	**DST or Run intermediate casing**									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	open	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	DST assembly			**Pump Pressure:**	12,700	**kPa**
Liner	(mm)	152	152	**BHA Length:**	308.00	**m**	**Strap:**	2065.73	**Board:**	2063.50
Stroke	(mm)	279	279	**Drill Collar O.D.**	1.2	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		85	0	**D.C. Annular Vel.:**	68.0	**m/min**	**D.P Annular Vel.:**		46.0	**m/min**
Vol.	m^3/min @ 95%		6000.00	**Jet Velocity:**	NA	**m/sec**	**True Hydraulic HP:**		468.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	10:10	
Density	1095	
Vis.	89	
pH	9.7	
W.L.	6.2	
P.V.	29.0	
Y.P.	20.0	
Gel S.	4.5/7/8	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	10700.0	
MBT	12.5	
Temp	34.1	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite	38	**Lime Hydrated**	
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,696
Mud Van	1	**Well Cost**	$183,862

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date
Total circulating Vol.	180.2			**Last Casing Test**	26-Jul-09
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	26-Jul-09
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**	

Centrifuge	
Underflow Density	1920.0
Overflow Density	1085
Flow Rate,m3/min	400.0
Operating hours	4.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**36**	**3025**	6100	**1963**
RSPP #2	**36**	**3025**		**1963**

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**7000**
Drag Dn	**6**		
Hook Load	**67**		

Total Gas Readings (%)	
Background	**0.18**
Connection	**0.18**
Trip	**0.55**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**2.00**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	**21.25**
7. Rig Service		**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

Note: 21.25 in Code 22 is all DST time.

REMARKS

00:00-09:30 Finished P/U test tools. Run in the hole. Head up. Function lower and upper pipe rams on rig service.

09:30-11:00 Safety meeting prior to setting packer and opening tool. 2 attempts to test interval from 2013 to TD. Mud level dropping indicates seat failure.

11:00-14:45 Trip oput with test tools with flow checks at 2050m, 1946m, 1478m and 1388m. 750L short on the hole fill.

14:45-16:00 Circulate bottom up at 1388m.

16:00-24:00 Continue to pull out with test tool. found the packer elements in excellent condition. Trouble shoot reason for DST failure. So far undetermined.

. 7 hazards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,610,378**	**Today**	**$32,406**	**Total Cost**	**$4,642,784**	**Weather:**	Plus 19 Raining
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**51**			**Date:**	**19-Aug-09**
Depth:	2063.5 **mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Lay out test tools							**KB elev:**	**175.30 m.**
the next da	**Run 244mm casing and cement.**							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	open	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	DST assembly			**Pump Pressure:**	12,700	**kPa**
Liner	(mm)	152	152	**BHA Length:**	308.00	**m**	**Strap:**	2065.73	**Board:**	2063.50
Stroke	(mm)	279	279	**Drill Collar O.D.**	1.2	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		85	0	**D.C. Annular Vel.:**	68.0	**m/min**	**D.P Annular Vel.:**		46.0	**m/min**
Vol.	m^3/min @ 95%		6000.00	**Jet Velocity:**	NA	**m/sec**	**True Hydraulic HP:**		468.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	7:10	
Density	1100	
Vis.	89	
pH	10.6	
W.L.	6.4	
P.V.	31.0	
Y.P.	20.5	
Gel S.	4.5/7/8	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	30.0	
Cl (mg/l)	10700.0	
MBT	12.5	
Temp	28.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	2
Cello		**Defoamer**	1
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,180
Mud Van	1	**Well Cost**	$185,043

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date
Total circulating Vol.	180.2			**Last Casing Test**	26-Jul-09
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	26-Jul-09
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**	

Centrifuge	
Underflow Density	1920.0
Overflow Density	1085
Flow Rate,m3/min	400.0
Operating hours	4.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**36**	**3025**	6100	**1963**
RSPP #2	**36**	**3025**		**1963**

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**7000**
Drag Dn	**6**		
Hook Load	**67**		

Total Gas Readings (%)	
Background	**0.18**
Connection	**0.18**
Trip	**0.55**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	**21.75**
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

Note: 21.75 in Code 22 is all DST time.

REMARKS

00:00-08:00 Continue to pull out of the hole DST #1`. Break down test assembly and pressure test components 10500kPa. Function blind rams

08:00-14:00 Make up Inflate Strattle assembly. RIH . BOP drill Well secure 88sec. Function motor kills.

14:00-22:45 DST #2 872 to 901m. Preflow 3min. Annulus dropped 0.5m3. Shutin 145min. Pumped up inflatable packer. Main flow 14min.

Annulus dropped 0.79m3. Final shut in 170min. Deflate packer.

23:45-24:00 Rig down manifold. Pull pout of the hole.

. 8 hazards ID'd. No incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,642,784**	**Today**	**$35,766**	**Total Cost**	**$4,678,550**	**Weather:**	Plus 19 Raining
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**52**			**Date:**	**20-Aug-09**	
Depth:	2063.5	**mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Run intermediate casing								**KB elev:**	**175.30 m.**	
the next da	Finish casing, cement, Test Bop, pick up drilling assembly								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	open	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2	Drilling Assembly:						
Model		PZ-11	PZ-11					**Pump Pressure:**	12,700	**kPa**
Liner	(mm)	152	152	**BHA Length:**		**m**	**Strap:** 2065.73	**Board:**	2063.50	
Stroke	(mm)	279	279	**Drill Collar O.D.**	1.2	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM			0	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		46.0	**m/min**
Vol.	m^3/min @ 95%	0.0139	0.0139	**Jet Velocity:**		**m/sec**	**True Hydraulic HP:**			**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	7:10	
Density	1100	
Vis.	89	
pH	10.6	
W.L.	6.4	
P.V.	31.0	
Y.P.	20.5	
Gel S.	4.5/7/8	
Filter Ck	0.5	
Solids %	6.0	
Oil	0.000	
Ca (mg/l)	30.0	
Cl (mg/l)	10700.0	
MBT	12.5	
Temp	28.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision		**Day Cost**	
Mud Van	1	**Well Cost**	$185,043

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date
Total circulating Vol.	180.2			**Last Casing Test**	26-Jul-09
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	26-Jul-09
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**	

Centrifuge	
Underflow Density	1920.0
Overflow Density	1085
Flow Rate,m3/min	400.0
Operating hours	4.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**7**	**Torque**	**7000**	**Background**	
RSPP #1	**36**		6100	**1963**	**Drag Dn**	**6**			**Connection**	
RSPP #2	**36**			**1963**	**Hook Load**	**67**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**	**13.50**	**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	**9.00**
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

Note: 21.75 in Code 22 is all DST time.

REMARKS

00:00-09:30 Continue to pull out of the hole DST #2. Lay out test assembly. Function Blind rams

09:30-10:45 Remove Flow "T". Remove wear bushing. Reinstall Flow "T"

10:45-13:15 Rig up ro run casing.

13;15-23-15 Run 244.5mm 67.43kg/m, LTC, L-80 casing.

23:15-24:00 Rig up basil extensions and elevators at shoe.

. 8 hazards ID'd. No incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,677,930**	**Today**	**$198,539**	**Total Cost**	**$4,876,469**	**Weather:**	Plus 14 Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**53**			**Date:**	**21-Aug-09**
Depth:	2063.5 **mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pressure testing Manifold 1400kPa low and 11000kPa high							**KB elev:**	**175.30 m.**
the next da	Drill out and leak off test.							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
10	311 / Reed	M4188ZDH	**CK4616**	1934		**130**	**59**	open	70	15 -18	**1-3-BT-H-0-1-WT-LOG**

		Pump 1	Pump 2	Drilling Assembly:					
Model		PZ-11	PZ-11				**Pump Pressure:**	12,700	**kPa**
Liner	(mm)	152	152	**BHA Length:**		**m**	**Strap:** 2065.73	**Board:**	2063.50
Stroke	(mm)	279	279	**Drill Collar O.D.**	1.2	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM			0	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**	46.0	**m/min**
Vol.	m^3/min @ 95%	0.0139	0.0139	**Jet Velocity:**		**m/sec**	**True Hydraulic HP:**		**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	21:13	
Density	1105	
Vis.	89	
pH	10.8	
Fluid Loss	6.4	
P.V.	29.0	
Y.P.	20.0	
Gel S.	4/6.5/7.5	
Filter Ck	0.5	
Solids %	7.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	10700.0	
MBT	12.5	
Temp	27.1	
XSPolymer	1.0	

MUD ADDITIVES

Gel	10	**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	6	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco	3	**Walnut**	
Barite	40	**Lime Hydrated**	
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision		**Day Cost**	
Mud Van	1	**Well Cost**	$185,043

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	180.2			**Last Casing Test**	26-Jul-09	**Underflow Density**	1920.0
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	26-Jul-09	**Overflow Density**	1085
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	400.0
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**		**Operating hours**	4.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**36**		6100	**1963**
RSPP #2	**36**			**1963**

Hole Condition kdaN & Kft/#

Drag up	**7**	**Torque**	**7000**
Drag Dn	**6**		
Hook Load	**67**		

Total Gas Readings (%)

Background	
Connection	
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**	**18.00**	**20. Wk on mud pumps**	
5. Circ. & Cond.	**2.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	**2.25**
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

Note: 2.25 in Code 22 isRemove and indtall flow tee.

REMARKS

00:00-16:00 Continue to run casing with 350 ton tools. Pick up XS joint to wash down. 7m fill. Function annular with reduced operating pressure.

16;00-21:00 Remove Flow "T". Pick up hanger and L/J. land out with 168 jts 69kg/m, L-80, LTC + hanger joint. Shoe @ 2056.74m. St wt up 142daN, down 110
Re install Flow "T".

21:00-24:00 Rig in BJ and cement. 4m3 water ahead, 3m3 scavenger, 48.15t Fill-Lite 2-100 mixed @ 1518kg/m 63.4m3 + 10.1 ton 0-1-0 "G" mixed @ 1901kg/m3 to yield 7.65m3. Drop top plug and displace w/rig pump at 1.3m3/min.

.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,876,469**	**Today**	**$116,175**	**Total Cost**	**$4,992,644**	**Weather:**	Plus 14 Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**54**			**Date:**	**22-Aug-09**
Depth:	2063.5 **mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Formation Integrity test							**KB elev:**	**175.30 m.**
the next da	Drill Ahead							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
11	216 / Reed	DSX811-M	**113204**	2064		**0**	**0**	4X10, 4X12			

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor, Teledrift, DC, 311mm Stab, 5 X 165mm DC,			**Pump Pressure:**	**kPa**
Liner	(mm)	152	152	Jar, 7 165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	301.07 **m**	**Strap:**		**Board:**	
SPM			0	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
Vol.	m^3/min @ 95%	0.0139	0.0139	**D.C. Annular Vel.:**	**m/min**	**D.P Annular Vel.:**	46.0 **m/min**		
				Jet Velocity:	**m/sec**	**True Hydraulic HP:**	**kW**		

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	15:37	
Density	1085	
Vis.	64	
pH	11.3	
Fluid Loss	6.8	
P.V.	22.0	
Y.P.	13.0	
Gel S.	3/4.5/5	
Filter Ck	0.5	
Solids %	5.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	10000.0	
MBT	10.0	
Temp	28.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	**1**
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco	1	**Walnut**	
Barite		**Lime Hydrated**	
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$563
Mud Van	1	**Well Cost**	$188,539

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	152.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1920.0
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1085
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	400.0
Today total losses	0.0	**Cumulative**	91.7	**Next BOP Test**		**Operating hours**	4.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**36**		6100	**1963**
RSPP #2	**36**			**1963**

Hole Condition kdaN & Kft/#

Drag up	**7**	**Torque**	**7000**
Drag Dn	**6**		
Hook Load	**67**		

Total Gas Readings (%)

Background	
Connection	
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**	**2.50**	**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.25**
6. Trip	**3.75**	**14. Nipple Up BOP**	**7.25**	**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**	**8.50**	**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**	**0.50**	**Total Hours**	**24.00**

REMARKS

00:00-01:00 Finish displacement of cement. Bumped plug 3500kpa over final displacement and pressure test casing to 11300kpa. Pressure held.

01:00-01:45 Rig our casing tools.

01:45 -05:15 Remove Flow "T". Install packoff. Pressure test to 35mpa

05:15-10:00 Pressure test BOP and manifold with BJ services. 1500kpa low and 11000kpa high

10:00-14:30 Reinstall modofied Flow "T". Drift with wear bushing. Install wear sleeve and determine it is too long. Change out for swection "C" wear Sleeve

14:30-19:00 Make up drilling assembly.

19:00-24:00 Finish pressure testing BOP 1500 low and 11000kPa high.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls)

Prev Cost	**$4,992,644**	**Today**	**$76,324**	**Total Cost**	**$5,068,968**	**Weather:**	Plus 14 Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1		**Day:** 55		**Date:**	23-Aug-09	
Depth:	mKB	**Progress:**	**Drilling:**	hrs **ROP, m/hr:**	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:					**KB elev:**	175.30 m.	
the next day					**KB - GL**	6.30 m.	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
11	216 / Reed	DSX811-M	113204	2064		0	0	4X10, 4X12	T30, M100	8	

	Pump 1	Pump 2						
Model	PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, Teledrift, DC, 311mm Stab,			**Pump Pressure:**	9,500 kPa
Liner (mm)	152	152	**BHA Length:**	301.07 m	**Strap:**		**Board:**	
Stroke (mm)	279	279	**Drill Collar O.D.**	165.0 mm	**Drill Pipe O.D.**	127.0 mm		
SPM	110	0	**D.C. Annular Vel.:**	m/min	**D.P Annular Vel.:**	46.0 m/min		
Vol. m^3/min @ 95%	0.0139	0.0139	**Jet Velocity:**	m/sec	**True Hydraulic HP:**	kW		

SURVEYS

Depth	Drift	Azimuth	North	East
995.80	1.51	28.78		
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline	Survey	
1168.00	0.25	"	"	
1265.00	1.00	"	"	
1360.00	1.25	"	"	
1456.00	1.00	"	"	
1552.00	1.00	"	"	
1648.00	1.50	"	"	
1702.00	1.50	"	"	
1801.00	1.25	"	"	
1907.00	1.25	"	"	
2041.00	2.00	"	"	

MUD

Time	17:55	
Density	1070	
Vis.	59	
pH	11.4	
Fluid Loss	7.6	
P.V.	20.0	
Y.P.	12.0	
Gel S.	2.5/4/4.5	
Filter Ck	0.5	
Solids %	0.4	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	10.0	
Temp	33.1	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	3
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco	4	**Walnut**	
Barite		**Lime Hydrated**	
Lignite			
PHPA			
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,443
Mud Van	1	**Well Cost**	$189,983

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	152.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.0	**Total surf.**	
Today total losses	0.0	**Cumulative**	91.7

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1920.0
Overflow Density	1060
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	36		6100	1963
RSPP #2	36			1963

Hole Condition kdaN & Kft/#			
Drag up	7	**Torque**	7000
Drag Dn	6		
Hook Load	67		

Total Gas Readings (%)	
Background	
Connection	
Trip	

1. Rig up/Out		**9. Slip & Cut**	1.00	**17. Plug Back**	
2. Drill	16.75	**10. Survey**	0.50	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	0.75	**13. Pump Out Cement**		**21. Safety Meeting**	1.00
6. Trip	2.25	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	0.75	**15. Test BOP & FIT**	1.00	**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	24.00

REMARKS

00:00-00:45 Finish BOP test on Upper kelly cock and stabbing valve 1500kPa low, and 11000kPa high. Accumulator test. Final pres 11600kPa. 1'35" to rebuild

00:45-03:15 RIH to casing Float collar.

03:15-04:15 Slip and cut

04:14-07:15 Drill float collar, and cement. Drill shoe at 2058.48m Drill 3m new hole.

07:15-09:00 Circulate bottom up. FIT with 1110kg/m3 mud.. Max surface pressure 11000kpa. No leak off. 0.325m3 pumped. 0.325m3 returned.

09:00-24:00 Drill ahead. 1.6m3/min, Average WOB = 8000Dan, Differental pressure= 900kPa, 8000ft/lb, 3.45m/hr

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	$5,068,968	**Today**	$355,462	**Total Cost**	$5,424,430	**Weather:**	Plus 17, 25%Clear
						Mud Type	Polymer
Foreman	Don Campbell		**Rig Phone**	709-649-7106		**Taken By:**	Terry Brooker / Shane Halley

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**56**			**Date:**	**24-Aug-09**	
Depth:	2133.0	**mKB**	**Progress:**	70.0	**Drilling:**	23.75	**hrs ROP, m/hr:**	2.94	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling ahead with bit #14 @2142m ROP 1.5m/hr								**KB elev:**	**175.30 m.**	
the next day									**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
13	216 / Reed	DSX811-MA9	113204	2064	2133	70	23.75	4X10, 4X12	T30, M100	8	1-8-RO-S-X-.5-LT-PR
14	HTC	MX-30GDX	5139598	2133							

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, NBS 212mm, Teledrift, DC, 212mm Stab,			**Pump Pressure:**	19,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	296.74 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		110	0	**D.C. Annular Vel.:**	104.0 **m/min**	**D.P Annular Vel.:**	66.0 **m/min**		
Vol.	m^3/min @ 95%	1.8700		**Jet Velocity:**	140.0 **m/sec**	**True Hydraulic HP:**	322.0 **kW**		

SURVEYS

Depth	Drift	Azimuth	North	East
1009.80	1.51	28.78		
1023.40	1.29	32.18		
1037.90	1.55	39.16		
1099.00	1.00	Wireline		
1168.00	0.25	"		
1265.00	1.00	"		
1360.00	1.25	"		
1456.00	1.00	"		
1552.00	1.00	"		
1648.00	1.50	"		
1702.00	1.50	"		
1801.00	1.25	"		
1907.00	1.25	"		
2041.00	2.00	"		
2103.00	2.00	Teledrift		

MUD

Time	6:51	
Density	1070	
Vis.	59	
pH	11.2	
Fluid Loss	7.2	
P.V.	20.0	
Y.P.	12.5	
Gel S.	3/4.5/5.5	
Filter Ck	0.5	
Solids %	0.4	
Oil	0.000	
Ca (mg/l)	30.0	
Cl (mg/l)	9800.0	
MBT	10.0	
Temp	39.0	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	2	**T-352**	
Cello		**Defoamer**	2
Bicarb	6	**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco	2	**Walnut**	
Barite		**Lime Hydrated**	
Lignite			
PHPA	2		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,985
Mud Van	1	**Well Cost**	$191,986

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	141.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1850.0
Today losses down hole	2.3	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1060
Today losses at surface	1.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	3.3	**Cumulative**	95.0	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**3310**	11000	**2133**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**6**	**Torque**	**7500**
Drag Dn	**6**		
Hook Load	**9000**		

Total Gas Readings (%)	
Background	
Connection	**0.05**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**9.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream	**0.25**	**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.25**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip	**11.00**	**14. Nipple Up BOP**	**1.00**	**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-09:45 Drill from 2117m to 2133m. ROP slowed to 0.5m/hr. Function annular.
09:45-17:45 Trip to change the bit.
17:45-18:45 Change out to the modified Wear bushing.(5.75" cut off.
18:45-23:45 Run in the hole with bit #14. 10000daN Resistance @ 2096m.
23:45-24:00 Wash and light ream from 2096m to 2103m.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,424,430**	**Today**	**$113,145**	**Total Cost**	**$5,537,575**	**Weather:**	Plus 17, 25%Clear
						Mud Type	Polymer
Foreman		**Don Campbell**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**57**			**Date:**	**25-Aug-09**	
Depth:	2177.0	**mKB**	**Progress:**	44.0	**Drilling:**	21.50	**hrs**	**ROP, m/hr:**	2.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead with bit #14 @2193m ROP 2m/hr									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
13	216 / Reed	DSX811-MA9	113204	2064	2133	70	23.75	4X10, 4X12	T30, M100	8	1-8-RO-S-X-.5-LT-PR
14	HTC	MX-30GDX	5139598	2133		44	22		110	18	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, NBS 212mm, Teledrift, DC, 212mm Stab,			**Pump Pressure:**	19,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	296.74	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		110	0	**D.C. Annular Vel.:**	104.0	**m/min**	**D.P Annular Vel.:**		66.0	**m/min**
Vol.	m^3/min @ 95%	1.8700		**Jet Velocity:**	140.0	**m/sec**	**True Hydraulic HP:**		322.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
1023.40	1.51	28.78		
1037.90	1.29	32.18		
1099.00	1.55	39.16		
1168.00	1.00	Wireline		
1265.00	0.25	"		
1360.00	1.00	"		
1456.00	1.25	"		
1552.00	1.00	"		
1648.00	1.00	"		
1702.00	1.50	"		
1801.00	1.50	"		
1907.00	1.25	"		
2041.00	1.25	"		
2103.00	2.00	"		
2157.00	2.50	Teledrift		

MUD

Time	7:05	
Density	1070	
Vis.	57	
pH	11.1	
Fluid Loss	8.0	
P.V.	19.0	
Y.P.	11.0	
Gel S.	2.5/4/4.5	
Filter Ck	0.5	
Solids %	0.4	
Oil	0.000	
Ca (mg/l)	20.0	
Cl (mg/l)	9700.0	
MBT	10.0	
Temp	43.2	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	2	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite	25	**Lime Hydrated**	
Lignite			
PHPA	1		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,964
Mud Van	1	**Well Cost**	$194,933

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	141.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1920.0
Today losses down hole	2.3	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1055
Today losses at surface	0.5	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	2.8	**Cumulative**	97.8	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**5700**	11000	**2167**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**6**	**Torque**	**7500**
Drag Dn	**6**		
Hook Load	**9000**		

Total Gas Readings (%)

Background	
Connection	**0.05**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.50**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream	**1.25**	**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-01:15 Finish reaming 2103 to 2133. Light reaming.

01:15-24:00 Drill from 21:33 to 2177m with rig service and survey. Function annular, function UPR

No incidents.

8 hazards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,537,575**	**Today**	**$40,496**	**Total Cost**	**$5,578,071**	**Weather:**	Plus 17, 25%Clear
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**58**			**Date:**	**26-Aug-09**	
Depth:	2234.0	**mKB**	**Progress:**	57.0	**Drilling:**	22.50	**hrs**	**ROP, m/hr:**	2.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead with bit #14 @2246m ROP 2m/hr									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
14	HTC	MX-30GDX	5139598	2133		101	44	2X13, 1X12	110	18 to 12	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, NBS 212mm, Teledrift, DC, 212mm Stab,			**Pump Pressure:**	19,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	296.74	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		100	0	**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
1037.90	1.29	28.78		
1099.00	1.55	32.18		
1168.00	1.00	39.16		
1265.00	0.25	Wireline		
1360.00	1.00	"		
1456.00	1.25	"		
1552.00	1.00	"		
1648.00	1.00	"		
1702.00	1.50	"		
1801.00	1.50	"		
1907.00	1.25	"		
2041.00	1.25	"		
2103.00	2.00	"		
2157.00	2.50	"		
2217.00	4.00	Teledrift		

MUD

Time	6:58	
Density	1075	
Vis.	59	
pH	11.2	
Fluid Loss	7.8	
P.V.	21.0	
Y.P.	12.0	
Gel S.	2.5/4/4.5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	49.2	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	3	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	2	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite			
PHPA	2		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,207
Mud Van	1	**Well Cost**	$197,141

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	147.3		
Today losses down hole	3.0	**Total hole**	
Today losses at surface	2.4	**Total surf.**	
Today total losses	5.4	**Cumulative**	103.2

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**5630**	11000	**2230**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**6**	**Torque**	**7200**
Drag Dn	**6**		
Hook Load	**92000**		

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.50**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-15:45 Drill from 2177 to 2218m 110rpm, 18000daN on bit. Survey @ 2217m Built 1.5° to 4° in 60m. Function UPR

15:45-24:00 Drill from 2218 to 2234m with 110rpm, and 12000daN on bit. Function crown saver and function test flare igniter.

CAODC rig inspection conducted.

No incidents.

11 hazards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,578,071**	**Today**	**$38,904**	**Total Cost**	**$5,616,975**	**Weather:**	Plus 17, 25%Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**59**			**Date:**	**27-Aug-09**
Depth:	2279.0 **mKB**	**Progress:**	45.0	**Drilling:**	21.75	**hrs ROP, m/hr:**	2.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead with bit #14 @2292m ROP 2m/hr							**KB elev:**	**175.30 m.**
the next da	Drill ahead							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
14	HTC	MX-30GDX	5139598	2133		146	71	2X13, 1X12	110	18 to 12	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, NBS 212mm, Teledrift, DC, 212mm Stab,			**Pump Pressure:**	19,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	296.74	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		100	0	**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
1702.00	1.50	Wireline		
1801.00	1.50	"		
1907.00	1.25	"		
2041.00	1.25	"		
2103.00	2.00	"		
2157.00	2.50	Teledrift		
2217.00	4.00	"		
2240.00	3.50	"		
2266.00	4	"		
2283.00	4	"		

MUD

Time	6:45	
Density	1080	
Vis.	61	
pH	10.7	
Fluid Loss	7.6	
P.V.	22.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	10100.0	
MBT	12.5	
Temp	48.3	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	2	**Sapp**	
Drispac	3	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite			
PHPA	1		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,568
Mud Van	1	**Well Cost**	$198,540

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	144.6			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	2.0	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	1.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	3.4	**Cumulative**	106.6	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2273**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**7**	**Torque**	**7200**
Drag Dn	**6**		
Hook Load	**92000**		

Total Gas Readings (%)

Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Stripping Mud**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drill from 2334 to 2279m 110rpm, 18000daN on bit. Survey @ 2240m 3.5° Survey @2266 4°

Function UPR, LPR and Crown saver, Conduct BOP drill. Well secure 1 min. Discuss crew positions and procedures.

No incidents.

8 hazards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,616,975**	**Today**	**$28,638**	**Total Cost**	**$5,645,613**	**Weather:**	Plus 17, 25%Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**60**			**Date:**	**28-Aug-09**
Depth:	2314.0 **mKB**	**Progress:**	35.0	**Drilling:**	19.75	**hrs ROP, m/hr:**	1.80	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Make up directional tools.							**KB elev:**	**175.30 m.**
the next da	RIH with directional tools and drill ahead.							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
14	HTC	MX-30GDX	5139598	2133	**2314**	181	86	2X13, 1X12	110	18 to 12	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, NBS 212mm, Teledrift, DC, 212mm Stab,			**Pump Pressure:**	19,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	296.74 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0 **mm**	
SPM		100	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**		71.0 **m/min**	
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**		324.0 **kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
1702.00	1.50	Wireline		
1801.00	1.50	"		
1907.00	1.25	"		
2041.00	1.25	"		
2103.00	2.00	"		
2157.00	2.50	Teledrift		
2217.00	4.00	"		
2240.00	3.50	"		
2266.00	4	"		
2283.00	4	"		
2299.00	4.00	"		

MUD

Time	6:45	
Density	1080	
Vis.	59	
pH	11.2	
Fluid Loss	7.8	
P.V.	21.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	47.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	2
Newedge	3	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite			
PHPA	1		
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,200
Mud Van	1	**Well Cost**	$199,741

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	145.3			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	1.0	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	2.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	3.0	**Cumulative**	109.0	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)

Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**19.75**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	**0.50**
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip	**1.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-21:30 Drill from 2279 to 2314m 110rpm, 12000daN on bit. Survey @ 2299m 4.0°.

21:30-24:00 Pull out of hole for bit and directional tools.

Function UPR, Annular and Crown saver.

No incidents.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,645,613**	**Today**	**$34,870**	**Total Cost**	**$5,680,483**	**Weather:**	Plus 12, cloud
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**61**			**Date:**	**29-Aug-09**	
Depth:	2334.0	**mKB**	**Progress:**	20.0	**Drilling:**	19.75	**hrs**	**ROP, m/hr:**	2.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead with bit #15 @2254m ROP 5m/hr									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
15	HC	HC506 ZX	7114737	2314				6X12	100	4-6	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg,Stab,NM tool carrier,NM DC,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	307.13	**m**	**Strap:**	**Board:**	
SPM		80	0	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
Vol.	m^3/min @ 95%	1.4000		**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
				Jet Velocity:	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
1702.00	1.50	Wireline		
1801.00	1.50	"		
1907.00	1.25	"		
2041.00	1.25	"		
2103.00	2.00	"		
2157.00	2.50	Teledrift		
2217.00	4.00	"		
2240.00	3.50	"		
2266.00	4	"		
2283.00	4	"		
2299.00	4.00	"		

MUD

Time	6:45	
Density	1080	
Vis.	59	
pH	11.2	
Fluid Loss	7.8	
P.V.	21.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	47.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	2	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	3
Newedge	2	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	5
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	3
PHPA	2		
Sawdust	5		
Soda Ash			
Supervision		**Day Cost**	$2,156
Mud Van	1	**Well Cost**	$201,897

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	144.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	0.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.6	**Cumulative**	110.2	**Next BOP Test**		**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**	**0.75**	**17. Plug Back**	
2. Drill	**8.00**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	**0.50**
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip	**8.50**	**14. Nipple Up BOP**		**22. Handle Tools**	**3.75**
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Crew Hand-off Mtg**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-04:15 Continued to pull out of hole

04:15-12:00 Make up PDC bit # 15 and directional tools and run in hole to 2032 m.

12:00-13:00 Slip and cut 12 m. drilling line

13:00-15:15 Run in hole

15:15-24:00 Drilled from 2314 m to 2334 m.

No incidents.

Function UPR, Annular and Crown saver.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,683,521**	**Today**	**$30,274**	**Total Cost**	**$5,713,795**	**Weather:**	Plus 13 Sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**62**			**Date:**	**30-Aug-09**	
Depth:	2384.0	**mKB**	**Progress:**	50.0	**Drilling:**	19.75	**hrs**	**ROP, m/hr:**	2.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 2410 m. with bit #15 ROP 5m/hr									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
15	HC	HC506 ZX	7114737	2314				6X12	100	4-6	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg,Stab,NM tool carrier,NM DC,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		80	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**	71.0 **m/min**		
Vol.	m^3/min @ 95%	1.4000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth	Drift	Azimuth	North	East
2266.00	6.22	288.00	Schlum	
2295.00	6.49	289.00	Schlum	
2309.00	6.30	289.00	Schlum	
2323.00	5.27	287.00	Schlum	
2336.00	4.90	285.00	Schlum	
2350.00	5.23	289.00	Schlum	
2378.00	4.72	287.00	Schlum	
2391.00	4.38	285.00	Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1080	
Vis.	59	
pH	11.2	
Fluid Loss	7.8	
P.V.	21.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	47.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	5
Barite	35	**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA	1		
Sawdust	2		
Soda Ash			
Supervision		**Day Cost**	$2,254
Mud Van	1	**Well Cost**	$201,897

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	145.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.2	**Total surf.**	
Today total losses	0.2	**Cumulative**	110.4

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**19.75**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	**0.25**
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	**2.00**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2334 m to 2384 m.

No incidents.

Function test accumulator.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,721,119**	**Today**	**$35,557**	**Total Cost**	**$5,756,676**	**Weather:**	Plus 13 Sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**63**			**Date:**	**31-Aug-09**	
Depth:	2448.0	**mKB**	**Progress:**	64.0	**Drilling:**	21.50	**hrs**	**ROP, m/hr:**	2.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 2410 m. with bit #15 ROP 5m/hr									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
15	HC	HC506 ZX	7114737	2314				6X12	100	4-6	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg,Stab,NM tool carrier,NM DC,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0 **mm**	
SPM		80	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**		71.0 **m/min**	
Vol.	m^3/min @ 95%	1.4000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**		324.0 **kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
2266.00	6.22	288.00	Schlum	
2295.00	6.49	289.00	Schlum	
2309.00	6.30	289.00	Schlum	
2323.00	5.27	287.00	Schlum	
2336.00	4.90	285.00	Schlum	
2350.00	5.23	289.00	Schlum	
2378.00	4.72	287.00	Schlum	
2391.00	4.38	285.00	Schlum	
2405.00	4.24	278.00	Schlum	
2418.00	4.17	280	Schlum	
2432.00	4.30	281.00	Schlum	
2446.00	4.07	278	Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1090	
Vis.	68	
pH	11.2	
Fluid Loss	7.8	
P.V.	21.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	47.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	5
Barite	35	**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA	1		
Sawdust	2		
Soda Ash			
Supervision		**Day Cost**	$3,943
Mud Van	1	**Well Cost**	$208,095

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	151.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.2	**Total surf.**	
Today total losses	0.2	**Cumulative**	110.4

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.50**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2384 m to 2448 m.

Function upper pipe rams and annular

No incidents.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,799,846**	**Today**	**$40,406**	**Total Cost**	**$5,840,252**	**Weather:**	Plus 1 Rain
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**64**			**Date:**	**01-Sep-09**
Depth:	2504.0 **mKB**	**Progress:**	56.0	**Drilling:**	21.75	**hrs ROP, m/hr:**	2.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Trip with bit #15.							**KB elev:**	**175.30 m.**
the next da	Change bit.Run in hole and drill ahead							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
15	HC	HC506 ZX	7114737	2314	**2508**	194	66	6X12	100	4-6	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg,Stab,NM tool carrier,NM DC,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		80	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**	71.0 **m/min**		
Vol.	m^3/min @ 95%	1.4000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth	Drift	Azimuth	North	East
2378.00	4.72	287.00	Schlum	
2391.00	4.38	285.00	Schlum	
2405.00	4.24	278.00	Schlum	
2418.00	4.17	280	Schlum	
2432.00	4.30	281.00	Schlum	
2446.00	4.07	278	Schlum	
2459.00	4.49	278.00	Schlum	
2473.00	4.61	275.00	Schlum	
2487.00	4.72	280.00	Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1090	
Vis.	62	
pH	11.2	
Fluid Loss	7.8	
P.V.	21.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9700.0	
MBT	12.5	
Temp	38.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge	2	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	2
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	1
PHPA	1		
Sawdust	9		
Soda Ash			
Supervision		**Day Cost**	$1,201
Mud Van	1	**Well Cost**	$208,095

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	151.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.2	**Total surf.**	
Today total losses	0.2	**Cumulative**	110.4

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2384 m to 2504 m.

Function upper and lower pipe rams.

No incidents.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,843,330**	**Today**	**$34,404**	**Total Cost**	**$5,877,734**	**Weather:**	Plus 12 Cloud
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**65**			**Date:**	**02-Sep-09**		
Depth:	2521.0	**mKB**	**Progress:**	17.0	**Drilling:**	10.50	**hrs ROP, m/hr:**	1.40	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling ahead @ 2550 m.								**KB elev:**	**175.30 m.**	
the next da	Drill ahead								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
16	Reed	R30APDH	CW7148	2508				3 X 10.3	150	14	

		Pump 1	Pump 2						
Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,								
Model		PZ-11	PZ-11	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP			**Pump Pressure:**	12,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13	**m**	**Strap:**		**Board:**
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		80	0	**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
Vol.	m^3/min @ 95%	1.4000		**Jet Velocity:**	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
2378.00	4.72	287.00	Schlum	
2391.00	4.38	285.00	Schlum	
2405.00	4.24	278.00	Schlum	
2418.00	4.17	280	Schlum	
2432.00	4.30	281.00	Schlum	
2446.00	4.07	278	Schlum	
2459.00	4.49	278.00	Schlum	
2473.00	4.61	275.00	Schlum	
2487.00	4.72	280.00	Schlum	
2500.00	4.72	277	Schlum	
2514.00	4.15	276.00	Schlum	
2528.00	3.83	277	Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1095	
Vis.	59	
pH	9.5	
Fluid Loss	6.4	
P.V.	24.0	
Y.P.	12.5	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9700.0	
MBT	12.5	
Temp	35.9	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco	1	**Walnut**	
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA			
Sawdust	11		
Soda Ash			
Supervision		**Day Cost**	$1,201
Mud Van	1	**Well Cost**	$208,095

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	151.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.2	**Total surf.**	
Today total losses	0.2	**Cumulative**	110.4

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**10.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**10.00**	**14. Nipple Up BOP**		**22. Handle Tools**	**1.50**
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-07:00 Drilled from 2504 m to 2508 m.

07:00-12:45 Pull out of hole

12:45-14:00 Make up dir tools and dial up motor to 1.83 deg.

14:00-20:30 Run in hole

20:30-24:00 Drilled from 2508 m to 2521 m.

No incidents.

Function upper and lower pipe rams.and blind rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,877,734**	**Today**	**$42,524**	**Total Cost**	**$5,920,258**	**Weather:**	Plus 19 sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	66		**Date:**	03-Sep-09	
Depth:	2521.0 **mKB**	**Progress:**	17.0	**Drilling:**	10.50 **hrs**	**ROP, m/hr:**	3.70	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling ahead @ 2632 m.							**KB elev:**	175.30 m.
the next da	Drill ahead				81			**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
16	Reed	R30APDH	CW7148	2508				3 X 10.3	150	14	

		Pump 1	Pump 2						
Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,								
Model		PZ-11	PZ-11	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP			**Pump Pressure:**	12,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		80	0	**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
Vol.	m^3/min @ 95%	1.4000		**Jet Velocity:**	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
2378.00	4.72	287.00	Schlum	
2391.00	4.38	285.00	Schlum	
2405.00	4.24	278.00	Schlum	
2418.00	4.17	280	Schlum	
2432.00	4.30	281.00	Schlum	
2446.00	4.07	278	Schlum	
2459.00	4.49	278.00	Schlum	
2473.00	4.61	275.00	Schlum	
2487.00	4.72	280.00	Schlum	
2500.00	4.72	277	Schlum	
2514.00	4.15	276.00	Schlum	
2528.00	3.83	277	Schlum	
2541.00	3.49	279.00	Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1095	
Vis.	61	
pH	10.2	
Fluid Loss	7.0	
P.V.	24.0	
Y.P.	12.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9700.0	
MBT	12.5	
Temp	40.1	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite	40	**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA			
Sawdust	4		
Soda Ash			
Supervision		**Day Cost**	$2,140
Mud Van	1	**Well Cost**	$208,095

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	151.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.2	**Total surf.**	
Today total losses	0.2	**Cumulative**	110.4

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	08-Sep-09

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6740**	11000	**2300**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**6200**
Drag Dn	**6**		
Hook Load	**94**	**6200**	

Total Gas Readings (%)	
Background	**0.08**
Connection	**0.12**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2508 m to 2602 m.

No incidents.

Function upper and lower pipe rams.and blind rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,920,258**	**Today**	**$35,688**	**Total Cost**	**$5,955,946**	**Weather:**	Plus 19 sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**67**			**Date:**	**04-Sep-09**		
Depth:	2685.0	**mKB**	**Progress:**	83.0	**Drilling:**	21.75	**hrs ROP, m/hr:**	3.80	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling ahead @ 2715 m.								**KB elev:**	**175.30 m.**	
the next da	Drill ahead								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
16	Reed	R30APDH	CW7148	2508				3 X 10.3	150	14	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0 **mm**	
SPM		80	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**		71.0 **m/min**	
Vol.	m^3/min @ 95%	1.4000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**		324.0 **kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
2556.00	3.64	277.00	Schlum	
2569.00	4.40	280.00	Schlum	
2582.00	4.63	281.00	Schlum	
2597.00	3.61	285.00	Schlum	
2610.00	2.96	290.00	Schlum	
2624.00	3.21	297.00	Schlum	
2638.00	3.73	291.00	Schlum	
2652.00	4.30	289.00	Schlum	
2665.00	4.54	286.00	Schlum	
2678.00	2.99	299.00	Schlum	
2692.00	2.23	308.00	Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1100	
Vis.	59	
pH	10.5	
Fluid Loss	7.2	
P.V.	23.0	
Y.P.	11.5	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.6	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9700.0	
MBT	12.5	
Temp	44.4	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	3
Barite	40	**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA		**Bioside**	3
Sawdust	4		
Soda Ash			
Supervision		**Day Cost**	$1,798
Mud Van	1	**Well Cost**	$213,929

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	117.9			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	1.8	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	2.3	**Cumulative**	120.5	**Next BOP Test**	08-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7200**	11000	**2677**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**8500**
Drag Dn	**6**		
Hook Load	**102**	**6200**	

Total Gas Readings (%)	
Background	**0.30**
Connection	**0.30**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2602 m to 2685 m.

Bit # 15 HC506ZX PDC, 15 chipped cutters,in guage

No incidents.

Function upper and lower pipe rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,956,036**	**Today**	**$41,236**	**Total Cost**	**$5,997,272**	**Weather:**	Plus 19 sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	68			**Date:**	05-Sep-09
Depth:	2760.0 **mKB**	**Progress:**	75.0	**Drilling:**	21.75	**hrs ROP, m/hr:**	3.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pull out of hole							**KB elev:**	175.30 m.
the next da	Drill ahead			**81**				**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
16	Reed	R30APDH	CW7148	2508				3 X 10.3	150	14-18	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			**Pump Pressure:**	18,000 kPa
Liner	(mm)	165	152	**BHA Length:**	307.13	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		85	0	**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
2556.00	3.64	277.00	Schlum	
2569.00	4.40	280.00	Schlum	
2582.00	4.63	281.00	Schlum	
2597.00	3.61	285.00	Schlum	
2610.00	2.96	290.00	Schlum	
2624.00	3.21	297.00	Schlum	
2638.00	3.73	291.00	Schlum	
2652.00	4.30	289.00	Schlum	
2665.00	4.54	286.00	Schlum	
2678.00	2.99	299.00	Schlum	
2692.00	2.23	308.00	Schlum	
2720.00	3.58	300.00	Schlum	
2734.00	3.79	299.00	Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1100	
Vis.	63	
pH	10.5	
Fluid Loss	7.2	
P.V.	23.0	
Y.P.	11.5	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.6	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9700.0	
MBT	12.5	
Temp	44.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	5
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust	4		
Soda Ash			
Supervision		**Day Cost**	$2,817
Mud Van	1	**Well Cost**	$216,746

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	125.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	1.2	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	3.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	4.6	**Cumulative**	125.1	**Next BOP Test**	08-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7200**	11000	**2677**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**8500**
Drag Dn	**6**		
Hook Load	**102**	**6200**	

Total Gas Readings (%)	
Background	**0.30**
Connection	**0.30**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.25**	**10. Survey**	**1.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	**0.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2685 m to 2761 m.

01:00 hrs Sept 06, MWD tool failure, Pull out of hole.

No incidents.

Function upper and lower pipe rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$5,997,272**	**Today**	**$38,092**	**Total Cost**	**$6,035,364**	**Weather:**	Plus 15 sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**69**			**Date:**	**06-Sep-09**	
Depth:	2782.0	**mKB**	**Progress:**	22.0	**Drilling:**	7.00	**hrs**	**ROP, m/hr:**	3.10	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 2800 m.									**KB elev:**	**175.30 m.**
the next da	Drill ahead				**81**					**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
17	HC	HC505ZX	7116166	2761							
16	Reed	R30APDH	CW7148	2508	**2761**	253	64	3 X 10.3	150	14-18	**2, 6, BT, H,3**

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			**Pump Pressure:**	18,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		85	0	**D.C. Annular Vel.:**	112.0	**m/min**	**D.P Annular Vel.:**	71.0	**m/min**
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
2556.00	3.64	277.00	Schlum	
2569.00	4.40	280.00	Schlum	
2582.00	4.63	281.00	Schlum	
2597.00	3.61	285.00	Schlum	
2610.00	2.96	290.00	Schlum	
2624.00	3.21	297.00	Schlum	
2638.00	3.73	291.00	Schlum	
2652.00	4.30	289.00	Schlum	
2665.00	4.54	286.00	Schlum	
2678.00	2.99	299.00	Schlum	
2692.00	2.23	308.00	Schlum	
2720.00	3.58	300.00	Schlum	
2734.00	3.79	299.00	Schlum	
2761.00	4.14	276.00	Schlum	
2775.00	4.80	273.00	Schlum	

MUD

Time	6:45	
Density	1100	
Vis.	63	
pH	10.5	
Fluid Loss	7.2	
P.V.	23.0	
Y.P.	11.5	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.6	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9700.0	
MBT	12.5	
Temp	44.7	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	5
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust	4		
Soda Ash			
Supervision		**Day Cost**	$2,817
Mud Van	1	**Well Cost**	$216,746

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	125.0		
Today losses down hole	1.2	**Total hole**	
Today losses at surface	3.4	**Total surf.**	
Today total losses	4.6	**Cumulative**	125.1

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	08-Sep-09

Centrifuge	
Underflow Density	1890.0
Overflow Density	1065
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7800**	11000	**2748**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**7**	**Torque**	**8500**
Drag Dn	**6**		
Hook Load	**103**	**8000**	

Total Gas Readings (%)	
Background	**0.30**
Connection	**1.90**
Trip	**2.40**

1. Rig up/Out		**9. Slip & Cut**	**0.75**	**17. Plug Back**	
2. Drill	**7.00**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.75**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**11.75**	**14. Nipple Up BOP**		**22. Handle Tools**	**2.25**
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-00:30 Drilled from 2761 m to 2762 m.
00:30-01:30 MWD tool failure.Unable to survey.Circulate bottoms up,flow check and pump pill.
01:30-08:00 Pull out of hole
)8:00-09:45 Make up new MWD tool,jars and PDC bit.
09:45-14:30 run in hole to2058 m.
14:30-15:30 Slip and cut 15.3 m. drilling line
15:30-17:15 Run in hole.wash to bottom.
17:15-24:00 Drilled from 2761 m to 2782 m.
No incidents.
Function upper and lower pipe rams and blind rams

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$6,035,744**	**Today**	**$55,838**	**Total Cost**	**$6,091,582**	**Weather:**	Plus 15 sunny
						Mud Type	Polymer
Foreman		**Bill Williams**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1				**Day:**	70			**Date:**	07-Sep-09	
Depth:	2809.0	**mKB**	**Progress:**	6.0	**Drilling:**	11.20	**hrs ROP, m/hr:**	0.50	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling @ 2822 m.								**KB elev:**	**175.30 m.**	
the next da	Drill ahead								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
17	HC	HC505ZX	7116166	2761	2803	42	11.50	7 x 10.2	125	5-7	2, 2, BC, A, X
18	HC	MX30GDX	6063824	2803							

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			**Pump Pressure:**	18,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		85	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**	71.0 **m/min**		
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth	Drift	Azimuth	North	East
2678.00	2.99	299.00	Schlum	
2692.00	2.23	308.00	Schlum	
2720.00	3.58	300.00	Schlum	
2734.00	3.79	299.00	Schlum	
2761.00	4.14	276.00	Schlum	
2775.00	4.80	273.00	Schlum	
2789.00	4.00	272.00	Schlum	
2802.00	2.69	278.00	Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1110	
Vis.	63	
pH	10.2	
Fluid Loss	6.2	
P.V.	26.0	
Y.P.	13.0	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	0.6	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	10200.0	
MBT	12.5	
Temp	35.0	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	5
Newedge	5	**Sapp**	
Drispac		**Dyna det**	1
Desco		**Walnut**	5
Barite	40	**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$371
Mud Van	1	**Well Cost**	$216,746

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	125.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	1.2	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	3.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	4.6	**Cumulative**	125.1	**Next BOP Test**	08-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7800**	11000	**2748**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**7**	**Torque**	**8500**
Drag Dn	**6**		
Hook Load	**103**	**8000**	

Total Gas Readings (%)

Background	**0.30**
Connection	**0.40**
Trip	**0.60**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**11.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.00**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**10.25**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-08:45 Drilled from 2762 m to 2803 m.
08:45-16:00 Hoist due to ROP
16:00-17:00 Make up new insert bit, check motor.
17:00-20:45 Run in hole.wash to bottom.
20:45-24:00 Drilled from 2803 m to 2809 m.

Bit # 17, 14 damaged cutters

No incidents.

Function blind, upper and lower pipe rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$6,035,744**	**Today**	**$55,838**	**Total Cost**	**$6,091,582**	**Weather:**	Plus 15 sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**71**			**Date:**	**08-Sep-09**	
Depth:	2859.0	**mKB**	**Progress:**	50.0	**Drilling:**	22.25	**hrs**	**ROP, m/hr:**	2.30	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 2871 m.									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
17	HC	HC505ZX	7116166	2761	2803	42	11.50	7 x 10.2	125	5-7	2, 2, BC, A, X
18	HC	MX30GDX	6063824	2803				3X14			

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			**Pump Pressure:**	18,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0 **mm**	
SPM		85	0	**D.C. Annular Vel.:**	112.0 **m/min**	**D.P Annular Vel.:**		71.0 **m/min**	
Vol.	m^3/min @ 95%	1.7000		**Jet Velocity:**	122.0 **m/sec**	**True Hydraulic HP:**		324.0 **kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
2678.00	2.99	299.00	Schlum	
2692.00	2.23	308.00	Schlum	
2720.00	3.58	300.00	Schlum	
2734.00	3.79	299.00	Schlum	
2761.00	4.14	276.00	Schlum	
2775.00	4.80	273.00	Schlum	
2789.00	4.00	272.00	Schlum	
2802.00	2.69	278.00	Schlum	
2817.00	2.62	281.00	Schlum	
2830.00	3.28	282.00	Schlum	
2843.00	3.78	292.00	Schlum	
			Schlum	
			Schlum	
			Schlum	
			Schlum	

MUD

Time	6:45	
Density	1110	
Vis.	63	
pH	10.7	
Fluid Loss	7.2	
P.V.	25.0	
Y.P.	12.2	
Gel S.	2.5/4.5/5	
Filter Ck	0.5	
Solids %	7.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	12.5	
Temp	38.0	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco	1	**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$217
Mud Van	1	**Well Cost**	$216,746

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	125.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1890.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1065
Today losses at surface	1.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	1.9	**Cumulative**	132.0	**Next BOP Test**	08-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7800**	11000	**2748**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**7**	**Torque**	**8500**	
Drag Dn	**6**			
Hook Load	**103**	**8000**		

Total Gas Readings (%)

Background	**0.30**
Connection	**0.20**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2809 m to 2859 m.

No incidents.

Function, upper and lower pipe rams.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$6,139,627**	**Today**	**$54,798**	**Total Cost**	**$6,194,425**	**Weather:**	Plus 15 sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**72**			**Date:**	**09-Sep-09**	
Depth:	2906.0	**mKB**	**Progress:**	32.0	**Drilling:**	22.00	**hrs ROP, m/hr:**	1.45	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling @ 2918 m.								**KB elev:**	**175.30 m.**	
the next da	Change bit, BOP test.								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
17	HC	HC505ZX	7116166	2761	2803	42	11.50	7 x 10.2	125	5-7	2, 2, BC, A, X
18	HC	MX30GDX	6063824	2803		106	49	3X14	125	14	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			**Pump Pressure:**	14,500 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		88	0	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
Vol.	m^3/min @ 95%	1.5000		**Jet Velocity:**	90.4 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth	Drift	Azimuth	North	East
2678.00	2.99	299.00	Schlum	
2692.00	2.23	308.00	Schlum	
2720.00	3.58	300.00	Schlum	
2734.00	3.79	299.00	Schlum	
2761.00	4.14	276.00	Schlum	
2775.00	4.80	273.00	Schlum	
2789.00	4.00	272.00	Schlum	
2802.00	2.69	278.00	Schlum	
2817.00	2.62	281.00	Schlum	
2830.00	3.28	282.00	Schlum	
2843.00	3.78	292.00	Schlum	
2857.00	4.33	300.96	Schlum	
2871.00	3.44	300.81	Schlum	
2885.00	3.8	298.31	Schlum	
2899.00	3.83	296.90	Schlum	

MUD

Time	6:57	
Density	1110	
Vis.	64	
pH	10.4	
Fluid Loss	6.8	
P.V.	27.0	
Y.P.	13.0	
Gel S.	3/5.5/7	
Filter Ck	0.5	
Solids %	7.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	17.5	
Temp	40.0	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	2	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash	2		
Supervision		**Day Cost**	$881
Mud Van	1	**Well Cost**	$219,705

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	125.0		
Today losses down hole	0.2	**Total hole**	
Today losses at surface	0.4	**Total surf.**	
Today total losses	0.6	**Cumulative**	133.0

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	23-Aug-09
Next Casing Test	1000 rotating hrs
Next BOP Test	08-Sep-09

Centrifuge	
Underflow Density	1900.0
Overflow Density	1100
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**45**	**4975**	11000	**2897**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**12**	**Torque**	**9500**
Drag Dn	**13**		
Hook Load	**103**	**8000**	

Total Gas Readings (%)	
Background	**0.12**
Connection	**0.20**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.00**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2859 m to 2906 m, keeping deviation as low as possible. Sliding on average 4 m/single. Check flare igniter and pason choke
Function test upper pipe rams. Conduct BOP drill with crew. Well secure in 88 sec with annular preventer.

No incidents.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$6,194,425**	**Today**	**$41,942**	**Total Cost**	**$6,236,367**	**Weather:**	Plus 15 sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	73			**Date:**	10-Sep-09
Depth:	2953.0 **mKB**	**Progress:**	47.0	**Drilling:**	22.25	**hrs ROP, m/hr:**	2.11	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 2968 m.							**KB elev:**	175.30 m.
the next da	Change bit, BOP test.							**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
18	HC	MX30GDX	6063824	2803		106	49	3X14	125	14	

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.83deg,NM tool carrier,NM DC,			
Model		PZ-11	PZ-11	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP		**Pump Pressure:**	14,500	**kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**	
SPM		0	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**	
Vol.	m^3/min @ 95%		1.3070	**Jet Velocity:**	90.4 **m/sec**	**True Hydraulic HP:**	324.0 **kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
2912.43	3.94	298.78		
2926.39	2.87	301.29		
2940.21	1.74	289.91		

MUD

Time	6:47		
Density	1110		
Vis.	65		
pH	10.5		
Fluid Loss	6.8		
P.V.	27.0		
Y.P.	13.5		
Gel S.	3/5.5/7		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9800.0		
MBT	17.5		
Temp	39.6		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	3
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,637
Mud Van	1	**Well Cost**	$221,342

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	131.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	1.2	**Total hole**		**Last BOP Test**	23-Aug-09	**Overflow Density**	1100
Today losses at surface	2.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	3.6	**Cumulative**	136.6	**Next BOP Test**	08-Sep-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**10**	**Torque**	**9800**	**Background**	**0.27**
RSPP #1	**55**	**6610**	11000	**2911**	**Drag Dn**	**10**			**Connection**	**0.38**
RSPP #2					**Hook Load**	**111**			**Trip**	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.25**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 2906 m to 2953 m, keeping deviation below 5deg. Sliding on average 3 m/single. Function crown saver. Function UPR and Annular

No incidents. 7 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$6,236,367**	**Today**	**$35,800**	**Total Cost**	**$6,272,167**	**Weather:**	Plus 16 sunny
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**74**			**Date:**	**11-Sep-09**		
Depth:	2967.0	**mKB**	**Progress:**	14.0	**Drilling:**	7.25	**hrs ROP, m/hr:**	1.90	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling @ 2973 m.								**KB elev:**	**175.30 m.**	
the next da	Drill ahead								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
18	HC	MX30GDX	6063824	2803	2967	164	77	3X14	125	14	2-6-BT-H-E-1-CT-PR
19	Reed	R30APDH	AP6465	2967				2X13, 1X14			

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.5deg,NM tool carrier,NM DC,			**Pump Pressure:**	14,500 **kPa**
Liner	(mm)	165	152	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
SPM		0	90	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
Vol.	m^3/min @ 95%		1.3070	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
				Jet Velocity:	90.4 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
2912.43		3.94	298.78		
2926.39		2.87	301.29		
2940.21		1.74	289.91		
2953.98		2.62	270.76		

MUD

Time	6:40		**Gel**		**CaC03**	
Density	1110		**Caustic**	1	**Percol**	
Vis.	64		**Envirofloc**		**Sulphamic**	
pH	10.9		**Kelzan**		**T-352**	1
Fluid Loss	6.8		**Cello**		**Defoamer**	
P.V.	26.0		**Bicarb**		**2K-7**	1
Y.P.	13.0		**Newedge**		**Sapp**	
Gel S.	3/5.5/7		**Drispac**		**Dyna det**	
Filter Ck	0.5		**Desco**		**Walnut**	
Solids %	7.0		**Barite**		**Lime Hydrate**	1
Oil	0.000		**Lignite**		**Dyna fiber**	
Ca (mg/l)	40.0		**PHPA**		**Bioside**	
Cl (mg/l)	9800.0		**Sawdust**			
MBT	17.5		**Soda Ash**			
Temp	37.8		**Supervision**		**Day Cost**	$587
XSPolymer	1.1		**Mud Van**	1	**Well Cost**	$221,929

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	133.5			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1100
Today losses at surface	1.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	1.9	**Cumulative**	138.5	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**14**	**Torque**	**9800**	**Background**	**0.27**
RSPP #1	**55**	**6610**	11000	**2911**	**Drag Dn**	**12**			**Connection**	**0.38**
RSPP #2					**Hook Load**	**112**			**Trip**	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**7.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.25**
6. Trip	**7.25**	**14. Nipple Up BOP**		**22. Handle Tools**	**1.75**
7. Rig Service	**0.75**	**15. Test BOP & FIT**	**5.25**	**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-08:00 Drilled from 2953 m to 2967. m, ROP fadding over last 2m.

08:00-16:00 Pull out for bit change. Pres Test choke manifold 1400kPa low and 11000kPa high (after pulling into the casing shoe).

16:00-21:45 Pressure test BOP and surface components 1400kPa low and 11000kPa high. Accumulator test press remaining 10500kPa, recharge 2min 30 sec.

21:45-24;00 Set motor to 1.5, make up bit #19, Run in the hole.

No incidents. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m.

Prev Cost	**$6,272,167**	**Today**	**$59,653**	**Total Cost**	**$6,331,820**	**Weather:**	Plus 11 sunny
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**75**			**Date:**	**12-Sep-09**
Depth:	3016.0 **mKB**	**Progress:**	49.0	**Drilling:**	17.75	**hrs ROP, m/hr:**	2.76	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 2973 m.							**KB elev:**	**175.30 m.**
the next da	Drill ahead							**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
19	Reed	R30APDH	AP6465	2967				2X13, 1X14			

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.5deg,NM tool carrier,NM DC,				
Model		PZ-11	PZ-11	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP			**Pump Pressure:**	14,500	**kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		0	90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%		1.3070	**Jet Velocity:**	90.4	**m/sec**	**True Hydraulic HP:**	324.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
2912.43		3.94	298.78		
2926.39		2.87	301.29		
2940.21		1.74	289.91		
2953.98		2.62	270.76		
2966.91		3.62	287.62		
2980.69		3.49	294.09		
2994.76		3,31	306.56		
3008.46		3.64	305.91		

MUD

Time	7:17		
Density	1110		
Vis.	65		
pH	11.1		
Fluid Loss	7.0		
P.V.	26.0		
Y.P.	12.5		
Gel S.	3/5.5/7		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9800.0		
MBT	17.5		
Temp	36.0		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite	40	**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$587
Mud Van	1	**Well Cost**	$221,929

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	129.6			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	1.5	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1100
Today losses at surface	6.0	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	400.0
Today total losses	7.5	**Cumulative**	146.0	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**14**	**Torque**	**9700**	**Background**	**0.27**
RSPP #1	**55**	**6030**	11000	**3005**	**Drag Dn**	**12**			**Connection**	**0.38**
RSPP #2					**Hook Load**	**113**			**Trip**	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**17.75**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream	**0.50**	**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip	**4.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-04:45 Finish Run in the hole.

04:45-24:00 Drill from 2967 to 3016m correcting deviation with average sliding 3m out of 13m. Build rate while rotating 2deg/30m

Function UPR, LPR, and Annular

No incidents. 7 hazards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,331,820**	**Today**	**$35,781**	**Total Cost**	**$6,367,601**	**Weather:**	Plus 11 sunny
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**76**			**Date:**	**13-Sep-09**	
Depth:	3070.0	**mKB**	**Progress:**	54.0	**Drilling:**	21.75	**hrs**	**ROP, m/hr:**	2.48	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 3083 m.									**KB elev:**	**175.30 m.**
the next da	Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
19	Reed	R30APDH	AP6465	2967		103	40	2X13, 1X14	125		

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.5deg,NM tool carrier,NM DC,			**Pump Pressure:**	14,600 **kPa**
Liner	(mm)	165	152	5 X 165mm DC, Jar, 7 165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
SPM		0	90	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
Vol.	m^3/min @ 95%		1.3070	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
				Jet Velocity:	90.4 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
2912.43		3.94	298.78		
2926.39		2.87	301.29		
2940.21		1.74	289.91		
2953.98		2.62	270.76		
2966.91		3.62	287.62		
2980.69		3.49	294.09		
2994.76		3,31	306.56		
3008.46		3.64	305.91		
3021.91		4.27	302.63	44.77	65.19
3035.44		5.23	301.46	44.52	65.79
3048.91		6.04	302.28	66.48	-3.95
3063.35		6.03	302.00	67.29	-5.24

MUD

Time	5:44		
Density	1110		
Vis.	64		
pH	10.6		
Fluid Loss	7.8		
P.V.	24.0		
Y.P.	12.0		
Gel S.	2.5/5/6.6		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9800.0		
MBT	17.5		
Temp	39.7		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$226
Mud Van	1	**Well Cost**	$223,831

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	134.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	0.5	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1100
Today losses at surface	0.9	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	1.4	**Cumulative**	147.4	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**45**	**5530**	11000	**3045**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**14**	**Torque**	**10500**
Drag Dn	**13**		
Hook Load	**114**		

Total Gas Readings (%)

Background	**0.27**
Connection	**0.38**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**1.00**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 3016m to 3070 m. Angle is building while sliding 4m/13. Increase slides to 8m to kill tendency.

No incidents. 11 hazards ID'd.

United Oilfield on site to service the centrifuges.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,367,601**	**Today**	**$34,265**	**Total Cost**	**$6,401,866**	**Weather:**	Plus 11 sunny
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**77**			**Date:**	**14-Sep-09**	
Depth:	3109.0	**mKB**	**Progress:**	39.0	**Drilling:**	22.25	**hrs**	**ROP, m/hr:**	1.75	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Trip to change the bit									**KB elev:**	**175.30 m.**
the next da	Change the bit. Drill ahead									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
19	Reed	R30APDH	AP6465	2967		103	40	2X13, 1X14	125		

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.5deg,NM tool carrier,NM DC,			**Pump Pressure:**	14,600 **kPa**
Liner	(mm)	165	152	**BHA Length:**	307.13 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		0	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
Vol.	m^3/min @ 95%		1.3070	**Jet Velocity:**	90.4 **m/sec**	**True Hydraulic HP:**	324.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
2912.43		3.94	298.78		
2926.39		2.87	301.29		
2940.21		1.74	289.91		
2953.98		2.62	270.76		
2966.91		3.62	287.62		
2980.69		3.49	294.09		
2994.76		3,31	306.56		
3008.46		3.64	305.91		
3021.91		4.27	302.63	44.77	-1.88
3035.44		5.23	301.46	44.52	-2.83
3048.91		6.04	302.28	66.48	-3.95
3063.35		6.03	302.00	67.29	-5.24
3076.72		5.58	305.53	68.06	-6.35
3090.57		5.16	310.13	68.86	-7.37

MUD

Time	7:22		
Density	1110		
Vis.	61		
pH	10.4		
Fluid Loss	7.6		
P.V.	25.0		
Y.P.	11.5		
Gel S.	2.5/5/6		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9800.0		
MBT	17.5		
Temp	40.4		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco	3	**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,082
Mud Van	1	**Well Cost**	$224,914

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	133.6			**Last Casing Test**	22-Aug-09	**Underflow Density**	1920.0
Today losses down hole	0.3	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1100
Today losses at surface	0.5	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.8	**Cumulative**	148.2	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6140**	11000	**3104**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**16**	**Torque**	**10500**
Drag Dn	**14**		
Hook Load	**114**		

Total Gas Readings (%)

Background	**0.27**
Connection	**0.38**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.25**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 3070m to 3109 m sliding 8m/13 to kill tendency, then 6m/13m to maintain.

Function annular and lower pipe rams.

No incidents. 8 hazards ID'd.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,401,867**	**Today**	**$45,841**	**Total Cost**	**$6,447,708**	**Weather:**	Plus 11 sunny
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**78**			**Date:**	**16-Sep-09**
Depth:	3120.0	**mKB**	**Progress:**	11.0	**Drilling:**	4.00	**hrs**	**ROP, m/hr:**	2.80	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drill ahead at 3129m									**KB elev:**	**175.30 m.**
the next da	Drill ahead correcting if required									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
19	Reed	R30APDH	AP6465	2967		103	40	2X13, 1X14	125		7-7-BT-A-E-0-CT-PR
20	HC	HC506ZX	7116724	3110				6 X 9.5mm			

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:2.9 slow stage motor @1.15deg, 209mm stab sleeve on motor,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	NM tool carrier,NM DC, 209mm SS,5 X 165mm DC, Jar, 7 1(					
Stroke	(mm)	279	279	**BHA Length:**	307.13	**m**	**Strap:**		**Board:**
SPM		0	90	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
Vol.	m^3/min @ 95%		1.3070	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
				Jet Velocity:	90.4	**m/sec**	**True Hydraulic HP:**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
2912.43		3.94	298.78		
2926.39		2.87	301.29		
2940.21		1.74	289.91		
2953.98		2.62	270.76		
2966.91		3.62	287.62		
2980.69		3.49	294.09		
2994.76		3,31	306.56		
3008.46		3.64	305.91		
3021.91		4.27	302.63	44.77	-1.88
3035.44		5.23	301.46	44.52	-2.83
3048.91		6.04	302.28	66.48	-3.95
3063.35		6.03	302.00	67.29	-5.24
3076.72		5.58	305.53	68.06	-6.35
3090.57		5.16	310.13	68.86	-7.37
3104.00		5.08	311.11	69.66	-8.31

MUD

Time	7:18		
Density	1110		
Vis.	61		
pH	10.2		
Fluid Loss	6.2		
P.V.	28.0		
Y.P.	16.5		
Gel S.	3.5/6.5/8		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9800.0		
MBT	17.5		
Temp	40.9		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	3	**Sapp**	
Drispac	3	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,350
Mud Van	1	**Well Cost**	$226,265

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	139.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1920.0
Today losses down hole	0.4	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1100
Today losses at surface	0.8	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.8	**Cumulative**	149.4	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6140**	11000	**3104**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**16**	**Torque**	**10500**
Drag Dn	**14**		
Hook Load	**114**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.38**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill	**4.00**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream	**3.00**	**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**11.75**	**14. Nipple Up BOP**		**22. Handle Tools**	**3.00**
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-01:15 Drilled from 3109m to 3111 m sliding .

01:15-10:45 Pull out to change the bit and assembly. Pick up 7/8:2.9stage slow motor with 209mm stab on the motor, and 209mm stab above motor, HC506ZX

10:45-17:30 Run in the hole. Slip and cut at the shoe, Continue to RIH to 2994.

17:30-20:30 Ream and work stabilizers to bottom Tight at 3001 and 3198

20:30-24:00 Drill ahead. From 3110 to 3120. No incidents. 8 hazards ID'd.Functioned Blind rams, UPR, and LPR.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,447,708**	**Today**	**$62,678**	**Total Cost**	**$6,510,386**	**Weather:**	Plus 4 overcast
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**79**			**Date:**	**17-Sep-09**	
Depth:	3180.0	**mKB**	**Progress:**	24.0	**Drilling:**	16.00	**hrs**	**ROP, m/hr:**	1.50	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Trip in the hole									**KB elev:**	**175.30 m.**
the next da	Drill ahead correcting if required									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
20	HC	HC506ZX	7116724	3110	**3180**	46	41	6 X 9.5mm	70	4	

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:2.9 slow stage motor @1.15deg, 209mm stab sleeve on motor,			**Pump Pressure:**	12,000	**kPa**
Liner	(mm)	165	152	NM tool carrier,NM DC, 209mm SS,5 X 165mm DC, Jar, 7 1(						
Stroke	(mm)	279	279	**BHA Length:**	307.13	**m**	**Strap:**		**Board:**	
SPM		78		**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%	1.3000		**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**	
				Jet Velocity:	90.4	**m/sec**	**True Hydraulic HP:**	157.0	**kW**	

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66

MUD

Time	5:15	
Density	1110	
Vis.	69	
pH	10.5	
Fluid Loss	6.4	
P.V.	27.0	
Y.P.	15.0	
Gel S.	3/6/7.5	
Filter Ck	0.5	
Solids %	7.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	17.5	
Temp	37.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	2
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	10
Barite		**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$766
Mud Van	1	**Well Cost**	$229,043

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	139.0		
Today losses down hole	0.2	**Total hole**	
Today losses at surface	4.0	**Total surf.**	
Today total losses	0.6	**Cumulative**	150.5

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	11-Sep-09
Next Casing Test	1000 rotating hrs
Next BOP Test	25-Sep-09

Centrifuge	
Underflow Density	1920.0
Overflow Density	1100
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**45**	**5415**	11000	**3178**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**25**	**Torque**	**14500**
Drag Dn	**17**		
Hook Load	**117**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.38**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**16.00**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**5.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-17:30 Drilled from 3156 to 3180. ROP slowed to 0.3m/hr. Functioned Annular and LPR

17:30- 24:0(Pull out of the hole to change bit. Functioned UPR

8 hazzards ID'd, no incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,583,445**	**Today**	**$34,551**	**Total Cost**	**$6,617,996**	**Weather:**	Plus 1, light rain
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**80**			**Date:**	**18-Sep-09**	
Depth:	3202.0	**mKB**	**Progress:**	22.0	**Drilling:**	9.25	**hrs**	**ROP, m/hr:**	2.40	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drill ahead at 3220 sliding 5m/13m									**KB elev:**	**175.30 m.**
the next da	Drill ahead correcting if required									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
20	HC	HC506ZX	7116724	3110	**3180**	46	41	6 X 9.5mm	70	4	2-3-WT-A-X-2-BC-PR
21	HC	DX-38-CD	5135908	3180		22	9		120	15	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	12,000 **kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM		78		**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
Vol.	m^3/min @ 95%	1.3000		**Jet Velocity:**	54.7 **m/sec**	**True Hydraulic HP:**	157.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75

MUD

Time	10:08	
Density	1110	
Vis.	67	
pH	10.4	
Fluid Loss	6.8	
P.V.	27.0	
Y.P.	13.5	
Gel S.	3/6/7.5	
Filter Ck	0.5	
Solids %	7.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	17.5	
Temp	40.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	**1**
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	6
Barite	35	**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,562
Mud Van	1	**Well Cost**	$231,605

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	136.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1920.0
Today losses down hole	1.0	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1105
Today losses at surface	2.1	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	3.1	**Cumulative**	153.6	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**22**	**Torque**	**10500**	**Background**	**0.27**
RSPP #1	**45**	**5415**	11000	**3178**	**Drag Dn**	**17**			**Connection**	**0.27**
RSPP #2					**Hook Load**	**118**			**Trip**	**1.20**

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill	**9.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**9.00**	**14. Nipple Up BOP**		**22. Handle Tools**	**2.50**
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair	**0.50**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-13:15 Continued to pull out and change bit. Change motor and lay out 2 DC. Run in the hole to 3152. Precaution ream to 3180m. Function blind Rams

13:15-14:00 Lay out 2 singles. Tighten the Upper kelly cock.

14:00-24:00 Drill from 3180 to 3202m with 5m of sliding. Function annular and LPR

8 hazards ID'd, no incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,617,996**	**Today**	**$64,164**	**Total Cost**	**$6,682,160**	**Weather:**	Plus 13, light rain
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**81**			**Date:**	**19-Sep-09**	
Depth:	3249.0	**mKB**	**Progress:**	47.0	**Drilling:**	21.75	**hrs**	**ROP, m/hr:**	2.16	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drill ahead at 3262 sliding 6m/13m									**KB elev:**	**175.30 m.**
the next da	Drill ahead correcting if required									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
21	HC	DX-38-CD	5135908	3180		22	9		120	15	

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC, 209mm SS,5 X 165mm DC, Jar, 5165mm DC, 8 HW	**Pump Pressure:**	12,000	**kPa**		
Liner	(mm)	165	152	**BHA Length:**	277.73	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM			90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%		1.3000	**Jet Velocity:**	54.7	**m/sec**	**True Hydraulic HP:**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62

MUD

Time	9:39	
Density	1120	
Vis.	69	
pH	11.2	
Fluid Loss	7.2	
P.V.	28.0	
Y.P.	14.0	
Gel S.	3/6/7.5	
Filter Ck	0.5	
Solids %	7.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	17.5	
Temp	40.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	1
Cello		**Defoamer**	
Bicarb		**2K-7**	2
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$986
Mud Van	1	**Well Cost**	$232,592

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	135.9			**Last Casing Test**	22-Aug-09	**Underflow Density**	1920.0
Today losses down hole	0.7	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1110
Today losses at surface	1.4	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	2.1	**Cumulative**	155.7	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**22**	**Torque**	**10500**	**Background**	**0.27**
RSPP #1	**45**	**5415**	11000	**3178**	**Drag Dn**	**17**			**Connection**	**0.27**
RSPP #2					**Hook Load**	**118**			**Trip**	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.75**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-13:15 Drill from 3202 to 3249m with 5m of sliding. Function annular and UPR

8 hazards ID'd, no incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,682,160**	**Today**	**$34,674**	**Total Cost**	**$6,716,834**	**Weather:**	Plus 8, overcast
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**82**			**Date:**	**20-Sep-09**	
Depth:	3282.0	**mKB**	**Progress:**	33.0	**Drilling:**	21.75	**hrs**	**ROP, m/hr:**	2.16	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pull out of the hole due to a swivel quill failure.									**KB elev:**	**175.30 m.**
the next da	Repair the swivel quill									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
21	HC	DX-38-CD	5135908	3180		102	9		120	15	

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC, 209mm SS,5 X 165mm DC, Jar, 5165mm DC, 8 HW			**Pump Pressure:**	12,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
SPM			90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0	**m/min**	
Vol.	m^3/min @ 95%		1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydraulic HP:**	157.0	**kW**	

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29

MUD

Time	9:55	
Density	1120	
Vis.	67	
pH	10.6	
Fluid Loss	7.4	
P.V.	27.0	
Y.P.	14.0	
Gel S.	3/5.5/7	
Filter Ck	0.5	
Solids %	7.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	17.5	
Temp	40.6	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge	1	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite	1	**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$695
Mud Van	1	**Well Cost**	$233,387

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	136.6			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	1.2	**Total hole**		**Last BOP Test**	11-Sep-09	**Overflow Density**	1110
Today losses at surface	2.3	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	3.5	**Cumulative**	159.2	**Next BOP Test**	25-Sep-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**22**	**Torque**	**10500**	**Background**	**0.27**
RSPP #1	**45**	**5415**	11000	**3178**	**Drag Dn**	**17**			**Connection**	**0.27**
RSPP #2					**Hook Load**	**118**			**Trip**	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**21.00**	**10. Survey**	**1.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-13:15 Drill from 3249 to 3282m with 5m of sliding. BOP drill with crew. Well secure in 89 sec. Function annular and HCR. Function LPR

8 hazards ID'd, no incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,716,834**	**Today**	**$34,160**	**Total Cost**	**$6,750,994**	**Weather:**	Plus 9, Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**83**			**Date:**	**21-Sep-09**	
Depth:	3284.0	**mKB**	**Progress:**	2.0	**Drilling:**	1.25	**hrs**	**ROP, m/hr:**	1.60	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Wait on delivery of new Swivel									**KB elev:**	**175.30 m.**
the next da	Wait on delivery of new Swivel									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
21	HC	DX-38-CD	5135908	3180	**3284**	104	53	3X11.1	120	15	**2-2-BT-A-E-0-TR-RIG**

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	13,200 **kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
SPM			90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
Vol.	m^3/min @ 95%		1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydraulic HP:**	157.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29

MUD

Time	10:15	
Density	1125	
Vis.	68	
pH	10.9	
Fluid Loss	6.8	
P.V.	26.0	
Y.P.	15.0	
Gel S.	3/5.5/7	
Filter Ck	0.5	
Solids %	7.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9800.0	
MBT	17.5	
Temp	31.8	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	4
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	2	**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite	2	**Dyna fiber**	
PHPA	1	**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,642
Mud Van	1	**Well Cost**	$235,929

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	141.6			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	0.6	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1110
Today losses at surface	1.5	**Total surf.**		**Next Casing Test**	1000 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	2.1	**Cumulative**	161.3	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**22**	**Torque**	**10500**	**Background**	**0.27**
RSPP #1	**45**	**4560**	11000	**3281**	**Drag Dn**	**17**			**Connection**	**0.27**
RSPP #2					**Hook Load**	**118**			**Trip**	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**1.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**	**5.50**	**23 Other**	
8. Rig Repair	**17.00**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-01:15 Drill from 3282 to 3284m Developed a leak at the swivek Quill

01:15-11:45 Pull out of the hole break down and lay out Swivel, and kelly

11:45-18:00 Wait on Swivel repair

18:00-23:30 BOP pressure testUPR, LPR, BR, HCR, Kill valves, Inside BOP, Stabbing valve, and choke manifold valves to 1400 and 11000kPa. Annular 11000

8 hazards ID'd, 1 near miss report for Swivel quill failure.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,750,994**	**Today**	**$28,935**	**Total Cost**	**$6,779,929**	**Weather:**	Plus 9, Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**84**			**Date:**	**22-Sep-09**	
Depth:	3284.0	**mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs**	**ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Wait on delivery of new Swivel									**KB elev:**	**175.30 m.**
the next da	Wait on delivery of new Swivel									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
21	HC	DX-38-CD	5135908	3180	**3284**	104	53	3X11.1	120	15	**2-2-BT-A-E-0-TR-RIG**

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Liner	(mm)	165	152	NM DC, 209mm SS,5 X 165mm DC, Jar, 5165mm DC, 8 HW			**Pump Pressure:**	13,200	**kPa**
Stroke	(mm)	279	279	**BHA Length:**	277.73	**m**	**Strap:**	**Board:**	
SPM			90	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
Vol.	m^3/min @ 95%		1.3000	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
				Jet Velocity:	54.7	**m/sec**	**True Hydraulic HP:**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29

MUD

Time	7:03	
Density	1115	
Vis.	24	
pH	11.8	
Fluid Loss	7.2	
P.V.	26.0	
Y.P.	11.0	
Gel S.	4/8.5/11	
Filter Ck	0.5	
Solids %	9.4	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	15.0	
Temp	25.5	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	**1**
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite	40	**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$2,128
Mud Van	1	**Well Cost**	$238,057

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	123.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1110
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.0	**Cumulative**	161.3	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**45**	**4560**	11000	**3281**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**22**	**Torque**	**10500**
Drag Dn	**17**		
Hook Load	**118**		

Total Gas Readings (%)

Background	**0.27**
Connection	**0.27**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**1.25**	**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**	**5.50**	**23 Other**	
8. Rig Repair	**17.00**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Wait on Swivel repair

4 hazards ID'd, 2 near miss reports, Shackle failure while hanging block, cupboard door fell off.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,779,929**	**Today**	**$17,853**	**Total Cost**	**$6,797,782**	**Weather:**	Plus 9, Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**85**			**Date:**	**23-Sep-09**	
Depth:	3284.0	**mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs**	**ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Wait on delivery of new Swivel									**KB elev:**	**175.30 m.**
the next da	Wait on delivery of new Swivel									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
21	HC	DX-38-CD	5135908	3180	**3284**	104	53	3X11.1	120	15	**2-2-BT-A-E-0-TR-RIG**

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	13,200 **kPa**
Liner	(mm)	165	152	NM DC, 209mm SS,5 X 165mm DC, Jar, 5165mm DC, 8 HW					
Stroke	(mm)	279	279	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
SPM			90	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
Vol.	m^3/min @ 95%		1.3000	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
				Jet Velocity:	54.7 **m/sec**	**True Hydraulic HP:**	157.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29

MUD

Time	7:03	
Density	1115	
Vis.	24	
pH	11.8	
Fluid Loss	7.2	
P.V.	26.0	
Y.P.	11.0	
Gel S.	4/8.5/11	
Filter Ck	0.5	
Solids %	9.4	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	15.0	
Temp	25.5	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	**1**
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	
Mud Van	1	**Well Cost**	$238,057

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	123.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.0	**Total surf.**	
Today total losses	0.0	**Cumulative**	161.3

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	21-Sep-09
Next Casing Test	505 rotating hrs
Next BOP Test	05-Oct-09

Centrifuge	
Underflow Density	1900.0
Overflow Density	1110
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**45**	**4560**	11000	**3281**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**22**	**Torque**	**10500**
Drag Dn	**17**		
Hook Load	**118**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair	**24.00**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Wait on Swivel repair

No incidents

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,794,592**	**Today**	**$13,257**	**Total Cost**	**$6,807,849**	**Weather:**	Plus 9, Clear
						Mud Type	Polymer
Foreman	**Don Campbell**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**86**			**Date:**	**24-Sep-09**		
Depth:	3284.0	**mKB**	**Progress:**	0.0	**Drilling:**	0.00	**hrs ROP, m/hr:**	0.00	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling @ 3282 m.								**KB elev:**	**175.30 m.**	
the next da	Drill ahead.								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
21	HC	DX-38-CD	5135908	3180	**3284**	104	53	3X11.1	120	15	**2-2-BT-A-E-0-TR-RIG**
22	Reed	R34APDH	AN2958	3284							

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	13,200 **kPa**
Liner	(mm)	165	152	NM DC,5 X 165mm DC, Jar, 5165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
SPM			90	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
Vol.	m^3/min @ 95%		1.3000	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
				Jet Velocity:	54.7 **m/sec**	**True Hydraulic HP:**	157.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
3104.38		5.08	311.11	69.66	-8.31
3117.81		5.58	308.46	70.46	-9.27
3131.54		5.56	301.69	71.22	-10.36
3145.49		5.61	300.79	71.92	-11.52
3158.75		5.88	300.50	72.60	-12.66
3172.05		5.95	303.15	73.32	-13.82
3186.28		6.82	301.53	74.17	-15.16
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29

MUD

Time	7:03		
Density	1115		
Vis.	68		
pH	11.2		
Fluid Loss	7.5		
P.V.	26.0		
Y.P.	12.5		
Gel S.	3/6/7		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9600.0		
MBT	15.0		
Temp	25.5		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$101
Mud Van	1	**Well Cost**	$238,188

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	123.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.0	**Total surf.**	
Today total losses	0.0	**Cumulative**	161.3

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	21-Sep-09
Next Casing Test	505 rotating hrs
Next BOP Test	05-Oct-09

Centrifuge	
Underflow Density	1900.0
Overflow Density	1110
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**45**	**4560**	11000	**3281**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**22**	**Torque**	**10500**
Drag Dn	**17**		
Hook Load	**118**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**1.20**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair	**24.00**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-15:30 Wait on Swivel

15:30-16:45 Pull out of hole

16:45-19:00 Make up insert bit mud motor and directional tools and run in hole to 302 m.

19:00-20:00 Continue to wait on swivel

20:00-24:00 Make up swivel and service.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,807,849**	**Today**	**$29,100**	**Total Cost**	**$6,836,949**	**Weather:**	Plus 9, showers
						Mud Type	Polymer
Foreman		**Don Campbell**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**87**			**Date:**	**25-Sep-09**	
Depth:	3315.0	**mKB**	**Progress:**	31.0	**Drilling:**	16.75	**hrs ROP, m/hr:**	2.00	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Drilling @ 3330 m.								**KB elev:**	**175.30 m.**	
the next da	Drill ahead.								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
22	Reed	R34APDH	AN2958	3284				3X11.1	120	15	2-2-BT-A-E-0-TR-RIG

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	13,200 **kPa**
Liner	(mm)	165	152	NM DC,5 X 165mm DC, Jar, 5165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
SPM			90	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0 **mm**		
Vol.	m^3/min @ 95%		1.3000	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0 **m/min**		
				Jet Velocity:	54.7 **m/sec**	**True Hydraulic HP:**	157.0 **kW**		

SURVEYS

Depth		Drift	Azimuth	North	East
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29
3282.00		8.68	296.62		
3296.00		8.87	297.37		
3309.00		8.44	296.90		

MUD

Time	7:03		
Density	1120		
Vis.	70		
pH	11.5		
Fluid Loss	7.0		
P.V.	27.0		
Y.P.	13.0		
Gel S.	3/6/8		
Filter Ck	0.5		
Solids %	7.0		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9600.0		
MBT	17.5		
Temp	32.0		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$30
Mud Van	1	**Well Cost**	$238,188

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	123.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1900.0
Today losses down hole	0.0	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1110
Today losses at surface	0.0	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.0	**Cumulative**	161.3	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**16**	**Torque**	**11500**	**Background**	**0.27**
RSPP #1	**55**	**7800**	11000	**3315**	**Drag Dn**	**16**			**Connection**	**0.27**
RSPP #2					**Hook Load**	**120**			**Trip**	**2.50**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**16.75**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.25**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair	**6.25**	**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-06:15 Ran in hole from 328 m. to 3260 m. Washed down last 25 m.No fill.

06:15-24:00 Drilled 216 mm hole from 3284 m. to 3315 m.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,840,779**	**Today**	**$29,589**	**Total Cost**	**$6,870,368**	**Weather:**	Plus 4, frost
						Mud Type	Polymer
Foreman		**Don Campbell**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**88**			**Date:**	**26-Sep-09**	
Depth:	3368.0	**mKB**	**Progress:**	47.0	**Drilling:**	22.00	**hrs**	**ROP, m/hr:**	2.10	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 3384 m.									**KB elev:**	**175.30 m.**
the next da	Drill ahead.									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
22	Reed	R34APDH	AN2958	3284				3X11.1	120	15	2-2-BT-A-E-0-TR-RIG

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	13,200	**kPa**
Liner	(mm)	165	152	NM DC,5 X 165mm DC, Jar, 5165mm DC, 8 HWDP						
Stroke	(mm)	279	279	**BHA Length:**	277.73	**m**	**Strap:**		**Board:**	
SPM			90	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**		127.0	**mm**
Vol.	m^3/min @ 95%		1.3000	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**		65.0	**m/min**
				Jet Velocity:	54.7	**m/sec**	**True Hydraulic HP:**		157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29
3282.00		8.68	296.62		
3296.00		8.87	297.37		
3309.00		8.44	296.90		
3323.00		8.65	296.00		
3337.00		9.54	295.14		
3352.00		10.07	293.74		
3365.00		10.92	294.18		

MUD

Time	7:03	
Density	1120	
Vis.	70	
pH	11.5	
Fluid Loss	7.0	
P.V.	27.0	
Y.P.	13.0	
Gel S.	3/6/8	
Filter Ck	0.5	
Solids %	7.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	32.0	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	3
Newedge	1	**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA	1	**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,294
Mud Van	1	**Well Cost**	$238,188

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	123.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.0	**Total surf.**	
Today total losses	0.0	**Cumulative**	161.3

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	21-Sep-09
Next Casing Test	505 rotating hrs
Next BOP Test	05-Oct-09

Centrifuge	
Underflow Density	1900.0
Overflow Density	1110
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**55**	**7800**	11000	**3315**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**16**	**Torque**	**11500**
Drag Dn	**16**		
Hook Load	**120**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**2.50**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.00**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled 216 mm hole from 3315 m. to 3368 m.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,870,368**	**Today**	**$36,328**	**Total Cost**	**$6,906,696**	**Weather:**	Plus 8, sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**89**			**Date:**	**27-Sep-09**	
Depth:	3415.0	**mKB**	**Progress:**	47.0	**Drilling:**	22.00	**hrs**	**ROP, m/hr:**	2.10	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 3410 m.									**KB elev:**	**175.30 m.**
the next da	Drill ahead.									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
22	Reed	R34APDH	AN2958	3284				3X11.1	120	15	2-2-BT-A-E-0-TR-RIG

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	13,200	**kPa**
Liner	(mm)	165	152	NM DC,5 X 165mm DC, Jar, 5165mm DC, 8 HWDP						
Stroke	(mm)	279	279	**BHA Length:**	277.73	**m**	**Strap:**		**Board:**	
SPM			90	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**	
Vol.	m^3/min @ 95%		1.3000	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**	
				Jet Velocity:	54.7	**m/sec**	**True Hydraulic HP:**	157.0	**kW**	

SURVEYS

Depth		Drift	Azimuth	North	East
3200.41		8.09	299.04	75.09	-16.75
3213.77		9.09	297.82	76.04	-18.50
3227.96		9.77	295.82	77.09	-20.58
3241.10		9.68	295.88	78.08	-22.62
3254.00		8.45	295.57	79.98	24.49
3268.00		7.96	295.42	79.84	26.29
3282.00		8.68	296.62		
3296.00		8.87	297.37		
3309.00		8.44	296.90		
3323.00		8.65	296.00		
3337.00		9.54	295.14		
3352.00		10.07	293.74		
3365.00		10.92	294.18		

MUD

Time	7:03		**Gel**		**CaC03**	
Density	1120		**Caustic**	2	**Percol**	
Vis.	70		**Envirofloc**		**Sulphamic**	
pH	11.5		**Kelzan**		**T-352**	
Fluid Loss	7.0		**Cello**		**Defoamer**	1
P.V.	27.0		**Bicarb**		**2K-7**	3
Y.P.	13.0		**Newedge**	1	**Sapp**	
Gel S.	3/6/8		**Drispac**	1	**Dyna det**	
Filter Ck	0.5		**Desco**		**Walnut**	
Solids %	7.0		**Barite**		**Lime Hydrated**	
Oil	0.000		**Lignite**		**Dyna fiber**	
Ca (mg/l)	40.0		**PHPA**	1	**Bioside**	
Cl (mg/l)	9600.0		**Sawdust**			
MBT	17.5		**Soda Ash**			
Temp	32.0		**Supervision**		**Day Cost**	6o2
XSPolymer	1.1		**Mud Van**	1	**Well Cost**	$238,188

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	123.0		
Today losses down hole	0.0	**Total hole**	
Today losses at surface	0.0	**Total surf.**	
Today total losses	0.0	**Cumulative**	161.3

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	21-Sep-09
Next Casing Test	505 rotating hrs
Next BOP Test	05-Oct-09

Centrifuge	
Underflow Density	1900.0
Overflow Density	1110
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**55**	**7800**	11000	**3315**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**16**	**Torque**	**11500**
Drag Dn	**16**		
Hook Load	**120**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**2.50**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.00**	**10. Survey**	**0.75**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled 216 mm hole from 3368 m. to 3415 m.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,870,368**	**Today**	**$36,328**	**Total Cost**	**$6,906,696**	**Weather:**	Plus 8, sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**90**			**Date:**	**28-Sep-09**	
Depth:	3451.0	**mKB**	**Progress:**	36.0	**Drilling:**	19.75	**hrs**	**ROP, m/hr:**	1.82	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Run in hole									**KB elev:**	**175.30 m.**
the next da	Run in hole.Drill ahead.									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
22	Reed	R34APDH	AN2958	3284	**3451**	167	76	3X11.1	120	15	**2-2-BT-A-E-0-TR-RIG**

		Pump 1	Pump 2	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,5 X 165mm DC, Jar, 5165mm DC, 8 HWDP			**Pump Pressure:**	13,200	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM			90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%		1.3000	**Jet Velocity:**	54.7	**m/sec**	**True Hydraulic HP:**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3309.00		8.44	296.90		
3323.00		8.65	296.00		
3337.00		9.54	295.14		
3352.00		10.07	293.74		
3365.00		10.92	294.18		
3378.00		11.37	295.70		
3391.00		11.49	294.96		
3406.00		12.16	295.58		
3419.00		11.97	296.52		
3433.00		11.99	295.97		

MUD

Time	7:03	
Density	1120	
Vis.	64	
pH	10.7	
Fluid Loss	7.8	
P.V.	25.0	
Y.P.	12.5	
Gel S.	3/6/7	
Filter Ck	0.5	
Solids %	7.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9300.0	
MBT	17.5	
Temp	40.0	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge	3	**Sapp**	
Drispac	3	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,592
Mud Van	1	**Well Cost**	$238,188

Mud losses Surface & Downhole Estimates m3				**BOP & Casing Tests**	**Date**	**Centrifuge**	
Total circulating Vol.	146.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	165.6	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**57**	**7650**	11000	**3432**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**16**	**Torque**	**11500**
Drag Dn	**16**		
Hook Load	**120**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**0.00**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**19.75**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**0.50**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip	**2.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-21:00 Drilled 216 mm hole from 3415 m. to 3451 m.

21:00-24:00 Circulate,pump pill,flow check and pull out of hole for bit change.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,940,679**	**Today**	**$46,259**	**Total Cost**	**$6,986,938**	**Weather:**	Plus 8, sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1				**Day:**	91			**Date:**	29-Sep-09	
Depth:	3462.0	**mKB**	**Progress:**	11.0	**Drilling:**	6.00	**hrs**	**ROP, m/hr:**	1.90	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Run in hole									**KB elev:**	**175.30 m.**
the next da	Run in hole.Drill ahead.									**KB - GL**	**6.30 m.**

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
22	Reed	R34APDH	AN2958	3284	**3451**	167	76	3X11.1	120	15	**4-7-BT-H-E-2-BT-PR**
23	HC	GX-44DX	6067291	3451				3 x 14.3	110	15	

		Pump 1	Pump 2						
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	15,000 **kPa**
Liner	(mm)	165	152	NM DC,5 X 165mm DC, Jar, 5165mm DC, 8 HWDP					
Stroke	(mm)	279	279	**BHA Length:**	277.73	**m**	**Strap:**	**Board:**	
SPM		90	90	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
Vol.	m^3/min @ 95%	1.5000	1.3000	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
				Jet Velocity:	54.7	**m/sec**	**True Hydraulic HP:**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3309.00		8.44	296.90		
3323.00		8.65	296.00		
3337.00		9.54	295.14		
3352.00		10.07	293.74		
3365.00		10.92	294.18		
3378.00		11.37	295.70		
3391.00		11.49	294.96		
3406.00		12.16	295.58		
3419.00		11.97	296.52		
3433.00		11.99	295.97		

MUD

Time	7:03		**Gel**		**CaC03**	
Density	1130		**Caustic**		**Percol**	
Vis.	72		**Envirofloc**		**Sulphamic**	
pH	10.7		**Kelzan**		**T-352**	
Fluid Loss	7.8		**Cello**		**Defoamer**	
P.V.	30.0		**Bicarb**		**2K-7**	1
Y.P.	14.5		**Newedge**	1	**Sapp**	
Gel S.	3/6/7		**Drispac**	1	**Dyna det**	
Filter Ck	0.5		**Desco**		**Walnut**	
Solids %	7.5		**Barite**	35	**Lime Hydrated**	
Oil	0.000		**Lignite**		**Dyna fiber**	
Ca (mg/l)	40.0		**PHPA**		**Bioside**	
Cl (mg/l)	9300.0		**Sawdust**			
MBT	17.5		**Soda Ash**			
Temp	25.4		**Supervision**		**Day Cost**	$1,688
XSPolymer	1.1		**Mud Van**	1	**Well Cost**	$243,396

Mud losses Surface & Downhole Estimates m3			
Total circulating Vol.	146.0		
Today losses down hole	0.2	**Total hole**	
Today losses at surface	0.3	**Total surf.**	
Today total losses	0.5	**Cumulative**	165.6

BOP & Casing Tests	Date
Last Casing Test	22-Aug-09
Last BOP Test	21-Sep-09
Next Casing Test	505 rotating hrs
Next BOP Test	05-Oct-09

Centrifuge	
Underflow Density	1880.0
Overflow Density	1115
Flow Rate,m3/min	800.0
Operating hours	24.0

Well Control - kPa				
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**
RSPP #1	**57**	**7650**	11000	**3432**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**25**	**Torque**	**13000**
Drag Dn	**25**		
Hook Load	**124**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**0.60**

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill	**6.00**	**10. Survey**	**2.50**	**18. Wash to Btm**	
3. Ream	**2.25**	**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**11.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-03:45 Continued to pull out of hole.
03:45-06:30 Changed out mud motor and bit.Made up directional tools.
06:30-08:00 Run in hole to 320 m. and check directional tools
)8:00-12:30 Run in hole to 1240 m.and slip and cut 21 m. drilling line,fill drill string.
12:30-17:30 Run in hole to 3418 m and wash to bottom
17:30-24:00 Drilled from 3451 to 3462
No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$6,986,919**	**Today**	**$53,042**	**Total Cost**	**$7,039,961**	**Weather:**	Plus 8, sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	92			**Date:**	30-Sep-09
Depth:	3499.0 **mKB**	**Progress:**	37.0	**Drilling:**	22.25	**hrs ROP, m/hr:**	1.66	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 3511 m.							**KB elev:**	175.30 m.
the next da	Drill ahead.							**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451			27	3 x 14.3	110	15	

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP			**Pump Pressure:**	15,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**	**Board:**		
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
SPM		90	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0	**m/min**	
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydraulic HP:**	157.0	**kW**	

SURVEYS

Depth		Drift	Azimuth	North	East
3309.00		8.44	296.90		
3323.00		8.65	296.00		
3337.00		9.54	295.14		
3352.00		10.07	293.74		
3365.00		10.92	294.18		
3378.00		11.37	295.70		
3391.00		11.49	294.96		
3406.00		12.16	295.58		
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		

MUD

Time	7:03		
Density	1125		
Vis.	63		
pH	10.1		
Fluid Loss	8.4		
P.V.	25.0		
Y.P.	12.0		
Gel S.	3/6/7		
Filter Ck	0.5		
Solids %	7.5		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	9600.0		
MBT	17.5		
Temp	41.9		
XSPolymer	1.1		

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	1
Lignite	1	**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$428
Mud Van	1	**Well Cost**	$243,825

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	144.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	165.8	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**6930**	11000	**3463**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**25**	**Torque**	**13500**
Drag Dn	**25**		
Hook Load	**124**		

Total Gas Readings (%)	
Background	**0.27**
Connection	**0.27**
Trip	**0.60**

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 3462 m. to 3499

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,038,901**	**Today**	**$34,928**	**Total Cost**	**$7,073,829**	**Weather:**	Plus 15, sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	93			**Date:**	01-Oct-09
Depth:	3538.0 **mKB**	**Progress:**	39.0	**Drilling:**	22.25	**hrs ROP, m/hr:**	1.80	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Drilling @ 3549 m.							**KB elev:**	175.30 m.
the next da	Drill ahead.							**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451			27	3 x 14.3	110	15	

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP			**Pump Pressure:**	15,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydr:**	**47**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		

MUD

Time	7:03	
Density	1125	
Vis.	63	
pH	10.1	
Fluid Loss	8.4	
P.V.	25.0	
Y.P.	12.0	
Gel S.	3/6/7	
Filter Ck	0.5	
Solids %	7.5	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	41.9	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	3	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	2
Cello		**Defoamer**	1
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac	1	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	3
Lignite	2	**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,830
Mud Van	1	**Well Cost**	$245,655

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	144.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	165.8	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7068**	11000	**3516**
RSPP #2				

Hole Condition kdaN & Kft/#

Drag up	**25**	**Torque**	**13500**
Drag Dn	**25**		
Hook Load	**124**		

Total Gas Readings (%)

Background	**0.12**
Connection	**0.12**
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**22.25**	**10. Survey**	**0.50**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.50**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.75**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Drilled from 3499 m. to 3538

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,073,829**	**Today**	**$35,364**	**Total Cost**	**$7,109,193**	**Weather:**	Plus 15, sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	94			**Date:**	02-Oct-09
Depth:	3560.0 **mKB**	**Progress:**	22.0	**Drilling:**	15.00 **hrs**	**ROP, m/hr:**	1.80	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Pull out of hole.							**KB elev:**	175.30 m.
the next da	Drill ahead.							**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP			**Pump Pressure:**	15,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydr:**	**47**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		

MUD

Time	7:03	
Density	1130	
Vis.	68	
pH	10.7	
Fluid Loss	7.4	
P.V.	28.0	
Y.P.	13.0	
Gel S.	3.5/7/8	
Filter Ck	0.5	
Solids %	8.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	44.7	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	2
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac	4	**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrate**	2
Lignite	4	**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$1,795
Mud Van	1	**Well Cost**	$247,451

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	147.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**	**13500**	**Background**	**0.12**
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	**0.12**
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill	**14.25**	**10. Survey**	**0.25**	**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**3.00**	**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip	**5.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-15:00 Drilled from 3538 m. to 3560. Total depth called for well.
15:00-16:30 Circulate up bottom hole sample.
16:30-18:00 Wiper trip to 3303
18:00-20:00 Circulate and condition mud.
20:00-24:00 Pull out of hole.

Function test accumulator.annular preventor,upper and lower pipe rams.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,073,829**	**Today**	**$35,364**	**Total Cost**	**$7,109,193**	**Weather:**	Plus 15, sunny
						Mud Type	Polymer
Foreman	**Bill Williams**		**Rig Phone**	**709-649-7106**		**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**95**			**Date:**	**03-Oct-09**	
Depth:	3560.0	**mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	logging								**KB elev:**	**175.30 m.**	
the next da	Logging								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP			**Pump Pressure:**	15,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73	**m**	**Strap:**	**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7	**m/sec**	**True Hydr:**	**47** 157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	7:03		**Gel**		**CaC03**	
Density	1130		**Caustic**	2	**Percol**	
Vis.	75		**Envirofloc**		**Sulphamic**	
pH	10.8		**Kelzan**	2	**T-352**	
Fluid Loss	7.6		**Cello**		**Defoamer**	
P.V.	23.0		**Bicarb**		**2K-7**	1
Y.P.	11.0		**Newedge**		**Sapp**	
Gel S.	3.5/7/8		**Drispac**	2	**Dyna det**	
Filter Ck	0.5		**Desco**		**Walnut**	
Solids %	8.0		**Barite**	40	**Lime Hydrate**	2
Oil	0.000		**Lignite**	2	**Dyna fiber**	
Ca (mg/l)	40.0		**PHPA**		**Bioside**	3
Cl (mg/l)	9600.0		**Sawdust**			
MBT	17.5		**Soda Ash**			
Temp	25.1		**Supervision**		**Day Cost**	$4,320
XSPolymer	1.1		**Mud Van**	1	**Well Cost**	$251,771

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	147.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**	**13500**	**Background**	**0.12**
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	**0.12**
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**2.50**	**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.25**
6. Trip	**5.75**	**14. Nipple Up BOP**		**22. Handle Tools**	**1.00**
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	**13.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-07:00 Continued to pull out of hole
07:00-21:00 Wait on Baker Atlas logging. Arrived @ 21:00 hrs.
21:00-23:15 Make up logging tools on catwalk.Held safety meeting with baker logging crew.
23:15-24:00 Rig up logging equipment to rig floor.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,158,465**	**Today**	**$39,409**	**Total Cost**	**$7,197,874**	**Weather:**	Plus 15, sunny
						Mud Type	Polymer
Foreman		**Bill Williams**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**96**			**Date:**	**04-Oct-09**	
Depth:	3560.0 **mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**			**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	logging								**KB elev:**	**175.30 m.**	
the next da	Logging								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2							
Model		PZ-11	PZ-11	**Drilling Assembly:**	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,			**Pump Pressure:**	15,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73	**m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7	**m/sec**	**True Hydr**	**47**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	7:03	
Density	1130	
Vis.	75	
pH	10.8	
Fluid Loss	7.6	
P.V.	23.0	
Y.P.	11.0	
Gel S.	3.5/7/8	
Filter Ck	0.5	
Solids %	8.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	25.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	2	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	2	**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	1
Newedge		**Sapp**	
Drispac	2	**Dyna det**	
Desco		**Walnut**	
Barite	40	**Lime Hydrate**	2
Lignite	2	**Dyna fiber**	
PHPA		**Bioside**	3
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$4,320
Mud Van	1	**Well Cost**	$251,771

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	147.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**	**13500**	**Background**	**0.12**
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	**0.12**
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**17.00**	**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	**5.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**23.25**

REMARKS

00:00-11:00 Rig up logging tools.No communation with tools. Wait on parts for logging unit
11:00-11:15 Safety meeting with logging crew.
11:15-16:00 Rig to run VSP log.
16:00-24:00 Log .

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,198,534**	**Today**	**$32,545**	**Total Cost**	**$7,231,079**	**Weather:**	Plus 12, sunny
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**97**				**Date:**	**05-Oct-09**	
Depth:	3560.0 **mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**			**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	logging								**KB elev:**	**175.30 m.**	
the next da	Logging								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP			**Pump Pressure:**	15,000	**kPa**
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM		90	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydr:**	**47**	157.0	**kW**

SURVEYS						MUD			MUD ADDITIVES			
Depth		Drift	Azimuth	North	East	Time	7:03		Gel		CaC03	
3419.00		11.97	296.52			**Density**	1130		Caustic		Percol	
3433.00		11.99	295.97			**Vis.**	75		Envirofloc		Sulphamic	
3448.00		11.67	295.77			**pH**	10.8		Kelzan		T-352	
3460.00		12.14	296.30			**Fluid Loss**	7.6		Cello		Defoamer	
3474.00		12.36	297.12			**P.V.**	23.0		Bicarb		2K-7	
3488.00		12.19	296.14			**Y.P.**	11.0		Newedge		Sapp	
3501.00		12.25	296.75			**Gel S.**	3.5/7/8		Drispac		Dyna det	
3516.00		12.57	299.21			**Filter Ck**	0.5		Desco		Walnut	
3529.00		12.68	299.17			**Solids %**	8.0		Barite		Lime Hydrated	
3542.00		12.92	298.08			**Oil**	0.000		Lignite		Dyna fiber	
3560.00		13.24	296.68			**Ca (mg/l)**	40.0		PHPA		Bioside	
						Cl (mg/l)	9600.0		Sawdust			
						MBT	17.5		Soda Ash			
						Temp	25.1		Supervision		**Day Cost**	$30
						XSPolymer	1.1		Mud Van	1	**Well Cost**	$251,771

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	147.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**	**13500**	**Background**	**0.12**
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	**0.12**
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**24.00**	**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Logging. Run Sonic XMAC, Density/ Neutron /GR/X-Y CAL, and Induction / Caliper /SP

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,231,079**	**Today**	**$28,201**	**Total Cost**	**$7,259,280**	**Weather:**	Plus 10, Heavy rain
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**98**			**Date:**	**06-Oct-09**	
Depth:	3560.0 **mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**			**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	logging								**KB elev:**	**175.30 m.**	
the next da	Logging								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 7/8:3 stage motor @1.15deg, NM tool carrier,				
Model		PZ-11	PZ-11	NM DC,8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP		**Pump Pressure:**	15,000	**kPa**	
Liner	(mm)	165	152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)	279	279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**	127.0	**mm**	
SPM		90	90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**	65.0	**m/min**	
Vol.	m^3/min @ 95%	1.5000	1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydr:**	**47** 157.0	**kW**	

SURVEYS

Depth	Drift	Azimuth	North	East
3419.00	11.97	296.52		
3433.00	11.99	295.97		
3448.00	11.67	295.77		
3460.00	12.14	296.30		
3474.00	12.36	297.12		
3488.00	12.19	296.14		
3501.00	12.25	296.75		
3516.00	12.57	299.21		
3529.00	12.68	299.17		
3542.00	12.92	298.08		
3560.00	13.24	296.68		

MUD

Time	7:03	
Density	1130	
Vis.	75	
pH	10.8	
Fluid Loss	7.6	
P.V.	23.0	
Y.P.	11.0	
Gel S.	3.5/7/8	
Filter Ck	0.5	
Solids %	8.0	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	25.1	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	3	**T-352**	
Cello		**Defoamer**	3
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac	8	**Dyna det**	
Desco		**Walnut**	
Barite	20	**Lime Hydrated**	
Lignite	1	**Dyna fiber**	
PHPA		**Bioside**	
Sawdust	13		
Soda Ash			
Supervision		**Day Cost**	$330
Mud Van	1	**Well Cost**	$257,024

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	147.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	1880.0
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	1115
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	800.0
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	24.0

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7068**	11000	**3516**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**30**	**Torque**	
Drag Dn	**30**		
Hook Load	**124**		

Total Gas Readings (%)	
Background	
Connection	
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**24.00**	**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	
6. Trip		**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-24:00 Logging. Run Dip / Imager. Micro resisitivity and Formation tester.

No incidents reported.

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,259,280**	**Today**	**$25,484**	**Total Cost**	**$7,284,764**	**Weather:**	Plus 10, rain
						Mud Type	Polymer
Foreman		**Bill Williams**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**				**Day:**	**99**			**Date:**	**07-Oct-09**	
Depth:	3560.0	**mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Pull out to pick up DST tools								**KB elev:**	**175.30 m.**	
the next da	Logging								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2						
Drilling Assembly:	216mm bit, 171mm 8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP								
Model		PZ-11	PZ-11			**Pump Pressure:**		15,000	**kPa**
Liner	(mm)		152	**BHA Length:**	277.73 **m**	**Strap:**		**Board:**	
Stroke	(mm)		279	**Drill Collar O.D.**	165.0 **mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM			90	**D.C. Annular Vel.:**	103.0 **m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%		1.3000	**Jet Velocity:**	54.7 **m/sec**	**True Hydr:**	**47**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	7:23	
Density	1105	
Vis.	63	
pH	10.6	
Fluid Loss	7.2	
P.V.	21.0	
Y.P.	14.5	
Gel S.	4/6.5/7.5	
Filter Ck	0.5	
Solids %	6.6	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	7400.0	
MBT	15.0	
Temp	28.5	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$687
Mud Van	1	**Well Cost**	$257,711

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	139.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**		**Background**	
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**	**16.00**	**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	
6. Trip	**8.00**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-16:00 Baker Hughes finish logging run #5 FMT. 30 attempts, I successful test. Run #6 RCOR, 30 requested, 28 attempted, 28 recovered.

16:00-24:00 Trip in the hole for a wiper trip. 2 m fill on bottom. Functioned UPR.

No incidents reported. 7 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,284,764**	**Today**	**$408,369**	**Total Cost**	**$7,693,133**	**Weather:**	Plus 10, rain
						Mud Type	Polymer
Foreman		**Don Campbell**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:		**Vulcan Investcan Robinsons #1**			**Day:**	**100**			**Date:**	**08-Oct-09**	
Depth:	3560.0	**mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	DST #3 Final shut in								**KB elev:**	**175.30 m.**	
the next da	DST #4								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2	Drilling Assembly:	516m tail pipe, 49m test tool, 136m 165mm dc, 2741m Drill pipe				
Model		PZ-11	PZ-11				**Pump Pressure:**	15,000	**kPa**
Liner	(mm)		152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)			**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM				**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%			**Jet Velocity:**	54.7	**m/sec**	**True Hydr:**	**47** 157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	8:05		
Density	1135		
Vis.	74		
pH	10.6		
Fluid Loss	6.8		
P.V.	30.0		
Y.P.	15.0		
Gel S.	4/6/7		
Filter Ck	0.5		
Solids %	8.4		
Oil	0.000		
Ca (mg/l)	40.0		
Cl (mg/l)	7400.0		
MBT	15.0		
Temp	28.5		
XSPolymer	1.0		

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$412
Mud Van	1	**Well Cost**	$258,124

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	139.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**		**Background**	
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.75**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.75**
6. Trip	**7.00**	**14. Nipple Up BOP**		**22. Handle Tools**	**12.25**
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-09:45 Circulate and condition mud, Pull odut of the hole for DST. BOP drill. Well secure in 92 seconds. Function blind rams and UPR.

09:45-23:00 Run in tailo pipe with bull nose, Make up test tools, trip in hole with test string.

23:00-24:00 Rig up test manifold and lines.

No incidents reported. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,693,133**	**Today**	**$24,386**	**Total Cost**	**$7,717,519**	**Weather:**	Plus 1, Clearing
						Mud Type	Polymer
Foreman		**Don Campbell**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**101**			**Date:**	**09-Oct-09**		
Depth:	3560.0	**mKB**	**Progress:**	**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11		
Operation @ 0800 hrs:	DST #4 Initial shut in							**KB elev:**	**175.30 m.**		
the next da	Lay down drill string							**KB - GL**	**6.30 m.**		

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:	904m tail pipe, 49m test tool, 136m 165mm dc, 109m HWDP, Drill pipe to surface.				
Model		PZ-11	PZ-11				**Pump Pressure:**	15,000	**kPa**
Liner	(mm)		152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)			**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM				**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%			**Jet Velocity:**	54.7	**m/sec**	**True Hydr:** **47**	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	8:05	
Density	1135	
Vis.	74	
pH	10.6	
Fluid Loss	6.8	
P.V.	30.0	
Y.P.	15.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	8.4	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	7400.0	
MBT	15.0	
Temp	28.5	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$412
Mud Van	1	**Well Cost**	$258,124

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	139.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7068**	11000	**3516**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**30**	**Torque**	
Drag Dn	**30**		
Hook Load	**124**		

Total Gas Readings (%)	
Background	
Connection	
Trip	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	
6. Trip	**0.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**	**0.25**	**23 Other (DST)**	**21.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**23.00**

REMARKS

00:00-09:15 DST #3 interval from 2963 to 2990. Initial flow 10min, Initial shut in 90min, Final flow 60min, Final shut in 6hrs. Function HCR.

09:15-20:45 Pull oput with DST #3. 65m drilling mud recovered. Gas in sample chamber.

20:45-21:45 Run in 904m tail pipe. Conduct 4function accumulator test. Initial pressure 20500kPa, final pressure 9700kPa. Recharge time 1min 50sec.

21:45-24:00 Make up DST #4 tools.

No incidents reported. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,717,519**	**Today**	**$23,666**	**Total Cost**	**$7,741,185**	**Weather:**	Plus 3, overcast
						Mud Type	Polymer
Foreman		**Don Campbell**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**102**		**Date:**	**10-Oct-09**	
Depth:	3560.0 **mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	RIH DST #5						**KB elev:**	**175.30 m.**	
the next da	Lay down drill string						**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:	904m tail pipe, 49m test tool, 136m 165mm dc, 109m HWDP, Drill pipe to surface.				
Model		PZ-11	PZ-11				**Pump Pressure:**	15,000	**kPa**
Liner	(mm)		152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)			**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM				**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%			**Jet Velocity:**	54.7	**m/sec**	**True Hydr:**	**47** 157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	8:0200 AM	
Density	1135	
Vis.	75	
pH	10.4	
Fluid Loss	6.5	
P.V.	30.0	
Y.P.	15.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	8.4	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	7400.0	
MBT	15.0	
Temp	28.5	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$30
Mud Van	1	**Well Cost**	$261,101

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	139.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.0	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**		**Background**	
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip	**11.50**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other (DST)**	**11.50**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-07:30 RIH DST #4

07:30-16:30 DST #4 Initial flow 15 min, Initial shut in 90 min, Final flow 60min, Final shut in 360min.

16:30-24:00 Pull out of hole with DST #4. 88m of fluid recovery (Drilling Mud)

No incidents reported. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,741,185**	**Today**	**$34,284**	**Total Cost**	**$7,775,469**	**Weather:**	Plus 3, overcast
						Mud Type	Polymer
Foreman		**Don Campbell**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1		**Day:** 103		**Date:**	11-Oct-09	
Depth:	3560.0 **mKB**	**Progress:**	**Drilling:**	**hrs ROP, m/hr:**	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Lay down DST tools				**KB elev:**	175.30 m.	
the next da	Run 7" casing				**KB - GL**	6.30 m.	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:	972m tail pipe, 82m test tool, 82m 165mm dc, 109m HWDP, Drill pipe to surface.				
Model		PZ-11	PZ-11				**Pump Pressure:**	15,000	**kPa**
Liner	(mm)		152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)			**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**	127.0	**mm**
SPM				**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**	65.0	**m/min**
Vol.	m^3/min @ 95%			**Jet Velocity:**	54.7	**m/sec**	**True Hydr:** 47	157.0	**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	8:05	
Density	1140	
Vis.	77	
pH	10.4	
Fluid Loss	6.8	
P.V.	31.0	
Y.P.	15.0	
Gel S.	3.5/6/7	
Filter Ck	0.5	
Solids %	8.8	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	7400.0	
MBT	15.0	
Temp	28.5	
XSPolymer	1.0	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$30
Mud Van	1	**Well Cost**	$261,131

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	145.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.4	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**		**Background**	
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out		**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**0.75**
6. Trip	**0.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other (DST)**	**22.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-05:30 Finish pull out and service test tools. Change shut in tool bearing and bottom packer. Replace "O" rings in tools

05:30-13:00 Make up and RIH DST #5.

13:00-23:15 Test interval from 2517m to 2572m. Initial flow 10min, Shut in 90min, Final flow 90min, Final shut in 360min.

23:15-24:00 pull out DST #5

Recovered fluid samples checked by mud engineer from DST #3, #4 indicate no formation fluid

No incidents reported. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,775,469**	**Today**	**$33,804**	**Total Cost**	**$7,809,273**	**Weather:**	Plus 2, Heavy rain
						Mud Type	Polymer
Foreman		**Don Campbell**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1			**Day:**	104		**Date:**	12-Oct-09
Depth:	3560.0 **mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**	**Rig:**	Stoneham # 11
Operation @ 0800 hrs:	Lay down Drill string						**KB elev:**	175.30 m.
the next da	Run 7" casing						**KB - GL**	6.30 m.

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R
23	HC	GX-44DX	6067291	3451	**3560**	109	63	3 x 14.3	110	15	**3 3 BT A E 1 TD**

		Pump 1	Pump 2							
Drilling Assembly:	216mm bit, 171mm 8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP									
Model		PZ-11	PZ-11					**Pump Pressure:**	11,336	**kPa**
Liner	(mm)		152	**BHA Length:**	252.55	**m**	**Strap:**		**Board:**	
Stroke	(mm)		279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM			90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%		1.5000	**Jet Velocity:**	54.7	**m/sec**	**True Hydr:**	**47**	157.0	**kW**

SURVEYS

Depth	Drift	Azimuth	North	East
3419.00	11.97	296.52		
3433.00	11.99	295.97		
3448.00	11.67	295.77		
3460.00	12.14	296.30		
3474.00	12.36	297.12		
3488.00	12.19	296.14		
3501.00	12.25	296.75		
3516.00	12.57	299.21		
3529.00	12.68	299.17		
3542.00	12.92	298.08		
3560.00	13.24	296.68		

MUD

Time	7:11	
Density	1140	
Vis.	71	
pH	10.4	
Fluid Loss	6.8	
P.V.	27.0	
Y.P.	11.5	
Gel S.	3.5/5/6	
Filter Ck	0.5	
Solids %	8.8	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	13.0	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic		**Percol**	
Envirofloc		**Sulphamic**	
Kelzan		**T-352**	
Cello		**Defoamer**	
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	
Desco		**Walnut**	
Barite		**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust			
Soda Ash			
Supervision		**Day Cost**	$30
Mud Van	1	**Well Cost**	$261,131

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	150.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.4	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7068**	11000	**3516**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**30**	**Torque**	
Drag Dn	**30**		
Hook Load	**124**		

Total Gas Readings (%)	
Background	
Connection	
Trip	

1. Rig up/Out		**9. Slip & Cut**	**1.00**	**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.	**1.75**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip	**15.75**	**14. Nipple Up BOP**		**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other (DST)**	**4.25**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-11:00 Finish pull out DST #5. Take samples of 140m fluid recovered, and gas from sample chamber. Lay down test assembly POH tail assembly

11:00-20:00 Run in the hole with BHA in preparation for laying down drill string Wash last 3 singles to bottom. 1m fill. 2 X 8% gas peaks estimated from 2940

20:00-24:00 Circulate clean, Pull out laying down drill pipe to 3000m at midnight.

Recovered fluid samples checked by mud engineer from DST #3, #4 indicate no formation fluid

No incidents reported. 7 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,809,273**	**Today**	**$36,942**	**Total Cost**	**$7,846,215**	**Weather:**	Plus 4, light rain
						Mud Type	Polymer
Foreman		**Don Campbell**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	**Vulcan Investcan Robinsons #1**			**Day:**	**105**				**Date:**	**13-Oct-09**	
Depth:	3560.0	**mKB**	**Progress:**		**Drilling:**		**hrs ROP, m/hr:**		**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Rum 7" casing at 3200m								**KB elev:**	**175.30 m.**	
the next da	Rig Down for rig move								**KB - GL**	**6.30 m.**	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:	216mm bit, 171mm 8 X 165mm DC, Jar, 2x165mm DC, 8 HWDP					
Model		PZ-11	PZ-11					**Pump Pressure:**	11,336	**kPa**
Liner	(mm)		152	**BHA Length:**	252.55	**m**	**Strap:**		**Board:**	
Stroke	(mm)		279	**Drill Collar O.D.**	165.0	**mm**	**Drill Pipe O.D.**		127.0	**mm**
SPM			90	**D.C. Annular Vel.:**	103.0	**m/min**	**D.P Annular Vel.:**		65.0	**m/min**
Vol.	m^3/min @ 95%		1.5000	**Jet Velocity:**	54.7	**m/sec**	**True Hydr:**	**47**	157.0	**kW**

SURVEYS						MUD			MUD ADDITIVES			
Depth		Drift	Azimuth	North	East	Time	7:11		Gel		CaC03	
3419.00		11.97	296.52			Density	1140		Caustic		Percol	
3433.00		11.99	295.97			Vis.	71		Envirofloc		Sulphamic	
3448.00		11.67	295.77			pH	10.4		Kelzan		T-352	
3460.00		12.14	296.30			Fluid Loss	6.8		Cello		Defoamer	
3474.00		12.36	297.12			P.V.	27.0		Bicarb		2K-7	
3488.00		12.19	296.14			Y.P.	11.5		Newedge		Sapp	
3501.00		12.25	296.75			Gel S.	3.5/5/6		Drispac		Dyna det	
3516.00		12.57	299.21			Filter Ck	0.5		Desco		Walnut	
3529.00		12.68	299.17			Solids %	8.8		Barite		Lime Hydrated	
3542.00		12.92	298.08			Oil	0.000		Lignite		Dyna fiber	
3560.00		13.24	296.68			Ca (mg/l)	40.0		PHPA		Bioside	
						Cl (mg/l)	9600.0		Sawdust			
						MBT	17.5		Soda Ash			
						Temp	13.0		Supervision		Day Cost	$30
						XSPolymer	1.1		Mud Van	1	Well Cost	$261,131

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	150.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.4	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa					Hole Condition kdaN & Kft/#				Total Gas Readings (%)	
Pump	**Strokes**	**Pressure**	**MACP**	**Depth**	**Drag up**	**30**	**Torque**		**Background**	
RSPP #1	**55**	**7068**	11000	**3516**	**Drag Dn**	**30**			**Connection**	
RSPP #2					**Hook Load**	**124**			**Trip**	

1. Rig up/Out	**0.25**	**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**	**11.50**	**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.50**
6. Trip	**9.75**	**14. Nipple Up BOP**	**0.50**	**22. Handle Tools**	
7. Rig Service	**0.50**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-10:30 Lay out drill string. Break the kelly and swivel

10:30-11:30 Retrieve wear bushing

11:30-12:30 Level the rig

12:30-24:00 Rig up and run 7: casing 2024m at midnight, Circulatie at the shoe for 40m3

No incidents reported. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,846,365**	**Today**	**$23,834**	**Total Cost**	**$7,870,199**	**Weather:**	minus 2, Sleet
						Mud Type	Polymer
Foreman		**Don Campbell**		**Rig Phone**	**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1		**Day:** 106		**Date:**	14-Oct-09	
Depth:	3560.0 **mKB**	**Progress:**	**Drilling:**	**hrs ROP, m/hr:**	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Rig move				**KB elev:**	175.30 m.	
the next da	Rig release @1200hrs				**KB - GL**	6.30 m.	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:					
Model		PZ-11	PZ-11				**Pump Pressure:**	11,336	**kPa**
Liner	(mm)		152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)		279	**Drill Collar O.D.**		**mm**	**Drill Pipe O.D.**		**mm**
SPM			70	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	m^3/min @ 95%		1.1900	**Jet Velocity:**		**m/sec**	**True Hydraulic HP:**		**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	7:11	
Density	1140	
Vis.	68	
pH	12.3	
Fluid Loss	6.6	
P.V.	25.0	
Y.P.	12.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	8.8	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	13.0	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	6	**Percol**	
Envirofloc		**Sulphamic**	
Kelzan	1	**T-352**	12
Cello		**Defoamer**	1
Bicarb		**2K-7**	
Newedge		**Sapp**	
Drispac		**Dyna det**	2
Desco	2	**Walnut**	
Barite	138	**Lime Hydrated**	
Lignite		**Dyna fiber**	
PHPA		**Bioside**	
Sawdust		**Coronox**	9
Soda Ash		**Safecote**	5
Supervision		**Day Cost**	$13,299
Mud Van	1	**Well Cost**	$24,461

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	150.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.4	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1	**55**	**7068**	11000	**3516**
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up	**30**	**Torque**	
Drag Dn	**30**		
Hook Load	**124**		

Total Gas Readings (%)	
Background	
Connection	
Trip	

1. Rig up/Out	**5.25**	**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**	**12.25**	**20. Wk on mud pumps**	
5. Circ. & Cond.	**2.75**	**13. Pump Out Cement**		**21. Safety Meeting**	**1.25**
6. Trip		**14. Nipple Up BOP**	**2.25**	**22. Handle Tools**	
7. Rig Service	**0.25**	**15. Test BOP & FIT**		**23 Other**	
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-10:00 Finish run casing. 255jts 178mm, 40.26kg/m, LT&C, L-80. Shoe @3548m, Float collar @3534, Marker @ 2491m, Centralize every 3 joint open hole
10:00-12:00 Circulate, condition prior to cementing.
12:00-16:00 Cement casing. 2m3 water ahead, 3m3 scavenger @ 1200kg/m3, 23.8m3 Fill-Lite 2-200 @ 1518kg/m3, 8.32m3 0:1:0 "G" @ 1901kg/m3.
Displace with 70.5m3 water. Final displacement pressure 20mpa. Bump to 30mpa to pressure test casing 10min. OK.
16:00 -24:0(Rig out casing tools, clean up and tear out rig. Cleaning mud tanks still in progress.

No incidents reported. 8 hazzards ID'd

Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$7,870,199**	**Today**	**$468,036**	**Total Cost**	**$8,338,235**	**Weather:**	minus 2, Sleet
						Mud Type	Polymer
Foreman		**Don Campbell**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

Vulcan Minerals Daily Drilling Report

Well:	Vulcan Investcan Robinsons #1		**Day:** 107		**Date:**	15-Oct-09	
Depth:	3560.0 **mKB**	**Progress:**	**Drilling:**	**hrs ROP, m/hr:**	**Rig:**	Stoneham # 11	
Operation @ 0800 hrs:	Rig move				**KB elev:**	175.30 m.	
the next da	Rig release @1200hrs				**KB - GL**	6.30 m.	

Bit #	Size/Make	Model IADC	Serial No.	In	Out	Metres	Hours	Nozzles	RPM	WOB kdaN	I O D L B G O R

		Pump 1	Pump 2	Drilling Assembly:					
Model			PZ-11	PZ-11			**Pump Pressure:**	11,336	**kPa**
Liner	(mm)		152	**BHA Length:**		**m**	**Strap:**	**Board:**	
Stroke	(mm)		279	**Drill Collar O.D.**		**mm**	**Drill Pipe O.D.**		**mm**
SPM			70	**D.C. Annular Vel.:**		**m/min**	**D.P Annular Vel.:**		**m/min**
Vol.	m^3/min @ 95%		1.1900	**Jet Velocity:**		**m/sec**	**True Hydraulic HP:**		**kW**

SURVEYS

Depth		Drift	Azimuth	North	East
3419.00		11.97	296.52		
3433.00		11.99	295.97		
3448.00		11.67	295.77		
3460.00		12.14	296.30		
3474.00		12.36	297.12		
3488.00		12.19	296.14		
3501.00		12.25	296.75		
3516.00		12.57	299.21		
3529.00		12.68	299.17		
3542.00		12.92	298.08		
3560.00		13.24	296.68		

MUD

Time	7:11	
Density	1140	
Vis.	68	
pH	12.3	
Fluid Loss	6.6	
P.V.	25.0	
Y.P.	12.0	
Gel S.	4/6/7	
Filter Ck	0.5	
Solids %	8.8	
Oil	0.000	
Ca (mg/l)	40.0	
Cl (mg/l)	9600.0	
MBT	17.5	
Temp	13.0	
XSPolymer	1.1	

MUD ADDITIVES

Gel		**CaC03**	
Caustic	1	**Percol**	
Envirofloc	6	**Sulphamic**	
Kelzan	1	**T-352**	
Cello		**Defoamer**	1
Bicarb		**2K-7**	
Newedge		**Sapp**	1
Drispac		**Dyna det**	
Desco	1	**Walnut**	
Barite		**Lime Hydrate**	1
Lignite	1	**Dyna fiber**	
PHPA	-4	**Bioside**	
Sawdust		**MSDS**	1
Soda Ash		**pellets**	36
Supervision		**Day Cost**	$1,555
Mud Van	1	**Well Cost**	$276,061

Mud losses Surface & Downhole Estimates m3				BOP & Casing Tests	Date	Centrifuge	
Total circulating Vol.	150.0			**Last Casing Test**	22-Aug-09	**Underflow Density**	
Today losses down hole	0.2	**Total hole**		**Last BOP Test**	21-Sep-09	**Overflow Density**	
Today losses at surface	0.3	**Total surf.**		**Next Casing Test**	505 rotating hrs	**Flow Rate,m3/min**	
Today total losses	0.5	**Cumulative**	171.4	**Next BOP Test**	05-Oct-09	**Operating hours**	

Well Control - kPa

Pump	Strokes	Pressure	MACP	Depth
RSPP #1				
RSPP #2				

Hole Condition kdaN & Kft/#			
Drag up		**Torque**	
Drag Dn			
Hook Load			

Total Gas Readings (%)	
Background	
Connection	
Trip	

1. Rig up/Out	**13.50**	**9. Slip & Cut**		**17. Plug Back**	
2. Drill		**10. Survey**		**18. Wash to Btm**	
3. Ream		**11. Wireline Logs**		**19. Flow checks**	
4. Drill Out		**12. Casing/Cement**		**20. Wk on mud pumps**	
5. Circ. & Cond.		**13. Pump Out Cement**		**21. Safety Meeting**	**1.00**
6. Trip		**14. Nipple Up BOP**	**5.50**	**22. Handle Tools**	
7. Rig Service		**15. Test BOP & FIT**		**23 Other**	**4.00**
8. Rig Repair		**16. BOP Drill**		**Total Hours**	**24.00**

REMARKS

00:00-05:00 Nipple down BOP. Cleaning mud tanks. All storage tanks are full of mud. Transfer to solids pit.

05:00-14:00 Clean mud tanks, Rig down, Safety meeting with all rigmovers and rig crew. Load out pipe trucks and catwalk. Delay ed waiting on loader.

Change to Red Brook #2 report Rig down, lower top section, Load mud tanks, Mud pump 2, 13 loads transferred to Red Brook #2 location

One incident reported, A hose was disconnected from degasser tank without closing the valve. 8 hazzards ID'd

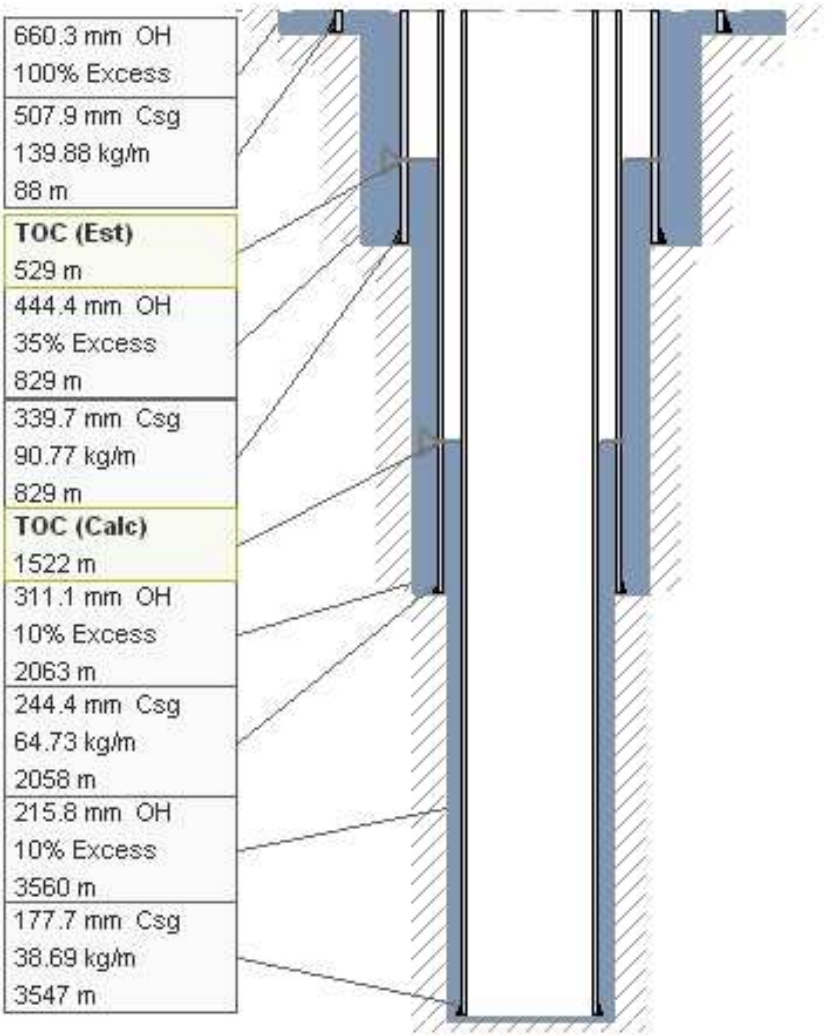
Tops: Codroy Group 815 m, Ship Cove limestone 846 m, Fischell's Brook 870 m, (Sprout Falls), Friars cove @2086m. Snake Bite @ 2555

Prev Cost	**$8,362,069**	**Today**	**$20,838**	**Total Cost**	**$8,382,907**	**Weather:**	0deg, 50% overcast
						Mud Type	Polymer
Foreman		**Don Campbell**	**Rig Phone**		**709-649-7106**	**Taken By:**	**Terry Brooker / Shane Halley**

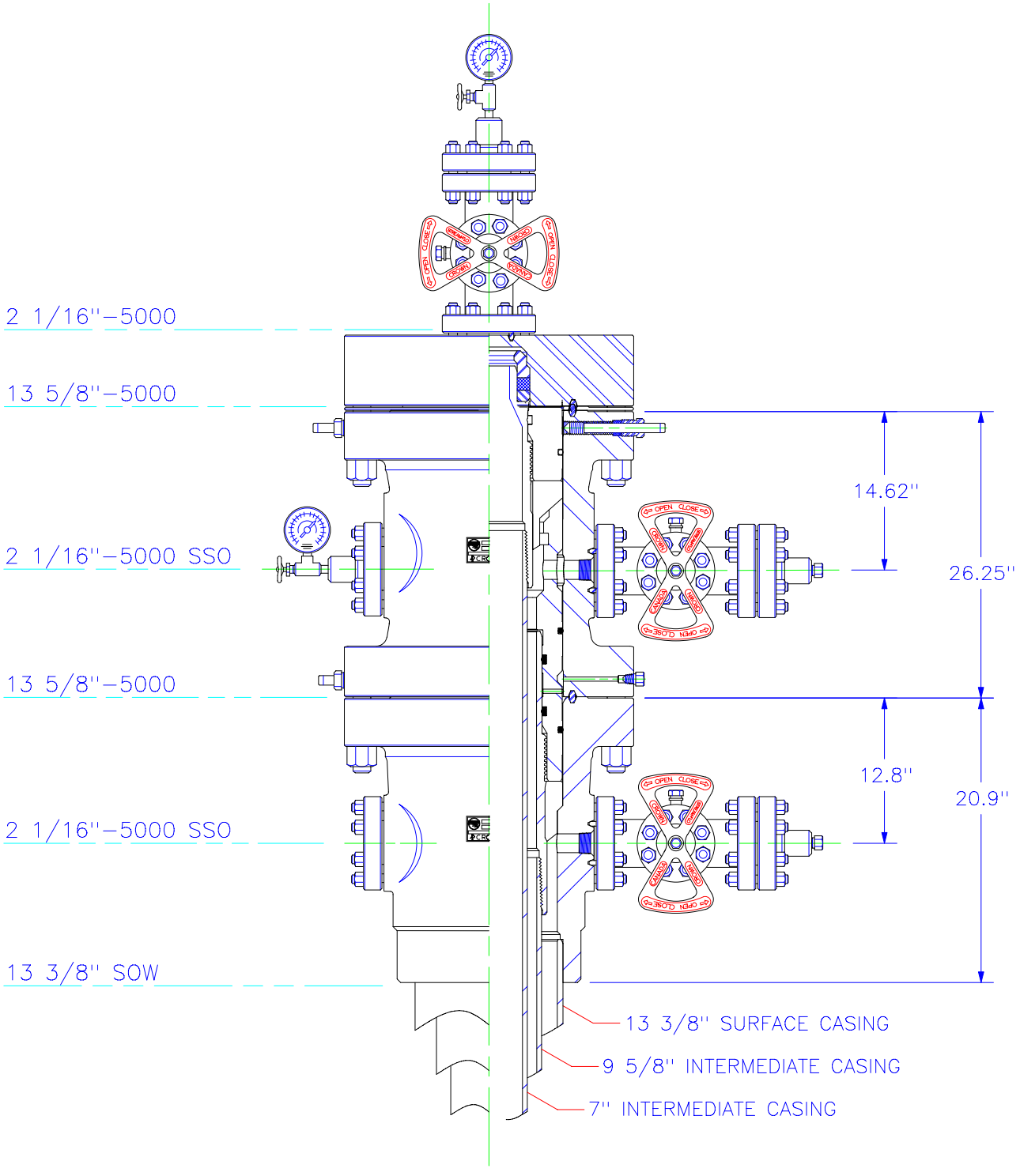
APPENDIX 4: WELLBORE & WELLHEAD SCHEMATICS

WELLBORE SCHEMATIC

Vuclan Investcan Robinsons #1
Vuclan Minerals Inc.
2008-003: Exploration Wildcat
508mm / 340mm: Cement to surface
244.5mm: No cement to surface. Estimated TOC at 529m.
215.9mm: Based on calculations TOC at 1522m.
***MARKER JNT@ 1056mMD KB w/ID 165.1254mm (6.501")**



i-Handbook* - *a mark of Schlumberger



NOTE:
DIMENSIONS MAY VARY ±1/2" DUE TO FORGING TOLERANCES

VULCAN MINERALS INC. WESTERN NEWFOUNDLAND ROBINSONS #1	DWN.	JL	18-12-09	Stream Flo INDUSTRIES LTD. EDMONTON, AB. CANADA	DRAWING No. CR-8533
	CHK.				
	APPR.				
		BY:	DATE		

APPENDIX 5: GAS PVT ANALYSIS

LIST OF TEST SAMPLE CYLINDERS FOR ROBINSONS#1

ROBINSONS #1				Date	Methane (%)	Ethane (%)	Total Organic Sulphur (ppm)
DST#3	2963-2990 m		AGAT#05004278 (Bottom hole sampler)	09-Oct-09	93%	5%	1.3
DST#4	2574-2640 m		AGAT#05004456 (Bottom hole sampler)	10-Oct-09	84%	9%	-
DST#5	2517-2572 m		AGAT#05004704 (Bottom hole sampler)	11-Oct-09	91%	6%	-

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EXTENDED GAS ANALYSIS

Container Identification
5004456

Operator Name	Laboratory Number
VULCAN MINERALS INC.	09E375947A

Unique Well Identifier	Well Name
NOT AVAILABLE	VULCAN INVESTCAN ROBINSONS#1

Field or Area	Pool or Zone	Sampler's Company
	NOT AVAILABLE	HOLLAND TESTERS

Well License	Elevation				Test Type	Test No.	Name of Sampler
	KB m	175.00	GRD m	169.00			

Test Interval or Perfs mKB		Sampling Point
2574.0 - 2640.0		NOT AVAILABLE
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			2050	2050	170
Temperature			39	39	21

Date Sampled	Date Received	Date Analyzed	Date Reported	Entered By	Certified By
Oct 10, 2009	Dec 15, 2009	Dec 18, 2009	Dec 18, 2009	Binh Nguyen	Binh Nguyen

Other Information
BOTTOM HOLE SAMPLER , DST

** Results relate only to the items tested*

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WebFLUIDs, a comparison, history and trending analysis system.

COMPONENT	Mole Fraction		LIQUID VOLUMES mL / m³
	As Received	Air & Acid Gas Free	
Hydrogen	0.00131	0.00131	
Helium	0.00026	0.00026	
Nitrogen	0.02057	0.02058	
Carbon Dioxide	0.00037	0.00000	
Hydrogen Sulfide	0.00000	0.00000	
Methane	0.83680	0.83711	
Ethane	0.09442	0.09446	335.4
Propane	0.02746	0.02747	100.9
Isobutane	0.00548	0.00548	23.9
n-Butane	0.00755	0.00755	31.8
Isopentane	0.00240	0.00240	11.7
n-Pentane	0.00161	0.00161	7.8
Hexanes	0.00117	0.00117	6.1
Heptanes+	0.00061	0.00061	3.5
TOTAL	**1.00000**	**1.00000**	**521.1**

Gross Heating Value MJ/m³ 15 °C and 101.325 kPa

Moisture Free (MJ/m³)	Moisture and Acid Gas Free (MJ/m³)
43.01	43.03

Calculated Relative Density Moisture Free

0.666

Calculated Density C7+ Fraction (kg/m³) Moisture Free

732.8

Calculated pseudo critical properties

As Sampled		Acid Gas Free	
Ppc (kPa abs)	pTC (K)	Ppc (kPa abs)	pTC (K)
4567.21	209.42	4566.17	209.39

Calculated molecular weight (g/mol)

Total Sample	C7+ Fraction
19.28	100.13

Calculated C5+ Vapour Pressure (kPa abs)

106.94

Field H2S (ppm)

0.00

Laboratory H2S (ppm)

0.00

Constants taken from the most recent editions of GPA TP-17 and GPA 2145 have been used to calculate the physical properties of the gas.
This analysis was performed based on method GPA 2286.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	UWI / LSD
09E375947A	VULCAN MINERALS INC.	NOT AVAILABLE

BOILING POINT RANGE (°C)	SUMMARY	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
36.2+	Hexanes+ (C6+)	0.00178	1778	0.00178	9.6188
98.6+	Octanes+ (C8+)	0.00024	237	0.00024	1.3885
125.8+	Nonanes+ (C9+)	0.00006	58	0.00006	0.3445
150.9+	Decanes+ (C10+)	0.00000	0	0.00000	0.0000
174.3+	Undecanes+ (C11+)	0.00000	0	0.00000	0.0000
196.00+	Dodecanes+ (C12+)	0.00000	0	0.00000	0.0000
216.4+	Tridecanes+ (C13+)	0.00000	0	0.00000	0.0000
235.6 - 270.7	Tetradecanes+ (C14+)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	GROUPINGS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
68.9 - 98.6	Heptanes (C7)	0.00037	375	0.00037	2.1370
98.6 - 125.8	Octanes (C8)	0.00018	179	0.00018	1.0440
125.8 - 150.9	Nonanes (C9)	0.00006	58	0.00006	0.3445
150.9 - 174.3	Decanes (C10)	0.00000	0	0.00000	0.0000
174.3 - 196.00	Undecanes (C11)	0.00000	0	0.00000	0.0000
196.00 - 216.4	Dodecanes (C12)	0.00000	0	0.00000	0.0000
216.4 - 235.6	Tridecanes (C13)	0.00000	0	0.00000	0.0000
235.6 - 253.6	Tetradecanes (C14)	0.00000	0	0.00000	0.0000
253.6 - 270.69	Pentadecanes (C15)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	RELEVENT COMPONENTS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
49.28	Cyclopentane	0.00050	502	0.00050	2.4472
68.73	n-Hexane	0.00034	337	0.00034	1.8496
71.83	Methylcyclopentane	0.00006	57	0.00006	0.3078
80.06	Benzene	0.00001	15	0.00001	0.0552
80.78	Cyclohexane	0.00009	91	0.00009	0.4799
99.24	2,2,4-Trimethylpentane	0.00001	< 10	0.00001	0.0357
100.94	Methylcyclohexane	0.00005	49	0.00005	0.2610
110.61	Toluene	0.00005	47	0.00005	0.2083
136.16	Ethylbenzene	0.00000	< 10	0.00000	0.0233
138.33; 139.09	m&p-Xylene	0.00002	23	0.00002	0.1190
144.42	o-Xylene	0.00001	< 10	0.00001	0.0398
169.34	1,2,4-Trimethylbenzene	0.00000	0	0.00000	0.0000

AGAT® Laboratories

EXTENDED GAS ANALYSIS

Container Identification
5004704

Operator Name	Laboratory Number
VULCAN MINERALS INC.	09E375947B

Unique Well Identifier	Well Name
NOT AVAILABLE	VULCAN INVESTCAN ROBINSONS#1

Field or Area	Pool or Zone	Sampler's Company
	NOT AVAILABLE	HOLLAND TESTERS

Well License	Elevation	Test Type	Test No.	Name of Sampler
	KB m 175.00 GRD m 169.00			

Test Interval or Perfs mKB		Sampling Point
2517.0 - 2572.0		NOT AVAILABLE
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			3940	3940	2800
Temperature			38	38	21

Date Sampled	Date Received	Date Analyzed	Date Reported	Entered By	Certified By
Oct 11, 2009	Dec 15, 2009	Dec 18, 2009	Dec 18, 2009	Binh Nguyen	Binh Nguyen

Other Information
BOTTOM HOLE SAMPLER , DST

** Results relate only to the items tested*

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WebFLUIDs, a comparison, history and trending analysis system.

COMPONENT	Mole Fraction		LIQUID VOLUMES mL / m³
	As Received	Air & Acid Gas Free	
Hydrogen	0.00145	0.00145	
Helium	0.00058	0.00058	
Nitrogen	0.01863	0.01863	
Carbon Dioxide	0.00000	0.00000	
Hydrogen Sulfide	0.00000	0.00000	
Methane	0.90720	0.90720	
Ethane	0.05517	0.05517	196.0
Propane	0.01071	0.01071	39.3
Isobutane	0.00159	0.00159	6.9
n-Butane	0.00235	0.00235	9.9
Isopentane	0.00080	0.00080	3.9
n-Pentane	0.00052	0.00052	2.5
Hexanes	0.00066	0.00066	3.5
Heptanes+	0.00034	0.00034	2.0
TOTAL	**1.00000**	**1.00000**	**264.1**

Gross Heating Value MJ/m³ 15 °C and 101.325 kPa

Moisture Free (MJ/m³)	Moisture and Acid Gas Free (MJ/m³)
39.83	39.83

Calculated Relative Density Moisture Free

0.609

Calculated Density C7+ Fraction (kg/m³) Moisture Free

709.6

Calculated pseudo critical properties

As Sampled		Acid Gas Free	
Ppc (kPa abs)	pTC (K)	Ppc (kPa abs)	pTC (K)
4574.06	198.86	4574.06	198.86

Calculated molecular weight (g/mol)

Total Sample	C7+ Fraction
17.63	100.29

Calculated C5+ Vapour Pressure (kPa abs)

95.40

Field H2S (ppm)

0.00

Laboratory H2S (ppm)

0.00

Constants taken from the most recent editions of GPA TP-17 and GPA 2145 have been used to calculate the physical properties of the gas.
This analysis was performed based on method GPA 2286.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	UWI / LSD
09E375947B	VULCAN MINERALS INC.	NOT AVAILABLE

BOILING POINT RANGE (°C)	SUMMARY	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
36.2+	Hexanes+ (C6+)	0.00089	888	0.00089	4.8941
98.6+	Octanes+ (C8+)	0.00008	82	0.00008	0.5167
125.8+	Nonanes+ (C9+)	0.00000	0	0.00000	0.0000
150.9+	Decanes+ (C10+)	0.00000	0	0.00000	0.0000
174.3+	Undecanes+ (C11+)	0.00000	0	0.00000	0.0000
196.00+	Dodecanes+ (C12+)	0.00000	0	0.00000	0.0000
216.4+	Tridecanes+ (C13+)	0.00000	0	0.00000	0.0000
235.6 - 270.7	Tetradecanes+ (C14+)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	GROUPINGS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
68.9 - 98.6	Heptanes (C7)	0.00026	260	0.00026	1.5243
98.6 - 125.8	Octanes (C8)	0.00008	82	0.00008	0.5167
125.8 - 150.9	Nonanes (C9)	0.00000	0	0.00000	0.0000
150.9 - 174.3	Decanes (C10)	0.00000	0	0.00000	0.0000
174.3 - 196.00	Undecanes (C11)	0.00000	0	0.00000	0.0000
196.00 - 216.4	Dodecanes (C12)	0.00000	0	0.00000	0.0000
216.4 - 235.6	Tridecanes (C13)	0.00000	0	0.00000	0.0000
235.6 - 253.6	Tetradecanes (C14)	0.00000	0	0.00000	0.0000
253.6 - 270.69	Pentadecanes (C15)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	RELEVENT COMPONENTS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
49.28	Cyclopentane	0.00025	255	0.00025	1.2405
68.73	n-Hexane	0.00017	165	0.00017	0.9072
71.83	Methylcyclopentane	0.00002	24	0.00002	0.1273
80.06	Benzene	0.00002	20	0.00002	0.0734
80.78	Cyclohexane	0.00001	< 10	0.00001	0.0397
99.24	2,2,4-Trimethylpentane	0.00000	0	0.00000	0.0000
100.94	Methylcyclohexane	0.00002	20	0.00002	0.1066
110.61	Toluene	0.00000	< 10	0.00000	0.0183
136.16	Ethylbenzene	0.00000	0	0.00000	0.0000
138.33; 139.09	m&p-Xylene	0.00000	0	0.00000	0.0000
144.42	o-Xylene	0.00000	0	0.00000	0.0000
169.34	1,2,4-Trimethylbenzene	0.00000	0	0.00000	0.0000

AGAT® Laboratories

EXTENDED GAS ANALYSIS

Container Identification
5004278

Operator Name	Laboratory Number
VULCAN MINERALS INC.	09E375947C

Unique Well Identifier	Well Name
NOT AVAILABLE	VULCAN INVESTCAN ROBINSONS#1

Field or Area	Pool or Zone	Sampler's Company
	NOT AVAILABLE	HOLLAND TESTERS

Well License	Elevation	Test Type	Test No.	Name of Sampler
	KB m 175.00 GRD m 169.00			

Test Interval or Perfs mKB		Sampling Point
2963.0 - 2990.0		NOT AVAILABLE
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			2684	2684	1700
Temperature			44	44	21

Date Sampled	Date Received	Date Analyzed	Date Reported	Entered By	Certified By
Oct 09, 2009	Dec 15, 2009	Dec 18, 2009	Dec 18, 2009	Binh Nguyen	Binh Nguyen

Other Information
BOTTOM HOLE SAMPLER , DST

** Results relate only to the items tested*

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WebFLUIDs, a comparison, history and trending analysis system.

COMPONENT	Mole Fraction		LIQUID VOLUMES mL / m³
	As Received	Air & Acid Gas Free	
Hydrogen	0.00095	0.00095	
Helium	0.00032	0.00032	
Nitrogen	0.01254	0.01254	
Carbon Dioxide	0.00000	0.00000	
Hydrogen Sulfide	0.00000	0.00000	
Methane	0.93109	0.93109	
Ethane	0.04595	0.04595	163.2
Propane	0.00570	0.00570	20.9
Isobutane	0.00090	0.00090	3.9
n-Butane	0.00130	0.00130	5.5
Isopentane	0.00047	0.00047	2.3
n-Pentane	0.00025	0.00025	1.2
Hexanes	0.00035	0.00035	1.8
Heptanes+	0.00016	0.00016	1.0
TOTAL	**1.00000**	**1.00000**	**199.9**

Gross Heating Value MJ/m³ 15 °C and 101.325 kPa

Moisture Free (MJ/m³)	Moisture and Acid Gas Free (MJ/m³)
39.25	39.25

Calculated Relative Density Moisture Free

0.592

Calculated Density C7+ Fraction (kg/m³) Moisture Free

715.5

Calculated pseudo critical properties

As Sampled		Acid Gas Free	
Ppc (kPa abs)	pTC (K)	Ppc (kPa abs)	pTC (K)
4586.40	196.70	4586.40	196.70

Calculated molecular weight (g/mol)

Total Sample	C7+ Fraction
17.15	100.25

Calculated C5+ Vapour Pressure (kPa abs)

99.46

Field H2S (ppm)

0.00

Laboratory H2S (ppm)

0.00

Constants taken from the most recent editions of GPA TP-17 and GPA 2145 have been used to calculate the physical properties of the gas.
This analysis was performed based on method GPA 2286.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	UWI / LSD
09E375947C	VULCAN MINERALS INC.	NOT AVAILABLE

BOILING POINT RANGE (°C)	SUMMARY	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
36.2+	Hexanes+ (C6+)	0.00051	513	0.00051	2.8072
98.6+	Octanes+ (C8+)	0.00004	38	0.00004	0.2257
125.8+	Nonanes+ (C9+)	0.00001	< 10	0.00001	0.0332
150.9+	Decanes+ (C10+)	0.00000	< 10	0.00000	0.0168
174.3+	Undecanes+ (C11+)	0.00000	0	0.00000	0.0000
196.00+	Dodecanes+ (C12+)	0.00000	0	0.00000	0.0000
216.4+	Tridecanes+ (C13+)	0.00000	0	0.00000	0.0000
235.6 - 270.7	Tetradecanes+ (C14+)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	GROUPINGS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
68.9 - 98.6	Heptanes (C7)	0.00012	125	0.00012	0.7366
98.6 - 125.8	Octanes (C8)	0.00003	32	0.00003	0.1924
125.8 - 150.9	Nonanes (C9)	0.00000	< 10	0.00000	0.0164
150.9 - 174.3	Decanes (C10)	0.00000	< 10	0.00000	0.0168
174.3 - 196.00	Undecanes (C11)	0.00000	0	0.00000	0.0000
196.00 - 216.4	Dodecanes (C12)	0.00000	0	0.00000	0.0000
216.4 - 235.6	Tridecanes (C13)	0.00000	0	0.00000	0.0000
235.6 - 253.6	Tetradecanes (C14)	0.00000	0	0.00000	0.0000
253.6 - 270.69	Pentadecanes (C15)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	RELEVENT COMPONENTS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
49.28	Cyclopentane	0.00013	135	0.00013	0.6569
68.73	n-Hexane	0.00006	61	0.00006	0.3340
71.83	Methylcyclopentane	0.00001	< 10	0.00001	0.0519
80.06	Benzene	0.00000	0	0.00000	0.0000
80.78	Cyclohexane	0.00002	23	0.00002	0.1230
99.24	2,2,4-Trimethylpentane	0.00000	0	0.00000	0.0000
100.94	Methylcyclohexane	0.00001	< 10	0.00001	0.0404
110.61	Toluene	0.00001	< 10	0.00001	0.0317
136.16	Ethylbenzene	0.00000	0	0.00000	0.0000
138.33; 139.09	m&p-Xylene	0.00000	< 10	0.00000	0.0164
144.42	o-Xylene	0.00000	0	0.00000	0.0000
169.34	1,2,4-Trimethylbenzene	0.00000	0	0.00000	0.0000

AGAT® Laboratories

EXTENDED GAS ANALYSIS

Container Identification
4001075

Operator Name	Laboratory Number
VULCAN MINERALS INC.	09E375947D

Unique Well Identifier	Well Name
NOT AVAILABLE	VULCAN INVESTCAN REDBROOK#2

Field or Area	Pool or Zone	Sampler's Company
	NOT AVAILABLE	HOLLAND TESTERS

Well License	Elevation				Test Type	Test No.	Name of Sampler
	KB m	62.00	GRD m	56.00			

Test Interval or Perfs mKB		Sampling Point
1555.0 - 1574.0		NOT AVAILABLE
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			65	65	40
Temperature			4	4	21

Date Sampled	Date Received	Date Analyzed	Date Reported	Entered By	Certified By
Nov 28, 2009	Dec 15, 2009	Dec 18, 2009	Dec 18, 2009	Binh Nguyen	Binh Nguyen

Other Information
(INITIAL GTS) CAUGHT AT MANIFOLD, DST 1A

** Results relate only to the items tested*

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WebFLUIDs, a comparison, history and trending analysis system.

COMPONENT	Mole Fraction		LIQUID VOLUMES mL / m³
	As Received	Air & Acid Gas Free	
Hydrogen	0.00233	0.00233	
Helium	0.00131	0.00131	
Nitrogen	0.12442	0.12442	
Carbon Dioxide	0.00000	0.00000	
Hydrogen Sulfide	0.00000	0.00000	
Methane	0.80413	0.80413	
Ethane	0.04904	0.04904	174.2
Propane	0.01273	0.01273	46.8
Isobutane	0.00115	0.00115	5.0
n-Butane	0.00306	0.00306	12.9
Isopentane	0.00049	0.00049	2.4
n-Pentane	0.00073	0.00073	3.5
Hexanes	0.00037	0.00037	1.9
Heptanes+	0.00023	0.00023	1.3
TOTAL	**1.00000**	**1.00000**	**248.1**

Gross Heating Value MJ/m³ 15 °C and 101.325 kPa

Moisture Free (MJ/m³)	Moisture and Acid Gas Free (MJ/m³)
35.66	35.66

Calculated Relative Density Moisture Free

0.650

Calculated Density C7+ Fraction (kg/m³) Moisture Free

728.5

Calculated pseudo critical properties

As Sampled		Acid Gas Free	
Ppc (kPa abs)	pTC (K)	Ppc (kPa abs)	pTC (K)
4438.90	191.36	4438.90	191.36

Calculated molecular weight (g/mol)

Total Sample	C7+ Fraction
18.82	101.85

Calculated C5+ Vapour Pressure (kPa abs)

98.84

Field H2S (ppm)

0.00

Laboratory H2S (ppm)

0.00

Constants taken from the most recent editions of GPA TP-17 and GPA 2145 have been used to calculate the physical properties of the gas.
This analysis was performed based on method GPA 2286.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	UWI / LSD
09E375947D	VULCAN MINERALS INC.	NOT AVAILABLE

BOILING POINT RANGE (°C)	SUMMARY	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
36.2+	Hexanes+ (C6+)	0.00060	597	0.00060	3.2904
98.6+	Octanes+ (C8+)	0.00010	101	0.00010	0.5948
125.8+	Nonanes+ (C9+)	0.00002	22	0.00002	0.1266
150.9+	Decanes+ (C10+)	0.00000	0	0.00000	0.0000
174.3+	Undecanes+ (C11+)	0.00000	0	0.00000	0.0000
196.00+	Dodecanes+ (C12+)	0.00000	0	0.00000	0.0000
216.4+	Tridecanes+ (C13+)	0.00000	0	0.00000	0.0000
235.6 - 270.7	Tetradecanes+ (C14+)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	GROUPINGS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
68.9 - 98.6	Heptanes (C7)	0.00013	126	0.00013	0.7475
98.6 - 125.8	Octanes (C8)	0.00008	80	0.00008	0.4682
125.8 - 150.9	Nonanes (C9)	0.00002	22	0.00002	0.1266
150.9 - 174.3	Decanes (C10)	0.00000	0	0.00000	0.0000
174.3 - 196.00	Undecanes (C11)	0.00000	0	0.00000	0.0000
196.00 - 216.4	Dodecanes (C12)	0.00000	0	0.00000	0.0000
216.4 - 235.6	Tridecanes (C13)	0.00000	0	0.00000	0.0000
235.6 - 253.6	Tetradecanes (C14)	0.00000	0	0.00000	0.0000
253.6 - 270.69	Pentadecanes (C15)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	RELEVENT COMPONENTS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
49.28	Cyclopentane	0.00013	131	0.00013	0.6364
68.73	n-Hexane	0.00016	159	0.00016	0.8725
71.83	Methylcyclopentane	0.00000	0	0.00000	0.0000
80.06	Benzene	0.00001	< 10	0.00001	0.0232
80.78	Cyclohexane	0.00001	12	0.00001	0.0615
99.24	2,2,4-Trimethylpentane	0.00000	< 10	0.00000	0.0280
100.94	Methylcyclohexane	0.00002	21	0.00002	0.1117
110.61	Toluene	0.00002	20	0.00002	0.0882
136.16	Ethylbenzene	0.00000	0	0.00000	0.0000
138.33; 139.09	m&p-Xylene	0.00000	< 10	0.00000	0.0151
144.42	o-Xylene	0.00000	< 10	0.00000	0.0232
169.34	1,2,4-Trimethylbenzene	0.00000	0	0.00000	0.0000

AGAT® Laboratories

EXTENDED GAS ANALYSIS

Container Identification
5003561

Operator Name	Laboratory Number
VULCAN MINERALS INC.	09E375947E

Unique Well Identifier	Well Name
NOT AVAILABLE	VULCAN INVESTCAN REDBROOK#2

Field or Area	Pool or Zone	Sampler's Company
	NOT AVAILABLE	HOLLAND TESTERS

Well License	Elevation				Test Type	Test No.	Name of Sampler
	KB m	62.00	GRD m	56.00			

Test Interval or Perfs mKB		Sampling Point
1555.0 - 1574.0		NOT AVAILABLE
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			742	742	100
Temperature			21	21	21

Date Sampled	Date Received	Date Analyzed	Date Reported	Entered By	Certified By
Nov 28, 2009	Dec 15, 2009	Dec 18, 2009	Dec 18, 2009	Binh Nguyen	Binh Nguyen

Other Information
BOTTOM HOLE SAMPLER , DST 1B

** Results relate only to the items tested*

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WebFLUIDs, a comparison, history and trending analysis system.

COMPONENT	Mole Fraction		LIQUID VOLUMES mL / m³
	As Received	Air & Acid Gas Free	
Hydrogen	0.00240	0.00240	
Helium	0.00127	0.00127	
Nitrogen	0.12212	0.12212	
Carbon Dioxide	0.00000	0.00000	
Hydrogen Sulfide	0.00000	0.00000	
Methane	0.80260	0.80260	
Ethane	0.04766	0.04766	169.3
Propane	0.01205	0.01205	44.2
Isobutane	0.00122	0.00122	5.3
n-Butane	0.00357	0.00357	15.0
Isopentane	0.00216	0.00216	10.6
n-Pentane	0.00249	0.00249	12.0
Hexanes	0.00150	0.00150	7.8
Heptanes+	0.00096	0.00096	5.7
TOTAL	**1.00000**	**1.00000**	**270.0**

Gross Heating Value MJ/m³ 15 °C and 101.325 kPa

Moisture Free (MJ/m³)	Moisture and Acid Gas Free (MJ/m³)
36.38	36.38

Calculated Relative Density Moisture Free

0.660

Calculated Density C7+ Fraction (kg/m³) Moisture Free

715.2

Calculated pseudo critical properties

As Sampled		Acid Gas Free	
Ppc (kPa abs)	pTC (K)	Ppc (kPa abs)	pTC (K)
4433.86	192.91	4433.86	192.91

Calculated molecular weight (g/mol)

Total Sample	C7+ Fraction
19.11	100.32

Calculated C5+ Vapour Pressure (kPa abs)

99.28

Field H2S (ppm)

0.00

Laboratory H2S (ppm)

0.00

Constants taken from the most recent editions of GPA TP-17 and GPA 2145 have been used to calculate the physical properties of the gas.
This analysis was performed based on method GPA 2286.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	UWI / LSD
09E375947E	VULCAN MINERALS INC.	NOT AVAILABLE

BOILING POINT RANGE (°C)	SUMMARY	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
36.2+	Hexanes+ (C6+)	0.00246	2457	0.00246	13.4866
98.6+	Octanes+ (C8+)	0.00030	302	0.00030	1.7710
125.8+	Nonanes+ (C9+)	0.00002	24	0.00002	0.1458
150.9+	Decanes+ (C10+)	0.00000	0	0.00000	0.0000
174.3+	Undecanes+ (C11+)	0.00000	0	0.00000	0.0000
196.00+	Dodecanes+ (C12+)	0.00000	0	0.00000	0.0000
216.4+	Tridecanes+ (C13+)	0.00000	0	0.00000	0.0000
235.6 - 270.7	Tetradecanes+ (C14+)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	GROUPINGS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
68.9 - 98.6	Heptanes (C7)	0.00066	657	0.00066	3.9068
98.6 - 125.8	Octanes (C8)	0.00028	278	0.00028	1.6252
125.8 - 150.9	Nonanes (C9)	0.00002	24	0.00002	0.1458
150.9 - 174.3	Decanes (C10)	0.00000	0	0.00000	0.0000
174.3 - 196.00	Undecanes (C11)	0.00000	0	0.00000	0.0000
196.00 - 216.4	Dodecanes (C12)	0.00000	0	0.00000	0.0000
216.4 - 235.6	Tridecanes (C13)	0.00000	0	0.00000	0.0000
235.6 - 253.6	Tetradecanes (C14)	0.00000	0	0.00000	0.0000
253.6 - 270.69	Pentadecanes (C15)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	RELEVENT COMPONENTS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
49.28	Cyclopentane	0.00067	667	0.00067	3.2494
68.73	n-Hexane	0.00053	525	0.00053	2.8830
71.83	Methylcyclopentane	0.00000	< 10	0.00000	0.0219
80.06	Benzene	0.00001	< 10	0.00001	0.0360
80.78	Cyclohexane	0.00013	128	0.00013	0.6703
99.24	2,2,4-Trimethylpentane	0.00003	27	0.00003	0.1875
100.94	Methylcyclohexane	0.00011	109	0.00011	0.5864
110.61	Toluene	0.00005	49	0.00005	0.2206
136.16	Ethylbenzene	0.00000	< 10	0.00000	0.0155
138.33; 139.09	m&p-Xylene	0.00001	< 10	0.00001	0.0435
144.42	o-Xylene	0.00000	0	0.00000	0.0000
169.34	1,2,4-Trimethylbenzene	0.00000	0	0.00000	0.0000

AGAT® Laboratories

EXTENDED GAS ANALYSIS

Container Identification
5005092

Operator Name	Laboratory Number
VULCAN MINERALS INC.	09E375947F

Unique Well Identifier	Well Name
NOT AVAILABLE	VULCAN INVESTCAN REDBROOK#2

Field or Area	Pool or Zone	Sampler's Company
	NOT AVAILABLE	HOLLAND TESTERS

Well License	Elevation				Test Type	Test No.	Name of Sampler
	KB m	62.00	GRD m	56.00			

Test Interval or Perfs mKB		Sampling Point
1360.0 - 1383.0		NOT AVAILABLE
mKB		

	Separator	Reservoir	Source	Sampled	Received
Pressure (kPa)			1780	1780	600
Temperature			19	19	21

Date Sampled	Date Received	Date Analyzed	Date Reported	Entered By	Certified By
Nov 29, 2009	Dec 15, 2009	Dec 18, 2009	Dec 18, 2009	Binh Nguyen	Binh Nguyen

Other Information
BOTTOM HOLE SAMPLER , DST 2

** Results relate only to the items tested*

Note: Sampling Point, Unique Well Identifier and/or Pool or Zone information was unavailable at time of reporting. This information is integral to AGAT's WebFLUIDs, a comparison, history and trending analysis system.

COMPONENT	Mole Fraction		LIQUID VOLUMES mL / m³
	As Received	Air & Acid Gas Free	
Hydrogen	0.00045	0.00045	
Helium	0.00168	0.00168	
Nitrogen	0.11023	0.11023	
Carbon Dioxide	0.00000	0.00000	
Hydrogen Sulfide	0.00000	0.00000	
Methane	0.82254	0.82254	
Ethane	0.04379	0.04379	155.6
Propane	0.01395	0.01395	51.3
Isobutane	0.00187	0.00187	8.2
n-Butane	0.00352	0.00352	14.8
Isopentane	0.00063	0.00063	3.1
n-Pentane	0.00080	0.00080	3.9
Hexanes	0.00040	0.00040	2.1
Heptanes+	0.00014	0.00014	0.8
TOTAL	**1.00000**	**1.00000**	**239.7**

Gross Heating Value MJ/m³ 15 °C and 101.325 kPa

Moisture Free (MJ/m³)	Moisture and Acid Gas Free (MJ/m³)
36.27	36.27

Calculated Relative Density Moisture Free

0.645

Calculated Density C7+ Fraction (kg/m³) Moisture Free

716.9

Calculated pseudo critical properties

As Sampled		Acid Gas Free	
Ppc (kPa abs)	pTC (K)	Ppc (kPa abs)	pTC (K)
4457.51	192.41	4457.51	192.41

Calculated molecular weight (g/mol)

Total Sample	C7+ Fraction
18.69	101.79

Calculated C5+ Vapour Pressure (kPa abs)

106.37

Field H2S (ppm)

0.00

Laboratory H2S (ppm)

0.00

Constants taken from the most recent editions of GPA TP-17 and GPA 2145 have been used to calculate the physical properties of the gas.
This analysis was performed based on method GPA 2286.

AGAT® Laboratories

PROPERTIES OF C6+ FRACTION

File No.	Company	UWI / LSD
09E375947F	VULCAN MINERALS INC.	NOT AVAILABLE

BOILING POINT RANGE (°C)	SUMMARY	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
36.2+	Hexanes+ (C6+)	0.00054	541	0.00054	2.9526
98.6+	Octanes+ (C8+)	0.00004	40	0.00004	0.2560
125.8+	Nonanes+ (C9+)	0.00001	< 10	0.00001	0.0550
150.9+	Decanes+ (C10+)	0.00001	< 10	0.00001	0.0369
174.3+	Undecanes+ (C11+)	0.00000	0	0.00000	0.0000
196.00+	Dodecanes+ (C12+)	0.00000	0	0.00000	0.0000
216.4+	Tridecanes+ (C13+)	0.00000	0	0.00000	0.0000
235.6 - 270.7	Tetradecanes+ (C14+)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	GROUPINGS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
68.9 - 98.6	Heptanes (C7)	0.00010	102	0.00010	0.5932
98.6 - 125.8	Octanes (C8)	0.00003	32	0.00003	0.2009
125.8 - 150.9	Nonanes (C9)	0.00000	< 10	0.00000	0.0181
150.9 - 174.3	Decanes (C10)	0.00001	< 10	0.00001	0.0369
174.3 - 196.00	Undecanes (C11)	0.00000	0	0.00000	0.0000
196.00 - 216.4	Dodecanes (C12)	0.00000	0	0.00000	0.0000
216.4 - 235.6	Tridecanes (C13)	0.00000	0	0.00000	0.0000
235.6 - 253.6	Tetradecanes (C14)	0.00000	0	0.00000	0.0000
253.6 - 270.69	Pentadecanes (C15)	0.00000	0	0.00000	0.0000

BOILING POINT RANGE (°C)	RELEVENT COMPONENTS	AIR FREE AS RECEIVED MOLE FRACTION	AIR FREE AS RECEIVED (ppm)	AIR & ACID GAS FREE MOLE FRACTION	AIR FREE AS RECEIVED LIQUID VOLUMES (mL / m³)
49.28	Cyclopentane	0.00015	148	0.00015	0.7197
68.73	n-Hexane	0.00017	174	0.00017	0.9558
71.83	Methylcyclopentane	0.00000	0	0.00000	0.0000
80.06	Benzene	0.00001	< 10	0.00001	0.0352
80.78	Cyclohexane	0.00001	< 10	0.00001	0.0493
99.24	2,2,4-Trimethylpentane	0.00001	12	0.00001	0.0857
100.94	Methylcyclohexane	0.00001	< 10	0.00001	0.0334
110.61	Toluene	0.00000	< 10	0.00000	0.0200
136.16	Ethylbenzene	0.00000	0	0.00000	0.0000
138.33; 139.09	m&p-Xylene	0.00000	0	0.00000	0.0000
144.42	o-Xylene	0.00000	0	0.00000	0.0000
169.34	1,2,4-Trimethylbenzene	0.00000	< 10	0.00000	0.0206

Certificate of Analysis

CLIENT NAME: VULCAN MINERALS INC. **AGAT WORK ORDER: 09C375947**

PROJECT NO: **ATTENTION TO: SHANE HALLEY**

Trace Sulphur Analysis (GC/SCD) - Gas

SAMPLE TYPE: Gas **SAMPLE ID: 05003561** **DATE RECEIVED: Dec 15, 2009**

DATE SAMPLED: Nov 28, 2009 **DATE REPORTED:**

SAMPLE DESCRIPTION: VULCAN INVESTCAN REDBROOK#2; DST 1B

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Hydrogen Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Carbonyl Sulphide	ppm (v/v)	2.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Methyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Ethyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Dimethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Carbon Disulphide	ppm (v/v)	18.4		0.1	Dec 18, 2009	YH	Dec 15, 2009
iso-Propyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
tert-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
n-Propyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Methyl Ethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
s-Butyl Mercaptan/Thiophene	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
iso-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Diethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
n-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
tert-Butyl Methyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Dimethyl Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Diethyl Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Total Unidentified Sulphur Compounds	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Total Organic Sulphur	ppm (v/v)	20.5		0.1	Dec 18, 2009	YH	Dec 15, 2009

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard
Field Hydrogen Sulphide : Not Available.
Identification based on retention time relative to standards.
All compounds quantified as ideal gases. Carbonyl sulphide quantified using its standard response factor, all other compounds quantified using Hydrogen sulphide's response factor.
Total organic sulphur includes compounds with chromatographic retention up to and including that of ethyl disulphide.

Certified By:

Certificate of Analysis

CLIENT NAME: VULCAN MINERALS INC. **AGAT WORK ORDER: 09C375947**

PROJECT NO: **ATTENTION TO: SHANE HALLEY**

Trace Sulphur Analysis (GC/SCD) - Gas

SAMPLE TYPE: Gas **SAMPLE ID: 05004278** **DATE RECEIVED: Dec 15, 2009**

DATE SAMPLED: Oct 09, 2009 **DATE REPORTED:**

SAMPLE DESCRIPTION: VULCAN INVESTCAN ROBINSONS#1; DST

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Hydrogen Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Carbonyl Sulphide	ppm (v/v)	1.3		0.1	Dec 18, 2009	YH	Dec 15, 2009
Methyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Ethyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Dimethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Carbon Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
iso-Propyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
tert-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
n-Propyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Methyl Ethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
s-Butyl Mercaptan/Thiophene	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
iso-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Diethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
n-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
tert-Butyl Methyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Dimethyl Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Diethyl Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Total Unidentified Sulphur Compounds	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Total Organic Sulphur	ppm (v/v)	1.3		0.1	Dec 18, 2009	YH	Dec 15, 2009

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard
Field Hydrogen Sulphide : Not Available.
Identification based on retention time relative to standards.
All compounds quantified as ideal gases. Carbonyl sulphide quantified using its standard response factor, all other compounds quantified using Hydrogen sulphide's response factor.
Total organic sulphur includes compounds with chromatographic retention up to and including that of ethyl disulphide.

Certified By:

Certificate of Analysis

CLIENT NAME: VULCAN MINERALS INC. **AGAT WORK ORDER: 09C375947**

PROJECT NO: **ATTENTION TO: SHANE HALLEY**

Trace Sulphur Analysis (GC/SCD) - Gas

SAMPLE TYPE: Gas **SAMPLE ID: 05005092** **DATE RECEIVED: Dec 15, 2009**

DATE SAMPLED: Nov 29, 2009 **DATE REPORTED:**

SAMPLE DESCRIPTION: VULCAN INVESTCAN REDBROOK#2; DST 2

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Hydrogen Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Carbonyl Sulphide	ppm (v/v)	1.7		0.1	Dec 18, 2009	YH	Dec 15, 2009
Methyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Ethyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Dimethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Carbon Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
iso-Propyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
tert-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
n-Propyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Methyl Ethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
s-Butyl Mercaptan/Thiophene	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
iso-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Diethyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
n-Butyl Mercaptan	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
tert-Butyl Methyl Sulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Dimethyl Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Diethyl Disulphide	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Total Unidentified Sulphur Compounds	ppm (v/v)	<0.1		0.1	Dec 18, 2009	YH	Dec 15, 2009
Total Organic Sulphur	ppm (v/v)	1.7		0.1	Dec 18, 2009	YH	Dec 15, 2009

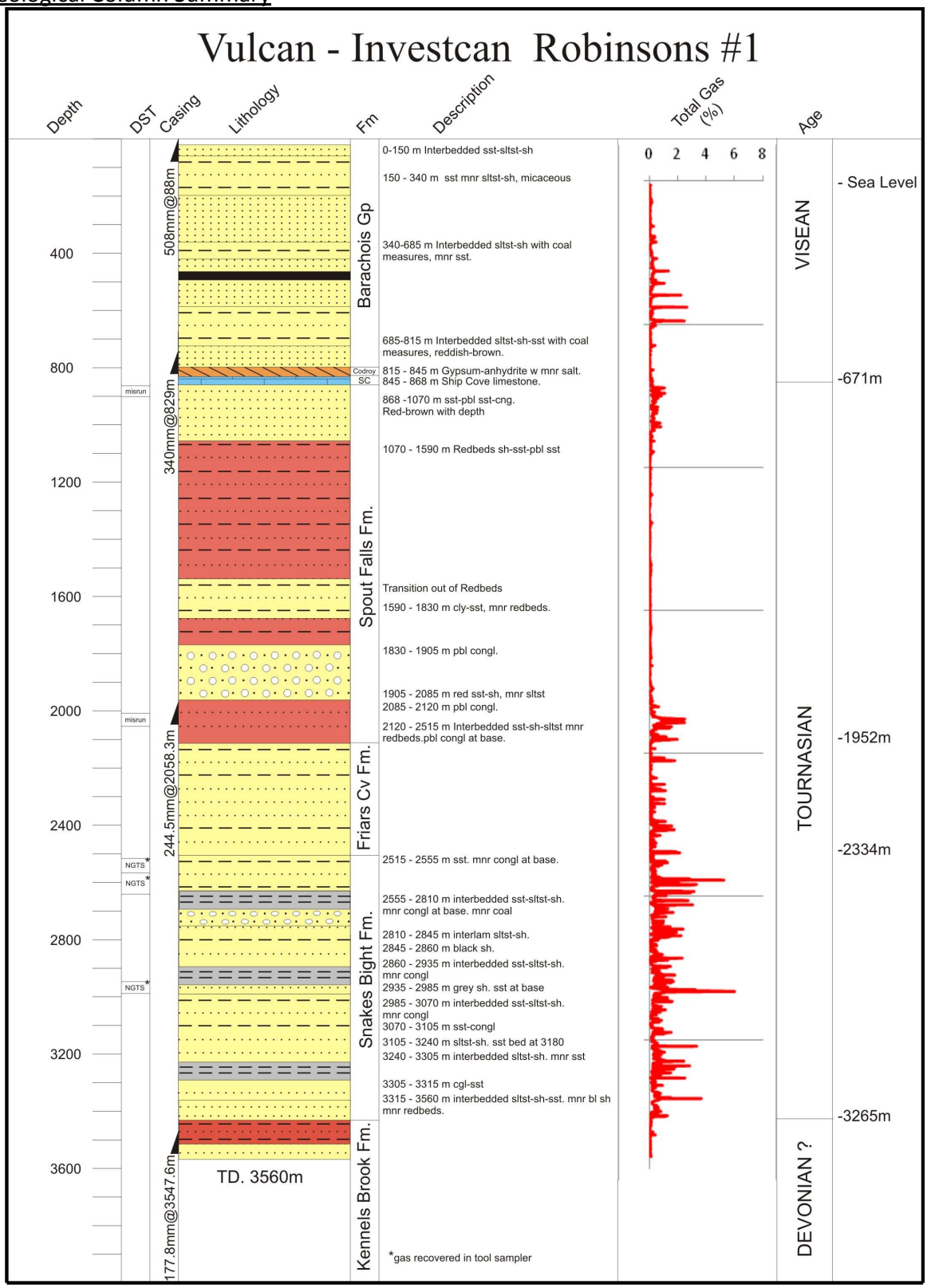
COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard
Field Hydrogen Sulphide : Not Available.
Identification based on retention time relative to standards.
All compounds quantified as ideal gases. Carbonyl sulphide quantified using its standard response factor, all other compounds quantified using Hydrogen sulphide's response factor.
Total organic sulphur includes compounds with chromatographic retention up to and including that of ethyl disulphide.

Certified By:

APPENDIX 6: GEOLOGY REPORT

Geological Column Summary



Geological Report

on

VULCAN INVESTCAN ROBINSONS # 1

(FTD 3560 m)

October 02, 2009

Prepared For: Patrick Laracy

VULCAN MINERALS INC.

Prepared By: J. Michael Smith

JDS CONSULTANTS

403-589-4998 (c)

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ABSTRACT

VULCAN INVESTCAN ROBINSONS # 1 was drilled during the summer of 2009 within the north eastern section of the Bay St. George Basin, (Carboniferous Age, 355 -300 million Years).

The well was located apx 37 km south on the Trans Canada from the main exit for the town of Stephenville, Newfoundland, and 6 km east on a dirt road referred to as the Pasture Road.

Vulcan Minerals Inc. was the Primary contractor / operator with Stoneham # 11, (telescopic triple) the drilling company contracted for the project.

This well abstract is intended as a drilling - time summary verses a detailed "geological summary". Geology information - interesting "zones" will be noted. Please see Geologic Striplog for a detailed Geologic Well Summary.

Depositional environment , Tectonic events, Structural interpretation and "timelines" are not discussed. Please read the publication from the Newfoundland Department of Mines and Energy, (1983), complied by Ian Knight titled Geology of the Carboniferous Bay St. George Sub basin, Western Newfoundland.

Vulcan Investcan Robinsons # 1 was spudded on June 30th, 2009 at 12:30 hrs.

Conductor hole was drilled with a 455 mm pilot hole and opened up to 660 mm. A depth of 88 meters was reached on July 2nd at 18:15 hrs. The first attempt to run the 508 mm Conductor failed due to tight hole and a ledge ? At 45 m. Also, a steady influx of water continued to decrease the viscosity of the mud causing an ongoing problem. The casing was pulled and the conductor hole was reamed to 88 meters. A 18m3 barite sweep was spotted at 25 meters down hole prior to second casing attempt. The 508 mm Conductor was run with a tight spot at 45 meters requiring circulating the casing down to 88 meters. The casing was cemented with WOC on July 5th at 18:15 hrs.

Surface hole of 445 m was drilled ahead on July 7th at 1700 hrs from the 508 mm conductor set at 88 meters. Surveys were taken every single (apx 14 m) and the hole continued to build angle. Fanning was attempted resulting in slower ROP with no results. The bit was POOH at 253 meters on July 10th for Schlumberger Directional tools. A MWD / 1.15 deg motor were RIH and drilling continued. Well bore angle continued to build with 100% sliding to apx 6 degrees and the bit was POOH at a depth of 560 meters on July 14th. The motor was rerun, set up to 1.5 degrees bend angle. Drilling continued with the hole angle slowly brought back to apx 2 degrees prior to Surface Casing Point at 829 meters on July 19th. (***Codroy*** Anhydrite intersected at 815 meters).

Surface casing of 340 mm was run and cemented at 829 m MD with no problems. WOC on July 21st at 00:30 hrs. The diverter was rigged out and the BOPs were built and installed. The Degasser, Manifold Shack, Flair Tank and lines were setup and Pressure Tested prior to drill out.

Intermediate hole of 311 mm was drilled out on July 26th from 829 meters. Schlumberger MWD / Motor set at 1.15 degrees / Tricone was RIH to control well bore build angle. The Codroy Anhydrite was drilled out and the ***Ship Cove*** Limestone member was intersected at apx 845 meters, consisting of dirty Marlstones.
The Top of the ***Spout Falls*** Formation was hit at apx 870 meters with the first signs of minor gas shows within a Cleaner Pebble? Sandstone unit. No ***Fischells Brook*** Conglomerate Member was evident based on cuttings. Drilling continued rotating 100% of the time as the well bore continued to remain vertical under 2 degrees. The Tricone / Schlumberger Directional tools were POOH at a depth of 1058 meters on July 28th, and Schlumberger was released from the well.

A PDC / no motor were RIH and drilling continued within a very uniform Redbed - Sandy Clay interbedded sequence and the bit was POOH at 1491 meters (86 hrs) on August 2nd.

A new PDC was RIH with no motor and drilling continued within the Redbeds until transitioning into a cleaner looking white - greyish clay Sandstone. (Abundant Red and White clays were evident at the shakers and it appeared that the Drill bit was continually "Balling Up". Sawdust was pumped with an attempt to improve the ROP resulting in limited success.

Drilling continued and the Redbeds became prominent from 1710 meters to 1830 meters with some intervals of the whiter clay rich sands. A cleaner Pebble Sandstone to possible Conglomerate was intersected at 1830 meters. The PDC was POOH at 1843 meters on August 7th, due to poor ROP and the unknown potential for damage. Minor damage only was evident on PDC.

A tricone was RIH and drilling continued within the Pebble Sandstone / Conglomerate but was POOH after 17 meters at 1860 meters due to poor ROP.

A PDC was RIH / no motor and drilled from 1860 meters and was POOH at 1867 meters due to poor ROP (down to 0.3 m/hr). The Tricone was rerun and drilling continued from 1867 meters on August 10th within the Sandstone / conglomerate.

The base of the conglomerate / sandstone was at apx 1910 meters when additional Redbeds were intersected. The Tricone was POOH at 1935 meters due to the softer Redbeds and a softer Tricone was RIH and drilled ahead on August 10th at 06:30 hrs.

The tricone bit / no motor drilled ahead from 1935 meters, predominantly within apparent Redbeds. ROP evened out between 2.5 to 3 m/hr within the Redbeds. Drilling continued and stopped at 2063.5 meters for Intermediate Casing and Logging on August 15th at 1330 hrs. Two Logging runs and a third Velocity Seismic Survey were completed.

Two DST"s were attempted after the completion of logging. DST # 1 inflate from 2013 - 2063 m, and DST # 2 straddle from 873-901 m. Both DST"s failed due to leaking packers. See Drilling reports for detailed information.

244.5 mm Casing was run and cemented at 2058.3 meters with no problems. Surface equipment was Pressure Tested with no problems.

216 mm Main Hole was drilled out on August 23rd at 06:45 hrs (7 days after Casing Point). A PDC / motor was RIH and Drilling continued at apx 10 m/hr. A Conglomerate was encountered at 2087 meters. Drilling continued through the conglomerate, softer chalky grey clay grey Sandstones, minor Redbeds, into an apparent Chalky - Clay rich Sandstone based on samples and the PDC was POOH at 2133 meters due to low ROP down to 0.3 m/hr. The PDC was Ringed Out and considered destroyed.

A tricone / no motor were RIH on August 25th and drilling continued in a uniform Sandstone. The top of the ***Friars Cove*** *was picked at 2129 meters* after drilling through the bottom of a massive Conglomerate. Minor seepages (Mud losses) were recorded during this section. Hole angle continued to build during the Bit run. The tele-drift survey tool was recording 4 degrees and holding when the Bit was POOH at 2314 meters.

Schlumberger Directional Tools were picked up with a PDC bit (on motor set 1.5 degrees) and surveying into the hole recorded a maximum hole deviation of 6.5 degrees at 2295 meters. (Verses 4 degrees for mechanical Tele-drift). Drilling continued on August 29th, sliding as required to drop well bore angle back to vertical. Sliding was poor with the PDC and drilling continued down to 2508 meters when a Conglomerate was penetrated and the ROP slowed down to under 1 m/hr. The PDC was POOH, and was in fair shape with some fractured cutter faces and would of been ringed out if left in the hole for any extended time.

ABSTRACT

A tricone was RIH with directional tools (motor set 1.83 degrees) and drilling continued on September 2nd. The ***Snakes Bight*** Formation was penetrated at 2515 meters (Based on the exit / base of the last massive Conglomerate). Drilling continued down to 2762 m and was POOH due to an MWD Failure. The Tricone bit had all of its outside row of inserts broken off but was stilling drilling ahead. The Snakes Bight black Shale / Siltstones were intersected at 2555 meters (Based on major litholgy change - see Striplog).

A PDC was RIH with directional tools (motor set 1.83 degrees) and drilling continued in a Shale - Siltstone sequence on September 6th. (ROP up to 10 m/hr). A Conglomerate was hit at 2800 meters and the PDC was POOH at 2803 m due to ROP slowdown and formation.

A Tricone was RIH with directional tools (motor set 1.83 degrees) and drilling continued on September 7th. A sequence of Shales - Siltstone and some Sandstone were encountered with the occasional Conglomerate. 100% Shale was encountered at apx 2940 meters and drilling continued down to 2967 meters and the Tricone was POOH due to slower ROP.

Pressure Testing was required based on Government Regulations prior to the next bit run.

A Tricone was RIH with directional tools (motor set 1.15 degrees) on September 11th from 2927 m. The well bore continued to build angle and slides up to 8 meters were required due to low set angle on motor of 1.15 degrees. Well bore angle was kept under 6 degrees. POOH at 3110 meters.

A PDC bit was picked up with a motor set 1.15 degrees with added stabilizers. Drilling continued on September 15th. Sliding was very poor and it was hard to set tool face because of PDC and stabilizers. A Sandstone - Conglomerate was hit at 3173 meters and the PDC was POOH at 3180 meters when the ROP had decreased to 0.3 m/hr.

A Tricone was picked up with the motor set at only 1.15 degrees and drilling continued on September 18th. Drilling was smoother and consistent with the tricone and slides were manageable. ROP decreased with depth as harder Sandstones - Siltstones were encountered. Slides up to 8 meters were required to stop the well bore angle from climbing and building above 10 degrees. A failure in the swivel (unable to circulate) resulted in the bit run being terminated at 3285 meters. A new unit was hot shoted from Alberta and 77 hours were lost "waiting on rig repairs". General rig maintenance on motors – tanks, etc were performed while shut down. The BOP's – surface equipment were also pressure tested during the down time.

A Tricone was picked up with the motor set at 1.15 degrees and drilling continued on September 25th from 3285 meters. The well bore angle continued to build to apx 12 degrees as slides were shortened to 3-4 meters. This resulted in the intentional minimizing of build angle in attempt to increase the overall penetration average. The bit was POOH at 3451 meters. The ***Kennels Brook*** "Greenish Sandstones / Redbeds" were intersected at 3405 meters.

A tricone was RIH with motor set at 1.15 degrees and drilling continued on September 29th.

The well was FTD (Final Total Depth) by the office on October 2nd at 1500 hrs, at a depth of 3560 meters within the Kennels Brook's Formation, consisting of Greenish Sands – Siltstones and increasing Redbeds with depth. The prognoses Total Depth of 3600 meters was not needed as the Kennels Brook Formation was higher than the original Seismic indicated.

(see next page)

ABSTRACT

A wiper trip to 3300 meters was performed with no problems. The Directional tools were laid down and Schlumberger was released.

The Drilling Rig waited on the bank, for the Baker Hughes Logging unit for 15 hours due to poor communication with the logging crews flying in to Deer Lake for the job. (Run # 1 was supposed to be the Sonic log but a malfunction in one of the trucks “electronic boards” shut down the operation. The VSP crews showed up and the decision was made to switch the logging run order - Run# 1 was the VSP (Velocity Seismic Profile) with an air gun submerged in a dug pit filled with water (minimum 10x10x5 meters).

The Well bore was handed over to Baker Hughes on October 3rd at 2200 hrs and logging was completed on October 7th at 1400 hrs. No hole problems were encountered and all Baker Logging runs were completed without incident. Total logging time from handover to handover was 88 hours.

The Following Baker Hughes Logging Runs were completed:

Run # 1 - VSP (apx 20 hrs)
Run # 2 – XMAC Sonic (apx. 9 hrs)
Run # 3 – HDIL-ZDL-CN –GR-CAL (apx 11 hrs)
Run # 4 – STAR DIP / IMAGER (apx 13 hrs)
Run # 5 – FMT (apx 11 hrs)
Run # 6 – RCOR (apx 12 hrs)

A clean out trip was completed after logging with no problems or concerns.

Three DST’s over 4 days were completed to further evaluate the well.

DST # 3 rig up started on October 8th at 1000 hrs. The interval 2963 – 2990 meters was tested. No Gas to Surface during the test with 65 meters of drilling mud recovered from the pipe. Sweet gas was collected for analysis from the down hole sample chamber. DST # 3 was completed on October 9th at 1700 hrs. Total operation time for DST # 3 was 31 hours.

DST # 4 rig up started on October 9th at 2100 hrs. The interval 2574 – 2640 meters was tested. No Gas to Surface during the test with 88 meters of drilling mud recovered from the pipe. Drilling mud with Gas was collected from the down hole sample chamber. Mechanical failure of bearing in Shut In tool and leakage around lower packer seal resulted in a partial failure of the test. DST # 4 was completed on October 11th at 0200 hrs. Total operation time for DST # 4 was 29 hours.

DST # 5 rig up started on October 11th at 0300 hrs. The interval 2517 – 2572 meters was tested. No Gas to Surface during the test with 140 meters of drilling mud recovered from the pipe. Drilling Mud with Gas was collected from down hole sample chamber. Mechanical failure of the upper packer seal during Initial Shut In resulted in some fluid drop in the Well Bore and into test zone. Partial failure of Test. DST # 5 was completed on October 12th at 0800 hrs. Total operation time for DST # 5 was 29 hours. Testing operations were completed and Holland testers Released.

The Drill pipe was RIH for a cleanout and to circulate out any gas from well bore (800 units trip gas), and the drill string was POOH sideways and laid down for the running of Casing.

Casing was run on October 13, 2009. 178 mm 42.6 kg/m LTC Casing was run and cemented at 3547.6 meters. Plug down on October 14th at 16:00 hrs.

The Rig was released on October 15th at 12:00 hrs to move over to Vulcan Investcan Red Brook # 2.

Well Summary

Storage Units: Metric

Well Information

Operator:	**Vulcan Minerals Inc**
Well Name:	**Vulcan Investcan Robinsons 1**
Location:	
UWI:	Robinsons 1
Pool:	Wildcat
Field:	Robinsons
State / Province:	Newfoundland
Country:	Canada
License Number:	
Well Status:	**Cased for Future Evaluation**

Surface Co-ordinates

Hole Type: **Fault Indicator:**

Latitude: 48 degs 13 mins 52.3 **Longitude:** 58 degs 37 mins 8.

N / S: North 5343046.987
E / W: West 379774.568

Bottom Hole Co-ordinates

Latitude: **Longitude:**

N / S:
E / W:

Elevations

		Reference:	gd
Ground Elevation:	169.00	**Kelly Bushing to Ground:**	6.00
Kelly Bushing Elevation:	175.30	**Cut (-):**	0.00
Casing Flange Elevation:		**Fill (+):**	0.00

Total Depth

	Measured Depth	**True Vertical Depth**
Total Depth Driller (Tally) :	3,560.00	3,548.55
Total Depth Driller (Strap or SLM):		
Total Depth Logger:	3,557.20	3,545.82

Miscellaneous Depths

Plugback Depth:		**Water Depth Reference:**	
Sidetrack Depth:		**Water Depth:**	

Well Summary

Drilling Contractor:	Stoneham Rig # 11	**Spud Date:**	Jun 30, 2009 @ 12:30
Rig Release Date:	Oct 15, 2009 @ 12:00	**Total Depth Date:**	Oct 2, 2009 @ 15:00

Cores

#	Formation	Interval	Cut	Recovered	%

Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
Conductor	508.0	88.00	660.0
Surface	340.0	829.00	445.0
Intermediate	244.5	2,058.30	311.0
Production	177.8	3,547.60	216.0

Logging Summary

Company	Engineer	Total Depth (MD)	Logging tools
Baker Hghes	Shannon Crewe / L	2,055.60	Velocity Seismic Profile VSP - Measured Points at 15 m intervals
			Full Wave Monoploe Sonic (XMAC-F1
			SLAM ---> High Definition Induction-Gamma Ray-Caliper-Compensation Z-Densilog-Compensated Neutron Log (HDIL-GR-ZDL-CNL-CAL)
Baker Hughes		3,560.00	RCOR Rotary Sidewall Coring Tool (3417 - 2172 m)
			Formation Multi Tester FMT (2979 - 2270 m)
			STAR DIP/IMAGER (Micro Resisitivity-GR) 3560 (FTD) - 2058 (CSG)
			INDUCTION/GR/CALIPER/SP DENSITY/NEUTRON/GR/X-Y CAL HDIL-GR(DSL)-CCAL-SP DGR-ZDL-CN-CCAL 3560 (FTD) - 2058 (CSG) + overlap into Casing
			SONIC (XMAC) 3560 FTD - 2058 (CSG)
			Zero Offset Vertical Seismic Profile / Gamma Ray ZVSP-GR (3560 FTD - 2058 CSG)

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Jul 1, 09	55.00		8.00		SPUD WELL June 30, 2009 @ 1230 hrs Drill Pilot hole 455 mm MD = 36 m Drill 455 mm Pilot hole
Jul 2, 09	40.00	-15.00	6.00	-2.5	Drill 444 mm Pilot hole to 83 meters POOH at 1500 hrs, Lay out BHA and Pick up 660 mm Hole opener Bit, Drill ahead - open hole at 2300 hrs MD = 23 m Drill through to morning opening Conductor Hole.
Jul 3, 09	88.00	48.00	10.00	4.8	Open up drill 660 mm Conductor hole, Drill 83 - 88 m 18:00 hrs - TD, Circ and POOH for Casing MD = 88 m Remove Rotary Table to run Casing (Casing too large for Table opening)
Jul 4, 09	88.00	0.00	0.00	0.0	RIg up and attempt to run 508 mm Conductor to 88 meters, Circ and work Casing to 25 m, Possible water flow from well, Ince Vis of mud, Work pipe down to 42 m Pounding in Casing MD = 88 m (Casing at 42 meters) Continue to try to pound - Circ pipe past 44 meters. 01:30 hrs - POOH with 508 mm Casing Remove false table and install rotary table
Jul 5, 09	88.00	0.00	0.00	0.0	Install rotary table, Pick up BHA - 660 mm Bit and Ream into hole to 88 meters (clean out prior to second attempt at casing Wiper trip at 2200 hrs, CIrc and mix 20 m3 barite sweep to spot Downhole., POOH for Casing Remove Rotary table and instal false table for running casing.
Jul 6, 09	88.00	0.00	0.00	0.0	Remove rotary table 09:15 hrs - Make up and run 508 mm COnductor Csg, Tight spot 45 meters, pound through 16:00 hrs - Casing on btm, Circ - Condition mud Safety meeting with cementers and cement conductor, good cement returns WOC @ 18:30 hrs Cut conductor and weld on flange for Diverter MD = 88 m Weld flange

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Jul 7, 09	88.00	0.00	0.00	0.0	Nipple up Diverter system Clean tanks Install rotary table Make up and weld diverter flow line and complete nipple up procedures MD = 88 m Pick up BHA and RIH to drill out
Jul 8, 09	146.00	58.00	10.00	5.8	Pick up BHA, etc Circ and fill string Repair valves - etc as required, Extend height of flow line - (T extention) RIg service. 16:00 hrs - Drill out shoe 85 to 88 m, FIT for 10 mins @ 70 PSI 17:45 hrs - Drill ahead 444 mm Surface hole MD = 131 m Wellbore angle building - Reduce FOB and increase RPM to Fan Bit, ROP down to 2 m/hr to drop angle
Jul 9, 09	201.00	55.00	20.00	2.8	Repair Suction Line (3 hrs) Control Drill 444 mm Surface hole (slow at apx 2 - 5 m/hr) fanning bit to decrease / stop wellbore angle. MD = 196 m
Jul 10, 09	250.00	49.00	19.00	2.6	Drill ahead 445 mm Surface hole, Fanning with reduced weight to lower wellbore angle, attempt to drill with increased weight but deviation increased, Cnx at 242 m was tight and interval around 226.5 meters was reamed for apx 3 hrs. MD = 242 m Drill ahead Fanning bit to reduce /hold Wellbore angle under 4 degrees.
Jul 11, 09	289.00	39.00	6.00	6.5	Drill ahead 445 mm Surface hole standard rotary 08:00 hrs - POOH at 253 m for Schlumberger tools Lay out BHA, Pick up Motor (set 1.15 degs), MWD - BHA and RIH 16:30 hrs - RIH - Survey to bottom 21:00 hrs - Drill ahead 445 mm hole / Slide as required MD = 264 m Drill through to morning sliding as required for for vertical

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Jul 12, 09	380.00	91.00	15.00	6.1	Drill 445 mm hole, Work on Pumps 0630 - 0930 hrs, drill ahead to 352 m, several thin Coals, work on pumps 2145 - 2345 hrs, ream coaly interval while waiting on repairs MD = 354 m Drill ahead sliding 100 % to hold angle, work on pumps 0330 - 0500 hrs, drill ahead sliding to 0600 hrs
Jul 13, 09	498.00	118.00	18.00	6.6	Work on Pumps - repair Head 07:00 hrs - Drill ahead 445 mm hole, slide to hold angle MD = 468 m Drill through to morning attempting to hold angle, angle building to the NE.
Jul 14, 09	560.00	62.00	13.00	4.8	Drill ahead 445 mm Surface hole to 560 m (Lost 3.5 hours to pump repairs throughout day) 23:30 hrs, Circ hole and prepare to POOH (Hole angle continuing to build) MD = 560 m 01:30 hrs - POOH to change BHA - Motor
Jul 15, 09	606.00	46.00	11.00	4.2	Change out BHA, Set Motor to 1.5 degs, add stab, RIH / MWD/motor 1500 hrs - Drill ahead 445 mm hole (lost 1.5 hrs pump repairs) MD = 588 m Drill through to morning, slide as required to slowly drop wellbore angle.
Jul 16, 09	680.00	74.00	18.50	4.0	Drill ahead 445 mm Surface Hole Slide and survey as required to drop angle under 4 degs (see Surveys), 2 hours on pumps MD = 662 m Drill through to morning
Jul 17, 09	750.00	70.00	19.00	3.7	Drill ahead last 24 hours 445 mm Surface hole, Survey as required MD = 737 m Drill through to morning at apx 4 m/hr
Jul 18, 09	780.00	30.00	10.60	2.8	Drill ahead 445 mm hole 17:45 hrs - drill to 776 m, Circ - etc and POOH at 1900 hrs for bit. Change bit MD = 776 m Change out MWD - RIH 04:30 hrs - Drill ahead 445 mm hole

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Jul 19, 09	829.00	49.00	18.00	2.7	Drill ahead 445 mm hole, Slide and survey as required, Stopped 5 times for pump repairs, Hit Anhydrite at 815 meters, Mud clobbered, add Soda Ash - Thinner to treat, Drill ahead MD = 821 m Drill through to morning in massive Anhydrite, ROP less than 2 m/hr, no Gas. TD for Casing at 829 m @ 0600 hrs in Anhydrite.
Jul 20, 09	829.00	0.00	0.00	0.0	Circ and condition mud at TD Wiper trip / circ and condition on bottom 15:30 hrs - POOH for Casing 21:00 hrs - Lay down Schlumberger Tools 23:00 hrs - RIg up to Run Casing MD = 829 m Level - Jack Rig to run Casing 01:30 hrs - Run 340 mm Casing
Jul 21, 09	829.00	0.00	0.00	0.0	Run 340 mm Csg 17:30 hrs - Circ and condition mud / Csg on bottom 21:45 hrs - Safety meeting, rig and cement casing MD = 829 m 00:30 hrs - WOC, hold 10 mPa for 10 mins 04:40 hrs - Lay down Diverter - etc 06:00 hrs - Nipple Down
Jul 22, 09	829.00	0.00	0.00	0.0	Nipple Down, Cut Casing, clean mud talks, strip surface mud W/O welder 3 hours, heat up Csg bowl MD = 829 m Weld bowl / continue stripping mud
Jul 23, 09	829.00	0.00	0.00	0.0	Nipple up BOP's, (Build up individual components), Pick up Annular Preventer MD = 829 m Nipple up - kill line / HCR
Jul 24, 09	829.00	0.00	0.00	0.0	Continue to work - rig up BOP's Make / weld Flow Nipple - line Spot degasser and manifold shack and hook up lines MD = 829 m Complete flow line and lines hookup Prepare to pressure test

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Jul 25, 09	829.00	0.00	0.00	0.0	Pressure test manifold shack 12:00 hrs - Attempt to install wear bushings 14:15 hrs - RIH slick - open ended 17:15 hrs - Level Rig with cranes 20:15 hrs - POOH 23:00 hrs - Attempt to remove cement from collar MD = 829 m Start Pressure Testing BOP's through to morning.
Jul 26, 09	834.00	5.00	1.70	2.9	Pressure test BOP's Install Flow T and Line Intstall Flair line and Degasser 15:45 hrs - Make up BHA - Schlumberger Motor - MWD 18:00 hrs - RIH MD = 829 m Tag cmt at 815 m, Drill out cmt - float and shoe 04:14 hrs - Drill ahead 311 mm Intermediate hole from 829 m Displace to Poly Mud 06:00 hrs - 834 m
Jul 27, 09	931.00	97.00	21.00	4.6	Drill ahead last 24 hrs / MWD - Motor (Rotate 100% - no sliding. (angle staying under 2 degs) MD = 904 m Drill through to morning 06:00 hrs = 931 m
Jul 28, 09	1,016.00	85.00	21.00	4.0	Drill ahead last 24 hours MD = 996 m Drill through to morning (survey as required, no sliding, well bore remaining vertical
Jul 29, 09	1,058.00	42.00	11.00	3.8	Drill ahead and rotate 18:30 hrs - 1058 m - CIcr and POOH to drop Schlumberger and pick up PDC / no motor MD = 1058 m Lay down Schlumberger and Make up new BHA with PDC 05:00 hrs - RIH to drill ahead
Jul 30, 09	1,147.00	89.00	17.50	5.1	RIH / PDC (no Motor) 10:30 hrs - Drill ahead 311 mm hole MD = 1124 m Drill through to morning
Jul 31, 09	1,267.00	120.00	21.50	5.6	Drill ahead last 24 hours / PDC MD = 1237 m Drill through to morning at apx 6 m/hr
Aug 1, 09	1,375.00	108.00	21.50	5.0	Drill ahead last 24 hours MD = 1350 m Drill through to morning at apx 6 m/hr

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Aug 2, 09	1,467.00	92.00	21.50	4.3	Drill ahead last 24 hours MD = 1452 m Drill through to morning with ROP 2 - 6 m/hr
Aug 3, 09	1,514.00	47.00	12.00	3.9	Drill ahead to 1491 m 14:00 hrs - POOH for bit MD = 1491 m 01:00 hrs - Drill ahead to morning / new PDC at apx 7 m/hr
Aug 4, 09	1,606.00	92.00	22.00	4.2	Drill ahead last 24 hours MD = 1589 m Drill through to morning in a softer chalky wh Sst ?
Aug 5, 09	1,690.00	84.00	22.00	3.8	Drill ahead last 24 hours MD = 1670 m Drill through to morning at apx 6 m/hr with slower beds donw to 3 m/hr
Aug 6, 09	1,767.00	77.00	22.00	3.5	Drill ahead last 24 hours MD = 1747 m Drill through to morning - Drillbit balling up from clays
Aug 7, 09	1,843.00	76.00	23.00	3.3	Drill ahead last 26 hrs. MD = 1826 m Drill ahead to 0800 hrs @ 1843 m, ROP down to 1.5 m/hr with some Qtz, Cherty ? - Lithics fractured frags / Sands - Shales. Circ to POOH.
Aug 8, 09	1,843.00	0.00	0.00	0.0	Drill ahead to 1843 m, ROP down to 1.5 m/hr / PDC - Possible Conglomerate in samples. 08:00 hrs - Circ and POOH for bit Pick up tricone, Pick up new jars. MD = 1843 m Top pipe ram blocking hole, Manually open ram, Repair Rams. Pick up Tricone and RIH to 382 m, Pressure test rams 03:00 hrs - RIH to bottom
Aug 9, 09	1,860.00	17.00	14.00	1.2	Drill ahead slow and steady all day at apx 1.5 m/hr to 1860 m 21:15 hrs - Circ and POOH for PDC MD = 1860 m 04:00 hrs - Make up new (506) PDC and RIH

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Aug 10, 09	1,867.00	7.00	6.50	1.1	RIH with PDC to drill ahead 10:30 hrs - Drill ahead with PDC very slow at 1 - 1.5 m/hr Drill ahead with PDC very slow to 1867 m (7.5 hr) ROP down to 0.3 m/hr 18:30 hrs - Circ and POOH for Tricone MD = 1867 m POOH - Pick up Rerun Tricone and RIH
Aug 11, 09	1,894.00	27.00	22.00	1.2	Drill ahead last 24 hrs slow MD = 1889 m Drill through to morning at apx 1 m/hr.
Aug 12, 09	1,933.00	39.00	22.00	1.8	Drill ahead last 24 hours ROP picked up at apx 1907 meters - Some Red clays at shakers MD = 1921 m Drill throught to morning, ROP slowing down, Last meter drilled high torque, Circ to POOH
Aug 13, 09	1,945.00	12.00	9.00	1.3	Circ and POOH for Bit, Pick up new Tricone bit and RIH 20:30 hrs - Drill ahead with new 311 mm Tricone Bit. MD = 1938 m Drill throught to morning in apparent sandy Redbeds at apx 1.1 m/hr.
Aug 14, 09	1,989.00	44.00	22.00	2.0	Drill ahead last 24 hours MD = 1972 m Drill through to morning at apx 3 m/hr
Aug 15, 09	2,047.00	58.00	22.00	2.6	Drill ahead last 24 hours MD = 2031 m Drill throught to morning at apx 2.5 m/hr
Aug 16, 09	2,063.50	16.50	7.00	2.4	Drill ahead to 2063.5 m 13:30 hrs - TD - Circ - Wiper trip to 1700 m, No Problems, Circ 21:00 hrs - POOH to Log (lay out BHA) MD = 2063.5 m 02:00 hrs - Safety meeting with Baker / RIg up Log # 1 (HDIL-SP-ZDL-CNL-GR-CAL) - RIH to bottom and Log 06:00 hrs - Log # 1

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Aug 17, 09	2,063.50	0.00	0.00	0.0	Run Log # 1 HDIL-GR-ZDL-CNL-CAL 08:30 hrs - Rig Up Log # 2 (XMAC-F1) Sonic 14:30 hrs - Complete Log # 2 - RIH 11 Stands to displace 30+ meters of fluid in hole for VSP, POOH with no hole fill pump on 15:30 hrs - Rig up Log # 3 (VSP) and RIH MD = 2063.5 m Log VSP 07:00 - Rig out VSP and Rig out Baker Hughes - Release Prepare to RIH for Cleanout
Aug 18, 09	2,063.50	0.00	0.00	0.0	Logging Tools rigged Out, RIH for Cleanout 14:00 hrs - Circ and condition 17:00 hrs - POOH for DST # 1 22:00 hrs - Make up Tools for DST MD = 2063.5 m 02:00 hrs - RIH for DST # 1
Aug 19, 09	2,063.50	0.00	0.00	0.0	RIH / DST # 1 Convential and attempt to set at 2013 m to test bottom of hole. UNABLE to obtain packer seal with formation. 1100 hrs - POOH to check DST # 1 Assembly 14:30 hrs - 1174 m - Hole not taking proper fluid amount, RIH 2 stds and circ B.Up's - no gas, Flow Check - POOH 22:00 hrs - Handle test tools and remove recorders MD = 2063.5 m 01:00 hrs - Packers in good shape - no damage, Remove packers and pressure test - DST # 1 failure unknown. 03:45 hrs - Continue handling test tools - Pick up DST # 2 Straddle assembly.
Aug 20, 09	2,063.50	0.00	0.00	0.0	Make up DST # 2 Straddle to test 873-901 m RIH 15:30 hrs - Inflate packers and open tool - Mud leaking into tool through packers from hole, Shut in for apx 90 mins, Open tool - Mud leaking through packer, Close tool and shut in 23:30 hrs - Deflate packers MD = 2063.5 m POOH with DST # 2 04:00 hrs - Rig out Test tools to Run casing.
Aug 21, 09	2,063.50	0.00	0.00	0.0	Tear out DST # 2 (failed) and Release Testers 11:15 hrs - Rig up and Run 244.5 mm Csg MD = 2063.5 m

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Aug 22, 09	2,063.50	0.00	0.00	0.0	Run Casing to 2058.5 m Circ and Condition Mud 21;15 hrs - Rig to and Cement Casing 23:15 hrs - WOC MD = 2063.5 m Hold back pressure on casing for 1 hour 01:00 hrs - Rig out cementers - etc, WOC 06:00 hrs - Start pressure testing
Aug 23, 09	2,067.00	3.50	0.50	7.0	Pressure Test Manifold etc 11:45 hrs - Install wear bushing 14:45 hrs - Pick up Mud motors and adjust to 1.15 degs, Pick Up BHA and RIH to 329 m 19:30 hrs - Pressure Test BOPS MD = 2063.5 m 01:00 Hrs - RIH, slip and cut, Tag float - drill out cmt 06:45 drill out shoe and ahead.
Aug 24, 09	2,130.00	63.00	21.00	3.0	Drill out shoe and ahead 08:00 hrs - FIT to 16 kpa at 2067 m Drill ahead 216 mm hole with motor / PDC at apx 10 m/hr in Redbeds Hit top Friars Cove at 2086 m (Conglomerate) ROP slowing down / varied, Torque - Motor stalling MD = 2117 m Drill through erratically to morning.
Aug 25, 09	2,139.00	9.00	8.00	1.1	Drill ahead to 2133 m, ROP down to 0.3 m/hr 10:00 hrs - POOH - PDC Ringed Out Make up tricone - drop motor, pick up jars 20:00 hrs - RIH with new Tricone / no motor MD = 2133 m 01:30 hrs - Break in bit - Drill ahead at apx 1.5 m/hr
Aug 26, 09	2,192.00	53.00	22.00	2.4	Drill ahead last 24 hours. MD = 2178 m Drill through to morning at apx 2 m/hr.
Aug 27, 09	2,246.00	54.00	22.00	2.5	Drill ahead 216 mm hole @ 2218 m, Survey out to 4 degs, Reduce FOB and Increase RPM to Fan bit to drop angle. MD = 2235 m Drill through to morning at apx 2 m/hr.
Aug 28, 09	2,289.00	43.00	22.00	2.0	Drill ahead last 24 hours MD = 2279 m Drill ahead to morning at apx 1.5 m/hr in a finer - silty Calcs Sand

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Aug 29, 09	2,314.00	25.00	14.00	1.8	Drill ahead, fanning at apx FOB 12000, RPM 115 to bring back angle, Steady at 4 degs 21:30 hrs 2314 m, Circ and POOH for Directional Tools MD = 2314 m POOH 06:00 hrs - Make up Directional Tools
Aug 30, 09	2,352.00	38.00	11.00	3.5	Pick up tools - BHA, RIH, SLip and cut, Flow checks into hole Survey at points RIH 15:00 hrs - Drill ahead 216 mm main hole MD = 2335 m Drill through to morning.
Aug 31, 09	2,404.00	52.00	22.00	2.4	Drill ahead last 24 hours MD = 2385 m Drill through to morning in a softer chalky Calcs Sltst
Sep 1, 09	2,449.00	45.00	22.00	2.0	Drill ahead last 24 hours / PDC MD = 2385 m Drill through to morning.
Sep 2, 09	2,508.00	59.00	21.00	2.8	Drill ahead, slide as required to maintain wellbore angle apx 4.5 degs MD = 2508 m Attempt to slide, Attempt to drill at 2508 m, 0500 hrs - Circ and POOH for PDC
Sep 3, 09	2,542.00	34.00	10.50	3.2	POOH with PDC, adjust motor up to 1.5 degs, RIH with Dir. Tools 18:30 hrs - Drill ahead with Tricone / motor / MWD MD = 2522 m Drill through to morning at apx 4 m/hr
Sep 4, 09	2,622.00	80.00	22.00	3.6	Drill ahead last 24 hours MD = 2601 m Drill through to morning
Sep 5, 09	2,709.00	87.00	22.00	4.0	Drill ahead last 24 hours MD = 2685 m Drill through to morning at apx 5 m/hr
Sep 6, 09	2,762.00	53.00	17.00	3.1	Drill ahead at apx 5 m/hr, slide to hold angle under 4 degs MD = 2760 m Drill to 2762 m (MWD Failure) 01:45 hrs - POOH for MWD - Drill bit

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Sep 7, 09	2,803.00	41.00	24.00	1.7	POOH, change out MWD - Motor - RIH with PDC, motor set 1.83 degs 17:45 hrs - Drill ahead with PDC apx 10 m/hr no problems Attempt to slide at 2779 m, Poor - very hard to maintain tool face with PDC MD = 2781 m Drill through to morning, ROP slowing, Hit Conglomerate at apx 2800 m, Drill to 2803 m, ROP down to 1 m/hr 08:30 hrs - Circ to POOH
Sep 8, 09	2,818.00	15.00	8.00	1.9	POOH due to formation, Drop PDC and pick up Tricone, RIH 21:00 hrs - Drill ahead MD = 2808 m Drill through to morning, Slide as required to drop wellbore to vertical
Sep 9, 09	2,871.00	53.00	22.00	2.4	Drill ahead last 24 hours MD = 2858 m Drill through to morning at apx 2.5 m/hr
Sep 10, 09	2,916.00	45.00	22.00	2.0	Drill ahead last 24 hours MD = 2906 Drill through to morning at 1.5 m/hr (sliding) Unable to get hole angle under 3 degs
Sep 11, 09	2,967.00	51.00	23.00	2.2	Drill ahead last 24 hours MD = 2955 m Drill through to morning. 08:00 hrs - Circ to POOH for Bit and Pressure test
Sep 12, 09	2,970.00	3.00	1.50	2.0	Circ and POOH 15:00 hrs - OOH - Lay out MWD - etc 17:00 hrs - Pressure Test Surface Equiptment - BOP's 21:00 Make up MWD - Scribe Motor, BHA, Pick up Jars MD = 2967 m RIH 04;30 hrs - Drill ahead 216 mm hole (motor set 1.5 degs)
Sep 13, 09	3,031.00	61.00	22.00	2.8	Drill ahead last 24 hours MD = 3016 m Drill through to morning
Sep 14, 09	3,081.00	50.00	22.00	2.3	Drill ahead last 24 hours Hole angle has built out to 6 degs - forced to slide 50% to hold MD = 3070 m Slide as required to hold 6 degs (hopefully drop) Drill ahead at apx 1.5 m/hr due to extra sliding

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Sep 15, 09	3,110.00	29.00	16.00	1.8	Drill ahead 216 mm main hole within a Sand / Conglomerate MD = 3110 m Circ and POOH for Bit due to slow ROP
Sep 16, 09	3,127.00	17.00	8.00	2.1	POOH for bit Set motor 1.15 degs, add stabs, Make up BHA, RIH, slip and cut, Wash and ream into hole from 2994 - 3110 m 20:45 hrs - Drill ahead / PDC MD = 3120 m Drill through to morning attempting to slide (7 meters in rotations / sliding in 6 hrs)
Sep 17, 09	3,168.00	41.00	22.00	1.9	Drill ahead last 24 hours MD = 3157 m Drill through to morning - Poor attempted slides throughout last 24 hours
Sep 18, 09	3,180.00	12.00	11.00	1.1	Drill ahead - hold angle at apx 6 degs, SLow ROP after slide at 3172 m, ROP slowing down to 0.3 m/hr by 3180 m 17:30 hrs - Circ and POOH with PDC due to slow ROP. MD = 3180 m Change out Motor - Pick up Tricone, RIH, Slip and Cut at shoe
Sep 19, 09	3,216.00	36.00	15.00	2.4	POOH Change out motor - RIH with Tricone Ream last 3 singles to bottom 14:00 hrs - Drill ahead / tricone MD = 3203 m Drill through to morning, Slide - Angle out to 8 degs
Sep 20, 09	3,258.00	42.00	22.00	1.9	Drill ahead last 24 hours, Sliding to hold wellbore under 10 degs. MD = 3249 m Drill through to morning Sliding at apx 1.5 m/hr
Sep 21, 09	3,284.00	26.00	18.00	1.4	Drill ahead 216 mm hole MD = 3282 m Drill to 3284 m, POOH due to failure of quill sub on Swivel / kelly.
Sep 22, 09	3,284.00	0.00	0.00	0.0	Wait on Swivel Repair / Cornerbrook - New Unit left Monday from Alberta
Sep 23, 09	3,284.00	0.00	0.00	0.0	Waiting on delivery of new swivel from Alberta
Sep 24, 09	3,284.00	0.00	0.00	0.0	Waiting on delivery of new swivel from Alberta

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Sep 25, 09	3,284.00	0.00	0.00	0.0	Wait on Swivel Make up BHA - Motor - Bit, RIH to 300 m 20:30 hrs - Swivel on location - Install and Test Swivel MD = 3284 m RIH - Wash 2 singles to bottom 06:00 hrs - Drill ahead 216 mm hole, motor 1.15 degs / Tricone
Sep 26, 09	3,326.00	42.00	22.00	1.9	Drill ahead last 24 hours MD = 3315 m Drill through to morning / Slide 3 m per 14 with 1.15 motor to hold angle at apx 8.5 degs
Sep 27, 09	3,380.00	54.00	22.00	2.5	Drill ahead last 24 hours MD = 3369 Drill through to morning
Sep 28, 09	3,425.00	45.00	22.00	2.0	Drill ahead last 24 hours MD = 3415 m Drill ahead - slide apx 3 m / 14 m single to slow build angle Hole angle currently 12 degs +
Sep 29, 09	3,451.00	26.00	14.00	1.9	Drill ahead to 3451 m (Slide to hold angle apx 12 degs) 21:00 hrs - Circ and POOH for Bit (76 bit hours) MD = 3451 m POOH, Change out bit - motor
Sep 30, 09	3,471.00	20.00	11.00	1.8	Make up BHA - Motor - Tricone (6-1-7) and RIH, Slip and Cut, RIH, Ream to bottom from 3406 m 17:30 hrs - Drill ahead at apx 1.5 m/hr MD = 3462 m Drill through to morning at apx 1.5 m/hr
Oct 1, 09	3,509.00	38.00	22.00	1.7	Drill ahead last 24 hours Slide to hold angle apx 12 degs MD = 3499 m Drill through to morning at apx 1.5 m/hr
Oct 2, 09	3,547.00	38.00	22.00	1.7	Drill ahead last 24 hours MD = 3538 Drill through to morning, Slide to hold Hole angle under 13 degs.
Oct 3, 09	3,560.00	13.00	8.00	1.6	Drill ahead to 3560 m 15:00 hrs FTD well 3560 m Wiper trip to 3300 m Circ BU's TG = 28 u POOH to log MD = 3560 m POOH - Lay out Jars - Directional tools

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Oct 4, 09	3,560.00	0.00	0.00	0.0	Break out Bit 06:45 hrs - Wait on Loggers (Deer Lake Airport) 20:30 hrs - Baker Loggers on location 23:30 hrs - Rig up Sonic - MD = 3560 m 01:00 - Trouble shoot tool, Rig up other tools - Trouble Shoot Truck 03:30 - Wait on Parts from Baker Truck comming across on Ferry in morning 06:00 - Wait on Loggers for Truck Parts
Oct 5, 09	3,560.00	0.00	0.00	0.0	Wait on parts for Logging truck 09:00 hrs - VSP personnel on location - Decision to run VSP Run in 11 stands to displace wellbore fluid 30 meters for log. Rig up RUN # 1 VSP equiptment (airgun + compressors) 12:00 hrs - Safety meeting with loggers - Rig up VSP wireline and RIH for survey MD = 3560 m 03:00 hrs - Lay out VSP Tools Attempt to switch pannel boards in trucks - no go. Set up Logging command in Special services truck and rig in Sonic log
Oct 6, 09	3,560.00	0.00	0.00	0.0	Rig and Run #2 XMAC SONIC 15:00 hrs - Rig and RUN # 3 HDIL-GR ZDL-CN MD = 3560 m 02:00 hrs - Rig and RUN #4 STAR DIP / IMAGER
Oct 7, 09	3,560.00	0.00	0.00	0.0	Run # 4 - Star Dip / Imager 1500 hrs - Rig up and RUN # 5 - FMT MD = 3560 m 0200 hrs - Rig up and RUN #6 - RCOR (Sidewall Cores)
Oct 8, 09	3,560.00	0.00	0.00	0.0	Cut Sidewall Cores (RUN # 6 RCOR) 14:00 hrs - Rig out Loggers 16:00 hrs - RIH - Clean out trip 23:00 hrs - Circ B.Ups (147 units) MD = 3560 m 02:30 hrs - POOH for DST # 1

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Oct 9, 09	3,560.00	0.00	0.00	0.0	POOH for DST # 1 10:00 hrs - Safety meeting with Tester, RIH with tail pipe apx 500 m 11:30 hrs - Make up DST # 1 Tools 13:30 hrs - Install Recording Tools and RIH 18:00 hrs - Slip and Cut at 1700 m, RIH 23:00 hrs - On Bottom for DST # 1 2963-2990 m Pick up Manifold - Chick Stands and rig up MD = 3560 m 00:00 hrs - Set and open tool (preflow) 00:18 hrs - Shut in Well apx 1 hrs 01:45 hrs - Open Tool for Main flow 02:45 hrs - Final Shut In 09:00 hrs - DST # 1 Completed, Release tool and POOH
Oct 10, 09	3,560.00	0.00	0.00	0.0	POOH with DST # 3 17:00 hrs - Recover 65 meters drilling mud from pipe, gas ? sample from test chamber, Break down test tools 21:00 hrs - RIH with more tailpipe (apx 920 m total), Make up DST # 4, change spacing, install recorders MD = 3560 m RIH with DST # 4 07:00 hrs - On bottom with tailpipe, Safety meeting with Tester, Rg up surface manifold - etc for test.
Oct 11, 09	3,560.00	0.00	0.00	0.0	On Bottom with DST #4 and run Test 16:30 hrs - Test completed, Release tool with difficulty to POOH 17:30 hrs - 1 hr to Break free DST - POOH with DST # 4 MD = 3560 m Collect samples - Remove Packers damaged, break down test tools 03:00 hrs - Change out Bottom packer - continue to break down tools 05:30 hrs - Make up DST # 5
Oct 12, 09	3,560.00	0.00	0.00	0.0	RIH with DST # 5 to test lower Friars Cove 2517 - 2572 m 13:00 hrs - Start DST # 5 23:15 hrs - DST # 5 Finished, POOH MD = 3560 m POOH with DST # 5 and recover samples from Drilling mud recovered

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Oct 13, 09	3,560.00	0.00	0.00	0.0	Lay down DST # 5 - recover samples - break down tools and release Holland Testers 11:00 hrs - RIH for Cleanout trip prior to Casing 20:00 hrs - Hole clean - POOH sideways - Lay out drill pipe for Casing MS = 3560 m Continue to POOH / Lay down pipe for Casing.
Oct 14, 09	3,560.00	0.00	0.00	0.0	POOH - Lay Down Drill string for Casing 10:30 - OOH - Retrieve wear bushing 11:30 - Level Rig 12:30 - Rig to and run 177.8 mm Main Casing MD = 3560 m (Csg at 2024 m) Run casing throughout night
Oct 15, 09	3,560.00	0.00	0.00	0.0	Run 178 mm Casing 10:00 hrs - Circ and Condition Mud / Casing 12:00 hrs - Cement Long String @ 3547.6 m 16:00 hrs - WOC - Rig out Cementers Clean tanks - Prepare to and start rigging out to move MD = 3560 m Prepare to move rig Rig Release 1200 hrs Oct 15, 2009

Casing Type	Casing Size	Casing Landed @	Hole Size
Conductor	508.0	88.00	660.0
Surface	340.0	829.00	445.0
Intermediate	244.5	2,058.30	311.0
Production	177.8	3,547.60	216.0

Bit Record Table (IADC Grading System)

Storage Units: Metric

**** For more detailed Bit Information refer to Bit Record ****

Bit #	Make	Type	Size	Depth In	Depth Out	Made	Hours	Avg. P.R.	I.A.D.C. Bit Condition								
									I	O	MDC	Loc	B	G	ODC	RP1	RP2
1	SDGH		444.0	10.0	83.0	73.0	21.50	3.40	1	3	SS	G	5		WT	BHA	
2	Hughes	XH+C	660.0	10.0	88.0	78.0	15.00	5.20	1	1	WT	A	2	1	NO	TD	
3	Reed	415X	444.0	88.0	253.0	165.0	48.50	3.40	2	3	WT	A	1	1		BHA	
4	Reed	T41C	445.0	253.0	776.0	523.0	119.25	4.39	2	2	WT	A	6	2	RG	HR	
RR3	Reed	T41C	445.0	776.0	829.0	53.0	20.50	2.59	1	1	WT	A	1	2	RG	TD	
5	Hughes	GX-28DX	311.0	829.0	1,058.0	229.0	50.75	4.51	3	8	BC	G	E	4	WT	FM	BHA
6	Hughes	HC506ZX	311.0	1,058.0	1,491.0	433.0	89.50	4.84	2	3	CC	H	X	3		PR	
7	Hughes	HCM506Z	311.0	1,491.0	1,843.0	352.0	92.50	3.81	1	2	CC	A	X	1	CC	PR	FM
8	Hughes	HR-S35D	311.0	1,843.0	1,860.0	17.0	13.25	1.28	1	1	NO		E	I	NO	PR	
9	Hughes	HCM506	311.0	1,860.0	1,867.0	7.0	13.25	0.53	5	5	BC	A	X	I	CC	PR	FM
8RR	Hughes	HR53DDX	311.0	1,867.0	1,935.0	68.0	38.25	1.78	0	1	WT	A	E	I	WT	PR	
10	Hughes	M4188ZD	311.0	1,935.0	2,063.5	128.5	59.25	2.17	1	3	BT	H	0	1	WT	TD	LOG
11	Reed	DSX811M	216.0	2,063.5	2,133.0	69.5	23.75	2.93	1	8	RO	S	X	I	LT	PR	
12	Hughes	MX30GDX	216.0	2,133.0	2,314.0	181.0	85.25	2.12	1	1	WT	N	1	1	WT	BHA	
13	Hughes	CH506ZX	216.0	2,314.0	2,508.0	194.0	77.00	2.52	2	3	CT	A	X	1	CC	PR	
14	Reed	R30APDH	216.0	2,508.0	2,762.0	254.0	69.75	3.64	2	6	BT	H	3	1	CT	DTF	
15	Hughes	HC505ZX	216.0	2,762.0	2,803.0	41.0	13.75	2.98	2	2	BC	A	X	1	NO	PR	FM
16	Hughes	MX-30GD	216.0	2,803.0	2,967.0	164.0	77.00	2.13	2	6	BT	H	E	1	CT	PR	
17	Reed	R30APDH	216.0	2,967.0	3,110.0	143.0	62.50	2.29	7	7	BT	A	E	I	CT	PR	
18	Hughes	HC506ZX	216.0	3,110.0	3,180.0	70.0	41.00	1.71	2	3	WT	A	X	1	BC	PR	
19	Hughes	GX-38CD	216.0	3,180.0	3,284.0	104.0	51.00	2.04	2	2	BT	M	E	I	TR	RIG	
20	Reed	R34APDH	216.0	3,284.0	3,451.0	167.0	76.50	2.18	4	7	BT	H	E	2		PR	
21	Hughes	GX-44GD	216.0	3,451.0	3,560.0	109.0	64.75	1.68	3	3	BT	A	E	1		TD	

Total Rotating Hours: 1,223.75

Wireline Logging Summary

Storage Units: Metric

Logging Suite Number: 1
Wireline Logging Company: Baker Hghes
Engineer: Shannon Crewe / Lloyd Hicks
District: Nisku
Unit Number: E6558
Witness: Michael Smith

Was Pressure Control Equipment Utilized: No
Was the Logging Job Mechanically Assisted: No
Maximum Deviation: 2.000 °
Hole Size: 311.0

Total Lost Time: 0.00
Loggers' Total Down Time: 0.00
Total Job Time (From Rig up to Rig down): 28.00

	Measured Depth	True Vertical Depth
Casing Depth Driller	825.20	823.77
Casing Depth Logger	829.00	827.56
Total Depth Driller (Tally)	2,055.60	2,053.84
Total Depth Driller (Strap or SLM)	2,065.23	

General Remarks: No Problems

Three Runs (SLAM) - Sonic - VSP
Second run was sticky on bottom and shallower than first run
Apparent lots of debris falling on VSP during logging

Great crews - very efficient throughout job.

Logging Run #: 1
Date: Aug 16, 2009

Drilling Fluid Data

Drilling Fluid Type: Polymere (water)
Fluid Density: 1080.0 **Viscosity:** 90 **pH:** 11.0 **Fluid Loss:** 8.3

Mud Resistivity (Rm):	0.21	@	43.9 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	45.8 º	**Maximum Temperature:**	45.8 º
Mud Filtrate Resistivity (Rmf):	0.18	@	43.9 º	**Source (Rmf):**	Measured
Mud Cake Resistivity (Rmc):	0.26	@	43.9 º	**Source (Rmc):**	Measured

Logging Run Information

Date on Bottom: Aug 16, 2009
Total Depth Logger: 2,055.60 (MD) 2,055.60 (TVD)

Logging Tools: SLAM ---> High Definition Induction-Gamma Ray-Caliper-Compensation Z-Densilog-Compensated Neutron Log (HDIL-GR-ZDL-CNL-CAL)

Remarks: No Problems

Run # 1 (5 hrs 15 mins)

Hole Conditions: Excellent

Logging Run #: 2
Date: Aug 16, 2009

Drilling Fluid Data

Drilling Fluid Type: Polymere (water)
Fluid Density: 1080.0 **Viscosity:** 90 **pH:** 11.0 **Fluid Loss:** 8.3

Mud Resistivity (Rm):	0.21	@	43.9 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	45.8 º	**Maximum Temperature:**	45.8 º
Mud Filtrate Resistivity (Rmf):	0.18	@	43.9 º	**Source (Rmf):**	Measured
Mud Cake Resistivity (Rmc):	0.26	@	43.9 º	**Source (Rmc):**	Measured

Logging Run Information

Date on Bottom: Aug 16, 2009
Total Depth Logger: 2,055.60 (MD) 2,055.60 (TVD)

Logging Tools: Full Wave Monoploe Sonic
(XMAC-F1

Remarks: Repeat not done on bottom due to stickness..
Main run logged and Repeat (60 m) done below shoe after main pass.

Run # 2 (5 hrs - 40 mins)

Hole Conditions: Good - Sticky on bottom - 2000 lbs overpull coming off bottom

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 3
Date: Aug 16, 2009

Drilling Fluid Data

Drilling Fluid Type: Polymere (water)

Fluid Density:	1080.0	**Viscosity:**	93	**pH:**	11.0	**Fluid Loss:**	8.3

Mud Resistivity (Rm):	0.21	@	43.9 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	45.8 º	**Maximum Temperature:**	45.8 º
Mud Filtrate Resistivity (Rmf):	0.18	@	43.9 º	**Source (Rmf):**	Measured
Mud Cake Resistivity (Rmc):	0.26	@	43.9 º	**Source (Rmc):**	Measured

Logging Run Information

Date on Bottom: Aug 6, 2009
Total Depth Logger: 2,055.60 (MD) 2,055.60 (TVD)

Logging Tools: Velocity Seismic Profile
VSP - Measured Points at 15 m intervals

Remarks: Pit was dug apx 60 meters from well centre 5mx5mx5m for Air Gun.
Apx 4 meters water only in pit.
Run # 3 (12 hrs 45 mins)

Report for VSP Emailed to office.

Hole Conditions: Good

Wireline Logging Summary

Storage Units: Metric

Logging Suite Number:	2		
Wireline Logging Company:	Baker Hughes	**Engineer:**	Shannon Crewe / Lloyd Hicks
District:	Nisku	**Unit Number:**	E6558
Witness:	Michael Smith		

Was Pressure Control Equipment Utilized:	No	**Maximum Deviation:**	12.000 º
Was the Logging Job Mechanically Assisted:	No	**Hole Size:**	216.0

Total Lost Time:	27.00
Loggers' Total Down Time:	12.00
Total Job Time (From Rig up to Rig down):	

	Measured Depth	True Vertical Depth
Casing Depth Driller	2,058.30	2,056.54
Casing Depth Logger	2,055.40	2,053.64
Total Depth Driller (Tally)	3,560.00	3,548.55
Total Depth Driller (Strap or SLM)		

General Remarks: Bad start to Job. On bank Saturday morning and waited 15 hours for crews to fly in from out of provience. 1st run (Sonic) was aborted when there was an electronics frailure in a "board" on the logging truck. Decision made Sunday after VSP crews arrived to run Velocity Survey with air gun Sunday afternoon.

Six runs in total with no problems once job got started.

Hole conditions excellent over the 4 days.

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 1
Date: Oct 3, 2009

Drilling Fluid Data

Drilling Fluid Type: Poly
Fluid Density: 1125.0 **Viscosity:** 65 **pH:** **Fluid Loss:**

Mud Resistivity (Rm): @ °
Mud Resistivity (Rm) @ BHT: @ ° **Maximum Temperature:** °
Mud Filtrate Resistivity (Rmf): @ ° **Source (Rmf):**
Mud Cake Resistivity (Rmc): @ ° **Source (Rmc):**

Logging Run Information

Date on Bottom: Oct 4, 2009
Total Depth Logger: (MD) (TVD)

Logging Tools: Zero Offset Vertical Seismic Profile / Gamma Ray
ZVSP-GR (3560 FTD - 2058 CSG)

Remarks: Phonse Fagan - Geophysicist from Vulcan office on location for survey.

Hole Conditions: Excellent

Logging Run #: 2
Date: Oct 3, 2009

Drilling Fluid Data

Drilling Fluid Type: Poly
Fluid Density: 1125.0 **Viscosity:** 65 **pH:** 8.0 **Fluid Loss:** 8.0

Mud Resistivity (Rm):	0.31	@	36.5 º		
Mud Resistivity (Rm) @ BHT:	0.23	@	55.6 º	**Maximum Temperature:**	55.6 º
Mud Filtrate Resistivity (Rmf):	0.27	@	36.5 º	**Source (Rmf):**	measured
Mud Cake Resistivity (Rmc):	0.37	@	36.5 º	**Source (Rmc):**	measured

Logging Run Information

Date on Bottom: Oct 5, 2009
Total Depth Logger: 3,555.70 (MD) 3,544.36 (TVD)

Logging Tools: SONIC
(XMAC) 3560 FTD - 2058 (CSG)

Remarks: No Problems

Hole Conditions: Excellent

Logging Run #: 3
Date: Oct 3, 2009

Drilling Fluid Data

Drilling Fluid Type: poly
Fluid Density: 1125.0 **Viscosity:** 65 **pH:** 8.0 **Fluid Loss:** 8.0

Mud Resistivity (Rm):	0.21	@	36.4 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	51.2 º	**Maximum Temperature:**	51.2 º
Mud Filtrate Resistivity (Rmf):	0.25	@	36.4 º	**Source (Rmf):**	measured
Mud Cake Resistivity (Rmc):	0.30	@	36.4 º	**Source (Rmc):**	measured

Logging Run Information

Date on Bottom: Oct 5, 2009
Total Depth Logger: 3,555.70 (MD) 3,544.36 (TVD)

Logging Tools: INDUCTION/GR/CALIPER/SP DENSITY/NEUTRON/GR/X-Y CAL HDIL-GR(DSL)-CCAL-SP DGR-ZDL-CN-CCAL 3560 (FTD) - 2058 (CSG) + overlap into Casing

Remarks: No Problems

Hole Conditions: Excellent

Logging Run #: 4
Date: Oct 3, 2009

Drilling Fluid Data

Drilling Fluid Type: Poly

Fluid Density:	1125.0	**Viscosity:**	65	**pH:**	8.0	**Fluid Loss:**	8.0

Mud Resistivity (Rm):	0.25	@	36.4 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	51.2 º	**Maximum Temperature:**	51.2 º
Mud Filtrate Resistivity (Rmf):	0.21	@	36.4 º	**Source (Rmf):**	measured
Mud Cake Resistivity (Rmc):	0.30	@	36.4 º	**Source (Rmc):**	measured

Logging Run Information

Date on Bottom: Oct 6, 2009
Total Depth Logger: (MD) (TVD)

Logging Tools: STAR DIP/IMAGER
(Micro Resisitivity-GR) 3560 (FTD) - 2058 (CSG)

Remarks: No Problems

Stayed off bottom to avoid any sticky problems

Hole Conditions: Excellent

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 5
Date: Oct 3, 2009

Drilling Fluid Data

Drilling Fluid Type: Poly

Fluid Density:	1130.0	**Viscosity:**	75	**pH:**	10.7	**Fluid Loss:**	7.4

Mud Resistivity (Rm):	0.25	@	36.4 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	51.2 º	**Maximum Temperature:**	º
Mud Filtrate Resistivity (Rmf):	0.21	@	36.4 º	**Source (Rmf):**	measured
Mud Cake Resistivity (Rmc):	0.30	@	36.4 º	**Source (Rmc):**	measured

Logging Run Information

Date on Bottom: Oct 6, 2009
Total Depth Logger: 2,979.00 (MD) 2,974.98 (TVD)

Logging Tools: Formation Multi Tester
FMT (2979 - 2270 m)

Remarks: 30 out of 31 attempts failed
2691.9 m only sucessful test.
Intervals are recorded on Main Striplog (Wireline Column)

Hole Conditions: Good - Excellent

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 6
Date: Oct 3, 2009

Drilling Fluid Data

Drilling Fluid Type: Poly

Fluid Density:	1030.0	**Viscosity:**	75	**pH:**	10.7	**Fluid Loss:**	7.4

Mud Resistivity (Rm):	0.25	@	36.4 º		
Mud Resistivity (Rm) @ BHT:	0.20	@	51.2 º	**Maximum Temperature:**	º
Mud Filtrate Resistivity (Rmf):	0.21	@	36.4 º	**Source (Rmf):**	measured
Mud Cake Resistivity (Rmc):	0.30	@	35.4 º	**Source (Rmc):**	measured

Logging Run Information

Date on Bottom: Oct 7, 2009
Total Depth Logger: 3,417.00 (MD) 3,408.86 (TVD)

Logging Tools: RCOR
Rotary Sidewall Coring Tool (3417 - 2172 m)

Remarks: 30 cores cut.

Hole Conditions: Excellent

See Appendix #9 for Drill Stem Test Summaries

Deviation / Directional Survey Report

Directional Drilling Company: Schlumberger
Directional Drillers:
Measured While Drilling (MWD) Hands:
Survey Type: magnetic
Survey Mode: MWD
Survey Date: Jul 4, 2009
Survey Calculation Method: minimum curvature
Target Azimuth: 45.00 °
Dog Leg Severity Characteristic: 30.00

Survey Tie-In Information

Tie-In Co-Ordinantes
Latitude:
Longitude:
N / S:
E / W:

Measured Depth	T.V.D.	Drift Angle (º)	Azimuth (º)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00

Kick-Off (Whipstock) Information

Kick-Off Co-Ordinantes
Latitude:
Longitude:
N / S:
E / W:

Measured Depth	T.V.D.	Drift Angle (º)	Azimuth (º)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity

Remarks:

Measured Depth	T.V.D.	Drift Angle (º)	Azimuth (º)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
103.36	103.32	2.620	85.39	0.19	2.36	1.80	0.76
131.01	130.94	3.060	89.51	0.25	3.72	2.81	0.53
158.44	158.33	3.030	90.02	0.25	5.18	3.84	0.04
185.36	185.20	3.810	90.09	0.25	6.79	4.98	0.87
212.92	212.71	3.510	84.82	0.33	8.54	6.27	0.49
234.43	234.17	3.700	81.38	0.49	9.88	7.34	0.40
254.23	253.94	3.380	79.08	0.70	11.09	8.33	0.53
268.64	268.32	3.390	74.50	0.89	11.92	9.06	0.56
282.12	281.78	3.340	70.79	1.13	12.67	9.76	0.50
295.43	295.07	3.330	68.34	1.40	13.40	10.46	0.32
308.96	308.57	3.310	70.62	1.67	14.13	11.17	0.30
323.03	322.62	3.480	66.48	1.98	14.90	11.94	0.64
337.43	336.99	3.450	67.35	2.32	15.71	12.74	0.13
350.99	350.53	3.340	66.57	2.63	16.44	13.49	0.26
364.29	363.81	3.270	65.40	2.94	17.14	14.20	0.22
377.43	376.93	3.040	64.16	3.25	17.80	14.89	0.55
391.66	391.14	2.100	63.34	3.53	18.37	15.49	1.98
405.24	404.71	1.930	62.40	3.75	18.80	15.94	0.38
419.00	418.46	2.300	57.78	4.00	19.24	16.43	0.89
432.77	432.22	2.750	56.51	4.33	19.75	17.03	0.99
446.38	445.81	3.300	56.87	4.73	20.35	17.73	1.21
460.67	460.07	3.730	55.31	5.22	21.07	18.59	0.92
474.04	473.41	4.250	59.39	5.72	21.86	19.50	1.33
487.33	486.66	4.530	62.68	6.21	22.75	20.47	0.85
500.97	500.26	4.710	61.72	6.72	23.72	21.52	0.43
514.76	514.00	5.200	66.64	7.24	24.79	22.65	1.41
529.05	528.22	5.510	68.68	7.74	26.02	23.88	0.76
542.90	542.01	5.950	66.58	8.27	27.30	25.15	1.06
556.44	555.47	6.270	64.04	8.87	28.61	26.51	0.93
570.53	569.48	5.610	62.11	9.53	29.91	27.89	1.47
584.01	582.91	4.650	56.72	10.14	30.95	29.06	2.39

597.01	595.87	4.120	41.78	10.78	31.70	30.04	2.89
610.61	609.44	4.030	49.91	11.45	32.39	31.00	1.29
624.10	622.89	3.940	50.43	12.05	33.11	31.94	0.22
638.29	637.05	3.850	51.16	12.66	33.86	32.89	0.22
652.34	651.07	3.670	52.60	13.23	34.58	33.81	0.43
665.87	664.58	3.320	48.38	13.75	35.22	34.63	0.96
679.36	678.05	2.950	41.05	14.27	35.74	35.37	1.21
695.52	694.19	2.470	22.98	14.91	36.15	36.10	1.81
706.77	705.43	2.450	11.17	15.37	36.29	36.53	1.35
720.73	719.38	2.300	5.30	15.94	36.38	36.99	0.61
732.34	730.98	2.200	359.19	16.39	36.39	37.33	0.67
761.95	760.56	2.490	13.66	17.59	36.54	38.27	0.67
775.58	774.18	2.540	20.28	18.16	36.71	38.80	0.65
789.59	788.18	2.170	34.13	18.67	36.97	39.34	1.45
806.75	805.33	2.270	52.58	19.14	37.42	40.00	1.26
831.82	830.38	1.900	55.22	19.68	38.16	40.90	0.46
844.74	843.29	1.940	49.10	19.95	38.50	41.33	0.48
858.31	856.85	1.590	47.20	20.23	38.81	41.74	0.78
872.27	870.81	1.650	48.30	20.49	39.10	42.14	0.15
885.85	884.38	1.750	43.89	20.77	39.39	42.54	0.36
899.79	898.32	1.630	45.42	21.06	39.68	42.95	0.28
913.43	911.95	1.690	38.27	21.36	39.94	43.35	0.47
927.28	925.80	1.480	33.18	21.67	40.17	43.72	0.55
941.80	940.31	1.580	38.06	21.98	40.39	44.11	0.34
954.57	953.08	1.570	32.11	22.27	40.59	44.45	0.38
968.34	966.84	1.300	36.91	22.55	40.79	44.79	0.64
982.51	981.01	1.490	28.75	22.84	40.97	45.13	0.58
995.79	994.28	1.540	28.78	23.15	41.14	45.46	0.11
1,009.85	1,008.34	1.590	35.30	23.48	41.35	45.84	0.39
1,023.38	1,021.86	1.290	32.18	23.76	41.54	46.17	0.69
1,036.69	1,035.17	1.550	29.83	24.04	41.71	46.49	0.60
1,100.00	1,098.46	1.000	29.83	25.26	42.41	47.85	0.26
1,170.00	1,168.46	0.250	29.83	25.93	42.79	48.59	0.32
1,265.00	1,263.45	1.000	29.83	26.82	43.30	49.59	0.24
1,362.00	1,360.43	1.250	29.83	28.48	44.25	51.43	0.08

1,456.00	1,454.42	1.000	29.83	30.08	45.17	53.21	0.08
1,648.00	1,646.37	1.500	29.83	33.71	47.25	57.25	0.08
1,702.00	1,700.35	1.500	29.83	34.94	47.95	58.61	0.00
1,801.00	1,799.32	1.250	29.83	37.00	49.14	60.91	0.08
1,907.00	1,905.30	1.250	29.83	39.00	50.29	63.14	0.00
2,054.00	2,052.24	2.000	29.83	42.62	52.36	67.16	0.15
2,103.00	2,101.21	2.000	29.83	44.10	53.21	68.81	0.00
2,157.00	2,155.17	2.500	29.83	45.94	54.26	70.86	0.28
2,211.36	2,209.46	4.460	289.25	47.67	52.86	71.08	3.03
2,266.45	2,264.31	6.220	288.83	49.34	48.01	68.84	0.96
2,295.75	2,293.43	6.490	289.19	50.40	44.94	67.42	0.28
2,309.42	2,307.01	6.300	289.08	50.90	43.51	66.75	0.42
2,323.33	2,320.85	5.270	287.41	51.34	42.17	66.12	2.25
2,336.99	2,334.46	4.900	285.00	51.67	41.01	65.54	0.94
2,350.08	2,347.50	5.230	289.47	52.02	39.91	65.00	1.18
2,364.18	2,361.54	4.980	287.38	52.42	38.72	64.44	0.66
2,378.64	2,375.95	4.720	287.74	52.78	37.55	63.88	0.54
2,391.38	2,388.65	4.380	285.07	53.07	36.59	63.40	0.94
2,405.14	2,402.37	4.240	281.30	53.31	35.58	62.85	0.69
2,418.82	2,416.01	4.170	280.28	53.49	34.59	62.29	0.22
2,432.99	2,430.14	4.310	281.00	53.69	33.56	61.70	0.32
2,446.36	2,443.48	4.070	278.63	53.86	32.60	61.13	0.66
2,459.80	2,456.88	4.490	278.67	54.01	31.61	60.54	0.94
2,473.38	2,470.42	4.610	275.37	54.14	30.54	59.88	0.64
2,487.56	2,484.55	4.720	280.17	54.29	29.40	59.18	0.86
2,500.86	2,497.81	4.720	277.54	54.46	28.32	58.54	0.49
2,514.52	2,511.42	4.150	276.56	54.59	27.27	57.89	1.26
2,528.81	2,525.68	3.830	277.08	54.71	26.28	57.27	0.68
2,541.93	2,538.77	3.490	279.51	54.83	25.45	56.77	0.85
2,556.18	2,553.00	3.640	277.66	54.96	24.58	56.24	0.40
2,569.27	2,566.05	4.400	280.61	55.11	23.67	55.71	1.80
2,582.84	2,579.58	4.630	281.44	55.31	22.62	55.11	0.53
2,597.24	2,593.94	3.610	285.82	55.55	21.62	54.57	2.22
2,610.98	2,607.66	2.960	290.90	55.80	20.87	54.21	1.55
2,624.19	2,620.85	3.210	297.93	56.09	20.23	53.97	1.03

2,638.93	2,635.57	3.730	291.92	56.46	19.42	53.66	1.29
2,652.53	2,649.13	4.300	289.22	56.80	18.52	53.26	1.32
2,665.21	2,661.77	4.540	286.11	57.09	17.59	52.81	0.80
2,678.97	2,675.50	2.990	299.35	57.42	16.76	52.45	3.85
2,692.92	2,689.44	2.230	308.98	57.77	16.23	52.33	1.88
2,706.24	2,702.75	2.890	304.53	58.12	15.75	52.24	1.55
2,720.92	2,717.40	3.580	300.85	58.57	15.05	52.06	1.47
2,734.01	2,730.47	3.790	299.61	58.99	14.33	51.84	0.51
2,761.60	2,757.99	4.140	276.55	59.56	12.54	50.98	1.76
2,775.45	2,771.80	4.800	273.20	59.64	11.47	50.28	1.54
2,789.61	2,785.92	4.000	272.27	59.70	10.38	49.55	1.70
2,802.43	2,798.72	2.690	278.45	59.76	9.64	49.07	3.18
2,817.22	2,813.49	2.620	281.99	59.88	8.97	48.68	0.36
2,830.18	2,826.43	3.280	282.71	60.02	8.31	48.32	1.53
2,843.25	2,839.48	3.780	292.41	60.27	7.55	47.96	1.78
2,857.80	2,853.99	4.330	300.96	60.74	6.64	47.64	1.68
2,871.65	2,867.81	3.440	300.81	61.22	5.83	47.41	1.93
2,885.27	2,881.40	3.800	298.31	61.64	5.08	47.18	0.87
2,899.02	2,895.12	3.830	296.90	62.06	4.27	46.91	0.21
2,912.43	2,908.50	3.940	298.78	62.49	3.47	46.64	0.38
2,926.39	2,922.44	2.870	301.29	62.90	2.75	46.42	2.32
2,940.21	2,936.24	1.740	289.91	63.15	2.26	46.25	2.63
2,953.98	2,950.00	2.620	280.76	63.28	1.75	45.99	2.06
2,966.90	2,962.91	3.620	287.62	63.46	1.07	45.63	2.47
2,980.69	2,976.67	3.490	294.09	63.76	0.27	45.28	0.92
2,994.76	2,990.71	3.310	306.56	64.18	-0.44	45.07	1.62
3,008.46	3,004.39	3.640	305.91	64.67	-1.11	44.94	0.73
3,021.91	3,017.81	4.270	302.63	65.19	-1.88	44.77	1.49
3,035.44	3,031.29	5.230	301.46	65.79	-2.83	44.52	2.14
3,048.91	3,044.70	6.040	302.28	66.48	-3.95	44.22	1.81
3,063.35	3,059.06	6.030	302.98	67.30	-5.23	43.89	0.15
3,076.72	3,072.36	5.580	305.53	68.06	-6.35	43.64	1.16
3,090.57	3,086.15	5.160	310.13	68.86	-7.37	43.47	1.30
3,104.38	3,099.90	5.080	311.11	69.66	-8.31	43.38	0.26
3,117.81	3,113.27	5.580	308.46	70.46	-9.27	43.27	1.24

3,131.54	3,126.94	5.560	301.69	71.22	-10.36	43.04	1.44
3,145.49	3,140.82	5.610	300.79	71.92	-11.52	42.71	0.22
3,158.75	3,154.02	5.880	300.52	72.60	-12.66	42.38	0.61
3,172.05	3,167.24	5.950	303.15	73.32	-13.82	42.07	0.63
3,186.28	3,181.39	6.820	301.53	74.17	-15.16	41.72	1.87
3,200.41	3,195.40	8.090	299.04	75.09	-16.75	41.25	2.78
3,213.77	3,208.61	9.090	297.82	76.04	-18.50	40.68	2.28
3,227.96	3,222.60	9.770	295.82	77.09	-20.58	39.96	1.60
3,241.40	3,235.85	9.680	295.88	78.08	-22.62	39.21	0.20
3,254.57	3,248.86	8.450	295.57	78.98	-24.49	38.53	2.80
3,268.54	3,262.68	7.960	295.42	79.84	-26.29	37.86	1.05
3,282.21	3,276.21	8.680	296.62	80.70	-28.07	37.22	1.63
3,295.66	3,289.50	8.870	297.37	81.64	-29.89	36.59	0.49
3,309.34	3,303.03	8.440	296.90	82.57	-31.73	35.96	0.96
3,323.39	3,316.92	8.650	296.00	83.50	-33.60	35.29	0.53
3,337.46	3,330.81	9.540	295.14	84.46	-35.60	34.55	1.92
3,352.25	3,345.39	10.070	293.74	85.50	-37.89	33.67	1.18
3,365.50	3,358.42	10.920	294.18	86.49	-40.10	32.80	1.93
3,378.04	3,370.72	11.370	295.70	87.51	-42.30	31.97	1.29
3,391.88	3,384.28	11.490	294.96	88.68	-44.78	31.05	0.41
3,406.35	3,398.45	12.160	295.58	89.95	-47.46	30.04	1.41
3,419.41	3,411.22	11.970	296.52	91.15	-49.91	29.16	0.63
3,433.19	3,424.70	11.990	295.97	92.41	-52.48	28.24	0.25
3,448.17	3,439.36	11.670	295.77	93.75	-55.24	27.23	0.65
3,460.80	3,451.72	12.140	296.30	94.89	-57.58	26.39	1.15
3,474.10	3,464.72	12.360	297.12	96.16	-60.10	25.50	0.63
3,488.23	3,478.52	12.190	296.14	97.51	-62.79	24.55	0.57
3,501.86	3,491.84	12.250	296.75	98.79	-65.37	23.64	0.31
3,516.01	3,505.66	12.570	299.21	100.22	-68.05	22.75	1.31
3,529.26	3,518.59	12.680	299.17	101.63	-70.58	21.96	0.25
3,542.55	3,531.55	12.920	298.08	103.04	-73.17	21.13	0.77
3,560.00	3,548.55	13.240	296.68	104.86	-76.67	19.93	0.77

Drilling Fluid Summary

Storage Units: Metric

Drilling Fluid Type:	Gel / Chem	**From:**	0	**To:**	829
Drilling Fluid Type:	Polymere	**From:**	829	**To:**	3,560

Work Schedule

Storage Units: Metric

Company: JDS Consultants
Geologist: **Michael Smith (403-589-4998 c)**

Work Performed	**From:**	Jul 02, 2009	**To:**	Oct 11, 2009
Depths Logged	**From:**	88.0	**To:**	3,560.0

Remarks:

Formation Top Summary

Storage Units: Metric

Kelly Bushing Elevation: 175.30 **Casing Flange Elevation:**
Ground Elevation: 169.00

**** All Depths measured from Kelly Bushing Elevation ****

Group *Formation* Member	Prognosis (TVD)	Sample Top (MD)	Sample Top (TVD)	Log Top (MD)	Log Top (TVD)	Subsea	Thickness
Barachois	0.00	10.00	10.00	10.00	10.00	165.30	804.50
Codroy	600.00	814.50	813.07	810.00	808.58	-633.28	31.50
Ship Cove	750.00	846.00	844.55	848.00	846.55	-671.25	24.00
Spout Falls	794.00	870.00	868.54	880.00	878.53	-703.23	1259.00
Friars Cove	2064.00	2129.00	2127.19	2129.00	2127.19	-1951.89	386.00
Snakes Bight	2643.00	2515.00	2511.90	2512.00	2508.91	-2333.61	934.00
Kennels Brook	3600.00	3449.00	3440.17	3449.00	3440.17	-3264.87	111.00
FTD	3600.00	3560.00	3548.55	3557.20	3545.82	-3370.52	

Geologist Comments regarding visual / microscopic porosity estimates:

The estimates of porosity / cementation in the Sidewall Cores and Cuttings during the drilling operation of the Robinsons # 1 well are based on the Geologists System and Methods, developed during the drilling of the McCully Gas Field in New Brunswick, and adopted for Vulcan Minerals in order to remain consistent within the Carboniferous Basin as a whole.

To avoid confusion with terminology over the Porosity estimates for the Sample Descriptions and Sidewall Cores - The following definitions should be reviewed:

Porosity Estimates Criteria: Sample / Sidewall Core Descriptions and Porosity Estimates are generally recorded under an x10 power magnification. The Wellsite geologist used an x20 power magnification for the Robinsons # 1 well. Maximum magnification of x45 power was used as required but as a general “rule of thumb” - any visual porosity not seen with an x20 magnification would be considered ineffective.

Visual Porosity: Naturally occurring “holes” within the rock matrix or generally – between or besides touching grains that can be seen with the naked eye - or up to and including an x20 magnification. Also would include secondary “after the fact” porosity generally found in Carbonates but also possible within clastics such as Sandstone – Siltstones resulting from fracturing, digenesis or leaching.

Effective Porosity: The volume of rock that would be filled by Recoverable Oil and or Gas. For the Robinsons # 1 Well, the stated effective porosity is for possible Gas, as generally, effective gas porosity would be higher than effective oil porosity. Effective Porosity does not always equal visible porosity but visible porosity is generally effective. Effective porosity as qualified in this report would also include an educated unseen porosity estimate.

Ineffective Porosity: The volume of rock that is occupied by “hidden” porosity such as Clays, Argillaceous material such as Shale clasts, grains, laminae, and or other material such as a weaker cemented silica silty matrix. Although the Neutron Porosity Tool would record this hidden porosity, the physical characteristics of the “fill” material would not be capable of holding gas within its volume and/or incapable of liberating gas, and could be considered as non Recoverable porosity.

Total Porosity: Visual porosity including Effective + Ineffective porosity. (Generally Neutron Logging Tool)

Grain Relief / Cementation: The Relief of the rock / grains / cuttings / sidewall cores is generally inversely proportional to the cementation. High Relief cuttings generally required weaker cement and/or compaction, and the matrix of the rock will break and/or fracture prior to the quartz grains. Low Relief cuttings are generally very well cemented, resulting in much lower total porosity. The cement is generally silica or calcite/dolomite. The rock with the estimated low relief will be observed to break through the grains as the cement is harder / tougher and the lower stress point would be the quartz grains verses the matrix/cement. High relief can also be observed in cuttings with high ineffective porosity due to the intergranular volume being filled by clays, silica material, argillaceous / shale, pyrobitumen or any other “filling” material.

SAMPLE CUTTINGS DESCRIPTIONS

0.0 to 10.5	No Samples
10.5 to 15.0 (4.5)	Interbedded SILTSTONE to SHALE Slightly brown grey to brownish tan, argillaceous, micromicaceous throughout, local grading to dirty fine Sandstone, also minor brownish red argillaceous shale to claystone fragments, minor to 20% medium grey Shale, massive, amorphous, firm, non calcareous.
15.0 to 19.0	SHALE
(4.0)	Medium grey, massive, amorphous, blocky, siliceous in part, moderately soft to firm, with minor interbedded Siltstone to Sandstone, dirty off white to reddish grey, very fine to lower medium, quartz, micromicaceous, biotite to muscovite, clay rich, slightly iron staining, trace lighter to medium brownish shale, trace loose white quartz.
19.0 to 24.0	SANDSTONE
(5.0)	Mottled off white, fine to medium to coarse, quartz, opaque light grey to whitish, minor translucent, poorly sorted, subrounded to minor subangular, minor coarser rounded, clean, non calcareous, siliceous in part, moderate friable, weakly cemented, minor apparent pinkish feldspars, minor localized black mica, possible light greenish chlorite, (possible water sand), 10-15% ineffective porosity, no shows. minor interbedded Siltstone to Shale as above, possible cavings.

24.0 to 34.0	Interbedded SILTSTONE to SHALE to SANDSTONE
(10.0)	Light to medium grey Siltstone, massive, blocky, softer, lumpy, friable, micromicaceous throughout, minor Shale, medium to darker grey, amorphous, blocky, carbonaceous to slightly micro coaly specks, possible trace micro coal laminations?, assorted clean to dirty Sandstone, fine to medium, greyish, argillaceous to cleaner slightly yellowish tan, clay rich, trace biotite, minor cleaner pink feldspathic fragments, as above, uniform with depth.

34.0 to 41.0 Interbedded SILTSTONE to SANDSTONE to minor Shale

(7.0) Mottled off white, fine to lower medium Sandstone, cleaner, quartz, opaque to whitish, rare translucent, minor orange to slightly pinkish feldspathic, minor chlorite to mica, 5-8% effective porosity, interlaminated with assorted Siltstone, light greyish, micromicaceous to brownish red mica, minor Shale, light grey to dark grey black, increaser cleaner medium feldspathic sand with depth.

41.0 to 47.0 SANDSTONE with SHALE

(6.0) Mottled off white, fine to upper medium, quartz, opaque, off white, rare translucent, minor orange to pinkish feldspathic, trace chlorite, minor black mica, blocky, massive, non calcareous, interbedded with medium to darker grey shale, amorphous, massive, platy to blocky, non calcareous, trace slightly siliceous, softer to easily friable, no shows.

47.0 to 57.0 SANDSTONE

(10.0) Predominately mottled off white, fine to medium, very clean, quartz, off white, abundant semi translucent, minor pinkish to orange feldspars, predominately loose grains, non calcareous, weaker cemented, siliceous in part, minor trace black mica, minor SHALE to greyish micaceous Siltstone only. (no shows)

57.0 to 75.0 SILTSTONE with minor SHALE

(18.0) Light to medium grey, micromicaceous, argillaceous, softer, friable, non calcareous with interbedded to increasing brownish to slightly tan, slightly reddish micaceous Siltstone, minor Shale only throughout, as above, minor cleaner to slightly mottled tan Sandstone, very fine to fine, quartz, slightly feldspathic, non calcareous, as above, uniform erratic ROP with depth.

75.0 to 82.0 SANDSTONE

(7.0) Mottled off white to slightly pinkish tan, very fine to fine to upper fine in general, quartz, off white, minor translucent, clean throughout, minor orange to pinkish feldspars, non to predominant micaceous, fine to medium muscovite to finer biotite, possible minor altered very light green chlorite, non calcareous, siliceous in part but friable, weakly cemented, minor light grey micaceous Siltstone, as above.

82.0 to 88.0 SHALE with SILTSTONE

(6.0) Medium grey, massive, amorphous, blocky, non calcareous, abundant darker grey, slightly carbonaceous to micro coaly ? fragments to specks, local silty, interbedded with Siltstone, as above, micromicaceous, trace sand cavings, uniform, Run 508 mm Conductor Casing.

88.0 to 97.0 SANDSTONE

(9.0) Off white, lower to upper coarse, clean, generally fractured, possible some pebbles ?, quartz, opaque, white, minor very slightly semi translucent, minor orange possible feldspathic fragments, slightly calcareous finer matrix, moderate sorted ?, rounded upper medium to lower coarse to generally angular fractured quartz grains, no shows, no gas, minor poorer sorted fragments only, no visible porosity, assuming minor ineffective due to calcite component, (rare trace cement only from drill out).

97.0 to 115.0 Interbedded SILTSTONE with SHALE

(18.0) Medium brown to slightly reddish brown very micaceous Siltstone, firm, soft, weakly cemented, non calcareous, argillaceous with fine to micromicaceous muscovite with reddish mica?, grading throughout to abundant less micaceous laminations, greyish brown to greyish, minor finer sands, argillaceous, interbedded with minor to 10% medium to darker grey Shale, firm, amorphous, non calcareous, and minor slightly orange feldspathic fine poorer Sandstones, uniform with depth.

115.0 to 125.0 Interbedded SILTSTONE to SANDSTONE with minor Shale

(10.0) Medium brownish micaceous Siltstone, as above grading to increasing interbedded very fine to fine micaceous dirty brownish to greyish Sandstone, non calcareous, argillaceous, competent but weakly cemented, easily crushable, minor interlaminated to bedded Shale, medium grey to dark grey, very slightly reddish medium brown, minor micromicaceous only, soft, non calcareous.

125.0 to 135.0 SHALE with trace Coal

(10.0) Predominately darker grey, massive, amorphous, platy, competent but very soft, crushable, minor greyish black, apparent traces poorer micro laminations to micro lenses of Coal, black to dull black, semi vitreous, some coal partings, trace fine micaceous very fine to lower fine greyish argillaceous Sandstone laminations ? to thin interbeds, lenses ?.

135.0 to 140.0 SANDSTONE to SILTSTONE

(5.0) Lighter greyish, micaceous to micromicaceous, very fine to fine, mica rich, quartz, opaque, moderate sorted, lighter clay to argillaceous matrix in part, non calcareous, firm, weaker cemented, non calcareous, rare trace brownish shale only.

140.0 to 146.0 SHALE

(6.0) Medium grey, massive, amorphous, blocky, firm but easily crushed, non calcareous, local silty, minor trace micromicaceous, interlaminated with darker grey black, slightly carbonaceous to coaly in part, with apx 30% medium brownish (slightly reddish tinge) Shale, massive, blocky, non to slightly silty, amorphous, clay rich, non calcareous.

146.0 to 150.0 SANDSTONE ?

(4.0) Garbage sample, fine to medium greyish sands, shales, sawdust (From tanks after repair to suction line) with increasing clean quartz, medium to coarse, as below.

150.0 to 167.0 SANDSTONE

(17.0) Off white, clean, medium to coarse, minor pebbles, loose in general, minor fragments moderate cemented, crushable, predominately quartz, opaque to off white, semi to minor translucent, vitreous, rare greyish, possible minor feldspars, pale to light orange, overall very clean, rare trace possible slightly carbonaceous to coaly micro laminations to micro thin infilling, black argillaceous specks, poorer overall sorting, clean siliceous silty cement?, moderate rounded to rounded loose upper medium quartz to fractured very coarse quartz, possible coarsening down with depth overall, no shows, no gas

167.0 to 180.0 SILTSTONE with trace Coal

(13.0) Mottled light to medium grey, massive, interlaminated softer, weakly cemented, argillaceous, minor micro to abundant micromicaceous to minor finely micaceous, non calcareous, localized carbonaceous to coaly micro specks, minor trace thin Coal fragments, dull black to vitreous, assuming micro to very thin laminations, minor dirty micromicaceous to micaceous very fine to lower fine softer Sands thin interbeds, increasing with depth, dirty in part.

180.0 to 193.0 SHALE to SILTSTONE

(13.0) Darker grey to minor grey black, massive, amorphous, minor silty, non calcareous, easily crushed, possible minor very slightly carbonaceous, trace minor convoluted coaly fragments (possible minor shearing ?), interbedded with minor lighter grey Siltstone, dirty, argillaceous, local micromicaceous to micaceous, as above, minor brownish amorphous blocky Shale, possible interlams to thin bedding, assuming minor very thin coaly laminations, minor very fine to fine poorer Sandstone.

180.0 to 193.0 (cont')

193.0 to 200.0 SANDSTONE

(7.0) Off white, predominately lower to upper medium, 5-10% coarser, possible minor pebbles, silty to very fine siliceous matrix to cement, overall clean, quartz, opaque, rare greyish, abundant semi translucent, minor stained very light orange quartz?, apparent trace orange to slightly pinkish feldspars?, rare trace argillaceous to lithic grains, rare trace micaceous flakes, non calcareous, generally loose fragments, fractured, moderate cemented but crushable, moderate sorted, subrounded to rounded, some coarser rounded to fractured, minor trace black silty Shale interlams?, no shows, no gas.

200.0 to 215.0 SANDSTONE

(15.0) Mottled off white, lower to upper medium with lower coarse, quartz, opaque, white, minor semi translucent, minor apparent orange feldspars, trace grey black argillaceous lithic to shale fragments, clean, massive, predominately loose grains, with minor crushable fragments, weaker cemented, siliceous in part with trace calcareous component, moderate sorted, rounded to abundant rounded quartz grains, minor crushed to fractured coarse, finer to silty silica infilling, possible minor whitish siliceous clay? with trace calcareous , no visible porosity, higher relief, 4-5% effective porosity?, no shows, no cut. With 20% greyish Siltstone, micaceous in part, argillaceous, and brownish to very slightly reddish Shale to silty Shale, assuming laminations to very thin bedding within sand.

215.0 to 227.0 SANDSTONE grading to SILTSTONE

(12.0) Off white lower to upper medium quartz rich, clean Sandstone, as above, grading to increasing dirty light to medium grey micro micaceous upper Siltstone to very fine Sandstone with depth, trace lower fine micaceous, argillaceous, siliceous in part, weaker cemented, crushable, rare Shale, trace convoluted to distorted vitreous black coaly fragments. Connection at 242 meters had tight hole and 3 hours were spent reaming around 226.5 meters depth.

227.0 to 240.0 SILTSTONE

(13.0) Lighter to local medium grey micromicaceous to micaceous Siltstone to very fine Sandstone, argillaceous, minor carbonaceous to possible micro coaly ? specks through darker fragments, blocky, competent but softer, crushable, uniform, minor Shale, medium grey, blocky, firm, rare micromicaceous, trace reddish brown Shale, slightly micromicaceous, rare trace coaly fragments to very fine sandy with micro coaly laminations throughout.

240.0 to 257.0 SILTSTONE grading to SHALE

(17.0) Medium to local darker grey Siltstone, medium to upper silt grading to abundant very fine Sandstone, argillaceous, dirty, micromicaceous to micaceous, siliceous in part, non calcareous, firm, competent, blocky, crushable, with minor interlaminated Shale and possible very fine to upper fine feldspathic cleaner Sandstone laminations, grading and fining down with depth to predominantly Shale, darker grey to slightly grey black, massive, amorphous, blocky, firm, crushable, non calcareous, amorphous to slightly micromicaceous, minor silty to slightly sandy.

257.0 to 267.0 SANDSTONE

(10.0) Off white, fine to medium with minor coarse, quartz, opaque, white, abundant translucent, minor black argillaceous lithics fragments to minor infilling to laminations, trace minor orange possible feldspars, rare slightly stained quartz, predominately fragments, well cemented, siliceous, non calcareous, silty to silica matrix infilling to cement, minor calcareous component, poorer sorted, subangular to subrounded, grading with depth - coarsening down to a very clean Sandstone, white, fine to medium to very coarse, quartz, translucent to whitish opaque, trace orange feldspars only, no lithics, poorly sorted but generally moderate well to very well rounded grains, high relief, abundant apparent secondary recrystallization to overgrowths ?, generally loose, weakly cemented, possible10-12% effective porosity?, no shows, no cut.

267.0 to 257.0 (Cont')

267.0 to 278.0 SHALE

(11.0) Predominately grey black to very dark grey, massive, amorphous, blocky, platy, non calcareous, firm, competent, crushable, local minor to moderately silty, interbedded with minor slightly reddish brown to brownish Shale, increasing with depth, minor Sands only, assumed cavings, minor thin interlams of dirty micromicaceous Siltstone throughout.

278.0 to 293.0 SANDSTONE with interbedded Siltstone

(15.0) Off white, general very clean, fine to medium with coarse, quartz only, silty silica infilling to cement, poorly sorted subangular to some angular very fine matrix grading to increased rounded medium to rounded coarse, high relief, minor secondary recrystallization to growths, possible 8-10% effective porosity?, with interlaminated fine to medium clean feldspathic ? Sandstone, tighter, better cemented, crushable, also abundant very fine to upper silt micaceous dirty Siltstone to Sandstone, interlaminated to thinly interbedded inter fingering sequence overall.

SAMPLE CUTTINGS DESCRIPTIONS

293.0 to 297.0 SANDSTONE

(4.0) Off white, very clean, lower to upper medium, coarse, quartz, opaque, white, translucent, rare trace lithic, minor trace orange feldspars?, moderate poor sorted, subrounded to rounded, abundant loose, minor fractured, abundant well cemented siliceous fragments, silty silica matrix cement, non calcareous, minor apparent secondary recrystallization, moderate relief, lighter, harder, 4-6% effective porosity, No shows, No Gas.

297.0 to 308.0 SILTSTONE grading to SHALE

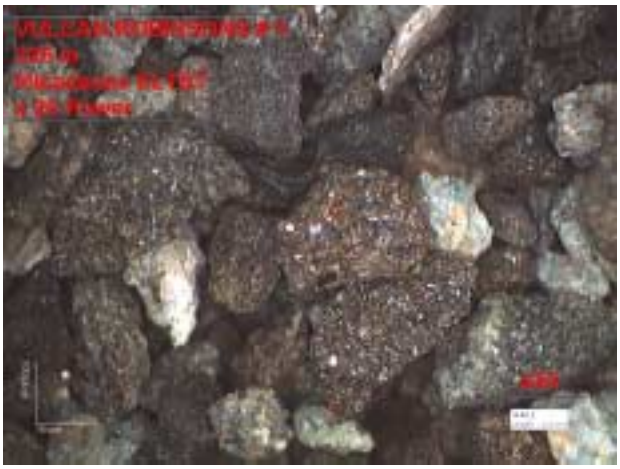
(11.0) Medium grey Siltstone, argillaceous, massive, micromicaceous to micaceous, muscovite ?, blocky, firm, easily crushable, weakly cemented, minor SHALE, grading to Shale with depth, darker grey to grey black, massive, amorphous, blocky, non calcareous, siliceous in part, very firm, crushable, harder than Siltstone, minor silty, trace coaly partings with several coal fragments, possible very thin laminations.

308.0 to 322.0 SHALE with minor SILTSTONE

(14.0) Brownish with very slightly reddish tinge, massive, amorphous, blocky, very firm, non to local minor micromicaceous, grading to increasing micromicaceous brownish (reddish), Siltstone, minor apparent harder cryptocrystalline fragments, possible minor fracturing, calcareous to sideritic?, interlaminated with 25-10% darker grey Shale, massive, amorphous, blocky, minor apparent upper coaly fragments to possible coaly partings, decreasing with depth, overall slightly coarsening with depth to minor micromicaceous very fine dirty Sandstone.

322.0 to 342.0 Interbedded SILTSTONE to SHALE

(20.0) Slightly reddish brown, non to micromicaceous Siltstone to light to medium grey micaceous Siltstone to very fine Sandstone, interbedded to interlaminated with minor very fine to fine feldspathic cleaner Sandstone lenses, very very slightly calcareous, to interlaminated darker grey to grey black shales with depth, mixed up to varied samples throughout, no gas, no shows.



342.0 to 352.0 SHALE with COAL

(10.0) Predominately darker grey black massive Shale, amorphous, blocky, firm, local carbonaceous to micro coaly specks, with interbedded Coal beds up to 1.5 meters thick based on ROP, maximum gas apx 40 units only, minor silty to very argillaceous medium grey Siltstone lenses?.

352.0 to 367.0 SHALE with minor SILTSTONE to trace Coal

(15.0) Medium grey, massive, blocky, non calcareous, firm, crushable, minor silty to rare micromicaceous, minor to 15% grey black, carbonaceous in part, minor coaly partings to laminations, trace blocky vitreous fractured Coal fragments, interbedded with apx 25% lighter to medium grey micro to micaceous Siltstone, argillaceous, dirty, soft, minor trace micaceous fine slightly dirty Sandstone.

367.0 to 380.0 Interbedded SILTSTONE to Shale

(13.0) Light to medium grey, massive, amorphous to micromicaceous to very micaceous upper silt to very fine Sandstone, argillaceous to dirty, non calcareous, soft, friable, interbedded with 20% brownish Shale, (slight reddish tinge), massive, amorphous, blocky, firm, non calcareous, local silty, rare micromicaceous, minor darker grey to grey black shale, rare trace coaly fragments, uniform with depth.

380.0 to 385.0 Interbedded SILTSTONE to SANDSTONE

(5.0) Light to medium grey, argillaceous, dirty, blocky, mica to micromicaceous, firm, crushable, minor mottled off white fine slightly feldspathic cleaner Sands as lenses ?, siliceous, rare trace very slightly calcareous only, minor reddish brown micromicaceous Shales and also darker grey black, slightly carbonaceous, rare trace coaly fragments..

385.0 to 400.0 SHALE with minor SILTSTONE

(15.0) Predominately darker grey to increasing grey black with depth, massive, amorphous, blocky, firm, crushable, non calcareous, minor interlaminated brownish to very slightly reddish brown Shale, slightly micromicaceous, minor lighter grey Siltstone, as above, soft in general, minor harder siliceous fragments with depth, slightly carbonaceous?.

400.0 to 415.0 Interbedded SILTSTONE to SHALE

(15.0) Lighter grey, micaceous to micromicaceous, quartz, soft, crushable, non calcareous, carbonaceous to micro coaly laminations, minor apparent interbedded cleaner Sands, very fine to lower medium, off white, moderate cemented, moderate sorted subrounded, calcareous in part, bedded with Shale, grey black, massive, amorphous, blocky, non calcareous, carbonaceous in part.

415.0 to 426.0 SHALE with minor COAL

(11.0) Darker grey to grey black, minor black, massive, amorphous, blocky, firm, crushable, abundant micro coaly laminations, some carbonaceous, minor blocky coaly fragments throughout, assuming very thin interbeds, minor interlaminated Siltstone, medium grey, argillaceous, blocky, non calcareous, local very slightly carbonaceous to micro coaly specs, no sands.

426.0 to 438.0 SANDSTONE

(12.0) Off white, lower to upper medium to very coarse, quartz, opaque, white, translucent, very clean, massive, generally loose, weaker cemented, siliceous in part with minor trace calcareous component, moderate poorly sorted, subrounded to well rounded, fragments very high relief, good secondary recrystallization to quartz overgrowths, apparent weaker silty silica infilling, 10-12% effective porosity?, increasing matrix, grading with depth to off white cleaner very fine Sandstone to upper Siltstone, moderate well cemented, siliceous, very slightly calcareous only, apparent interlaminated Shale with depth, No Shows.

438.0 to 442.0 SHALE

(4.0) Medium to darker grey, grey black, massive, amorphous, blocky, trace carbonaceous, rare micro coaly laminations?, with minor micromicaceous Siltstone.

442.0 to 458.0 SANDSTONE

(16.0) Off white, lower to upper medium with coarse, massive, silty to slightly chalky, very fine quartz matrix infilling, very clean, blocky, abundant loose, siliceous in part, minor calcareous component increasing with depth, minor apparent secondary recrystallization to overgrowths, tighter than above, 4-6% effective porosity, interbedded Shale (20%) with depth, grey black, dark gray, slightly carbonaceous, as above, minor interlams of Siltstone with Shale, No Shows.

458.0 to 475.0 Interbedded SILTSTONE to SHALE with minor COAL

(17.0) Medium to minor lighter grey Siltstone, massive, amorphous, blocky, firm, competent, crushable, micaceous, micromicaceous, dirty, interbedded to interlaminated with Shale, grey black to black, carbonaceous, trace coaly microlams to interlaminated medium grey, massive, amorphous, blocky, non calcareous, minor good vitreous black Coal fragments, thin Coal at 464 meters with gas show 120 units, uniform with depth, possible minor Sandstone, off white, cleaner, very fine to fine, calcareous in part, thin laminations with depths, no shows.

475.0 to 488.0 SHALE

(13.0) Darker grey to grey black, massive, amorphous, blocky, firm, competent, crushable, non calcareous, abundant localized carbonaceous, possible minor micro coaly laminations ?, minor Siltstone, medium to darker grey, argillaceous, dirty, micromicaceous, No Fluorescence, *Very weak slow residual pale yellow white cut* from blacker carbonaceous Shale fragments.

488.0 to 500.0 SANDSTONE grading to SILTSTONE

(12.0) Off white to very slightly salt and pepper, lower to upper fine, abundant fine to some coarse, quartz, opaque, white, translucent, minor lithic fragments, minor trace mica, (muscovite ?), siliceous in general, rare trace localized calcareous only, moderate cemented, abundant fragments, silty silica matrix to cement, moderate poorer sorted, subangular to subrounded, rare rounded, lower relief, tighter, 3-5% effective ?, grading with depth to increasing very fine to fine greyish tighter Sandstone to Siltstone with some apparent Shale laminations to thin bedding, trace gas show from upper cleaner sands, no shows.

500.0 to 508.0 SHALE with COAL

(8.0) Grey black, black, massive, amorphous, blocky, firm, competent, crushable, carbonaceous with coaly micro laminations, black vitreous fibrous to blocky "shinny" black Coal fragments, interlaminated with Siltstone, darker grey black, carbonaceous, lower to medium, silt, firm, blocky, friable, non calcareous, carbonaceous to micro coaly specks, apparent Thin coal bed at 506 meters, No fluorescence, *Good pale yellow white residual to very slow overall cut from fragments.*

508.00 to 512.0 SANDSTONE

(4.0) Off white, very fine to lower to upper medium with silty to siliceous matrix cement, predominately fragments, clean, quartz, opaque, white, translucent, moderate poorly sorted, subangular to subrounded, rare trace lithic, rare trace pyrite, minor slightly pale orange stained grains, very slightly calcareous only, minor Shale in samples, no shows.

512.0 to 523.0 Interbedded SILTSTONE to SANDSTONE

(11.0) Light to medium grey Siltstone, lower to upper silt, quartz, micaceous, overall argillaceous to dirty, firm, crushable, non calcareous, abundant localized carbonaceous, local grading to silty Shale, grey black, interbedded with lower to upper fine Sandstone, off white, moderate to very clean, quartz, lighter orange feldspars?, rare to no lithic, rare mica flakes, silty to silica matrix cement, non to local very slightly calcareous, predominately fragments, tighter, lower relief, 2-4% effective porosity?, no Shows,

523.0 to 532.0 SHALE

(9.0) Predominately brownish to slightly reddish brown, massive, amorphous, blocky, minor silty, minor greyish micaceous Siltstone, grading with depth to a medium to darker grey, massive, amorphous, blocky, firm, crushable, non calcareous, minor interlaminated Siltstone, 10% cleaner interlaminated SANDSTONE with depth, off white. Clean, as per below.

SAMPLE CUTTINGS DESCRIPTIONS

532.00 to 536.0 SANDSTONE

(4.0) Off white, Very Clean, lower to predominately upper medium, coarse, massive, loose to fragments, quartz, opaque, white, translucent, minor trace very slightly greenish clay fragments, rare black to reddish lithic, moderate poorly sorted, subangular to rounded, moderate cemented, siliceous to with silty silica matrix in part, rare trace very slightly calcareous, moderate to lower relief, no visible porosity, 3-4% effective due to cement.

536.00 to 547.0 SILTSTONE with Sandstone

(11.0) Medium to abundant darker grey, lower to upper silt grading to very fine Sandstone, argillaceous, dirty, local minor carbonaceous, quartz, lithics, micromicaceous to micaceous, blocky, firm to slightly harder, crushable, minor Shale, medium to darker grey, siliceous in part, non calcareous, interbedded with minor to 10% cleaner off white Sandstone, fine to upper medium, rare coarse, as above, minor upper fine to lower medium slightly feldspathic Sandstone, uniform to uniform ROP with Depth, No Shows, No Gas.

547.0 to 560.0 Interbedded SILTSTONE / SHALE to minor Sandstone

(13.0) Medium to darker grey, massive, argillaceous, dirty, carbonaceous in part, quartz, micromicaceous to micaceous, firm blocky, siliceous in part, crushable, as above, with increasing medium to darker grey Shale interlams, continued apparent thin Sandstone bedding throughout ?, (as above), decreasing with depth. minor upper Coal fragments, apparent thin 0.5 meters?. Coal seam at 547 meters with apx 200 units Gas show. POOH at 560 meters to crank up Motor as hole continues to build with 1.15 deg motor.

560.0 to 575.0 Interbedded SILTSTONE with SHALE to minor Sandstone

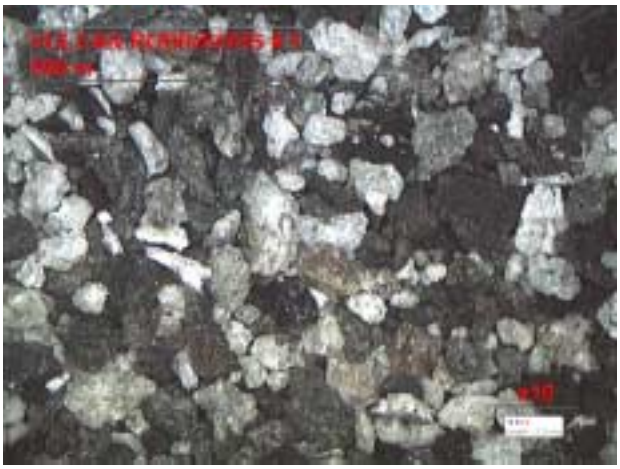
(15.0) Predominately darker to medium grey, massive, blocky, lower to upper silt, quartz, argillaceous to dirty, micromicaceous in part, non calcareous, siliceous in part, very firm, competent, crushable, local carbonaceous?, interlaminated with Shale, darker grey to minor grey black, massive, amorphous, platy, minor thinner interbeds Sandstone, off white, dirty light grey, very fine to minor lower fine, quartz, white, opaque, minor translucent, micaceous, siliceous in part, crushable, no shows.

575.0 to 589.0 SILTSTONE with SHALE grading to Sandstone

(14.0) Darker grey, medium grey, massive, blocky, quartz, opaque, micaceous, biotite with muscovite ?, possible trace carbonaceous ?, very firm, siliceous in part, crushable, interbedded with Shale, darker grey, massive, amorphous, minor silty, interlaminated with very fine Sandstone, off white, slightly dirty, massive, blocky, quartz, micaceous in part, grading with depth to very fine to fine, clean, off white to light greyish, massive, blocky, siliceous with local trace calcareous, to slightly argillaceous component, very micaceous, biotite, no shows.

589.0 to 593.0 SANDSTONE with COAL ?

(4.0) Off white, clean, upper fine to predominantly lower medium, quartz, white, translucent, silty silica matrix to cement, tighter, siliceous, non calcareous, moderate sorted, subrounded, lower relief, fragments, 3-4% effective?, no Shows, minor light to medium grey micaceous Siltstone, trace blocky black vitreous Coal fragments, Good gas show at 590 meters. Assuming gas show from Coals.



593.0 to 600.0 SANDSTONE with SILTSTONE grading to Shale

(7.0) Light to medium grey dirty Siltstone, micaceous, as above, with abundant very fine to lower fine cleaner Sandstone Laminations to thin bedding, quartz, siliceous, moderate well cemented, 2-3% effective porosity?, minor upper coal fragments, grading to increasing Shale with depth, darker grey, massive, amorphous, platy, minor silty, increasing reddish brown shaly fragments, silty in part.

600.0 to 613.0 Interbedded SILTSTONE with Sandstone

(13.0) Predominately lighter to medium grey, dirty argillaceous, quartz, micaceous throughout, firm to blocky, competent but crushable, minor apparent carbonaceous partings?, micro laminations, trace larger Coaly fragments, minor darker grey Shale, interbedded with Sandstone, off white, cleaner, very fine, massive, blocky, quartz, trace micromicaceous, siliceous with very slightly calcareous component, well cemented, no to minor porosity, no shows.

613.0 to 617.0 SANDSTONE

(4.0) Lighter grey very fine to fine, rare medium, quartz, opaque, grey, white, black micaceous, overall slightly argillaceous, abundant grading to Siltstone, interbedded with clean Sandstone, mottled off white, very fine to medium, quartz, trace black mica, minor organic feldspars?, siliceous with minor calcareous component, tighter, harder, better cemented, no visible porosity, no shows.

617.0 to 625.0 SILTSTONE with SHALE

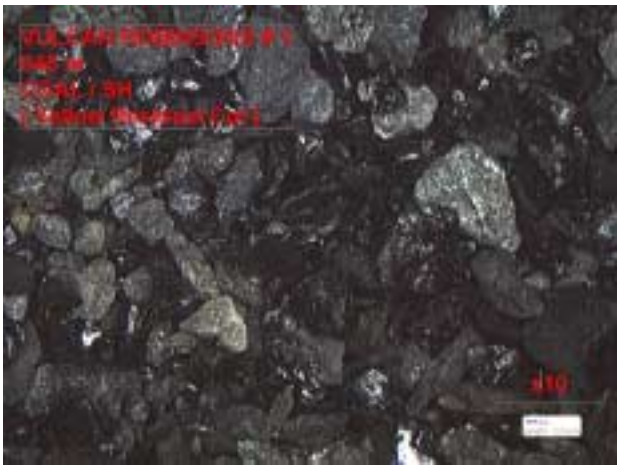
(8.0) Medium to darker grey, massive, blocky, firm, competent, quartz, micaceous to micromicaceous, argillaceous to dirty matrix, non calcareous, interbedded with minor darker grey to slightly grey black Shale, minor possible thin lenses fine micaceous Sandstone, very uniform ROP, thinly laminated throughout ?, no shows.

625.0 to 633.0 SILTSTONE to SANDSTONE

(8.0) Very light to local medium grey, massive, blocky, quartz, micromicaceous, firm, crushable, argillaceous to slightly dirty, grading to interbedded with Sandstone, very fine to fine, mottled lighter grey, slightly grey white, micaceous, biotite, muscovite, fairly clean, minor argillaceous, rare trace carbonaceous ?, moderate cemented to weaker siliceous matrix, crushable, rare trace calcareous.

633.0 to 644.0 SILTSTONE to SHALE with COAL, minor Sandstone

11.0) Medium to lighter grey, micaceous, as above, dirty, grading to darker grey to grey black Shale, massive, blocky, platy, siliceous, carbonaceous, coaly, interbedded to laminated Coal beds, vitreous to bright black Vitrain, conchoidal fracturing, visible micro laminations and/or filled fractures ? of white calcite within Coal fragments, abundant light grey Siltstone, as above in samples, cavings or possible laminations to thin bedding with coals, No Fluorescence*, Very slow residual moderate bright yellowish cut over 5 minutes, Cut visible on Shales to Siltstone and fine Sandstone fragments*, (Abundant Coal at shakers to Gas show of 250 units.).



644.0 to 657.0 SILTSTONE with SHALE to minor Sandstone

(13.0) Medium to darker grey Siltstone, dirty, massive, blocky, siliceous in part, crushable, micromicaceous to micaceous, some carbonaceous, interbedded with darker grey Shales, massive, amorphous, non calcareous, minor silty, minor Sandstone, slightly dirty off white, light grey, very fine to minor fine interlams?, non to rare trace very slightly calcareous, quartz, trace carbonaceous, micaceous, continued Coal fragments , possible thin laminations to interbeds or cavings from larger beds above, no shows.

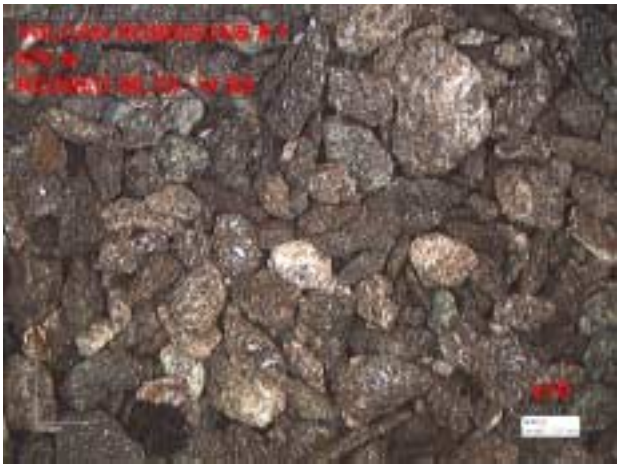
SAMPLE CUTTINGS DESCRIPTIONS

657.0 to 662.0 SILTSTONE to SANDSTONE

(5.0) Lighter grey to off white Sandstone, very fine in general, abundant silty, cleaner, firm, competent but friable, quartz, white, semi translucent, micaceous, non to local minor slightly calcareous (silty), interbedded with dirtier light grey Siltstone, micromicaceous, soft, non calcareous, rare shale, minor trace reddish Siltstones.

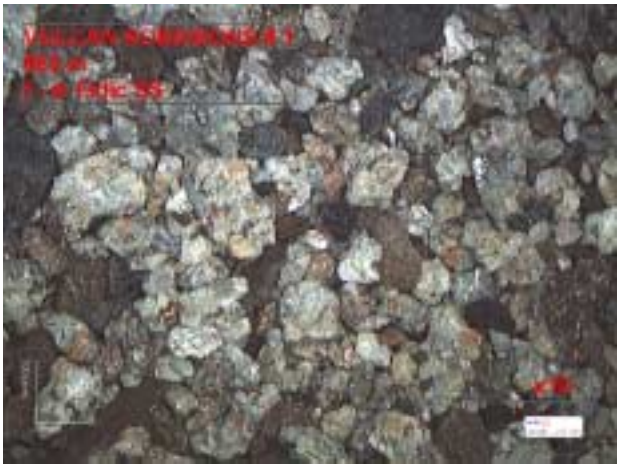
662.0 to 678.0 Interbedded SANDSTONE to SILTSTONE Red beds

(16.0) Brownish to predominately slightly lighter reddish brown, slightly mottled orange brown, very fine in general, minor lower fine, quartz, opaque, reddish argillaceous component, crystalline texture in part, possible minor very fine to silty orange feldspars?, micromicaceous in part to minor fine micaceous, siliceous in part, firm to minor slightly harder but predominately very easily crushed, interbedded with minor reddish brown Shale, (destroyed by drilling or washing), and minor Sandstone, very fine, off white, cleaner, slightly feldspathic, (easily drilled with a PDC ?) Slower ROP apx 4 m/hr, No shows.



678.0 to 688.0 SANDSTONE

(10.0) Reddish brown to brownish grey Siltstone with grey Siltstone, micaceous interbedded and grading to massive Sandstone with depth, lower to upper medium, mottled off white, quartz, opaque, translucent, white, good trace organic feldspars?,, minor trace mica, rare trace fibrous coaly fragments, moderate sorted, subangular to subrounded, moderate well cemented, siliceous, non to rare trace local fragments very slightly calcareous, moderate lower relief, no visible porosity, no shows, no gas.



688.0 to 700.0 Interbedded SILTST with Sandstone

(12.0) Slightly reddish brown to brownish to brownish grey, massive, blocky, micromicaceous to micaceous, firm to very firm, blocky, competent, crushable, siliceous in part, non calcareous, argillaceous, dirty, local grading to and interbedded to interlaminated with Sandstone, general slightly reddish white, very fine to rare fine, massive, blocky, siliceous in part, quartz, micaceous, minor greyish Shales, non to slightly silty, uniform with depth, no shows.

700.0 to 722.0 SILTSTONE Red beds with minor SHALE to Sandstone

(22.0) Predominately brownish to medium brownish with very slightly reddish tinge, minor greyish brown, massive, blocky, lower to upper silt grading to very fine Sandstone, argillaceous, dirty, clay rich in part, micromicaceous to mica with coarser lenses to interbeds, firm, competent, non calcareous, siliceous in part, siltstone weaker cemented due to clays with very fine Sandstone moderate firm to rare harder, good trace brownish Shales to throughout, assuming Shales laminations to bedding being destroyed while drilling, uniform with depth, no shows.

722.0 to 732.0 SHALE

(10.0) Light to medium grey, massive, amorphous, blocky, to platy, abundant convoluted to wavy to visible "shear" type partings to surfaces, non calcareous, slightly siliceous to very firm, competent, crushable, with 20% reddish brown Shale, minor silty, also some "shear" textures, Possible Shear zone, Minor Gas show from zone ?, no sands, no coals.

732.0 to 740.0 SHALE to REDBEDS

(8.0) Reddish brown to medium brownish, massive, amorphous, blocky, firm, competent, local minor silty, interbedded with medium grey Shale, amorphous, blocky, non calcareous, rare silty, continued minor fragments convoluted, sheared ?, trace white very fine to fine quartz to off white siliceous Sandstone, possible very thin laminations, no shows.

740.0 to 743.0 SHALE with minor SANDSTONE

(3.0) Reddish brown to greyish Shales, massive, blocky, amorphous, non calcareous, good trace convoluted to distorted "shear" type surfaces especially within reddish Shale, minor blocky vitreous striated partings within grey fragments, minor SANDSTONE, off white, clean, quartz, off white, translucent, very fine to medium, silty silica cement to matrix, very poorly sorted, subangular to subrounded, tight, no visible porosity, minor chalky fragments, no shows, no gas.

743.0 to 750.0 SHALE with REDBEDS with minor SANDSTONE

(7.00) Predominately brownish to slightly reddish brown, massive, amorphous, blocky, firm, competent, crushable, micromicaceous to local very fine micaceous, abundant grading to lower to upper Siltstone, minor darker grey shale, with depth 15% loose with fragments Sandstone, off white, lower to upper fine, minor coarse, quartz, opaque, white, translucent, well cemented, silica matrix to cement, very clean, thin bedding to laminations?, (Very brown to red brown at shakers), no shows, no gas.

750.0 to 756.0 SILTSTONE grading to SANDSTONE

(6.0) Reddish brown to brownish Siltstone to Shale grading to massive SANDSTONE, off white, very clean, quartz, translucent, off white, lower to upper medium, subrounded to rounded, abundant coarse grained to minor smaller pebbles? quartz, translucent, fractured grains, local inter bedded or possible matrix lower to upper medium fragments slightly feldspathic, overall clean, moderate well cemented, siliceous, local minor trace very slightly calcareous, possible trace calcite fracture infilling? trace chalky white silty fragments, drill bit to shear gouge ?, lower relief, no visible porosity, possible 1-2% effective?, no shows, no gas.

756.0 to 760.0 (4.0) SHALE to REDBEDS

Brownish to slightly reddish brown, massive, amorphous, blocky, firm, non calcareous, minor silty, minor apparent convoluted to distorted reddish shale fragments, minor darker grey shale interlams, also trace distorted fragments, several apparent fractured lithic to cherty pebbles?, 5% Sandstone cavings from above.

760.0 to 764.0 SANDSTONE

(4.0) Off white, very clean, lower to upper medium, coarse, quartz, translucent, off white, minor localized finer pale orange feldspars ?, rare trace lithic, poorer sorted, subrounded to rounded, abundant fractured coarse quartz, abundant well cemented finer matrix ? fragments, predominantly well cemented, siliceous, non to local fragments very slightly calcareous only, low relief, no visible porosity, possible 2-3% effective?, 10-15% darker grey shale interlams with possible same reddish brown Shale, no shows, no gas.

764.0 to 768.0 SILTSTONE to SANDSTONE Red beds

(4.00) Brownish to very slightly reddish brown, massive, blocky, firm, argillaceous, micromicaceous to micaceous, firm, easily crushable, quartz, lower to upper silt to very fine Sandstone, dirty, argillaceous, interlaminated with 10-15% medium grey Shale, firm, platy, blocky, amorphous, apx 5% cleaner white slightly feldspathic Sandstone as above, thin lenses or cavings? ROP under 3 m/hr, no shows.

768.0 to 776.0 Interbedded SILTSTONE with SANDSTONE and Shale

(8.0) Light to medium dirty brownish, (rare reddish tinge decreasing with depth), grading to brownish grey to greyish with depth, interbedded Siltstone, micromicaceous and very fine Sandstone, generally very micaceous, minor to 5% interlaminated SHALE, darker grey, massive, amorphous, some distorted to convoluted fragments throughout, minor very fine slightly softer feldspathic Sand laminations, overall samples very uniform, softer, ROP increased to over 3 m/hr, possible due to micaceous component, no shows, no Gas, POOH @ 776 meters for drill bit.

776.0 to 784.0 Interbedded SILTSTONE with SANDSTONE to Shale

(8.0) Lighter to medium grey Siltstone, massive, blocky, quartz, possible trace lithic, very firm, blocky, moderate cemented, dirty, argillaceous, silica in part, micromicaceous in part, interlaminated with minor darker grey Shale, massive, platy, abundant thinly interbedded to interlaminated Sandstone, very fine to lower fine, off white, dirty light grey, trace orange feldspathic, local very micaceous, possible trace lithic, siliceous, well cemented with trace calcareous component, possible 10-15% brownish Siltstone to silty shale interlams?, micaceous (overall greyer with depth).

784.0 to 793.0 Interbedded SILTSTONE with minor SANDSTONE

(9.0) Greyish brown to abundant slightly reddish brown Siltstone, argillaceous in part, minor to very micaceous, interlaminated with very fine Sandstone, mottled greyish to some slightly reddish tinge, quartz, minor black mica, moderate clean, siliceous to moderate well cemented with slightly calcareous component, minor fine slightly stained micaceous Sandstone, possible thin argillaceous Shaly laminations, medium grey to reddish ?, possible minor off well fine to medium cleaner quartz Sandstone laminations throughout 795 meter interval.

793.0 to 796.0 SANDSTONE

(3.0) Interlaminated ?, mottled of white to very light grey, quartz, possible trace lithic, minor trace black mica, possible very pale orange feldspars?, moderate well cemented, siliceous with slight calcareous component throughout, apparent micro calcite filled fracture?, moderate well sorted, subangular to subrounded, low relief, no visible porosity, tight, harder, slower drilling while sliding, abundant dirty Siltstone micaceous interlams, good trace white chalky gouge fragments.

796.0 to 807.0 SILTSTONE with SHALE

(11.0) Brownish, greyish brown, Siltstone, lower to upper silt to very fine micaceous, argillaceous, clay rich, minor lower fine micaceous Sandstone lenses, interbedded with minor brownish to slightly reddish brown slightly silty shales and minor greyish shales, trace mottled whitish very fine Sandstone lenses, uniform with depth, no gas.

807.0 to 814.5 SHALE with minor COAL

(7.5) Apparent upper lenses Sandstone, very fine cleaner to slightly dirty to micaceous, calcareous in part, grading to softer darker grey to grey black Siltstone to grey black to darker grey SHALE, massive, amorphous, blocky, siliceous in part, abundant silty, slightly carbonaceous, trace with increasing Coaly fragments, possible thin lenses, poorer slightly argillaceous to dull fragments, some coal partings?, some distorted convoluted surfaces, trace gas only.

CODROY 814.50 MD, 813.07 TVD, -637.77 SSL

814.5 to 818.0 ANHYDRITE (Probable SALT)

(3.5) Good drill break, massive larger thumb size+ fragments at surface, chalky white softer to very dense harder "coke bottle" opaque to slightly brownish blue grey, Mud clobbered instantly on bottoms up from 817 meters, Fast ROP indicates possible interlaminated SALT?, or erosional karst contact.(98% cavings in samples) other than larger fragments at shakers.

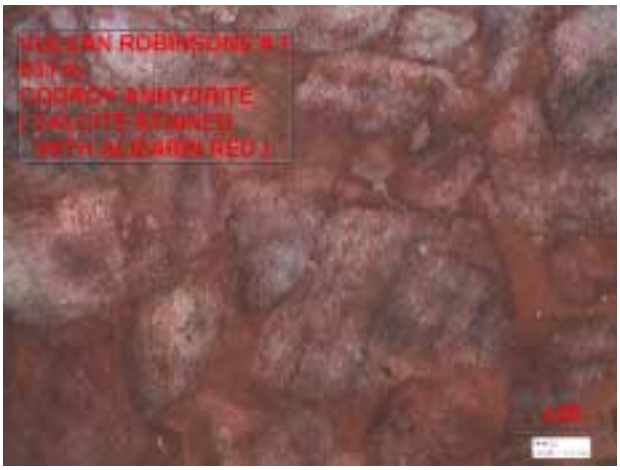
(Mud check verified increase in chlorides from 1500 to apx 6400 ppm (Salt) in the 160 m3 mud system. Theoretical Calculated Chloride increase of 5000 ppm would require 1.9 meters of 445 mm pure salt being drilled . Apx 2.6 meters salt based on ROP only.

818.0 to 829.0 ANHYDRITE

(11.0) Off white, very clean, massive, blocky, competent, microcrystalline, rare chalky, micro to massive banding assumed with very dense, harder, insoluble "coke bottle" opaque to slightly dirty brownish grey to grey blue?, possible trace microcrystalline to very fine crystalline gypsum fragments, ROP under 2 m/hr, No gas, uniform with depth. POOH at 829 meters for 340 mm Casing.

829.0 to 842.0 ANHYDRITE

(13.0) Off white, microcrystalline, local slightly chalky, blocky, firm, overall calcareous component, 2-5% calcite component, mottled blotchy replacement or primary ?, (Alizarin Red staining), apparent micro to massive banding, micro to larger banding ?, greyish slightly buff, cryptocrystalline, harder, No Fluorescence, *very slow but stronger residual bright white cut*, no staining, (slight sulpher smell to samples when acid added, with depth minor interlaminated very dirty grey black silty, argillaceous marlstone ?, limey Shale.



842.0 to 846.0 Interlaminated ANHYDRITE with MARLSTONE

(4.0) Mudstone (1A), light to medium grey, microcrystalline, massive, blocky, hard, 50-60% residual Silt to argillaceous content, good calcareous, visible fragments with interlaminated to brecciated ? anhydritic Limestone to Marlstone, anhydrite off white, chalky to calcareous component in general to thin laminations with inclusions of very clean microcrystalline to finely crystalline pure Anhydrite, *overall pale white slow residual cut from Anhydrite*, No fluorescence, no cut from Marlstone.

SHIP COVE 846.00 MD, 844.55 TVD, -669.25 SSL

846.0 to 858.0 Interlaminated MARLSTONE to LIMESTONE with ANHYDRITE

(12.0) 40-60% lighter grey to slightly mottled greyish brown Marlstone, microcrystalline to cryptocrystalline texture with 50-60% argillaceous to silty residual matrix, hard, massive, no cut, with abundant interlaminated Anhydrite ?, minor pure finely crystalline but generally very calcareous, minor silty component, to very limy to soft chalky cleaner Limestone ?, no fluorescence, *slow uniform residual paler white cut from softer Anhydrite?* to possible anhydritic chalky Limestone ?. (ROP indicates thinly bedded to laminate). Minor very fine to upper Silt Sandstone in 852 sample, off white, quartz, clean, trace lithic, 5% calcareous component.

858.0 to 870.0 LIMESTONE with minor MARLSTONE

(12.0) Mudstone, (1/11A), 60-80% off white, softer, chalky in part, abundant microcrystalline, very calcareous with localized minor patchy apparent anhydrite, firm, blocky to lumpy, 5-10% lower to medium quartz ? silty component, apparent clean, interbedded with 20-30% Marlstone, as above, greyish, massive, calcareous, microcrystalline, slightly greyish buff, cryptocrystalline, 50%+ silty to dirty component, minor to less than 1% finely crystalline clean Anhydrite fragments to fractures filled within Limestone, No fluorescence, *overall slow pale white residual cut, becoming stronger to brighter over time throughout cleaner Limestone*, no staining, steady ROP, no gas.

SPOUT FALLS 870.00 MD, 868.54 TVD, -693.24 SSL

870.0 to 875.0 TRANSITION TOP ?

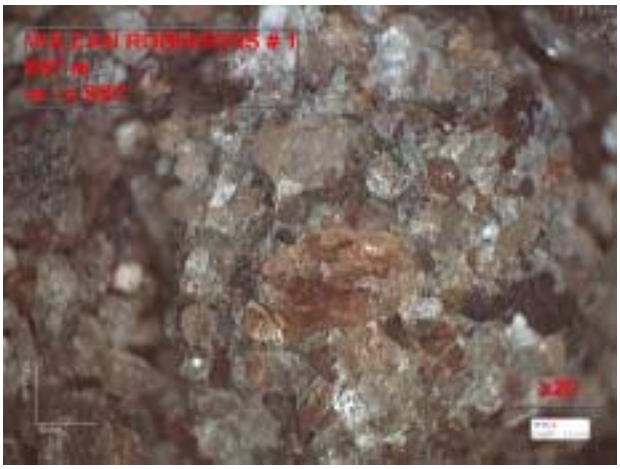
(5.0) 870 meter no sample, 873 sample predominately chalky to microcrystalline cleaner Limestone, Mudstone, possible minor micro pellets ?, pale white slow cut, increasing 40% Marlstone, grey buff, cryptocrystalline, very hard, massive, no show, 2-3% non calcareous to slightly dolomitic Shale, medium grey, platy, harder, trace Sandstone fragments, rare loose, medium to coarse poorer sorted, quartz, feldspathic, as per below, Note slightly increased ROP and small gas shows apx 100 units, no stain, no shows from Sandstone, assuming thin laminations of Sandstone giving weak gas show or possible shale?.

875.0 to 885.0 SANDSTONE

(10.0) Mottled lighter grey, off white, predominately lower to upper medium, abundant coarse to possible minor floating small pebbles?, quartz, opaque, off white, abundant fractured translucent, feldspars, lighter orange pink, trace grey black lithic, overall clean, poorer sorted, subangular to subrounded, with abundant coarse angular to fractured, abundant very fine fragments, tighter subangular to subrounded laminations to thin bedding, moderate well cemented but friable in part, siliceous with trace calcareous component only, assuming silty to very fine Sandstone infilling matrix, fragments tighter, uniform with depth, no visible porosity, possible minor secondary porosity within larger coarser fragments, 4-7% effective porosity?, no shows, no cut.

885.0 to 897.0 Pebble SANDSTONE

(12.0) Lighter grey, off white, local pinkish feldspathic, upper medium to lower coarse in general with abundant fractured pebbles?, quartz, opaque, white, translucent, pink orange feldspars, trace lithics, moderate poor sorting, subrounded to abundant rounded, finer grained subangular, very coarse to pebble quartz, feldspars, cherty lithic floating pebbles?, siliceous in general, 1-3% calcareous, moderate well cemented fragments to predominately loose grains assuming weaker cemented to matrix, Possible thin pebble bedding?, no apparent Conglomerate, no shows, no cut, minor gas peaks throughout.



897.0 to 908.0 Pebble SANDSTONE

(11.0) Lighter grey to off white with pinkish feldspathic component, lower to upper medium in general, subrounded to rounded, abundant coarser to very coarse fractured quartz to cherty lithic to feldspars pebbles ?, predominant loose, weaker cemented? but abundant fragments, moderate well cemented, very fine to rare silty matrix, siliceous, rare trace calcareous, very poorly sorted, no shows, minor increasing finer, minor brownish very fine argillaceous Sandstone grading to Siltstone, minor upper fine greenish quartz lithic siliceous fragments, well sorted, subrounded, no shows.

908.0 to 929.0 SANDSTONE

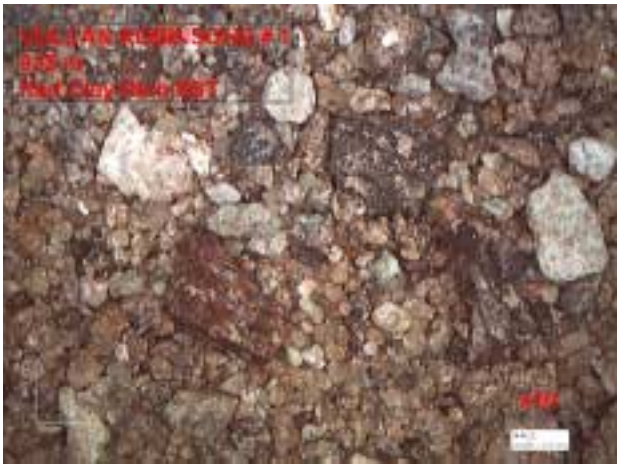
(21.0) Overall very slightly pinkish, lower to upper fine, chalky with pinkish clay? matrix, some fragments with very pale greenish grey matrix infilling, quartz, opaque, minor translucent, minor feldspars, trace lithic, general moderate poorly sorted, abundant upper fine to decreasing coarse, subangular to subrounded to rounded, overall weaker cemented, increased chalky, possible overall slightly anhydritic component, less than 1% coarser fractured pebbles?, abundant very fine to fine siliceous Sandstone laminations?, higher overall porosity but possible 2-3% effective due to clay content ?.

929.0 to 933.0 ANHYDRITE ?

(4.0) Predominantly off white, chalky, softer with pure clean microcrystalline Anhydrite, with softer Sandstone, very fine to upper fine, slightly reddish matrix?, anhydritic?, softer cement, moderate sorted, subrounded to rounded, no shows.

933.0 to 938.0 SANDSTONE

(5.0) Predominately loose, overall slightly reddish brown to brownish at shakers, clay rich?, destroyed by drilling and clays washed out, middle to upper medium, quartz, opaque, semi translucent, trace yellow stained, minor trace slightly greenish, minor feldspars, trace lithics, weaker cemented, siliceous to clay rich ?, moderate sorted, subrounded to rounded, minor finer fragments with pale greenish white clay infilling, continued minor fractured lithic pebbles, possible minor anhydritic ?, no shows.



938.0 to 950.0 SANDSTONE grading to pebble CONGLOMERATE ?

(12.0) Arkosic, loose, mottled slightly pinkish brown?, medium to lower coarse quartz, opaque, translucent, general rounded, shakers and pre washed samples reddish brown muddy, good trace pinkish feldspars, trace lithics, minor fragments only, medium , high relief, siliceous to slightly chalky softer cleaner matrix, minor feldspars, lithics, black mica, grading to overall coarser, 20% fractured pebbles, quartz, translucent, opaque, trace yellow, pinkish feldspars to lithics, grey siliceous cherty, trace brownish tan, dark grey, angular fractured shards to fragments up to 3 mm, possible pebble conglomerate? with medium to lower coarse rounded quartz matrix ?, overall weaker cemented based on lack of fragments, no fluorescence, no cut, assuming poorer to no effective porosity, (clay rich matrix destroyed by drilling ?.

950.0 to 964.0 Cobble CONGLOMERATE ? to Pebble SANDSTONE

(14.0) Arkosic, predominately loose middle to upper medium to lower coarse Sandstone, quartz, translucent to opaque, moderate sorted, rounded to subrounded, slightly pinkish argillaceous staining ?, feldspathic, lithic, with floating pebbles of grey black to reddish, tan to mottled red black lithic, fractured, also apparent poorly sorted to fine to lower coarse very well cemented siliceous lithic Sandstone pebbles? to cobbles?, Possible thinner cobble Conglomerates or more uniform pebble Sandstone ?, generally weaker cemented based on loose rounded quartz grains, samples at shakers very muddy (red brown), indicating a possible red clay cement to matrix in part, minor apparent cleaner very fine to fine tight Sandstone laminations?, trace calcareous, no visible porosity, effective porosity ?, no gas.

964.0 to 975.0 Pebble SANDSTONE

(11.0) Arkosic, predominately loose lower to upper medium to lower coarse, quartz, opaque, translucent, slightly apparent reddish stained, some feldspars, orange pink, minor lithic, black, with fractured coarse to very fine pebble fragments, varied lithic, pinkish feldspathic, quartz, sandstone fragments, dark grey black cherty, mottled grey red cherty "granite" lithic pebbles?, minor poor sorted medium Sandstone with very light green clay infilling, continued very "red brown" muddy at shakers and pre washed samples, assuming red clay component, no shows, trace gas only.

975.0 to 984.0 Pebble SANDSTONE

(9.0) predominately loose, lower to upper medium. lower coarse, arkosic, predominately quartz, opaque, whitish, overall very slightly pale yellow pink staining?, subrounded to rounded, minor feldspars, minor lithics, minor fragments slightly chalky crystalline, cleaner, very light grey to abundant very slightly greenish clay matrix infilling, slightly calcareous, overall softer cement to matrix, minor possible lithic to cherty to quartz to feldspathic floating pebbles ?, very red muddy at shakers, assuming interlaminated red clays to very soft matrix within bedded softer sands.

984.0 to 990.0 Sandy REDBEDS ?

(6.0) Extremely red muddy to clay rich at shakers, (lost during drilling and sample washing ?), remaining dried samples fine to medium loose quartz, opaque, minor translucent, apparent minor light yellowish to pinkish staining, trace lithics, rare feldspars, minor coarse fragments, minor to no fragments that are very friable, assuming very high lost red muddy clay component, ROP down to 3 m/hr.

990.0 to 1000.0 SANDSTONE

(10.0) Loose, lower to upper medium to lower coarse, minor possible floating pebbles?, continued overall reddish to reddish brown colored, muddy at shakers and pre washed samples, (continued assuming clays lost during drilling and washing), quartz, opaque, minor translucent, some reddish to yellowish pale staining, cleaner than above, minor lithics to feldspars, subrounded to rounded, minor fragments mottled off white, quartz to lithics to feldspars, poorly sorted, friable, soft whitish to local very slightly altered pale greenish clay infilling, slightly calcareous, trace brownish to brownish grey argillaceous to silty fragments, thin laminations ?. minor gas shows of 75 units.

1000.0 to 1015.0 SANDSTONE

(15.0) Loose, upper fine to upper medium with reduced lower coarse, arkosic, cleaner than above?, quartz, opaque, minor semi translucent, continued very pale possible reddish to yellowish staining from clays?, minor orange feldspars, trace lithics, minor lithic possible pebbles, as above, overall subangular to subrounded to abundant rounded, weakly cemented by roundness of grains, continued minor fragments, poorly sorted with softer altered pale greenish clays, minor calcareous, trace brownish silty to argillaceous laminations, trace fine grain sandstone fragments, slightly greenish, slightly calcareous to clay matrix to cement, assuming continued muddy clay (laminations) component, minor gas shows to peaks throughout. (Minor lignite “coaly” mud additive in samples.

1015.0 to 1026.0 SANDSTONE

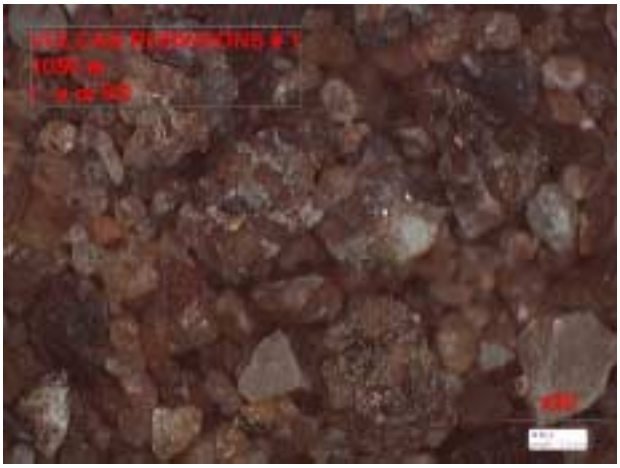
(11.0) Loose, lower to predominant upper medium, minor lower coarse, minor fine, quartz, opaque, semi translucent, some apparent reddish to yellowish staining from clay, subrounded to rounded, minor lithic, minor feldspars, soft clay red matrix assumed, minor coarse to small pebbles throughout, minor Sandstone fragments only, mottled off white, poor sorted, softer whitish to slightly pale greenish infilling matrix, overall soft very weakly cemented, clay rich, local slightly calcareous fragments, no gas.

1026.0 to 1040.0 SANDSTONE REDBEDS

(14.0) Loose, very red muddy to clay rich at shakers, (clays lost to destroyed by drilling to washing samples), upper fine to upper medium in general, predominant quartz, subrounded to rounded, no to minor fragments only, moderate sorted, minor assumed floating coarse to pebble quartz to feldspars to rare cherty lithics, uniform sample with depth due to drilling to washing away of clay interbeds to laminations to matrix, weakly cemented, slower ROP due to spinning on richer red clay to shaly intervals, ROP down to 3 m/hr, no shows.

1040.0 to 1058.0 SANDSTONE to pebble SANDSTONE

(18.0) Predominately loose, very abundant muddy to red clay rich throughout, very muddy at shakers, lower to upper medium to coarse, quartz, opaque, pale reddish stained, minor lithics, minor to 5% coarser fractured floating pebbles?, lithic, varied tan to grey cherty?, very fine mottled Sandstone, trace mica, opaque quartz fragments, mottled red black lithic pebbles?, thicker bedded coarser cleaner with finer to argillaceous to clay rich Arkosic Sandstone, no shows, no gas, POOH at 1058 meters for BHA Change.



1058.0 to 1078.0 Pebble SANDSTONE with REDBEDS

(20.0) Very muddy red brown (soft clays) at shakers, washed samples predominately lower to upper medium with abundant coarse to minor fine quartz, opaque, semi translucent, very pale light yellowish to pinkish staining, good trace lithics, varied colored, pink to grey to yellow to black, pink mottled feldspars, very uniform samples throughout, moderate to poorer sorted, subrounded to abundant rounded, (grains slightly more fractured with PDC, 2% coarser to 2 mm fractured to partial fractured lithic pebbles, over all predominately red clay rich matrix . (ROP indicates possible 1 meter coarser possible Pebble Conglomerates ?.

1078.0 to 1090.0 REDBEDS to SANDSTONE

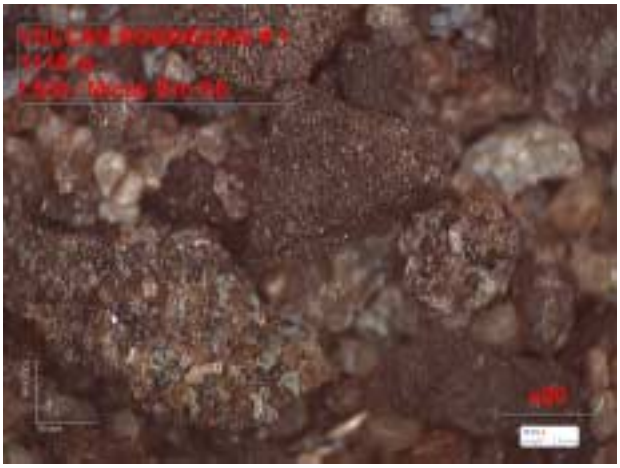
(12.0) Very muddy to clay rich at shakers, washed samples predominately loose, fine to medium, medium lower coarse, quartz, opaque, semi translucent, abundant very slightly stained, apparent fragments, fine, pinkish white, very friable, quartz, clay to silty softer matrix ?, minor localized harder off white fine fragments, quartz, lithic, calcareous matrix, overall samples more chalky to argillaceous (washed less ?), appears overall finer to more clay rich with depth.

1090.0 to 1100.0 REDBEDS with SANDSTONE ?

(10.0) Very red clay rich, very fine to fine mottled red brown to off white Sandstone, quartz, trace lithic, rare feldspars, chalky white to reddish clay matrix, abundant grading to argillaceous Siltstone, 10-15% red brown to medium brown slightly micaceous Shale, continued 50-70% medium rounded loose Quartz, minor coarse, trace fractured, assuming clays destroyed by drilling.

1100.0 to 1110.0 REDBEDS with SANDSTONE

(10.0) Predominately loose in washed samples, lower to upper medium with minor lower coarse, quartz, opaque, semi translucent, overall slightly yellowish staining, (samples very clay rich), minor fragments fine Sandstone, predominately quartz, yellowish stained, trace feldspars, appears moderate clean, trace very slightly green clay? matrix, very slightly calcareous, 5-7% brownish silty to sandy to micaceous Shales, trace coarser fractured grains only, Assuming faster ROP apx 6 m/hr finer dirtier very clay rich Sands to Shale intervals to bedding, no apparent pebble banding – bedding.

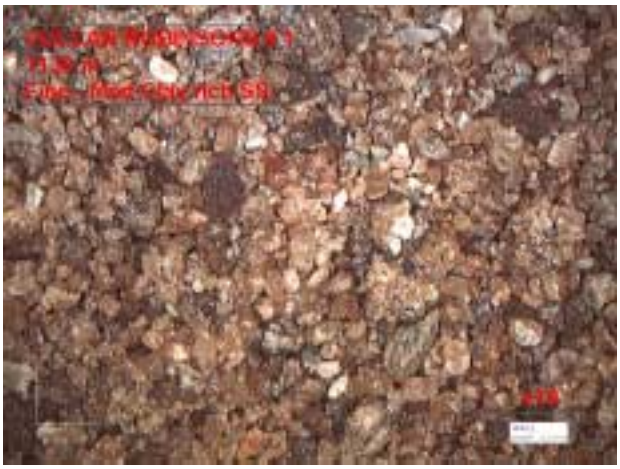


1110.0 to 1125.0 SANDSTONE

(15.0) Clay rich muddy samples, loose lower to upper medium quartz, opaque, semi translucent, very slightly yellowish stained, trace feldspars, rare lithics, moderate sorted, subrounded to rounded grains, minor fractured only, less than 2% coarser quartz, rare trace fractured pebbles, minor fragments only, general fine, minor poorly sorted fine to medium, quartz, slightly yellowish stained, slightly siliceous to apparent very light greenish clay infilling, rare trace calcareous fragments, continued very muddy clay rich medium grained moderate sorted Sandstone ?, fairly uniform ROP. no gas.

1125.0 to 1136.0 SANDSTONE

(11.0) Clay rich, predominately loose lower to upper medium with fine component, minor coarse only, trace fractured pebbles?, continued quartz, opaque, semi translucent, overall very slightly yellowish to trace pinkish stained, moderate sorted, subrounded to rounded, weakly cemented due to roundness of grains, clay matrix?, minor to trace fragments, moderate sorted quartz Sandstone, fine to medium, high relief, siliceous in part, friable, slightly greenish clay infilling, non calcareous, minor brownish Shale to micaceous Siltstone, uniform with depth, no gas.

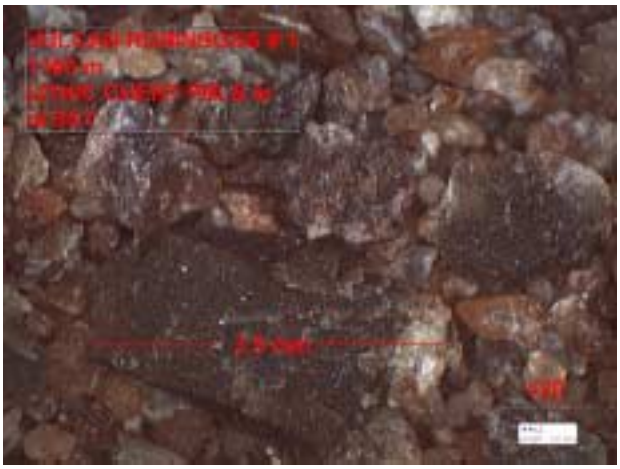


1136.0 to 1150.0 Pebble SANDSTONE with SANDSTONE

(14.0) Predominately loose, lower to upper medium with fine to abundant lower coarse, 10-15% fractured coarse to very coarse pebbles?, cleaner overall, quartz, opaque, slightly yellowish stained, minor feldspars, lithics, continued subrounded to rounded sand matrix, continued very muddy clay at shakers, Assumed better cemented cleaner pebble Sandstone and or possible thin pebble Conglomerates with continued interbedded dirty clay rich fine to medium argillaceous Sands to Redbeds, ROP down to 2.5 m/hr within harder to coarser Sands?.

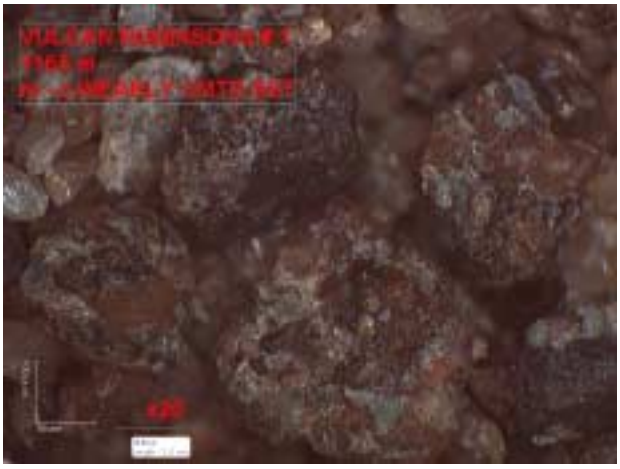
1150.0 to 1168.0 Pebble SANDSTONE to SANDSTONE

(13.0) Predominant loose, medium to lower coarse, quartz, opaque, semi translucent, very lightly pinkish to yellow staining, trace feldspars, minor lithics, moderate sorted ?, subrounded to rounded, minor fragments, poorer sorted, very high relief, weakly cemented, siliceous to minor very slightly pale greenish infilling, local moderate sorted off white, cleaner, siliceous to very slightly calcareous, possible thinner laminations to micro bedding, 4-6% larger fractured lithic to cherty pebbles, assumed floating within the finer matrix, continued abundant red clay (gumbo soft) at shakers, assuming destroyed and washed out by drilling, increased FOB and RPM has overall improved and smoothed out drilling, no gas.



1168.0 to 1185.0 SANDSTONE with REDBEDS

(17.0) Predominately red clay rich at shakers, loose, upper fine to upper medium with minor coarse, quartz, opaque. semi translucent, abundant very lightly pinkish to yellowish staining, minor lithics, trace feldspars only, moderate sorted, subrounded to rounded, minor to less than 1% coarser fractured quartz to lithic fragments, possible trace pebbles only, very uniform, minor fragments only, very fine to upper medium, poorly sorted, predominately slightly stained quartz, rounded to subrounded, trace lithics, siliceous to very slightly trace calcareous matrix with apparent chalky ? very slightly pale green clay infilling. ROP smoothed out, probably thinly bedded cleaner Sandstone and very argillaceous Redbeds to clay rich shales ?, all solid clays destroyed by drilling, no gas.



SAMPLE CUTTINGS DESCRIPTIONS

1185.0 to 1200.0 SANDSTONE to REDBEDS

(15.0) Very clay rich to muddy, dried samples predominately loose lower to upper medium, quartz, opaque, slightly yellowish stained, trace lithics, rare trace feldspars only, minor lower coarse, no pebbles, moderate poor to moderate sorted, subrounded to rounded, very clay rich, minor fragments very light mottled grey, very fine to fine, quartz, lithics, moderate high relief, siliceous to chalky to very slightly calcareous, overall slightly calcareous component to samples, Clays to Redbeds wash out to destroyed by Drilling and washing.

1200.0 to 1212.0 REDBEDS to SANDSTONE ?

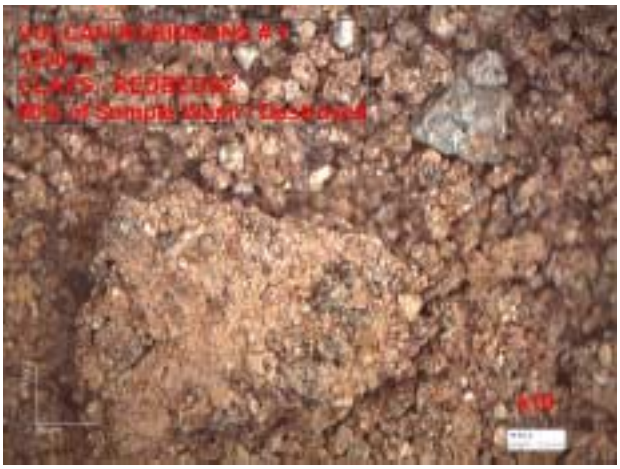
(12.0) Clay rich, thick gumbo to soft red clay at shakers, samples have lower to upper medium quartz, opaque, translucent, slightly stained only, trace lithics, moderate sorted, subrounded to rounded, minor fragments, very fine to fine to rare medium, weakly cemented, slightly siliceous to calcareous with continued very pale greenish clay infilling, uniform, muddy, no gas, ROP over 6 m/hr.

1212.0 to 1225.0 SANDY REDBEDS

(13.0) Clay at shakers, samples 70% washed away during prep, remaining is fine to medium quartz, opaque, translucent, slightly stained, subrounded to rounded, as above, minor fragments, very fine to fine, siliceous, clay rich to coarse Siltstone, very soft, chalky in part, assuming sandy Redbeds to clay to shale interbeds throughout, uniform to very muddy with depth, no gas.

1225.0 to 1250.0 SANDY REDBEDS with SHALE to CLAYSTONE

(25.0) 80 % soft red clays in sample bags, (washed away during prep), very uniform throughout, remaining sample, loose fine to upper medium quartz, opaque, semi translucent, slightly minor staining, trace lithics, minor possible feldspars, minor fragments as per above, very fine to fine to minor medium, quartz, trace lithics, weakly cemented, high relief, siliceous with trace calcareous, abundant very light pale green clay infilling, overall chalky to dusty to powdery slightly calcareous samples, no gas, uniform ROP above 6 m/hr steady, ROP indicates thinly bedded to interlaminated shales to clays and sandy cleaner ? Sandy interbeds.

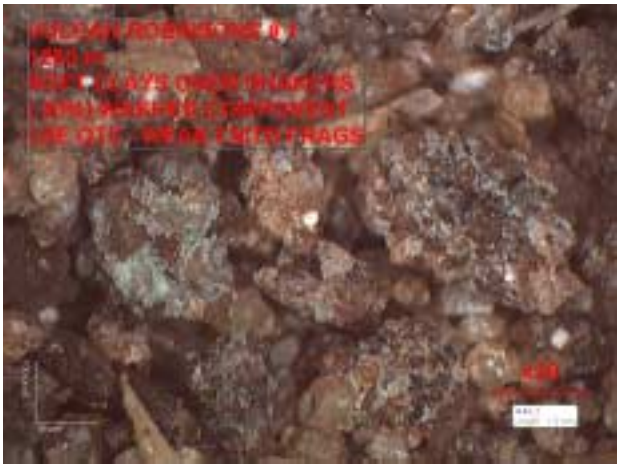


1250.0 to 1270.0 SANDY REDBEDS with SHALE ?

(20.0) As Above, predominately mud to red clays in sample bags and at shakers, 30% remaining after washing continued loose quartz, (cavings or sandy shales to Redbeds?), opaque, semi translucent, slightly stained only, minor lithics, trace to no feldspars, minor fragments, very fine to fine, quartz, siliceous to very slightly calcareous, slightly pale greenish clay infilling, as above, uniform samples and ROP with depth, no gas.

1270.0 to 1285.0 REDBEDS to CLAYSTONE ? with SHALE?

(15.0) 95% + Red Soft "Gumbo" type Clays over shakers, assuming formation harder based on ROP of apx 7 m/hr. Remaining washed sample AS ABOVE, loose, fine to medium to minor lower coarse, quartz opaque, translucent, slightly stained, moderate sorted, subrounded to rounded, minor fragments very fine to fine to medium, poorer sorted, local trace calcareous to siliceous, weakly cemented, high relief, good very slightly pale green clay infilling, no gas,
ROP indicates thinly interbedded to laminated.



1285.0 to 1300.0 REDBEDS with minor SANDSTONE

(15.0) Red soft clays at shakers, as above, uniform with depth, possible 20% Sandstone?, loose, lower to upper medium in general, quartz, opaque, semi translucent, slightly stained, trace lithics, rare feldspars, minor lower coarse, no pebbles, minor fragments mottled off white, cleaner, very fine to fine, tighter, thin bedding to laminations throughout more argillaceous clay rich silty to sandy Redbeds?, steady ROP, no gas.

1300.0 to 1320.0 REDBEDS with SANDSTONE ?

(20.0) Thick massive red brown Soft Clay fragments at shakers, assuming minor Sands only?, dried washed samples Sands only, loose, lower to upper medium, lower coarse, quartz, opaque, slightly stained, moderate sorted, subrounded to rounded, assuming generally weak cemented, minor fragments only, trace brownish Shale fragments, predominately thick sandy Redbeds, clay rich ?, no gas. ROP indicates some sandstone bedding with slower ROP. (See photo from shakers of Clays.)

SOFT RED CLAY FROM END OF SHAKER AT 1320 m

(AS PER LAST 100's METERS)

RINSED SAMPLE WITH CLAY (TOP SCREEN) 1320 m

1320.0 to 1340.0 REDBEDS with SANDSTONE ?

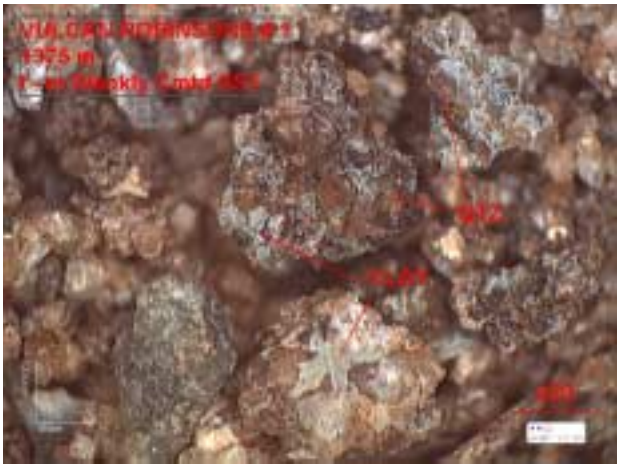
(20.0) Red Brown soft Shale to Claystone equivalent at shakers, remaining washed samples loose, fine to medium, quartz, opaque, semi translucent, slightly yellowish to pinkish stained, AS ABOVE, trace lithics, rare feldspars, subrounded to rounded to apparent subangular to minor fractured, minor brownish to silty Shaly laminations?, rare fragments, overall very uniform samples with depth, Varied ROP suggest 20% coarser better cemented bedded cleaner Sandstone, no apparent pebbles or conglomerate.

1340.0 to 1360.0 REDBEDS to SHALE ? with minor SANDSTONE ?

(20.0) 99% soft red Clay fragments at shakers, 99% loose fine to medium sands with quartz in washed and dried samples, AS ABOVE, assuming massive sandy Redbeds and or softer Shales?, (formation harder than samples indicate based on average ROP of 6 m/hr. Dried samples loose quartz, opaque, slightly stained, moderate sorted, subrounded to subangular with minor lower coarse fractured, possible trace pebbles, Overall "dusty" samples due to clays, (Note -- if samples fully washed and dried, samples would appear very clean with no clays), steady ROP, no gas.

1360.0 to 1380.0 REDBEDS with minor SANDSTONE

(20.0) AS ABOVE, Continued heavy Claystone equivalent at shakers, dried samples uniform loose, fine to upper medium, trace coarse Quartz, opaque, slightly yellowish to reddish stained, moderate poorer to moderate sorted, subrounded to rounded in general, slightly siliceous, weakly cemented, visible light greyish to very light greenish ? grey clay infilling, minor darker brownish fragments, possible laminations?, uniform with depth, minor apparent coarser Sands based on ROP, no gas.



1380.0 to 1400.0 REDBEDS with SANDSTONE ?

(20.0) 80% + Soft clays in bagged samples + washed away in attempt to clean through screen, 100% massive soft red brown Claystone at shakers, very uniform, AS ABOVE, dried samples, as above, fine to upper medium, minor lower coarse, trace fractured pebbles, generally quartz, opaque, stained reddish to slightly yellowish in part, minor lithics, rare feldspars, minor medium grey silty laminations?, fragments, continued minor softer poorly sorted clay rich sandy fragments, ROP indicates some sandier ? coarser ? bedding not picked up in samples.

1400.0 to 1420.0 REDBEDS to CLAYSTONE with minor SANDSTONE

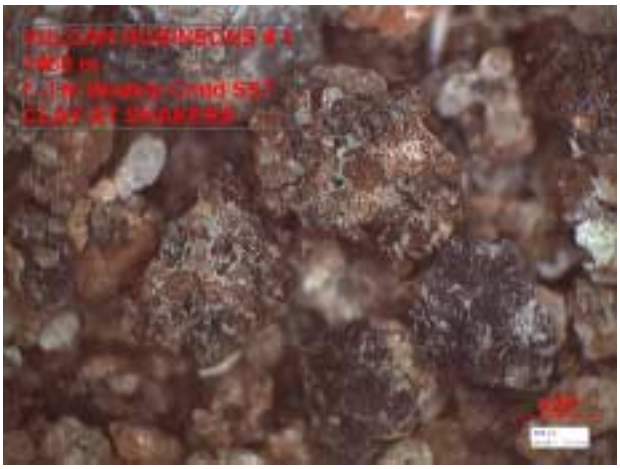
(20.0) Claystone at shakers, washed and dried samples as above, loose, fine to medium, minor lower coarse. quartz, opaque, semi translucent, abundant slightly reddish to yellowish stained, uniform, minor lithics, rare feldspars, minor to increasing fragments in 1420 samples, as above, poorly sorted subrounded to rounded clay matrix, very friable, weakly cemented, increased to 1% brownish shale fragments with floating rounded quartz, minor apparent Sands based on ROP, no gas.

1420.0 to 1440.0 REDBEDS to CLAYSTONE ?

(20.0) AS ABOVE, 100% Claystone to soft red brown clays at shakers ?, dried samples fine to medium quartz, opaque, translucent, minor staining, trace lithics, very muddy, poorly drying samples due to massive clays, uniform ROP apx 6 m/hr, minor Sands ?, no gas.

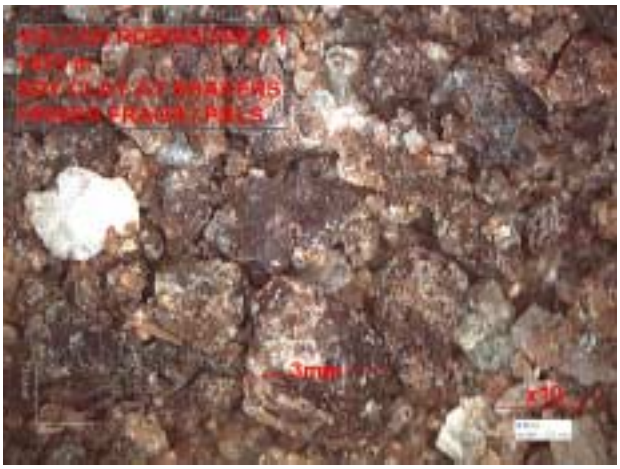
1440.0 to 1460.0 CLAYSTONE to REDBEDS with minor SANDSTONE

(20.0) AS ABOVE, massive red soft clay at shakers, dried samples continued loose, fine to upper medium with 5% lower coarse, rare trace pebble, quartz, opaque, reddish to slightly yellowish stained, subrounded to rounded, moderate sorted in part, trace lithics, rare trace feldspars, "dusty" samples, 90% of sample bag lost from washing and drying, minor slightly greyish pink fine to lower medium fragments, high relief, siliceous, weakly cemented, poorly sorted, subrounded to rounded, ROP at 1460 meters apx 2 m/hr, no apparent Conglomerate in samples, ROP assuming harder to firmer sands, cleaner ?, no gas.



1460.0 to 1475.0 Pebble SANDSTONE with REDBEDS to SHALE

(15.0) Clays at shakers slightly sandy, increasing fragments in dried samples, as above, fine to medium to lower coarse, moderate sorted, subrounded to subangular, high relief, cleaner off white, slightly siliceous cemented to continued weakly cemented reddish with off white to slightly pale greenish clay infilling, good trace fractured pebbles up to 3 mm, Ragged ROP indicating inter bedded softer Shales to cemented Pebble sands, no gas.



1475.0 to 1482.0 REDBEDS with SANDSTONE ?

(7.0) Clay at shakers, as above, loose fine to medium quartz, trace lower coarse, quartz, opaque, translucent, slightly stained, moderate poor sorted, subrounded to rounded, increasing apparent fragments, weakly cemented, minor semi crystalline moderate cemented, non calcareous, trace cleaner, minor greyish harder shales to possible lithics, trace fractured medium lithic to quartz grains.

1482.0 to 1491.0 SANDSTONE with REDBEDS ?

(9.0) Slower ROP at 1484 meters, larger fragments very slightly greyish but reddish, fine to lower medium, moderate sorted, subrounded to rounded, slightly siliceous but continued friable, but competent, no to trace clays, predominately Red Clays at shakers, dried sample loose, fine to medium, minor increasing to coarser with depth, some fractured pebbles to coarse sand grains, overall slower ROP over last 50 meters, Predominately clay equivalent at shakers, no gas, POOH at 1491 meters to check drill bit (86.5 hrs).

1491.0 to 1505.0 REDBEDS with minor SANDSTONE

(14.0) Predominant soft red brown CLAY at shakers, dried samples loose, fine to upper medium with minor coarse, quartz, opaque, slightly reddish to yellowish stained from clays?, rare lithics, no to rare trace feldspars, moderate sorted, subrounded to rounded, weaker cemented, non calcareous, argillaceous matrix Sandstone to sand clay rich Shales to Redbeds, minor to 5% firmer platy Shale, round brown to medium brown, non calcareous, micromicaceous in part, Good ROP with new PDC Drill bit apx 7 m/hr, no gas.

1505.0 to 1520.0 REDBEDS with minor SANDSTONE

(15.0) Continued very clay rich, 80% of clays from sample bags wash out during prep and drying, Red Claystone equivalent at shakers, dried samples loose, fine to upper medium, trace coarse, quartz, opaque, lightly red to yellowish stained, subrounded to rounded, clay matrix, minor fragments only, very fine to upper fine, slightly reddish, subangular to subrounded, soft, friable, slightly chalky, minor fine to medium clay rich fragments, no to fractured coarse lithic to quartz, no apparent pebbles, as above, uniform with depth.

SAMPLE CUTTINGS DESCRIPTIONS

1520.0 to 1529.0 REDBEDS with CLAYSTONE ?

(9.0) Clay at shakers, apparent darker grey fragments with clays ?, continued 80-90% clays washed out of samples, dried samples continued loose, fine to upper medium, minor coarse, quartz, opaque, stained, as above, trace lithics, trace to no feldspars, good trace to 5% brownish micromicaceous slightly silty Shale, (ROP up to 10 m/hr ?,) minor fragments only, fine to medium, slightly reddish, quartz, poorly sorted, friable, no gas.

1529.0 to 1535.0 SANDSTONE to REDBEDS

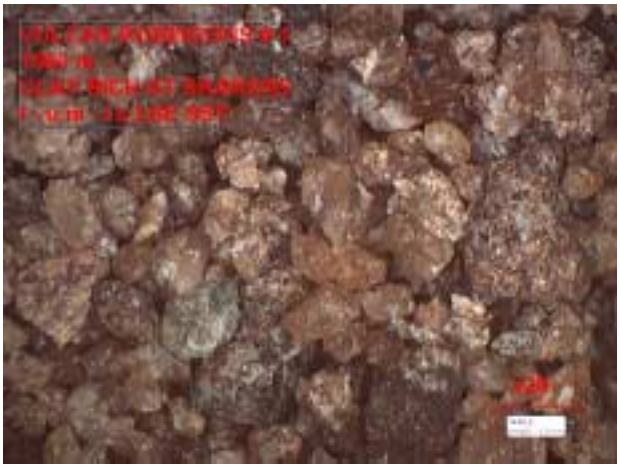
(6.0) Slower ROP at 1530 meters down to 2 m/hr, Predominately continued red brown Claystone equivalent at shakers, slightly sandy texture, dried samples continued loose, fine to medium to upper medium, minor fractured pebbly lithic to quartz to chert grains ?, as above, 10-15% fragments, slightly mottled reddish white, very fine to fine to abundant lower medium, quartz, opaque, slightly reddish brown staining, overall finer grained but abundant medium fragments, non calcareous, slightly siliceous, visible clay infilling, moderate relief, slightly better cemented, non calcareous, no gas.

1535.0 to 1550.0 REDBEDS with SHALE ?

(15.0) Steady increasing ROP to 8 m/hr, 95% Claystone equivalent at shakers but gritty, dried samples as above, loose, very fine to fine to medium, rare coarse, quartz, opaque, lightly reddish stained, trace lithic only, no to trace feldspars, moderate sorted, subrounded to rounded, weakly argillaceous cemented?, minor fragments fine to medium, very slightly siliceous with weaker clay infilling?, no visible pebbles, assuming uniform very clay rich interval, no gas.

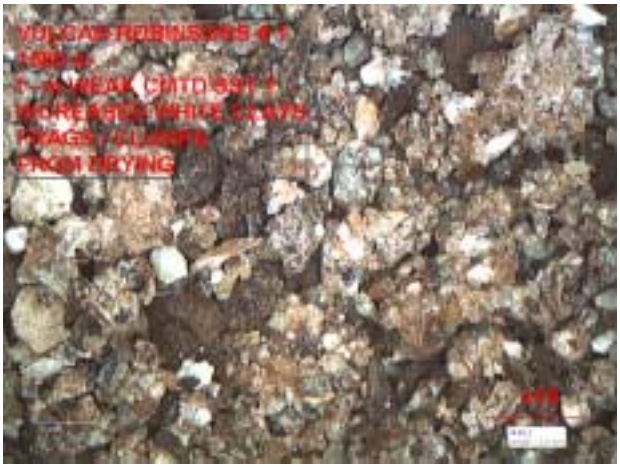
1550.0 to 1578.0 REDBEDS ? with SANDSTONE ?

(28.0) Continued very muddy to round brown clay rich at shakers, (slightly increasing sandy texture), Three distinct ROP slowdowns throughout 25 meter interval with 1.5 to 2 meter harder beds?. Samples uniform with depth, nothing in samples indicating cause of slowdown. overall samples may be slightly browner overall slightly greyish -- browning trend with depth over last 75 meters ?, dried samples continue to consist of loose fine to upper medium with local lower coarse, rare fractured very coarse, predominately quartz, opaque, slightly reddish brown staining?, trace lithics, rare feldspars, non calcareous throughout, minor localized fragments of mottled very light pinkish red, very fine to fine, medium, moderate poor sorted, non calcareous, clay matrix in part, high to medium relief, friable to weakly cemented, also minor very fine firmer, better cemented but easily fractured, slightly cleaner, non calcareous, no appear Conglomerates or pebble Sandstone, slowdown unknown, maximum ROP 8-9 m/hr, no gas



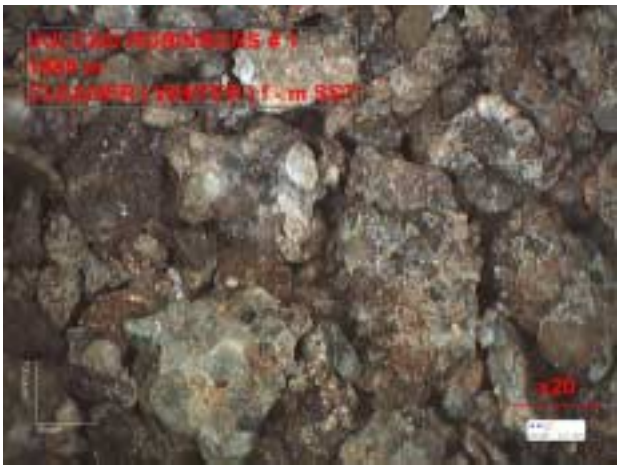
1578.0 to 1584.0 CHALKY SANDSTONE ?

(6.0) Whiter overall sample, (red clays to red at shakers from mud), Dried samples whiter, overall cleaner, continued fine to medium to lower coarse, quartz, opaque, semi translucent, less to minor staining, no fragments, abundant soft chalky white clays, (not anhydrite), no to very slightly calcareous, clean grains, slower ROP, (Drill bit appears to be spinning to not biting into rock), continued 1-2% reddish brown to brownish shales, silty to slightly sandy, rare mica, Note apparent fragments to clumps from drying not competent formation, Slower ROP.



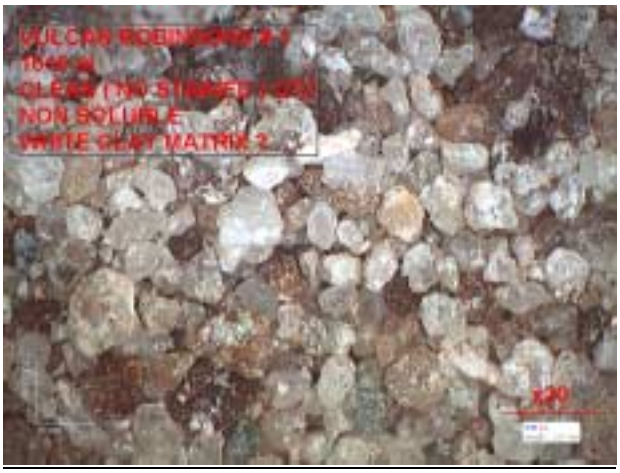
1584.0 to 1598.0 LIGHTER REDBEDS with SANDSTONE

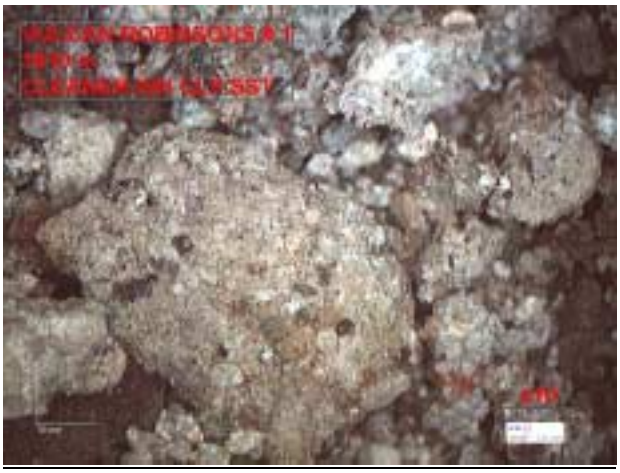
(14.0) Clay rich at shakers, as above, dried samples continued loose, fine to upper medium, quartz, opaque, semi translucent, light reddish stained to cleaner whiter, overall continued red, moderate sorted, subrounded to rounded, cleaner samples abundant subrounded to subangular ?, local fragments off white, cleaner, lower relief, quartz, moderate well cemented, non calcareous, with other rounded reddish sandy fragments, Note slow ROP under 2 m/hr from 1590-1595 meters, unsure ? of rock ?



1598.0 to 1615.0 SANDSTONE with white Clay ?

(17.0) Overall very light greyish to off white dried samples, (No red beds to no red clays), loose, fine to upper medium, minor lower coarse, quartz, off white, opaque, semi translucent, no staining, abundant apparent white chalky material to clumps from drying ?, non calcareous to rare calcareous, no anhydrite, moderate sorted, subrounded with abundant rounded to minor subangular, abundant very soft chalky white fragments with quartz but appears to be from drying?, possible some competent weakly cemented fragments with quartz to clay matrix to infilling, (see photo).



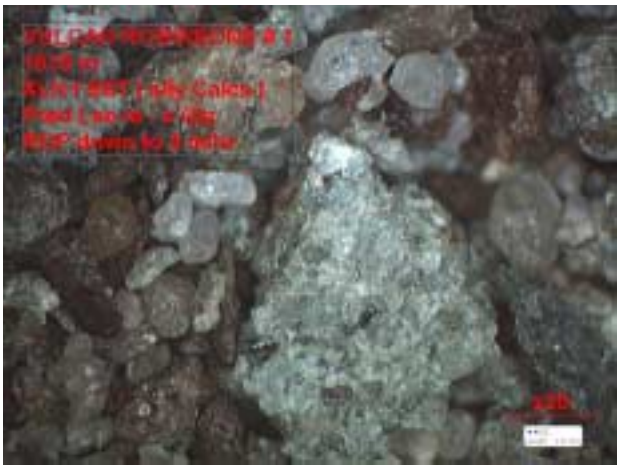


1615.0 to 1633.0 CLAY RICH SANDSTONE

(17.0) Very light grey to off white chalky ? Clays at shakers, bagged samples very grey white muddy, Dried and vialed samples loose, lower to medium to lower coarse, predominant quartz, clean opaque, white, translucent quartz, subrounded to rounded with abundant lower medium to upper fine rounded to subangular to minor fractured, rare trace black lithic, minor very light pale marine green clay fragments and red brown shaly to silty fragments in 1630 sample, trace fragments, weakly cemented, quartz, very friable, high relief, slightly chalky, non calcareous, minor very slightly greenish clay infilling, no hard fragments, no gas.

1633.0 to 1637.0 SANDSTONE

(4.0) 5% in sample, off white, fine, crystalline, blocky, quartz, opaque, white, semi translucent, very clean to fragments with trace black lithic, red shale ? lithic and apparent brown black mica?, siliceous in part, very slightly calcareous, moderate sorted, subangular to angular to fine rounded, poor relief, tight, possible slower ROP ?, minor medium to lower coarse fragments, higher relief, clean, cemented in part, friable, trace lower to upper medium fragments with rounded stained quartz grains in a cleaner siliceous white matrix, abundant to continued loose fine to medium quartz, as above, chalky overall.



1637.0 to 1655.0 CLAY SANDSTONE ?

(18.0) 95% Muddy grey white clays at shakers, some gritty, dried samples very chalky "dusty" with loose fine to upper medium, lower coarse quartz, opaque, white, semi translucent, subrounded to rounded grains with finer grains rounded to subangular, overall very clean white, trace reddish brown shale to possible subangular lithics, trace fragments only, weakly cemented quartz, with trace reddish lithics, very light greenish clay infilling to silty siliceous to very slightly trace calcareous matrix, overall weaker cemented than finer tighter sands above, uniform with depth, assuming slower ROP at 1645 meters due to finer crystalline clean quartz Sandstone, no show, no gas.

1655.0 to 1662.0 SANDSTONE ? or CLAY ?

(7.0) Massive grey white Claystone equivalent at shakers for ROP at 1.3 m/hr, Drill bit balling and added sawdust to clean drill bit, dried samples loose quartz as above, abundant assorted fragments due to slow ROP, some fragments Sandstone, (see photo), off white to very slightly greenish tinge due to greenish clay infilling, clean, quartz, translucent in general, lower to upper fine, rounded to subrounded, high relief, very slightly siliceous matrix with clay, friable, no shows, minor harder very slightly calcareous fine fragments, better cemented, Slow ROP from Clays or sand or mechanical plugging of PDC.

1662.0 to 1670.0 CLAY SANDSTONE ?

(8.0) Sample bags very clay rich, dried samples loose, fine to upper medium, quartz, semi translucent, opaque white, clean, moderate sorted, subrounded to rounded, minor fractured to subangular, very minor fragments, very fine to fine harder to medium, friable, as above, slightly greenish clay infilling, assorted red brown cavings to fragments, no pebbles, assuming overall weakly cemented white to slightly greenish clay rich matrix infilling to rounded grains indicate soft weak cement, no gas, no shows.

1670.0 to 1676.0 SANDSTONE ? or CLAY ?

(6.0) Heavy Clay at shaker, dried samples abundant fragments, lower to upper fine, well sorted, soft quartz rich with clay, micromicaceous, very slightly calcareous trace, to lower to upper medium, quartz, opaque. translucent, moderate sorted, rounded to subrounded, weakly cemented, slightly siliceous to slightly greenish clay infilling, rare coarse fragments?, 5-7% silty micaceous red beds to cavings due to slow ROP, more apparent fragments due to slower drilling ?.

1676.0 to 1690.0 CLAY SANDSTONE ?

(14.0) Dried samples loose, quartz, opaque, translucent, fine, well sorted, firm but easily crushable, clay rich, to lower to upper medium with medium coarse, moderate to moderate poor sorted, subrounded to rounded, "dusty" samples, minor fragments, very fine to fine, very slightly micaceous to weakly cemented clay rich, very slightly greenish clay infilling, no hard fragments, ROP up to 6 m/hr, no shows, no gas.

1690.0 to 1700.0 CLAY SANDSTONE ?

(10.0) Predominant loose, fine to upper medium with lower coarse, quartz, opaque, semi translucent, whitish ?, rare trace lithics, apparent clean, overall very "dusty" sample from clays, some fragments, lower to upper fine, quartz, clean, weaker cemented, very slightly siliceous ?, moderate well sorted, subangular to subrounded, very slightly pale greenish tinge, also minor poorer sorted fine to medium very weakly cemented, quartz, only, subrounded to subangular to abundant rounded, non calcareous, 2-3% reddish brown silty Shales?, cavings?, with depth grading to loose, chalky?, no gas.

SAMPLE CUTTINGS DESCRIPTIONS

1700.0 to 1710.0 SANDSTONE

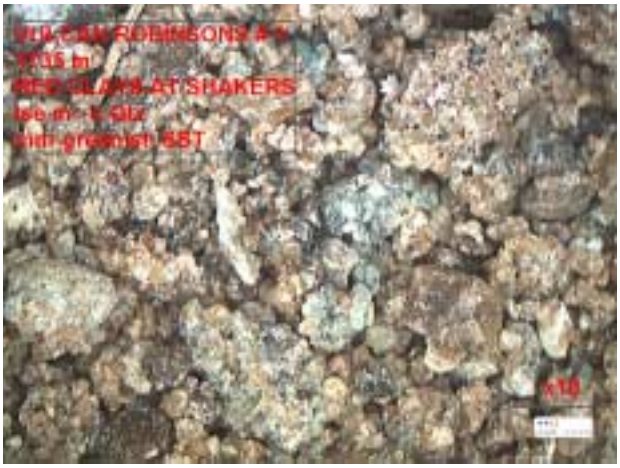
(10.0) Slow ROP under 2 m/hr increasing to 3 m/hr with depth, 1705 sample 80% added sawdust, remaining rock appears very mixed to predominately cavings from slow drilling, with depth very chalky sample, loose quartz, opaque, semi translucent, off white, as above, appears very slightly reddish clay component, minor reddish stained rounded quartz, trace slightly greenish very fine to fine clay rich Sandstone, friable, no shows, no gas.

1710.0 to 1725.0 REDBEDS with SANDSTONE ?

(15.0) Increasing to predominately lighter reddish clays with depth, dried samples loose, lower to upper medium to lower coarse quartz, opaque, slightly reddish stained, translucent, minor lithics, black to greenish, some apparent cherty? fractured coarse, possible minor pebbles ?, abundant cleaner non stained quartz as per grey beds, Possible interbedded red and grey Clay rich Sands to local very sandy Claystone equivalent, more uniform ROP due to increased sands in bedded Redbeds ?, no gas.

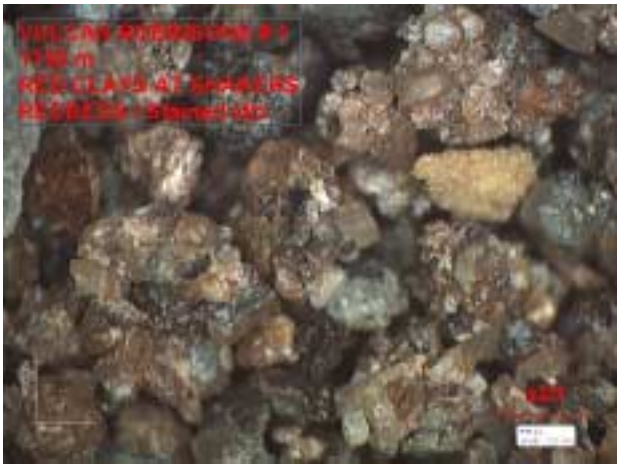
1725.0 to 1740.0 REDBEDS with CLAY SANDSTONE ?

(15.0) Predominately red brown clays at shakers, light red brown muddy bagged samples, 10-20% remaining sample dried is loose, fine to upper medium with minor coarse, possible trace loose floating cherty pebbles?, quartz, 60-70% lightly reddish stained, 20%+ cleaner translucent to white quartz, trace black lithics, "dusty" samples due to clays, minor fine to medium very slightly greenish competent but friable weakly cemented Sandstone fragments, uniform ROP apx 5 m/hr, no shows, no gas.



1740.0 to 1750.0 REDBEDS

(10.0) Red Clay at shakers, Bagged samples muddy red brown, dried samples with Clays washed away are loose, upper fine to upper medium with abundant lower coarse, rare trace fractured lithics to cherty small pebbles?, quartz, predominately slightly reddish to orange stained throughout, general moderate sorted, subrounded to rounded with minor subangular component, minor clean non stained, trace lithics only, minor fragments, weakly cemented, mottled reddish, medium, quartz, to very slightly greenish, quartz rich.



1750.0 to 1773.0 CLAY SANDSTONE ?

(23.0) Red brown Mud at shakers but washed clay cuttings predominately greyish white, slightly gritty, bagged samples clay rich "snowball", washed out clays and dried sample, loose, clean, quartz, opaque, translucent, no staining, upper fine to medium, lower coarse, subrounded with abundant rounded to finer subangular, 10% lightly reddish to orange stained, minor fragments very clean, medium, moderate cemented but friable, non calcareous, quartz, opaque to translucent, trace very slightly greenish, siliceous matrix cement in part, (Lots of Sawdust being added to "UNBALL" drill bit from clays drilled. Slow ROP due to bit balling ?.

1773.0 to 1785.0 REDBEDS

(12.0) Predominately very red muddy bagged samples, dried samples overall very light reddish, very fine to abundant softer mottled very light reddish chalky Siltstone, clean to non stained fine to medium white to translucent quartz with stained fine to medium quartz, cleaner slightly greenish clay in filled Sandstone to reddish semi crystalline slightly lithic Sandstone grading predominantly to softer chalky Silty to Siltstone with depth, 1780 sample 90% Pecan Shells added due to drill bit balling, 1785 sample appears chalky mottled non to very slightly calcareous, very weakly cemented clay rich Siltstone, Very ragged ROP and poor samples due to shell additive, minor brownish to grey brown Shale fragments increasing with depth, slightly silty to rare sandy ?.

1785.0 to 1803.0 REDBEDS with SHALE ?

(18.0) Very red muddy samples, dried samples intermixed, medium grey brown to brownish shales, firm, platy, silty, slightly micromicaceous, competent, non calcareous, abundant loose clean to stained fine to medium quartz, abundant silty mottled reddish Siltstone, chalky, soft, to fine to medium cleaner quartz Sandstone with overall very pale greenish tinge from clay infilling, some clean whitish Sandstone, Possible inter fingered red argillaceous clay rich sandy Shales to shale and bedded cleaner sands?, (first intervals with competent shales. Continued poor to ragged ROP due to drill bit mechanics ? or formation ?.

1803.0 to 1808.0 SANDSTONE

(5.0) Chalky grey white bagged samples, dried sample predominately loose cleaner quartz, opaque, translucent, moderate sorted, subangular to subrounded with abundant rounded, weakly cemented with abundant clay?, also slightly reddish stained quartz, subrounded to rounded, traces slightly greenish clay in filled Sandstone to mottled reddish stained Sandstone, trace possible siliceous to chalky white, microcrystalline gouge ?. ROP up to 10 m/hr, no gas, no shows.

1808.0 to 1812.0 REDBEDS to SHALE with SILTSTONE

(4.0) Mottled reddish brown, silty, firm, blocky, competent, micromicaceous in part, quartz, trace lithics, local grading to very fine Sandstone, micromicaceous, also reddish brown Shale, amorphous, to floating fine quartz, apx 20% loose fine to medium stained to non stained quartz, minor fragments from above.

SAMPLE CUTTINGS DESCRIPTIONS

1812.0 to 1832.0 SILTSTONE to REDBEDS

(20.0) Mottled reddish white silty to very fine Siltstone to Sandstone, argillaceous in part, non calcareous, slightly siliceous, firm to competent fragments, quartz, possible trace feldspars?, orange stained, well sorted, subangular to subrounded, with interbedded red brown Shale, silty to micromicaceous, good trace brownish to slightly greyish brown, rare greyish fragments, trace whitish microcrystalline harder blocky fragments, apparent Siltstone, siliceous to very slightly calcareous, good trace fractured coarser lithics, quartz, cherty grains to fragments to floating pebbles?, continued varied loose quartz sandstone to trace slightly greenish sandstone fragments from above, possible inter fingered Redbeds with cleaner grey white clay Sandstone?. (Bagged samples still red muddy), better uniform ROP apx 5 m/hr, no gas.

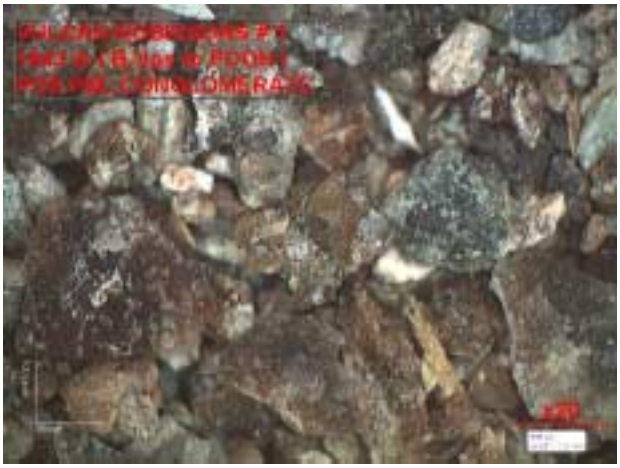
1832.0 to 1843.0 Pebble SANDSTONE to Pebble CONGLOMERATE ?

(11.0) Cleaner overall samples, minor clays at shakers only, no red beds, varied fragments, translucent quartz, orange to reddish quartz to feldspars fragments, minor darker lithics, greyish to light creamy cherty fragments, medium to coarse fractured to splintery component, minor loose quartz only, subrounded to rounded, minor weaker poor sorted Sandstone, fine to upper medium, siliceous in part, overall appears like Pebble Conglomerate, Bottoms up sample had shards to splintery quartz fragments up to 1 cm in length, assuming a siliceous slightly chalky to silty off white to slightly greenish matrix infilling with assorted poorer sorted sandstone, moderate cemented, ROP slow down to 1.5 m/hr. POOH at 1843 meters to check PDC. (See Photos)

SAMPLE CUTTINGS DESCRIPTIONS

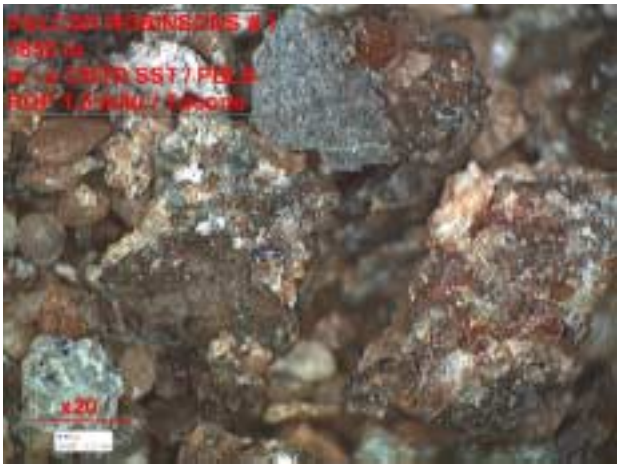
1843.0 to 1850.0 Pebble SANDSTONE

(7.0) Predominately fragments, varied colored, mottled reddish, off white, lithic, fine to medium, quartz, opaque, translucent with reddish stained, black to grey lithics, brownish to yellow to creamy grey cherty, cleaner very fine to fine siliceous fragments to very crappy very poorly sorted lithic with softer siliceous to slightly greenish clay infilling, as above, good trace coarse rounded quartz, slightly stained, poorly sorted fine to medium to coarse matrix, generally siliceous fragments, abundant fractured quartz to varied colored chert, minor "granite" fractured Pebbles throughout, abundant fractured fractured pebbles at shaker up to 1 cm, white quartz, varied colored chert, black to red lithics, trace green, harder better cemented Sandstone, ROP 1 – 1.5 m/hr.

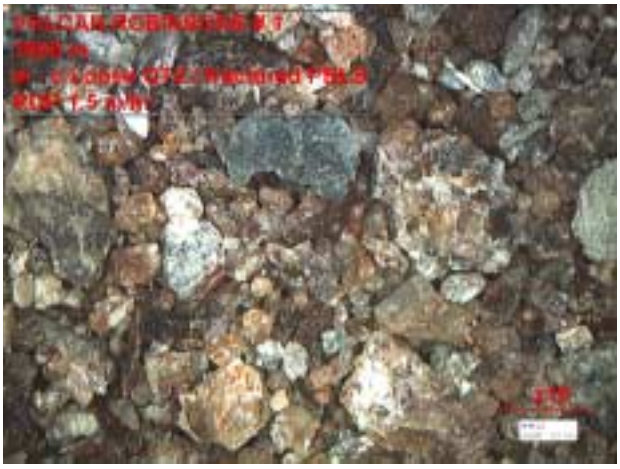


1850.0 to 1860.0 Pebble SANDSTONE

(10.0) Predominant loose, medium to lower coarse, quartz, opaque white to reddish stained, subrounded to rounded, minor subangular, minor to 10% fragments, reddish to greenish, mottled, very fine to fine to very poorly sorted medium, continued abundant fractured varied colored lithic cherty pebbles to fragments throughout, cream, greenish, whitish, buff grey, some to decreasing quartz, overall interval appears to be a weaker cemented coarser Sandstone (loose rounded grains), with abundant floating varied lithic to quartz pebbles?, some larger fractured fragments, coarser pebbles?, possible smaller cobbles?, overall sandstone matrix. ROP under 1.5 m/hr. POOH with Drill bit at 1860 meters.



1850.0-1860.0 (cont')



1860.0 to 1867.0 Pebble SANDSTONE to CONGLOMERATE?

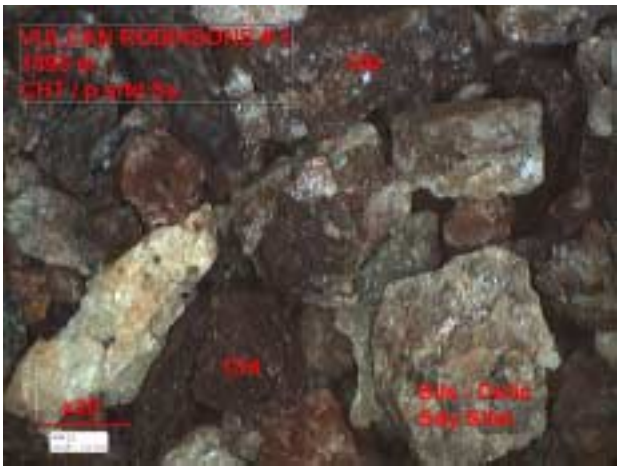
(7.0) Varied colored quartz to lithic medium to coarse Sandstone ?, from apparent Sandstone matrix consisting of red stained rounded quartz with softer clay siliceous cement to hard siliceous greenish fine to medium to very fine off white siliceous very hard laminations?, 20% fractured coarse pebbles?, quartz, white, translucent, lithic chert, grey, cream, orange, greenish, trace blackish, (rounded stained quartz possible cavings?), ROP for Tricone and PDC apx 1.5 m/hr, very hard cemented formation, siliceous, cherty, pebbles to pebble conglomerate?, no clays, ROP down to 0.3 m/hr with PDC, POOH at 1867.5 meters due to no ROP.

1867.0 to 1880.0 Pebble SANDSTONE with CONGLOMERATE ?

(13.0) As Above, overall continued reddish color to samples, loose lower to upper medium quartz, white, translucent to abundant slightly reddish stained, abundant varied cemented Sandstone, off white, very fine to silty, siliceous to greenish, siliceous, poorer sorted fine to medium predominately white siliceous matrix with rounded stained quartz grains in contact with red chert fragments, continued fractured cherty fragments, cream, grey, white quartz, some orange fractured feldspars?, apparent colored lithic rock fragments, fractured fragments up to 1 cm at shakers, ROP 1 to 2 m/hr, assuming well cemented Sandstone with pebbles to possible cobbles and harder bedded siliceous finer bedding.

1880.0 to 1895.0 SANDSTONE with PEBBLE CONGLOMERATE?

(15.0) Continued uniform with above, predominately loose medium to lower coarse quartz, rounded, stained but assuming mostly cavings from upper softer Redbeds, multiple Fragments varied, poorly sorted quartz rich, stained rounded to off white, slightly fractured, fine to medium, siliceous, well cemented, with coarse to very coarse lithic cherty to quartz fragments, cleaner apparent off white silts to dolomitic very hard sandy Siltstone, continued minor greenish very hard silty ? siliceous, to slightly greenish fine to upper medium softer slightly greenish clay infilling (cavings), continued Lithics to chert, greyish, buff, creamy, quartz, whitish, minor translucent, reddish, assuming fractured pebbles, less indications of Conglomerate, little cuttings at shakers, overall intermixed samples due to cavings?, continued well cemented Sandstone with floating chert to quartz to lithic pebbles to possible cobbles to fragments, ROP apx 1 m/hr.



1895.0 to 1906.0 Pebble SANDSTONE with minor CONGLOMERATE

(11.0) As above, abundant loose medium rounded slightly stained quartz, minor fragments throughout, fine to medium, poorer sorted, quartz, trace lithics, cherty, minor reddish to greenish clays, siliceous in part with minor dolomitic component, general moderate relief, moderate well cemented, continued varied fractured Lithics to Pebbles, greyish, creamy to reddish Chert, minor quartz, trace greenish chert to quartz?, minor deep red to feldspathic lithics, ROP increased to 1.5 m/hr, slightly less cemented to less Conglomerate Pebbles.

1906.0 to 1911.0 Transition From CONGLOMERATE

(5.0) Increasing loose medium to lower coarse subrounded to rounded slightly reddish stained quartz, Continued Chert fragments, purple to creamy, greyish, minor quartz only, some greenish to blackish lithics, minor fragments, fine to medium, moderate cemented, slightly reddish stained, quartz, very slightly calcareous, (minor Dolomitic fragments, white , clean, slightly siliceous, slightly silty, ROP increasing, Minor Red Clays at Shakers.

1911.0 to 1925.0 REDBEDS with SANDSTONE

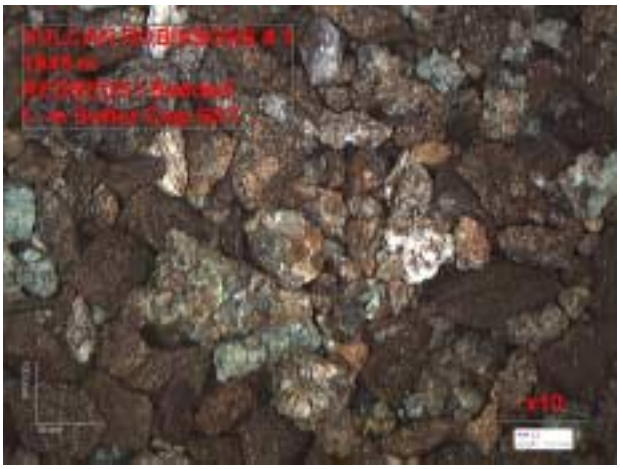
(14.0) 90% loose subrounded to rounded lower medium to lower coarse slightly reddish to orange stained Quartz in dried vialed samples, minor 5% fragments, fine to medium, varied coloured from mottled greenish red to blackish to whitish, moderate cemented, siliceous with slightly trace dolomitic, poorer sorted, subangular to angular to coarser rounded, siliceous in part, minor greenish clay infilling, continued minor cherty fragments throughout only, no coarse chert at shakers, Roughnecks report some clays at shakers. ROP up to apx 2.5 m/hr, slight increase in background gas to 25 units.

1925.0 to 1935.0 REDBEDS with SANDSTONE

(10.0) Abundant Red to Mottled red white Clay at shakers from 1934 sample, predominately loose quartz, lower to upper medium, minor lower coarse, very slightly stained, abundant fragments, fine to medium, mottled whitish to very slightly reddish, quartz, opaque, white, translucent, minor black lithics, rare trace mica flakes, minor fragments with apparent red shaly ? fragments, moderate well cemented, low relief, siliceous, whitish, hard, trace very slightly dolomitic, to higher relief, weaker cemented with apparent minor greenish clay infilling, minor coarser fractured quartz, no to trace chert fragments only in dried samples, minor angular fractured greenish lithics in coarse samples at shakers, (No coarse chert). POOH at 1935 meters for Drill bit.

1935.0 to 1945.0 REDBEDS with SANDSTONE

(10.0) Predominately Sandy to Silty Redbeds, abundant micaceous, firm, blocky to platy, abundant Reddish brown Shale, non to micromicaceous, siliceous in part, non carbonate, increasing Redbeds with depth, interbedded or laminated with cleaner off white mottled Sandstone, quartz, off white, some reddish stained, minor greyish, overall higher relief with minor siliceous to white to greenish clay infilling, local harder very fine siliceous Sandstone, non calcareous, minor chalky " gouge" like fragments in 1945 sample, non calcareous to fractured quartz, silty to sandy, (from drill bit ?), to trace cherty fragments from above, Coarse component at shakers 50% softer reddish white lumpy clays and silty to sandy slightly friable Redbeds, No chert or hard lithics at shakers.



1945.0 to 1955.0 REDBEDS with SANDSTONE

(10.0) Reddish brown to brownish, very fine to argillaceous Silty Redbeds, predominately upper fine to lower medium, poorly sorted mottled reddish white, quartz, trace lithics, some localized black micaceous, siliceous in part, very slightly calcareous to dolomitic, slightly chalky to greenish clay infilling, abundant loose medium, also localized cleaner siliceous, better cemented laminations, trace slightly greenish white very clean Siltstone, siliceous to slightly dolomitic, rare apparent greyish shaly fragments, Predominately silty to fine sandy Redbeds with 10% greenish sandy fragments at shakers, apx 10% clay at shakers in coarse shaker sample.

1955.0 to 1965.0 SANDSTONE with REDBEDS

(10.0) 50% loose quartz, lower to upper medium, quartz, subrounded to rounded, very slightly stained to cleaner no staining, white, opaque, abundant semi translucent, rare trace lithics, abundant mottled reddish white fragments very fine to silty, very slightly siliceous chalky to upper fine to lower medium, quartz rich, trace micaceous, rare reddish lithic grains, minor localized slightly greenish matrix, continued minor very slightly greenish white Siltstone, siliceous to very slightly dolomitic with micromicaceous, trace cleaner quartz Sandstone fragments, slightly greenish, assuming thinner bedding throughout, minor Redbed fragments, silty to micromicaceous to very fine sandy, predominately Redbed fragments at shakers, minor clay only.

1965.0 to 1980.0 REDBEDS with SANDSTONE

(15.0) 60-70% loose quartz grains, as above, fine to upper medium, quartz, slightly stained to cleaner, off white, translucent, subrounded to rounded in general, (3% Clay at shakers only), good competent fragments reddish mottled Sandstone, fine, minor medium, quartz, stained to minor clean, trace red lithic grains, rare darker lithics, siliceous in part to trace dolomitic only, softer chalky to minor greenish grey clay infilling, minor cleaner off white fine siliceous tighter to slightly greenish white to slightly micromicaceous Sandstone laminations?, 10-15% redbed fragments in samples, amorphous red shale to reddish brown silty to fine sandy, local slightly micromicaceous, trace coarse fractured white quartz and trace chalky silty to sandy white soft "gouge" in 1980 sample. Increase ROP due to increased RPM.

1980.0 to 1990.0 SANDSTONE with REDBEDS

(10.0) Increased loose quartz in dried samples, predominant lower to upper medium with medium lower coarse, quartz, opaque, white, translucent, cleaner, abundant continued slightly stained, reddish stained fragments subrounded to rounded, cleaner quartz slightly less rounded subangular to subrounded, minor trace coarser quartz, trace fractured, rare trace fractured coarse lithic to cherty fragments, softer matrix, minor fragments with quartz are chalky off white, cleaner, clays to slightly siliceous, (destroyed by drilling), continued mottled reddish brown Redbeds, fine to medium, firm, friable, siliceous in part with trace dolomitic, quartz, trace red shale fragments, clean quartz, minor argillaceous to greyish green clay infilling, ROP constant at apx 3 m/hr, Gas Show 68 units from 1987 meters (chalky white Sandstone ?), No shows, no cut. Coarse Rock at shakers 90% Redbeds, 5% greenish Sandstone with Siltstone, 5% clays.

1990.0 to 2002.0 REDBEDS with SANDSTONE

(12.0) Reddish brown argillaceous Shales to Siltstone, slightly micromicaceous, to fine to medium poorer sorted mottled reddish white quartz Sandstone, slightly reddish stained, opaque, semi translucent, slightly chalky, friable, as above, with interbedded cleaner poorer sorted off white siliceous Sands, quartz rich, clear to translucent, siliceous to very slightly dolomitic, minor slightly greenish white clay infilling, abundant lower to upper medium, minor lower coarse loose quartz, subrounded to rounded, minor harder semi crystalline Siltstone, off white to slightly greenish, siliceous in part with slightly dolomitic component, rare trace greyish to greenish fragments to shale, interlaminated to interbedded throughout.

2002.0 to 2013.0 SHALES to SLTSTS with minor SANDSTONE

(11.0) Greyish Shales to Siltstone at shakers, Dried samples medium grey Shale, massive, blocky to platy, local slightly micromicaceous, firm, competent, minor silty, rare trace micro disseminated pyrite, minor Black Shales with micro black laminated Coal, with interbedded to laminated Siltstone, off white, quartz, micromicaceous in part, blocky, slightly siliceous to dolomitic, very clean, local very slightly greenish, minor very fine to fine quartz to micaceous Sandstone, poorer sorted but clean, continued varied light mottled reddish white fragments Sandstone, very fine to fine, poorer sorted, quartz, slightly stained, rare red lithic fragments, slightly chalky, 10-15% looser medium to lower coarse loose quartz, possible sands or cavings, Predominantly Grey fragments at shakers, with greyish to white soft "gumbo" lumpy clay Clumps.

2013.0 to 2027.0 REDBEDS with SANDSTONE

(14.0) Reddish brown silty to sandy redbeds as above, with softer bedded Sandstone, mottled reddish white, fine to lower medium, quartz, reddish stained to opaque white, semi translucent, siliceous in part with trace red argillaceous to good slightly greenish grey clay infilling, minor cleaner slightly greenish Siltstones, blocky, harder, and cleaner off white fine to medium moderate well cemented quartz Sandstone, overall slightly muddy red bagged samples, some greenish white to reddish clay at shakers, abundant loose quartz throughout, lower to upper medium, minor lower coarse, slightly reddish stained to cleaner, subrounded to rounded, assuming softer clay matrix, uniform with depth. (minor grey Shales only).

2027.0 to 2034.0 SANDSTONE ?

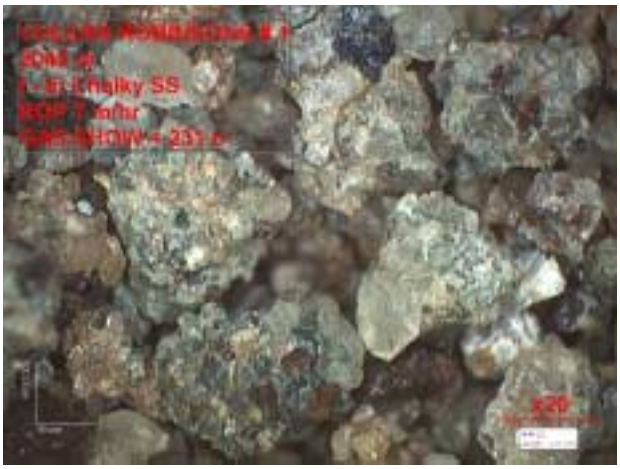
(7.0) Predominately loose quartz, (greyish slightly muddy bagged samples, some apparent greyish clays at shakers), lower to upper medium with medium lower coarse, quartz, very slightly reddish stained to cleaner off white, semi translucent to translucent, abundant fine to medium mottled reddish fragments, as above, minor but cleaner off white to slightly greenish Sandstone fragments, quartz, off white to translucent, minor very slightly greenish, minor slightly reddish stained, trace possible lithics, softer matrix, silty to whitish clay?, to good slightly greenish semi waxy clay infilling, Assuming ROP break of 7 m/hr and Gas show of 254 units from cleaner whitish clay filled Sandstone. No effective Porosity or permeability due to clays?, Possible log porosity up to 15%, No shows, no cut.

2034.0 to 2037.0 REDBEDS to SANDSTONE

(3.0) Slower ROP, samples as above, assuming tighter reddish clay rich Siltstone to Chalky softer Sandstone.

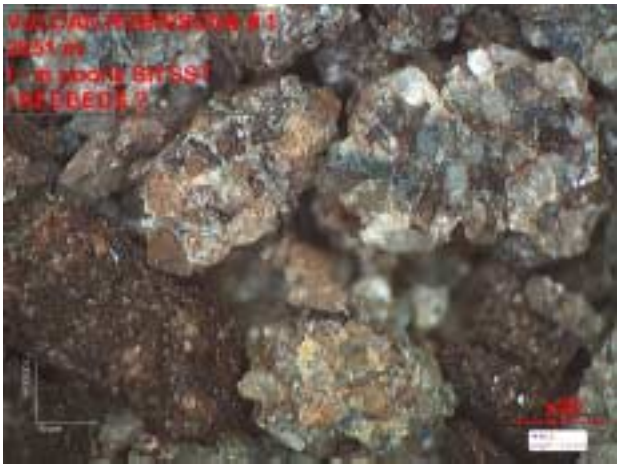
2037.0 to 2043.0 SANDSTONE ?

(6.0) Predominately loose quartz, (slightly muddy greyish samples), fine to upper medium to minor coarse, opaque, white, translucent, clean, abundant slightly reddish stained, as above, overall finer than above from 2030 meters, minor fragments are mottled reddish, fine in general with minor medium, reddish stained quartz, chalky in part, as above with some cleaner slightly greenish white fine Sandstone, opaque white to translucent clean to slightly stained rounded quartz, fine in general, apparent larger coaly grain in one fragment, minor fractured quartz to possible lithics, possible minor floating pebbles ?, ROP up to 6 m/hr, Gas show 252 units. No effective porosity due to clays, Probable 10-15% on logs, No shows, no cut.



2043.0 to 2050.0 REDBEDS with SANDSTONE

(7.0) Predominately loose quartz, as above, reddish stained to opaque white, translucent, fine to upper medium, medium coarse, subrounded to abundant rounded to subangular, minor assorted fragments from mottled slightly reddish to cleaner slightly greenish, minor harder greenish white siltstone, minor slightly better cemented to siliceous with chalky clay component, Slower ROP.



2050.0 to 2055.0 REDBEDS / SANDSTONE

(5.0) As above, predominately loose quartz, fine to upper medium, abundant lower coarse, opaque, white, translucent, lightly reddish stained, abundant clean, subangular to subrounded, minor fracturing, abundant rounded, moderate to poorly sorted, abundant fragments varied coloured, fine to medium, moderate cemented, mottled reddish white to reddish greenish to slightly greenish, mixed, quartz, opaque to clear to slightly stained, minor trace lithic, moderate cemented siliceous in part, local minor dolomitic, some greenish clay infilling, minor Siltstone, minor silty to sandy to Redbeds to Shale, (increasing apparent fractured Cherty to quartz to pinkish lithics floating Pebbles ?) minor greenish white to greyish clays at shakers.

2055.0 to 2062.0 SANDSTONE ?

(7.0) Loose, fine to medium, quartz, opaque, white, translucent, slightly reddish to orange staining, moderate sorted, subrounded to abundant rounded, also subangular to minor fractured only, minor softer silty to fine fragments only, soft, friable, chalky component, (good reddish to greenish white chalky lumps at shakers for 2057 sample, with depth continued loose with increasing fragments, poorly sorted greenish to slightly mottled reddish very fine to silty to poorly sorted fine to medium, moderate cemented, apparent chalky to greenish infilling, minor harder slightly siliceous cleaner greenish fragments, 10% harder redbeds to slightly brownish grey silty Shale fragments, slightly micromicaceous, No apparent Porosity to clay rich due to loose rounded grains ?, ROP to 4 m/hr. Gas shows of 150 units.

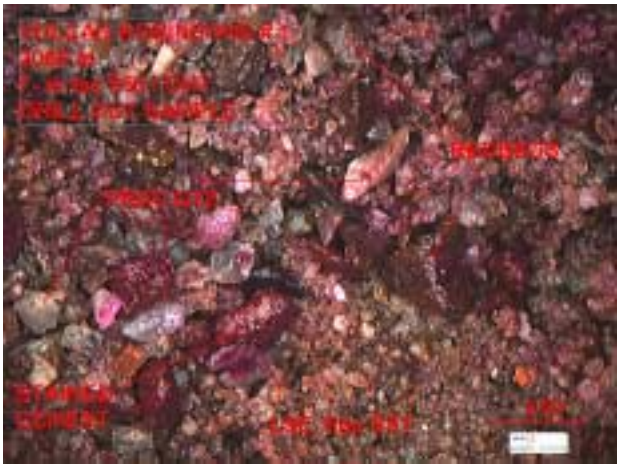
2062.0 to 2063.5 REDBEDS to CEMENTED SANDSTONE ?

(1.5) As above, increasing Silty reddish shale fragments, varied moderate cemented SANDSTONE, Slower ROP under 2 m/hr, gas background dropping. Stop to Log hole and run 245 mm Intermediate Casing.

RUN 245 mm INTERMEDIATE CASING

2063.5 to 2075.0 CLAY SANDSTONE

(11.5) Greyish clay rich at shakers, dried vialed samples predominately loose quartz, fine to medium, opaque, whitish, minor translucent, minor slightly reddish stained, moderate sorted, subrounded to rounded to abundant subangular, minor black lithics, minor chalky variegated fragments, trace greenish siliceous fine quartz Sandstone, crystalline, minor poorer sorted red brown argillaceous Sandstone laminations, trace whitish green siliceous Siltstone laminations, Good ROP apx 10 m/hr, Assuming laminated softer clay rich Sandstones and thinner crystalline siliceous stringers, trace redbed laminations?. (grading to red basal clay Sandstone with depth.



2075.0 to 2082.0 RED BEDS with grey SILTSTONE

(7.0) Brownish to reddish brown, abundant greyish brown, massive, blocky, competent but friable, mottled overall, silty to minor very fine Sandstone, slightly siliceous to weakly cemented, trace micromicaceous, minor local chalky fragments, predominately red to mottled grey clay at shakers, grading to basal greyish white Siltstone, mottled, soft, friable, quartz, trace micromicaceous, rare lithic grains, siliceous in part, minor slightly dolomitic, uniform.

SAMPLE CUTTINGS DESCRIPTIONS

2082.0 to 2086.0 REDBED SANDSTONE

(4.0) Loose quartz, reddish clay rich, fine in general, trace to no fragments, opaque, whitish, trace translucent, abundant slightly stained, moderate sorted, subrounded to rounded, minor coarser to medium Quartz, trace black lithic, medium soft chalky Siltstone fragments, ROP up to 10 m/hr, minor gas show.

2086.0 to 2097.0 CONGLOMERATE

(11.00) Lithic to chert fractured fragments, tan, greenish, cream, light to dark grey black, clear to white quartz, pinkish lithics Granite fragments, probably grey black mafic fragments, siliceous whitish to very slightly greenish silty siliceous Limestone lithics?, minor loose to no quartz only, finer fragments siliceous matrix, silty to mottled sandy, greenish to moderate well cemented poorer sorted reddish quartz matrix infilling, slower ROP, High localized torque, ROP slowing down to under 2 m/hr.

2097.0 to 2100.0 SANDSTONE

(3.0) 20-30% loose quartz, fragments fine to medium, minor lower coarse, quartz, opaque, white, translucent, slightly orange stained, poorer sorted, softer greenish clay matrix, subrounded to rounded to slightly greenish siliceous fragments, massive, very hard, loose rounded quartz indicate clay rich matrix, minor reddish mottled Sandstone fragments, continued 5% chert to quartz to lithic fragments.

2100.0 to 2105.0 REDBEDS with SANDSTONE

(5.0) Mottled reddish brown to brownish Silty, as above, assuming cleaner Sandstone, predominately loose with depth, quartz, opaque, white, trace translucent, minor light orange, some fragments, poorly sorted, subrounded to rounded, greenish clay infilling, some cleaner siliceous, abundant fractured quartz indicating better cement, continued chert to lithic to quartz coarse fractured fragments, Gas show 180 units, no Shows, no cut.

2105.0 to 2108.0 Interlaminated SANDSTONE to CONGLOMERATE ?

(3.0) Loose quartz, fine to upper medium to lower coarse to abundant fragments, interlaminated greenish whiter quartz with trace lithics with greenish clay infilling, siliceous in part with mottled reddish to orange stained quartz with greenish clay infilling, abundant fragments, poorer sorted greyish Sandstone, abundant lithic to quartz to cherty fragments, varied colored, assuming possible pebble Conglomerate ?, slower ROP, no gas.

2108.0 to 2119.0 CLAY SANDSTONE ?

(11.00) Predominately loose, lower to upper medium, abundant upper fine to medium lower coarse, quartz, opaque, white, minor translucent, minor lithics, moderate to moderate poor sorted, subrounded, abundant rounded, abundant subangular, minor fractured, Greyish clay rich with minor red clay at shakers, minor assorted varied coloured Sandstone fragments, interlams better cemented?, minor coarser lithics to chert to quartz fragments only, better ROP over 4 m/hr, assuming predominately chalkier to clay rich Sandstone, no gas.

2119.0 to 2121.0 Pebble SANDSTONE to CONGLOMERATE ?

(2.0) Slower ROP, increased fractured lithics, quartz to cherty fragments, Sandstone fragments as above.

2121.0 to 2124.0 REDBEDS

(3.0) Very red muddy bagged sample, brownish to red brown silty to very fine Sandy fragments, 5% loose quartz fine to medium, opaque, white, minor harder greenish grey to softer reddish Sandstone fragments, trace lithics to cherty fragments only, no gas.

2124.0 to 2127.0 REDBEDS ?

(3.0) Possible thinner silty to sandy Redbeds as above, continued fragments greenish clay infilling to minor mottled reddish, minor trace lithics to cherty fragments only.

Friars Cove: 2,129.00 MD, 2,129.00 TVD, -1,953.70 SSL

2127.0 to 2133.0 Chalky to Clay SANDSTONE ? – or extremely hard Formation due to slow ROP ?.

(5.0) Predominately loose quartz with depth, white, clean, translucent, moderate sorted, subrounded to rounded, minor angular to subangular, trace fragments only, as above, muddy grey clays at shakers, good trace soft clay to chalky fragments, overall slightly calcareous component, slow ROP dropping down to 0.5 m/hr, Low motor differential, No apparent lithics to quartz fragments, no Conglomerate apparent. POOH at 2133 meters due to ROP down to 0.3 m/hr. (PDC RINGED OUT).

2133.0 to 2142.0 SANDSTONE

(9.0) Light grayish to slightly greenish grey very fine to fine, quartz, clean, opaque, whitish, translucent, apparent very slightly greenish, no to rare trace fine black lithic, micaceous, sparse to abundant varied mica, black to greenish black biotite, white to translucent to reddish muscovite, minor coarser medium sands with coarser black to white mica, thin laminations greenish siltstone, non to slightly micromicaceous, rare clay infilling, crystalline, siliceous in part to 2-3% dolomitic component, 5% loose clean white quartz component, minor slightly stained quartz, cavings?, low relief, no visible porosity, No Conglomerate, rare trace fractured coarse quartz fragments.

2142.0 to 2149.0 SANDSTONE

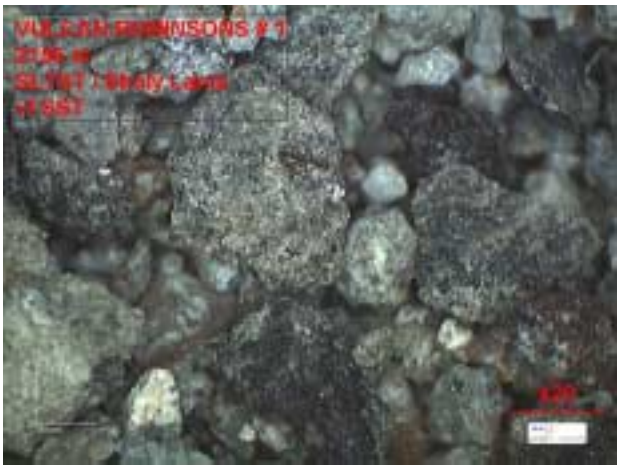
(7.0) Coarsening down sequence ?, clean off white to overall slightly greenish white lower to upper medium Sandstone, massive, blocky, quartz, opaque, translucent, whitish, rare trace greenish clay lithics to reddish medium lithic fragments, rare but local trace white mica, crystalline, siliceous with very slightly trace calcite to minor localized greenish clay infilling through coarser fragments, abundant loose rounded medium to lower coarse quartz, overall moderate sorted, subangular to subrounded to rounded, grading overall to very fine to fine clean Sandstone, fragments, minor loose quartz only, quartz, opaque, white, translucent, very clean, rare trace greenish to blackish lithic, moderate well cemented, siliceous to very slightly dolomitic, moderate sorted, subangular to subrounded, ant rounded, trace greenish clay fragments, overall very light greenish white to grey, (wet samples greenish grey), rare traces poor micro to medium coaly pyritic fragments, no visible porosity, 2-3% ineffective, no shows, no gas.

2149.0 to 2153.0 SANDSTONE

(4.0) Predominately loose, fine to medium, lower coarse, quartz, clean, white, minor opaque, translucent, moderate poorer sorted, subangular to subrounded, coarser grains rounded, intermixed within a very fine quartz slightly greenish matrix and Sandstone, overall light greenish samples when wet, rare trace lithics, black to slightly orange, possible minor white mica, softer to weaker cemented, rare trace pyritic micro infilling within argillaceous matrix surrounding quartz grains, siliceous to trace calcareous only, minor very slightly light greenish clay infilling.

2153.0 to 2157.0 SILTSTONE to SANDSTONE with minor SHALE

(4.0) Overall slightly greenish white to greenish grey, very fine to upper silty, quartz, clean, fragments, moderate cemented, tighter to harder than medium sands, trace siliceous blackish grey shale laminations, slightly silty, blocky, slower ROP.

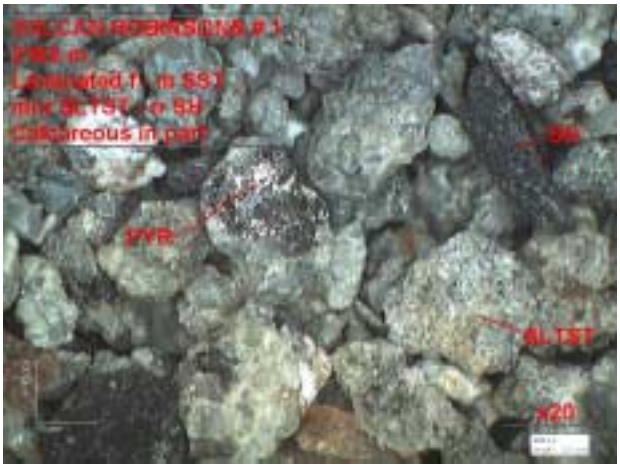


2157.0 to 2160.0 SANDSTONE

(3.0) Loose lower to upper medium, lower coarse quartz, translucent, opaque, subrounded to rounded, abundant weaker cemented medium, clean, no lithics, trace slightly greenish clay infilling matrix, minor trace calcareous, faster ROP with coarser grained Sandstone.

2160.0 to 2170.0 Interlaminated SANDSTONE to SILTSTONE

(10.0) Overall very fine to lower fine Sandstone, very slightly greenish white to greenish light grey wet samples, clean, quartz, rare trace lithic grains, local white mica to micaceous, minor black biotite, moderate cemented, lower relief, siliceous with overall minor calcareous component, interlaminated to thinly bedded with poorer sorted medium Sands, quartz, opaque, white, translucent, subrounded to minor subangular, abundant rounded, rare trace slightly greenish to orange quartz?, finer silty matrix in part, slightly calcareous, also very fine to upper Siltstone, grading overall fining down with depth to predominately Siltstone, overall very light slightly greenish white, massive, blocky, competent, siliceous with calcareous component, minor micromicaceous, possible minor greenish clay infilling throughout, uniform with depth, Note minor drilling breaks with gas shows of apx 100 units at 2166 meters.



SAMPLE CUTTINGS DESCRIPTIONS

2170.0 to 2175.0 Interlaminated SILTSTONE with SHALE

(5.0) Off white, clean, lower to upper silt to very fine Sandstone, quartz, slightly white micromicaceous, very slightly calcareous microcrystalline and darker colored to moderate calcareous slightly chalky off white, minor chalky very calcareous fragments, minor fine to lower loose quartz, interlaminated with 15-20% Shale, light greyish, very slightly greenish grey, competent, platy, very firm to harder, slightly cryptocrystalline texture but easily crushable, siliceous to very slightly trace possible dolomitic with calcareous, apparent minor micromicaceous, tight, no gas. (wet bagged samples greenish grey)

2175.0 to 2179.0 SANDSTONE with SHALE

(4.0) As above, fine to lower medium quartz rich off white consolidated Sands, moderate clean, quartz, opaque, white, translucent, slightly calcareous, predominately very fine Sandstone to Siltstone with interbedded Shale, as above, ROP up to 4 m/hr, Gas show 183 units, No shows, no cut.

2179.0 to 2187.0 SANDSTONE with SILTSTONE and SHALE

(8.0) Salt and pepper 3 meter cap of poorer sorted fine grain whitish slightly calcareous Sandstone, quartz rich, as above but with abundant "foreign" transported well rounded varied buff to greyish, opaque, fine to medium quartz, assorted argillaceous lithics, well cemented, minor apparent slightly light buff staining but no cut, no fluorescence, possible slight alteration ?, rare trace pyrite, grading below to interlaminated to bedded Shale to Siltstone, massive platy greyish to dirty hard crystalline argillaceous Siltstone fragment with cleaner lighter greyish white micaceous calcareous Siltstone to very fine Sandstone, minor chalky fragments.

SAMPLE CUTTINGS DESCRIPTIONS

2187.0 to 2192.0 SANDSTONE

(5.0) Loose to weakly cemented fragments, fine to upper medium quartz, clean, rare trace lithics, fragments slightly siliceous with calcareous component, some slightly chalky texture, generally loose, minor very fine to fine to Siltstone fragments interlams, minor chalky calcareous fragments, (drill bit ?), trace disseminated to infilling pyrite around quartz grains, moderate to moderate poor sorted, subangular to subrounded with abundant rounded, overall poorer sorted softer weaker cemented clean Sandstone.

2192.0 to 2202.0 Interlaminated SILTSTONE

(10.0) Dirty greyish argillaceous lower to upper silt to very fine Sandstone, quartz rich, slightly calcareous only, interbedded with clean calcareous Siltstone, blocky, competent, rare chalky, easily crushed, grading with depth to increasing cleaner fine to very fine Sandstone, minor black lithics to trace biotite, minor white micaceous throughout, moderate to local very calcareous, rare trace pyrite, abundant cleaner slightly micaceous friable Siltstone interlaminated ?, overall sample darker to dirty, trace shale fragments only. (overall wet bagged samples continue to be a very light greenish grey white.)

2202.0 to 2209.0 SILTSTONE

(7.0) 60% darker grey black, massive, mottled in part, lower to upper silt local grading to very fine, massive, angular blocky to platy blocky well cemented fragments, overall crystalline texture, quartz, black argillaceous matrix, black to white micromicaceous, minor platy amorphous cryptocrystalline black shale fragments to thin laminations, siliceous with minor slightly dolomitic component, minor fragments with calcitic fracture infilling?, interbedded with dirty but cleaner light grey moderate calcareous Sltsts and 10% cleaner very calcareous softer weaker cemented Siltstone, minor chalky calcareous fragments, no sands.

(SEE Photo next Page)

2202.0 to 2209.0 SILTSTONE Cont'

2209.0 to 2220.0 Interbedded SILTSTONE to SANDSTONE

(11.0) Light greyish to off white, dirty in part, softer chalky Siltstone to slightly crystalline, harder, very calcareous, interbedded and grading to predominately very fine to local fine slightly dirty calcareous Sandstone, quartz, rare lithics, minor white to black mica, predominately fine Sandstone with depth, cleaner, off white with laminated black mica, rare lithics, overall moderate calcareous to local very calcareous fragments, uniform ROP with depth, no gas. Overall light greenish grey wet bagged samples, light grey dried samples.

2220.0 to 2227.0 SANDSTONE grading to SILTSTONE

(7.0) Fine mottled slightly dirty poorer sorted fine Sandstone, quartz, trace micromicaceous, rare lithic, slightly calcareous component, slightly argillaceous, grading to Siltstone with very fine Sandstone with depth, moderate clean, very slightly greyish white, quartz, slightly micromicaceous, firm, competent, good calcareous component, also dirtier silty to sandy argillaceous interlams to thin bedding.

2227.0 to 2234.0 SILTSTONE grading to SHALE

(7.0) Lighter dirtier slightly calcareous Siltstone to Sandstone, as above grading to 90% grey black Shale, massive, amorphous, black, platy, slightly silty, abundant crystalline Siltstone, grey black, massive, hard, siliceous with very slight carbonate component, argillaceous to probable carbonaceous, no apparent coaly matter.

2234.0 to 2237.0 SILTSTONE

(3.0) Cleaner off white to very slightly argillaceous, quartz, calcareous component, competent but friable to easily crushed, with very fine moderate sorted Sandstone, crystalline, harder, 30% shale as above, slight drill break to 4 m/hr, trace gas show of 25 units.

2237.0 to 2246.0 Interbedded SILTSTONE to SHALE

(9.0) Lighter slightly cleaner Siltstone, calcareous in part grading and interbedded with darker grey dirty argillaceous Siltstone, increasing grading to competent grey black Shale with depth, massive, platy, siliceous minor dolomitic to carbonate matrix, assuming harder crystalline dirty grey black Siltstone thin interbeds to laminations throughout, no gas. ROP under 2 m/hr. (Continued reduced FOB and high RPM to bring hole back to vertical).

2246.0 to 2253.0 SILTSTONE grading to SANDSTONE

(7.0) Very light greyish white, massive, blocky, quartz, moderate to local very clean, calcareous component, with very fine white micaceous slightly to moderate calcareous Sandstone, minor Shale laminations throughout?, grading with depth to fine to upper medium Sandstone, abundant loose grains, quartz, trace very fine to lower fine lithics, trace feldspars, weaker siliceous cemented, rare trace calcareous, minor slightly greenish with some clay infilling, abundant interlaminated Siltstone.

2253.0 to 2256.0 SANDSTONE

(3.0) Medium to fine massive hard well cemented calcareous Sandstone, quartz, clean, poorly sorted, subrounded to subangular, abundant rounded, to finer moderate sorted, subangular to subrounded slightly buff, calcareous, low relief, tight, hard slow drilling due to calcite cement, interlams of darker argillaceous cryptocrystalline slightly dolomitic Siltstone.

2256.0 to 2260.0 SHALE

(4.0) Darker grey to abundant grey black, massive, amorphous, blocky to platy, moderate well cemented, competent, probable carbonaceous in part, minor black, possible very carbonaceous to micro coaly laminations?, minor silty, microcrystalline, rare trace fragments with micro calcite fractures? to possible fossil debris ?, ratty ROP, assuming thinly bedded dirty Siltstone to carbonaceous shales with harder calcareous Sandstone, gas show 109 units, no show, no cut.

2260.0 to 2262.0 SANDSTONE

(2.0) Fine to medium clean quartz, calcareous matrix to cement, poorly sorted, abundant calcareous Siltstone, abundant loose subrounded to rounded medium to lower coarse quartz, local well to abundant weaker cemented.

2262.0 to 2265.0 SHALE to Marlstone?

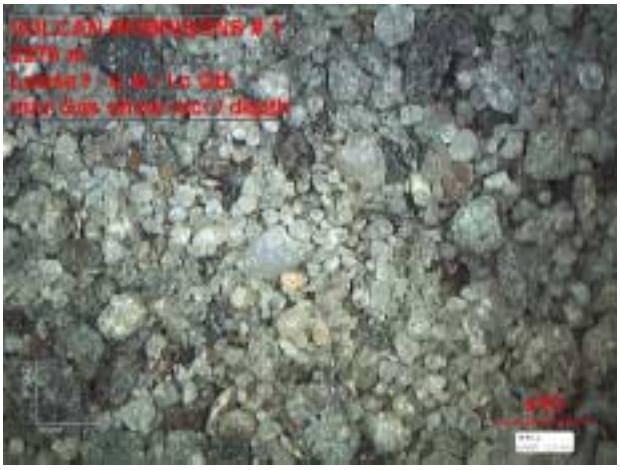
(3.0) Light to medium grey, massive, blocky to platy, cryptocrystalline to microcrystalline texture, siliceous with slight to moderate calcareous to dolomitic ? component, Limestone texture, minor trace mica, silty Marlstone ?

2265.0 to 2269.0 Laminated SILTSTONE to SANDSTONE

(4.0) Off white to very slightly greenish white, upper silt to very fine to medium lower fine Sandstone, thinly laminated slightly to moderate calcareous, quartz, clean, moderate to very well to poorer sorted coarser fragments, trace white micromicaceous in part, rare blackish mica?, trace micro light greenish clay grains, slower ROP due to calcitic cement.

2269.0 to 2276.0 SANDSTONE

(7.0) Off white with very slightly greenish white tinge, fining down, abundant loose lower to upper medium to lower coarse loose quartz with fragments, weaker cemented, translucent, opaque, minor very slightly greenish, moderate sorted, subangular to subrounded with abundant rounded coarser, some fracturing, rare trace black lithics, light stained orange grains, trace very light greenish clay grains to possible minor chalky infilling, some finer to silty matrix, grading with depth to predominately finer to siltstone matrix, siliceous to slightly chalky?, minor trace calcareous only, clean, trace greenish very fine fragments, trace greenish waxy non calcareous shale, 10-15% loose fine to medium quartz, from above or floating with silty matrix. Minor fine micaceous Sandstone laminations.



2276.0 to 2281.0 SANDSTONE

(5.0) Loose, lower to upper medium to lower coarse, quartz, clean, opaque, translucent, frosted ?, moderate poorer overall sorting, very weakly cemented, no to trace very friable fragments, slightly chalky siliceous cement, rare to no calcareous, subrounded to rounded, minor fractured, Possible 4-6% ineffective porosity due to chalky to clay ? matrix, ROP apx 3.5 m/hr, Gas show up to 120 units, No Show, no cut.

2281.0 to 2288.0 SANDSTONE to SILTSTONE

(7.0) Upper silt to fine Sandstone, interbedded to laminated moderate well cemented, overall very slightly greenish siltstone, slightly calcareous, minor greenish clay infilling to slightly chalky, siliceous with very fine to fine poorer sorted cleaner Sandstone, quartz, trace to no lithics, minor calcareous, minor lower to upper medium loose quartz, subrounded to rounded, overall tighter better cemented, ROP down to 1.5 m/hr.

SAMPLE CUTTINGS DESCRIPTIONS

2288.0 to 2298.0 SANDSTONE to SILTSTONE with SHALE

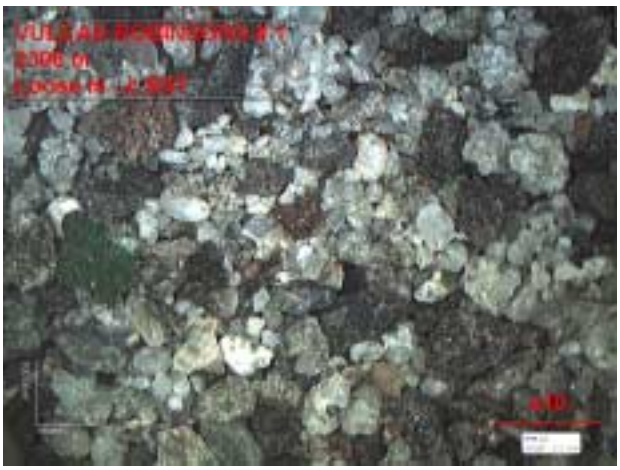
(10.0) Predominately Siltstone to very fine to fine Sandstone, off white, clean, massive, blocky, moderate overall calcareous samples, 15-30% calcareous matrix, moderate well cemented, competent, crushable, minor trace lithics only, minor upper fine to lower fine white micaceous laminations?, moderate sorted, subangular to subrounded, 2294 sample predominately Shale, grey black, argillaceous to silty, massive, platy to microcrystalline to cryptocrystalline, hard, slightly dolomitic, good trace blocky pyrite with shale, slower ROP, (see stained calcite photos).

2298.0 to 2301.0 SANDSTONE

(3.0) Off white to very light grey white, very fine to upper fine, massive, blocky, clean, quartz, opaque, translucent, trace very fine lithics only, overall very calcareous, no loose quartz, well cemented but friable, local abundant white micromicaceous, slow ROP, hard, no gas.

2301.0 to 2309.0 SANDSTONE

(8.0) Predominately loose, medium to lower coarse quartz, opaque, white, translucent, with abundant medium to fine sandstone matrix, poorer sorted, subrounded to subangular, abundant rounded, weaker slightly chalky cement, very slightly calcareous only, some apparent white chalky infilling, trace black lithics, rare trace slightly greenish clay fragments, also very fine slightly greenish white finer matrix infilling?, ROP apx 3 m/hr, trace gas only, possible minor shale laminations.



SAMPLE CUTTINGS DESCRIPTIONS

2309.0 to 2312.0 SANDSTONE

(3.0) Loose, medium to coarse very clean quartz, translucent, whitish, frosted, rare trace lithics, weakly cemented?, siliceous to minor fragments with trace calcareous only, minor to no chalky infilling (no fragments), moderate sorted, subrounded to rounded, minor subangular, trace clean silty to very fine fragments, minor poorer sorted possible matrix?, Gas show 111 units, no Stain, no show

2312.0 to 2314.0 SANDSTONE

(2.0) Off white, slightly dirty, very fine, massive, calcareous quartz, opaque, white, translucent, well cemented, minor lithics, minor fine to medium floating grains, moderate well sorted, subangular to subrounded, POOH at 2314 meters for Schlumberger MWD.

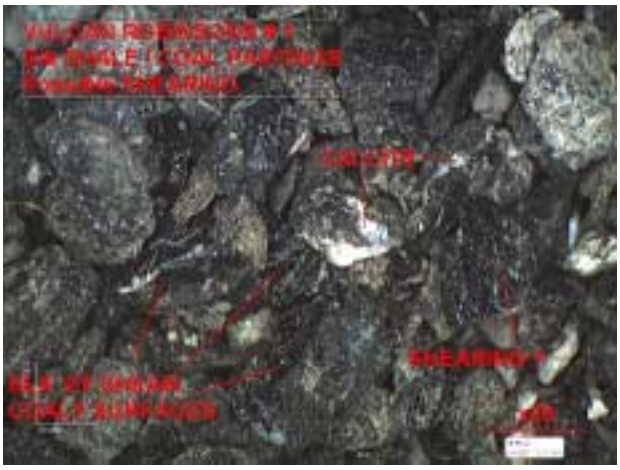
2314.0 to 2327.0 Interlaminated SILTSTONE to SANDSTONE with SHALE

(13.0) Interlaminated calcareous clean Siltstone to very fine Sandstone, quartz, massive, well cemented in general, crushable, interbedded to probably laminated with dirtier Siltstone, greyish to minor greyish black, silty to argillaceous component, calcareous in part, also localized Shale, medium to darker grey, massive, platy, fissile, microcrystalline to cryptocrystalline in part, slightly calcareous to dolomitic, Marley, thin dirty Limestone lenses?, overall very uniform with depth, no loose coarse sands.

SAMPLE CUTTINGS DESCRIPTIONS

2327.0 to 2330.0 SHALE with micro Coal

(3.0) Mottled grey black, firm, soft, blocky, carbonaceous to localized coaly?, silty in part, apparent micro calcitic veining ?, abundant vitreous to shinny "Shear" laminated surfaces to or possible coal partings to microlams sheared from drill bit, (some apparent reworked softer chalky calcite within black carbonaceous or coaly fragments, Possible minor fault activated due to softer bedding plane? No drill break, no gas. no show.



2330.0 to 2342.0 SILTSTONE

(12.0) Predominately off white, moderate to local very clean, quartz, rare trace lithics, rare trace carbonaceous specks?, massive, blocky, well but moderate weaker cemented from slightly softer chalky ? to microcrystalline calcite matrix, interbedded with localized dirty to slightly argillaceous harder microcrystalline Siltstone, rare trace slightly micaceous, minor Shale interlams throughout, darker grey black, possible carbonaceous or cavings from above, uniform with depth, no sands.

2342.0 to 2355.0 Interlaminated SILTSTONE with minor SHALE

(13.0) As Above, uniform with depth, interlaminated cleaner off white to very light greyish white uniform quartz calcareous Siltstone and dirtier greyish to greyish black argillaceous Siltstone, minor apparent fine coaly fragments with dirty Siltstone, local to 15% Shale interlams throughout, black to grey black, massive, amorphous, non to silty, siliceous to local trace calcareous only, some silty, very uniform throughout with depth, steady even ROP, no gas, no shows.

2355.0 to 2365.0 SILTSTONE to SANDSTONE

(10.0) Slightly muddy gray samples at shakers with minor reddish clays at shakers?, dried samples overall very clean laminated Siltstone to very fine to fine Sandstone, quartz, opaque, white, rare greyish, overall moderate well cemented, calcareous throughout, crystalline in part, increasing to abundant chalky, samples at shakers possible more clay rich ?, possible softer interlaminated shales to calcareous Siltstone to Sandstone, uniform ROP, tough sliding due to sticky hole ?.

2365.0 to 2378.0 SILTSTONE with CLAYSTONE ?

(13.0) Overall very soft samples, chalky, (grey muddy at shakers), off white lower to upper silt, massive, blocky, competent but weakly cemented, friable, 10-15% calcareous component only, very uniform silty, crystalline in part, local ? abundant apparent softer chalky white clay infilling, minor softer very fine Sandstone laminations ?, rare shaly laminations?, overall soft samples, 2372 sample very soft to clay rich (dried powdery dried sample).

2378.0 to 2385.0 SHALE with bedded SILTSTONE

(7.0) 20% grading to 60% grey black, massive, amorphous, blocky to platy, (general non calcareous), minor localized calcareous component only, firm, harder but crushable, trace micromicaceous only, interlaminated with decreasing Siltstone, off white to very light dirty grey white, soft, chalky, calcareous component, as above.

2385.0 to 2397.0 SANDSTONE with SILTSTONE

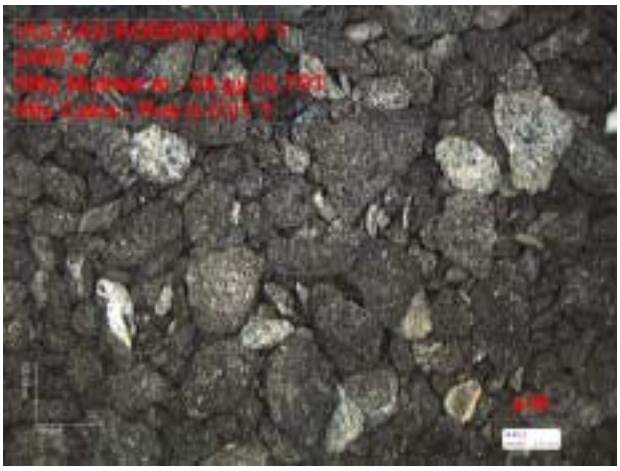
(12.0) 5-10% loose medium to lower coarse rounded to subrounded quartz only, minor poorer sorted medium quartz Sandstone, calcareous in part, very clean, quartz, opaque, white, translucent, minor greyish, smaller gas show of 115 units, overall softer chalky moderate calcareous Siltstone, with silty to very fine to minor poorer sorted interlaminated Sandstone, minor to 5% possible darker grey Shale laminations?. No shows, no cut.

2397.0 to 2402.0 SILTSTONE

(5.0) Dirty, mottled light grey Siltstone, massive, blocky, slightly calcareous, possible trace carbonaceous, argillaceous, minor trace micromicaceous, overall softer, friable, interbedded with up to 20% cleaner off white Siltstone, minor medium to darker grey Shale only.

2402.0 to 2415.0 SILTSTONE grading to SHALE

(13.0) Light to medium mottled grey to slightly greyish tan, massive, blocky, soft, weakly cemented, quartz, trace lithics, grey to grey black argillaceous matrix, possible minor white feldspars?, moderate well sorted, subangular to subrounded, (*Possible very weak residual cut* ?), possible minor carbonaceous? with micro coaly fragments to specks, trace white micromicaceous, some black mica, 10-15% maximum calcareous component, fairly chalky in part, some secondary micro crystalline calcite ?, overall very uniform, minor grading to very fine dirty Sandstone, increasing and grading to Shale with depth, basal 5 meters interbedded darker argillaceous Shales and cleaner with transition to clean calcareous Siltstone, also chalky, minor very fine to fine quartz. Gas show apx 160 units, No fluorescence, possible ? very weak cut ?. (cut and florescence from Sawdust).



2415. 0 to 2424.0 SANDSTONE

(9.0) Off white, predominately loose quartz, lower to upper medium, rare lithics, moderate sorted, subangular to abundant subrounded, minor rounded spherical coarse, some coarse fractured, minor fragments only, poorly sorted, silty to very fine to fine matrix, chalky, some more crystalline, 10-15% calcareous only, increase fragments with depth, abundant very fine to silty, calcareous, some chalky, rare trace pyritic fragments, minor Shale, as above, ROP up to 10 m/hr with gas show of 180 units at 2417 meters. no shows, no cut.

2424.0 to 2428.0 Chalky SILTSTONE with SANDSTONE ?

(4.0) Very soft, chalky powdery dried sample, off white, calcareous in part, loose lower to upper fine quartz, translucent, whitish, opaque, abundant very soft chalky siltstone, off white, very calcareous, minor shale only.

2428.0 to 2435.0 Interlaminated SILTSTONE

(7.0) Overall dirty light grey samples, softer argillaceous lower to upper Siltstone, local white micromicaceous, interlaminated to thinly bedded with cleaner calcareous Siltstone, off white to slightly mottled greyish white, micromicaceous in part, 10-15% calcareous component, quartz, rare trace lithic, abundant chalky to semi crystalline, off white very fine Sandstone to very slightly greyish moderate cemented fine Sandstone fragments, grading cleaner with depth, apparent micro coaly laminations ? within cleaner very fine Sandstone with depth. 10-15% siliceous to very slightly dolomitic Shale, decreasing with depth.

2435.0 to 2441.0 SANDSTONE

(6.0) Predominately loose, quartz, opaque, white, minor greyish, semi translucent, lower to upper medium to coarse, moderate sorted, subangular to subrounded with rounded, abundant fractured throughout, minor silty fragments, grading to upper fine to lower coarse with depth, fining down ?, increased very fine to trace fine to silty calcareous fragments with depth, ROP up to 10 m/hr, minor gas show only apx 45 units, no Show, no cut.

2441.0 to 2448.0 SANDSTONE to SILTSTONE

(7.0) Off white, chalky, fine to very fine, massive, blocky, 10-20% calcareous component, quartz, abundant loose medium, grading to very fine Sandstone to upper Siltstone, mottled off white, chalky, soft, moderate sorted, quartz, white to greyish, rare trace lithic, rare crystalline, competent but friable, calcareous component, Muddy grey Clay ? at shakers, dried samples cleaner off white, chalky in part, assuming softer clay rich to chalky interval, ROP down to 2 m/hr, Assuming Drill bit balling up ?, some Pecan shells in samples.

2448.0 to 2454.0 SILTSTONE to SHALE

(6.0) Mottled off white to dirty light grey, interlaminated cleaner to slightly dirty calcareous Siltstone, rare trace Shale, grading to medium to darker grey SHALE basal bedding with depth, massive, amorphous, minor silty, siliceous in part, trace to minor calcareous, minor grey black, some slightly carbonaceous?, trace micro calcite filling ?

2454.0 to 2465.0 SILTSTONE to SANDSTONE

(11.0) Interlaminated off white cleaner very fine Sandstone to Siltstone, 10-15% calcareous, quartz, massive, moderate well cemented, lighter greyish Siltstone to Sandstone, very slightly to non calcareous, siliceous in part, Muddy at shakers to greyish muddy bagged samples, Extra clays washed out by drilling ?, rare shale fragments, uniform with depth.

2465.0 to 2473.0 SILTSTONE to SANDSTONE

(8.0) General off white, cleaner, massive, blocky fragments, quartz, opaque greyish, white, some translucent, moderate sorted, medium to upper silt to very fine Sandstone, 10% calcareous component, slightly chalky ?, minor siliceous, overall weaker cemented ?, minor laminated lighter slightly dirty grey Siltstone, rare Shale, uniform with depth.

2473.0 to 2483.0 SHALE with SILTSTONE

(10.0) Slightly dirty Siltstone grading to darker grey argillaceous Siltstone grading to Shale with depth, medium grey, massive, amorphous, platy to blocky, minor possible micro coaly laminations in 2480 sample, minor very fine silty argillaceous fragments, siliceous in part, overall siliceous, rare slightly calcareous, minor upper shales microcrystalline to cryptocrystalline, hard, siliceous to trace dolomitic?, minor interlaminated lighter grey to off white slightly calcareous Sltsts. Predominately darker argillaceous Siltstone – Shale with depth.

2483.0 to 2493.0 SILTSTONE

(10.0) Dirty argillaceous Siltstone with minor Shale grading with depth into cleaner Siltstone, off white, medium to upper silt to minor very fine micaceous Sandstone, moderate well sorted, quartz, opaque, white, rare trace lithic, 10% calcareous component, competent, moderate hard, friable, easily crushable, predominately cleaner Siltstone with depth, overall calcareous samples, minor chalky fragments, 10-15% calcareous component to Silts, minor lithics, 10-15% laminated very fine Sandstone to upper Siltstone, slightly dirty, possible trace carbonaceous grains, trace shale to dirty siltstone laminations only, uniform, steady ROP apx 3 m/hr, no gas.

2493.0 to 2499.0 SANDSTONE with SILTSTONE

(6.0) Loose lower to upper medium quartz, clean, white, opaque, semi translucent, slightly frosted ?. abundant Siltstone to very fine to minor fine Sandstone, off white, very clean, quartz, rare trace lithics, blocky but weakly cemented, 10% calcareous component, crystalline but local slightly chalky, minor poorer sorted fragments medium Sandstone, clean, subangular to subrounded, weakly cemented, minor visible floating rounded medium quartz within Siltstone fragments, rare coarse to very coarse quartz grains, Possible minor Sandstone with predominately weakly cemented clean Siltstone with floating medium to rare coarse quartz throughout ?, assuming 2-3% effective porosity? only due to cement, ROP 8 m/hr, GAS show 217 units, No shows.

2499.0 to 2508.0 SILTSTONE to Pebble SANDSTONE

(9.0) Off white medium to upper silt to very fine calcareous clean Siltstone to Sandstone, quartz, 10-15% calcareous matrix?, firm to harder but friable, crushable, rare trace floating medium quartz within matrix, trace quartz shards increasing with depth to 10%+ coarse fractured quartz, shards, up to 3 mm in length, white, cream, slightly grayish, rare slightly greenish, possible minor Chert fragments, possible feldspars lithics, minor medium well cemented slightly calcareous tight Sandstone, abundant loose medium quartz, with pebbles to some cobbles ?. ROP under 1 m/hr, POOH at 2508 meters due to ROP.

SAMPLE CUTTINGS DESCRIPTIONS

2508.0 to 2515.0 Pebble CONGLOMERATE with SANDSTONE

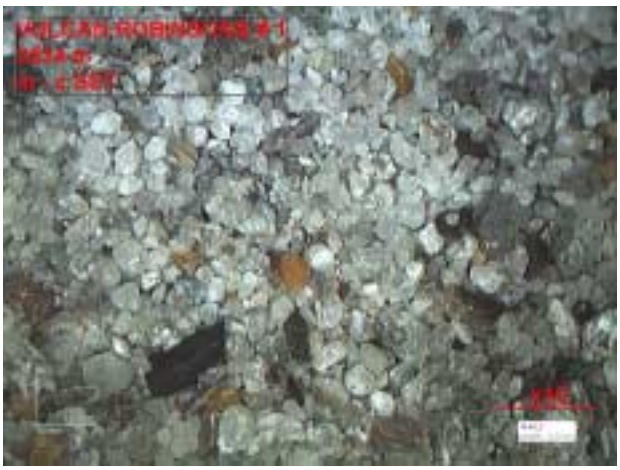
(7.0) Varied coloured quartz, greenish, cream, white, greyish, some varied lithics, reddish to blackish grey, possible trace jasper, angular fractured fragments apx 3 mm in length, no loose quartz, varied harder very fine to upper fine, minor medium well cemented siliceous grayish quartz Sandstone, minor calcite, some chalky calcareous fragments, overall well cemented throughout.

2515.0 to 2526.0 SANDSTONE

(11.0) 90% + loose quartz, medium to coarse, moderate to moderate poorer sorted, off white, opaque, rare translucent, minor softer chalky fragments, minor fragments overall, very fine to coarse poorer sorted well cemented quartz Sandstone with minor black argillaceous lithics, trace disseminated pyrite, overall trace calcareous component only, 1-2% coarser fractured grains, assuming floating pebbles, reddish to white quartz, overall uniform with depth, steady ROP at apx 4 m/hr, trace gas only with depth.

2526.0 to 2535.0 SANDSTONE

(9.0) 95% loose, quartz, white, opaque, no cement, medium to lower coarse to minor coarser rounded to fractured, overall possibly slightly finer overall to predominately medium , moderate sorted, subrounded to rounded to abundant subangular, increased overall apparent chalky component in dried samples, chalky fragments slightly calcareous only, assuming siliceous clay infilling ?, minor gas shows to apx 130 units, probably chalky clay richer than tighter siliceous cemented upper Sandstone, abundant Pecan Shells. No Shows.



2535.0 to 2545.0 SANDSTONE

(10.0) 85% loose, quartz, white, opaque, no cement, medium to lower coarse, moderate sorted, subrounded to subangular, abundant coarser rounded, as above, increasing but minor fragments, very fine to fine siliceous to slightly calcareous poorer sorted Sandstone with coarser floating Quartz, continued weaker cemented overall, visible chalky infilling throughout fragments, Continued smaller gas shows under 100 units from sands, No shows.

2545.0 to 2555.0 SANDSTONE grading to CONGLOMERATE ?

(10.0) Loose clean medium to coarse quartz, white, opaque, semi translucent, as above, abundant chalky fragments, minor semi crystalline quartz to lithic very poorly sorted fragments, slightly calcareous only, grading to a possible thin bedded basal Pebble Conglomerate to Pebble Sandstone, fine to medium poorly sorted slightly siliceous to rare calcareous cement, quartz, opaque, white, grayish, black lithics, abundant fractured quartz, white, light grayish, trace greenish, opaque grey?, minor translucent quartz, trace black lithics, siliceous overall, apx 10% grey black Shale fragments, laminations?, grading to Shale with depth.

SNAKES BIGHT 2555.0 m MD, 2551.82 TVD, -2376.52 SSL

2555.0 to 2562.0 SANDSTONE grading to SHALE

(7.0) Apx 60% SHALE grading to 90% with depth, dark grey to grey black, massive, blocky to platy, hard, black micromicaceous in part, carbonaceous ? component, loose medium to coarse quartz with minor fractured pebbles?, grading to very fine to fine mottled calcareous lithic quartz Sandstone, slightly chalky, calcareous, grading to predominately Shale with depth, overall siliceous with minor trace calcareous to possible dolomitic component, trace calcitic fracture infilling.

2562.0 to 2576.0 Interlaminated SHALE with SILTSTONE

(14.0) Predominately grey black, blackish, massive, amorphous, blocky to platy, crystalline in part, abundant micromicaceous to silty micaceous, probable carbonaceous component, siliceous in part with apparent minor dolomitic component, overall very competent, harder, minor dirty grey black upper silt to very fine Sandstone, rare off white calcareous Siltstone with depth only, very uniform samples, even ROP apx 5 m/hr, trace gas only.

2576.0 to 2583.0 SANDSTONE

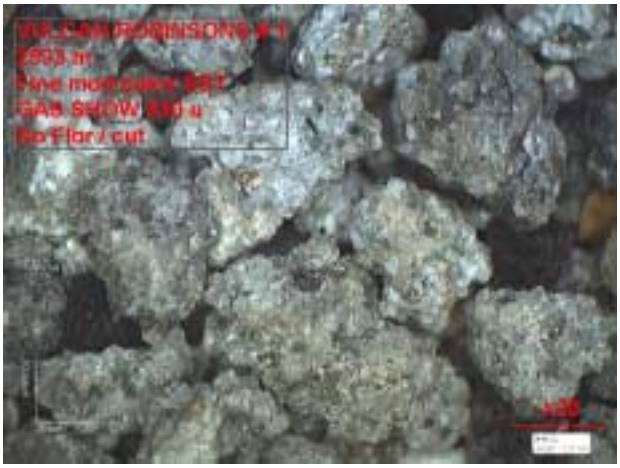
(7.0) Mottled off white to dirty white, lower to upper fine, quartz, black lithics, brown micaceous, moderate sorted, subangular to subrounded with abundant rounded lower medium to upper fine quartz to black lithic fragments, moderate clean, abundant semi crystalline but friable to weaker cement, moderate easily crushable, possible some chalky, 10-15% calcareous component, overall light greyish color with fair calcareous cement.

2583.0 to 2,588.0 SHALE

(5.0) Grey black, micromicaceous to black, massive, amorphous, platy to fissile in part, carbonaceous, micro Coaly laminations, white calcite micro fracture infilling, trace calcareous to possible trace dolomitic.

2588.00 to 2594.0 SANDSTONE

(6.0) Off white, very fine, clean, quartz, whitish, to opaque greyish, rare trace lithics, moderate well sorted, subangular ?, friable, slightly calcareous, Gas Show of 289 units, grading to fine Sandstone, quartz, clean, white, greyish, slightly moderate to poorer sorted, slightly calcareous component, low to moderate relief, friable, crushable, weakly cemented, no visible porosity at x45 power, Gas Show of 530 units, Samples taken at peak of show at shakers, Very chalky to clay rich at shakers, abundant apparent chalky in dried samples, possible fracturing?, No stain, no show, no cut.

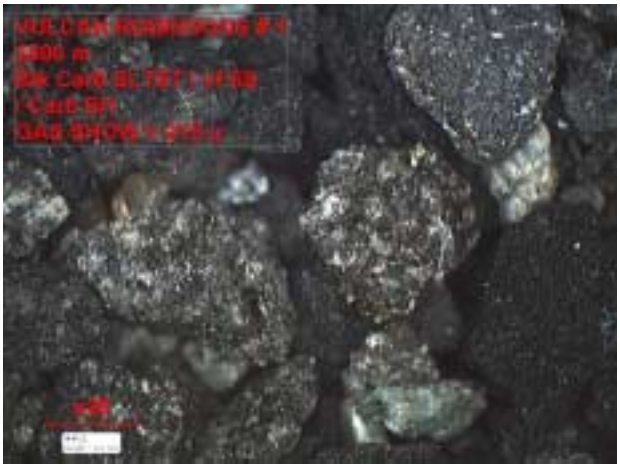


2594.0 to 2600.0 SHALE with SILTSTONE

(6.0) Medium to darker grey Shale, massive, amorphous, blocky to platy, abundant slightly cryptocrystalline, very slightly dolomitic, trace micromicaceous, interbedded with cleaner off white slightly moderate calcareous Siltstone to slightly calcareous very fine Sandstone with depth, quartz, trace lithics, minor micromicaceous.

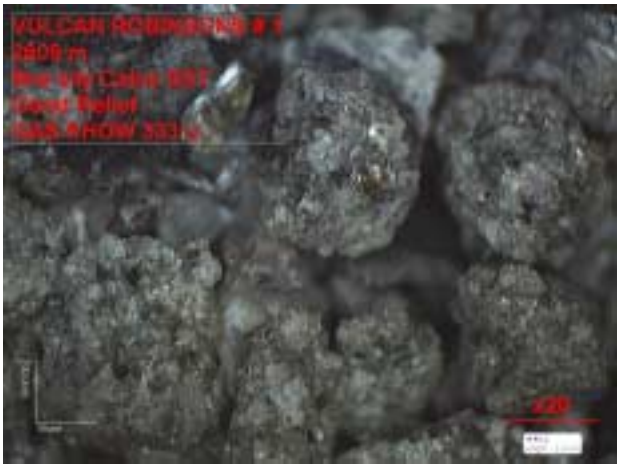
2600.0 to 2607.0 Interlaminated SILTSTONE with SHALE

(7.0) Cleaner off white medium to upper Siltstone, quartz, slightly calcareous, tighter, interbedded with medium to minor darker grey shale, massive, amorphous, blocky, hard, minor cryptocrystalline, siliceous to trace dolomitic ?, minor silty, smaller gas shows form softer dirtier carbonaceous Siltstone to very fine Sandstone, mottled darker grey white, quartz, lithics, slightly mica, carbonaceous fragments?, moderate high relief, easily crushable, 2-3% effective porosity?, no stain, No Shows, no cut, Basal 2600 sample abundant dark grey to grey black carbonaceous ? Shale, slightly silty. Gas shows up to 213 units.



2607.0 to 2611.0 SANDSTONE

(4.0) Loose to fragments, off white to very light grey white, lower to upper fine, quartz, opaque, white, minor translucent, trace lithics only, minor micaceous. moderate sorted, subangular to subrounded, weakly cemented, siliceous ? to slightly calcareous only, very easily crushable, moderate relief, no visible porosity, 3-4% effective ?, No stain, No shows, no cut, two GAS Shows maximum 333 units. Thinner bedding ?, No ROP increase.



SAMPLE CUTTINGS DESCRIPTIONS

2611.0 to 2621.0 Interlaminated SHALE with SILTSTONE

(10.0) Predominately light to medium grey to darker grey Shale, massive, amorphous, platy, minor local silty, siliceous in part, rare calcareous to possible minor dolomitic, possible minor marly limestone lenses ?, interlaminated with minor Siltstone, off white, lower to medium silt to minor upper silt to very fine Sandstone, tighter, calcareous in part, quartz, rare trace lithics, no gas.

2621.0 to 2624.0 SILTSTONE to SANDSTONE

(3.0) Mottled off white, upper silt to very fine to fine quartz calcite Sandstone, opaque, white, greyish, trace lithics, possible trace carbonaceous, overall weaker cemented, easily crushed, no visible porosity, minor lighter grey shale.

2624.0 to 2631.0 Interlaminated SHALE with SILTSTONE

(7.0) Medium grey, massive, amorphous, blocky, platy, firm to harder, competent, siliceous with slightly calcareous to dolomitic component, minor trace micromicaceous, trace silty, minor interlaminated very fine dirty to cleaner calcareous Sandstone to Siltstone.

2631.0 to 2634.0 SANDSTONE

(3.0) As Above, Gas Show of 316 units, possible upper fine to lower medium poorer sorted slightly calcareous Sandstone, minor chalky calcareous infilling, trace lithics, poor relief, slightly fractured appearance due to calcite infilling ?, trace interstitial argillaceous to possible micro carbonaceous matter, predominately Shale with minor Siltstone in sample.

SAMPLE CUTTINGS DESCRIPTIONS

2634.0 to 2639.0 Black SHALE

(5.0) Black to medium gray, massive, blocky to platy, local slightly micromicaceous, competent, firm to slightly harder only, easily crushed, abundant apparent carbonaceous ?, minor to 5% dark black possible slightly coaly only, minor traces calcite fracture infilling, overall slightly calcareous (fragments break down in acid), trace lighter grey shale laminations,
Gas Show of 295 units, no sands.

2639.0 to 2648.0 Interlaminated SHALE

(9.0) Mottled light to medium grey to minor darker grey, massive, softer slightly chalky light grey to firmer harder medium to darker grey, overall slightly calcareous throughout, minor localized silty, trace blocky pyrite, 10-15% lighter greyish to off white slightly micromicaceous calcareous Siltstone, uniform / depth.

2648.0 to 2659.0 SHALE with minor SILTSTONE

(11.0) Interlaminated light grey, massive, amorphous, moderate soft, slightly chalky, calcareous in part, minor localized silty, with medium to slightly darker grey Shale, massive, amorphous, blocky to platy, harder, siliceous to slightly calcareous throughout, minor silty, crushable but very competent, No Sands.

SAMPLE CUTTINGS DESCRIPTIONS

2659.0 to 2666.0 Interbedded SILTSTONE to SHALE with basal SAND

(7.0) Off white to very light grey, lower to upper silt to very fine, rare fine, quartz, opaque, white, minor translucent, trace lithics, slightly chalky throughout, minor greyish harder Siltstone, interlaminated with minor Shale, light to medium grey, massive, amorphous, Basal 1 meter Sandstone, off white, fine to medium, quartz, opaque, white, minor lithics, poorly sorted, subangular to minor angular, subrounded, trace micromicaceous, trace calcareous, also finer micaceous very fine calcareous Sandstone, apx 5% loose quartz, fine to medium, from weaker cemented Sandstone ?, moderate relief, 3-4 % effective porosity, Gas show 277 units. No Shows, no cut.

2666.0 to 2678.0 Interlaminated SHALE with SILTSTONE

(12.0) Medium to darker grey, massive, amorphous, blocky, competent, harder, crystalline in part, siliceous with trace dolomitic, interbedded with lighter grey softer clay rich Siltstone, lower to medium silt, and upper silt to very fine to rare fine off white calcareous Sandstone, quartz, trace lithic, micromicaceous in part, trace pyrite, uniform with depth.

2678.00 to 2684.0 Pebble CONGLOMERATE

(6.0) Fractured medium to very coarse quartz, translucent, white, grey, varied lithics, igneous red feldspars, greyish cherty, trace cream, rare greenish, predominately white quartz, fragments up to 3 mm, abundant fractured fine to medium quartz, trace to rare Sandstone fragments. Gas show 310 units. No Shows, no cut.

SAMPLE CUTTINGS DESCRIPTIONS

2684.0 to 2693.0 SHALE

(9.0) Predominately darker grey, abundant grey black, massive, amorphous, blocky, siliceous in part, slightly calcareous to dolomitic?, minor silty, minor interlaminated softer lighter grey Shale, Abundant loose quartz, lower to upper medium, translucent to white, decreasing with depth, minor carbonaceous black shales, trace calcite filled fracturing?.

2693.0 to 2696.0 SANDSTONE

(3.0) Off white, lower to upper medium, lower coarse, abundant loose, quartz, opaque, white, translucent, black lithics to possible coaly to very carbonaceous fragments, trace mica, abundant very poorly sorted Sandstone fragments, apparent white clay chalky infilling, friable, calcareous in part, no visible porosity, minor gas show only.

2696.0 to 2704.0 SHALE

(8.0) Medium grey, darker grey, massive, amorphous, blocky to platy, local silty laminations, overall slightly calcareous, minor lighter grey laminations, localized probable grey black carbonaceous laminations, increasing with depth, uniform ROP apx 5 m/hr steady.

2704.0 to 2709.0 Carbonaceous SHALE

(5.0) Darker grey to grey black, massive, amorphous, blocky, slightly calcareous, minor calcite fragments to rare trace calcite filled fractures ?, minor apparent flaky coaly laminations, no sands, Gas show 173 units.

SAMPLE CUTTINGS DESCRIPTIONS

2709.0 to 2715.0 Interlaminated SILTSTONE with SANDSTONE

(6.0) Mottled off white soft chalky Siltstone, moderate calcareous to local non calcareous?, interlaminated with very clean white very fine Sandstone, quartz, opaque, white, calcareous, well cemented, also minor slightly dirty very light grey Siltstone to very fine Sandstone, quartz, slightly micromicaceous, 10-15% possible laminated light to darker grey shales, no loose quartz.

2715.0 to 2723.0 Interlaminated SHALE

(8.0) Bedded to laminated lighter to medium grey, massive, amorphous, blocky, harder, slightly cryptocrystalline texture to slightly silty, slightly calcareous to dolomitic, to medium to darker grey slightly softer, trace micromicaceous, minor micro lenses softer slightly chalky to micromicaceous slightly calcareous Siltstone throughout, uniform ROP and samples with depth.

2723.0 to 2735.0 Interlaminated SHALE with SILTSTONE

(12.0) Light to medium grey, massive, amorphous, blocky to platy, local softer, slightly chalky?, calcareous, minor silty with laminated medium to slightly darker grey Shale, massive, amorphous, harder, slightly calcareous to possible minor dolomitic, minor very fine to upper silt micromicaceous Sandstone interlams?, uniform with depth, as above, steady ROP.

2735.0 to 2737.0 Carbonaceous SHALE ?

(2.0) Grey black to black, massive, amorphous, blocky, very firm, harder, competent, crushable, minor silty, carbonaceous in part, trace mica to translucent quartz grains?, trace dolomitic, with 50% medium grey massive Shale, trace calcite fragments, minor gas show or possible connection gas.

2737.0 to 2748.0 SILTSTONE to SHALE with SANDSTONE

(11.0) Interlaminated varied Siltstone, light grey, slightly chalky, soft to crystalline calcareous, quartz, clean, rare lithics, trace micromicaceous, minor dirty greyish throughout, with thinly bedded 50% Shale, medium grey, massive, amorphous, blocky, firm to moderate harder, siliceous in part, trace dolomitic, local slightly silty, minor very fine Sandstone, quartz, trace lithics, slightly dirty, grading and coarsening down to fine Sandstone, moderate clean off white, quartz, trace lithics, slightly calcareous, well cemented, moderate sorted, subangular to subrounded, to minor very clean very fine calcareous quartz only, minor dirtier slightly greyish cream, overall very uniform ROP, minor gas at 2744 meters, No shows, no cut.

SAMPLE CUTTINGS DESCRIPTIONS

2748.0 to 2758.0 SHALE

(10.0) Medium to darker grey, massive, amorphous, blocky, siliceous with trace dolomitic, abundant slightly lighter grey, harder, semi cryptocrystalline texture in part, silty component, 10-15% darker grey black slightly carbonaceous ? Shale, minor light grey to dirty off white chalky fragments throughout, minor gas peak 150 units at 2756 meters, No Shows, no cut.

2758.0 to 2762.0 SILTSTONE to SANDSTONE

(4.0) Lighter grey, firm to competent, quartz, slightly chalky, siliceous to trace calcareous, rare very calcareous fragments, amorphous, grading to fine Sandstone, lower to upper fine, quartz, clean, opaque, greyish, white, moderate sorted, subrounded to subangular, well cemented siliceous to 10% calcareous component, low relief, no visible porosity, tight. POOH at 2762 meters due to MWD Failure. (Bit trashed also).

2762.0 to 2766.0 SILTSTONE to SANDSTONE

(4.0) Dirty medium to lighter grey argillaceous Siltstone, massive, blocky, firm, siliceous to slightly calcareous, trace fine to medium poorer sorted moderate clean Sandstone, quartz, trace lithics, subrounded to subangular, minor loose fine quartz, one meter gas show at 2764 meters of 250 units.

2766.0 to 2777.0 Interlaminated SHALE with SILTSTONE

(11.0) Medium to darker grey, massive, amorphous, blocky to platy, siliceous in part, trace calcareous to possible minor dolomitic, trace to 2% grey black to black Shale, minor local thin silty laminations, minor lighter to medium grey harder semi crystalline to microcrystalline hard Siltstone, siliceous to trace dolomitic, interlaminated with dirty to grading to cleaner light grey to off white Siltstone with depth. Gas show of 200 units at 2776 meters.

2777.0 to 2785.0 Interlaminated SHALE grading to SILTSTONE

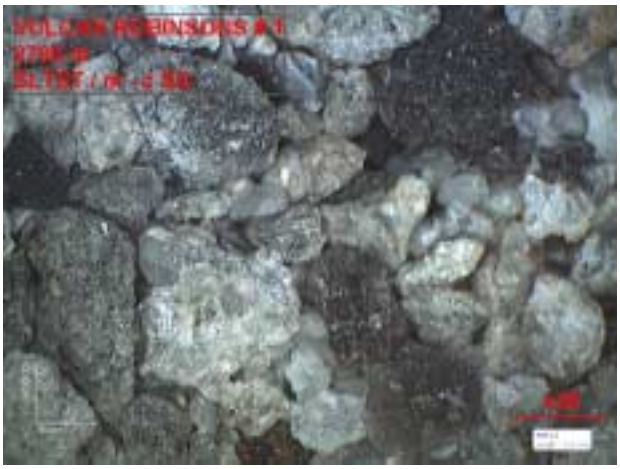
(8.0) Medium grey, massive, amorphous, as above, minor darker grey, abundant microcrystalline harder slightly buff grey, siliceous to trace dolomitic, minor silty, interlaminated with dirty greyish Siltstone, moderate soft to harder crystalline, with depth Siltstone grading to cleaner off white to very slightly greyish, 10-15% calcareous component, quartz, tighter, minor very fine to fine clean slightly calcareous quartz Sandstone laminations, No shows, no cut.

2785.0 to 2790.0 SILTSTONE grading to SANDSTONE

(5.0) Mottled off white to white, very clean well sorted upper Siltstone with interlaminated very fine Sandstone grading with depth to very fine to lower fine, massive, blocky, clean, quartz, 10 - 15% calcareous component, rare trace micro lithics, minor fragments with disseminated pyrite, apparent coarsening down with depth, Good ROP 8-10 m/hr, Gas show of 240 units averaging 100 units, No shows, no cut.

2790.0 to 2800.0 SANDSTONE

(10.0) White, off white, very clean, very fine to fine grading to medium to coarser with depth, moderate well sorted very fine to abundant upper Siltstone, quartz only, clean, 10-15% calcareous component, fragments only with trace medium to coarse rounded to fractured quartz grading to abundant looser medium to coarse quartz with depth, continued calcareous Siltstone to very fine Sandstone matrix?, increasing fractured quartz pebbles? with depth, ROP decreasing with depth, minor gas show 80 units at 2797 meters, No Show, no cut.



2900.0 to 2803.0 CONGLOMERATE

(3.0) Predominately loose fractured quartz fragments to shards, white, greyish, minor apparent hard light colored lithics?, minor poorly sorted fragments, coarse, opaque, black lithics, minor very fine to fine to medium Sandstone matrix, rare trace pyrite, abundant soft chalky white drill bit smear ?, calcareous, some calcareous chalky fragments have very light brownish tan coating, ROP with PDC down to under 1 m/hr. POOH at 2803 meters due to Conglomerate.

2803.0 to 2808.0 Basal CONGLOMERATE

(5.0) Fractured quartz shards to fragments as above, increasing darker lithics, greyish quartz Sandstone, siliceous Shale?, trace volcanic ?, increasing poorer sorted silt to fine to medium well cemented siliceous to slightly calcareous, quartz to lithic rich, trace disseminated to blocky pyrite within quartz, 10% shale ?, cavings?, possible minor lenses?.

2808.0 to 2818.0 Interlaminated SILTSTONE with SHALE

(10.0) Dirty light grey Siltstone, lower to upper silt, quartz, local trace micromicaceous, 10-15% calcareous, with laminated very clean off white calcareous Siltstone, grading to minor very fine Sandstone, quartz, trace lithics, minor micromicaceous, blocky, well cemented, rare trace disseminated pyrite, calcareous, no porosity, ROP apx 2 m/hr with depth, No Gas.

2818.0 to 2825.0 SILTSTONE to SHALE

(7.0) Medium to darker grey lower to upper Siltstone, argillaceous, massive, blocky, softer to slightly chalky to predominately harder with siliceous to minor calcareous component, minor semi crystalline lighter mottled grey upper silt grading to very fine Sandstone, hard, massive, well cemented, minor calcareous to dolomitic, minor interlaminated Shale, darker grey, rare grey black, massive, amorphous, blocky to platy, slightly silty, trace micromicaceous.

2825.0 to 2834.0 Interlaminated SILTSTONE with minor SHALE

(9.0) Predominately lighter grey slightly softer, chalky in part, calcareous component, dirty clay rich?, interlaminated with dirty mottled medium to darker grey Siltstone, lower to upper silt, argillaceous, quartz, siliceous with minor calcareous, minor harder semi crystalline cleaner hard well cemented Siltstone, slightly calcareous to possible minor dolomitic?, minor interlaminated Shale, as above, overall lighter coloured to more calcareous than above, ROP apx 2 m/hr, no gas.

2834.0 to 2845.0 Interlaminated SILTSTONE to SHALE

(11.0) Lighter grey softer to semi crystalline SILTSTONE, local slightly chalky to calcareous, dirty to slightly argillaceous in part, interlaminated with lighter to medium grey silty Shales, firmer to slightly harder, blocky to platy, slightly calcareous, minor overall slightly siliceous to weaker cemented, minor grading to very fine Sandstone, dirty grey, argillaceous to semi crystalline cleaner very light grey, minor interlaminated darker grey Shale with depth, No Gas, slightly increasing ROP with depth.

2845.0 to 2852.0 Black SHALE

(7.0) Darker grey to grey black, massive, amorphous, siliceous with minor calcareous component, minor slightly silty, trace micromicaceous, minor carbonaceous, minor trace carbonaceous to coaly partings, minor trace calcareous fragments, calcite infilling along partings to trace fractures, uniform with depth, ROP increasing up to 3.5 m/hr, minor trace Gas background increasing to 50 units.

SAMPLE CUTTINGS DESCRIPTIONS

2852.0 to 2862.0 Interlaminated BLACK SHALE

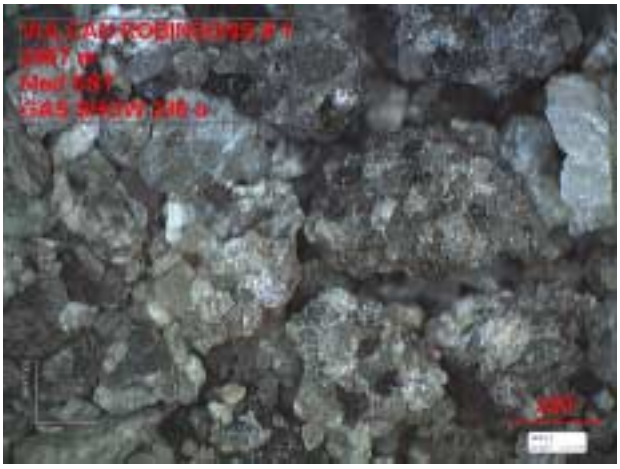
(10.0) Darker grey to grey black, massive, amorphous, blocky, platy, firm to slightly harder, localized slightly silty, minor carbonaceous only, possible trace carbonaceous to coaly micro partings, increasing to good trace softer chalky calcite fragments, rare trace crystalline calcite micro fracture infilling, basal section interlaminated with cleaner Siltstone, off white, calcareous, abundant very chalky, minor lighter to medium grey shales, calcareous in part.

2862.0 to 2867.0 SILTSTONE grading to SANDSTONE

(5.0) Off white cleaner upper silt to very fine SANDSTONE, quartz, trace lithics, moderate sorted, subangular to subrounded, 10-20% calcareous component, minor trace loose medium to lower coarse floating quartz, grading to a 1-2 meter Sandstone Bed, abundant loose subrounded to slightly fractured quartz, medium, quartz, trace rounded black shale lithics, poorer sorted, subrounded to subangular, minor coarser to lower coarse quartz, cleaner matrix, crystalline, trace interstitial brownish ? slightly carbonaceous to argillaceous infilling around grains, siliceous to minor trace calcareous component only, Poorer ROP to apx 3 m/hr, No visible porosity, 4-5% effective, Gas show 236 units, No Shows, no cut.

2867.0 to 2873.0 SILTSTONE

(6.0) Off white, clean, massive, blocky, quartz, rare trace micromicaceous, minor grading to very fine Sandstone, calcareous in part, tighter, abundant chalky fragments, drill bit gouge?, variegated ?, very calcareous to minor only.



2873.0 to 2880.0 SILTSTONE to SANDSTONE

(7.0) Very light grey to greyish white, massive, blocky, upper silt to very fine, clean, quartz, opaque, greyish, silty to slightly clay matrix ?, possible trace micro carbonaceous specks, Siltstone moderate softer with very fine to lower fine Sandstone moderate well cemented, apx 5% calcareous component only, overall sample moderate calcareous throughout, abundant softer chalky very calcareous fragments, very uniform with depth, small gas at 2873 meters.

2880.0 to 2882.0 SILTSTONE to CONGLOMERATE

(2.0) Predominately Siltstone, in samples, abundant loose fractured quartz, opaque, white, greyish, with fragments upper medium to lower coarse rounded quartz within a medium to fine quartz to slightly black lithic matrix, very poorly sorted, siliceous to well cemented tight, to slightly softer, calcareous, no visible porosity, no gas, assuming thinner bedded layer only, minor dirty very fine to upper silty greyish tan ? micromicaceous Siltstone laminations to trace darker grey shale. Probably Pebble Sandstone?.

2882.0 to 2892.0 SILTSTONE to minor SHALE

(10.0) Lighter grey, massive, amorphous, slightly dirty, clay rich ?, interlaminated with cleaner off white calcareous Siltstone to trace very fine Sandstone, fractured grey to white quartz decreasing with depth, minor blackish shales and increasing blackish mottled Siltstone grading to apx 40% with depth, massive, hard, well cemented, siliceous, micromicaceous to minor trace mica flakes, minor interlaminated or lenses darker grey black shale, trace very slightly calcareous, no Shows, no gas.

2892.0 to 2900.0 Interlaminated SHALE with SILTSTONE

(8.0) Darker grey to grey black Shale, massive, amorphous, blocky to platy, local slightly silty, minor micromicaceous, possible minor carbonaceous, harder, siliceous in part, slightly calcareous to possible minor dolomitic, interlaminated with apx 20% varied Siltstone, lighter grey, softer, slightly chalky, calcareous, to harder, darker grey, siliceous in part, trace pyrite, minor chalky calcareous to rare calcite fragments throughout, Gas shows under 150 units with ROP apx 3.5 m/hr, no sands.

SAMPLE CUTTINGS DESCRIPTIONS

2900.0 to 2908.0 SHALE with minor SILTSTONE

(8.0) Darker grey to grey black laminated with lighter to medium grey Shale, massive, amorphous, blocky, darker very firm to harder with lighter softer, calcareous, localized silty, trace micromicaceous, minor interlaminated softer Siltstone, slightly chalky, calcareous in part.

2908.0 to 2917.0 SILTSTONE to minor SANDSTONE

(9.0) Laminated Siltstone, lighter to medium grey, massive, blocky, softer, calcareous in part, micromicaceous, with laminated fine Sandstone, mottled lighter grey, quartz, lithic, dirty, moderate sorted, subangular, minor calcareous, with medium to darker grey laminated shale, silty, siliceous in part, with minor calcareous component, rare trace disseminated pyrite, minor coarse fractured grey to opaque quartz with depth, possible floating pebbles with silty matrix.

2917.0 to 2923.0 Argillaceous CONGLOMERATE ?

(6.0) No loose sands or rounded quartz, 5-10% up to 25% (2921sample) fractured quartz shards to fragments, quartz, opaque grayish, white, rare greenish, rare trace reddish lithics, minor black to darker grey cryptocrystalline lithic, minor fragments fine to medium lithic quartz Sandstone, poorer sorted, subangular to subrounded, siliceous with trace calcareous, rare trace disseminated blocky pyrite, abundant black harder Shale (matrix assumed), siliceous to trace dolomitic, minor apparent micro calcite fracture infilling, minor chalky white calcareous fragments throughout, Assuming Lithic to Quartz pebbles to cobbles within a shale matrix support ?.

2923.0 to 2927.0 CONGLOMERATE grading to SILTSTONE ?

(4.0) Fractured fragments as above, no loose sand quartz grains, Possible floating pebbles to cobbles decreasing with depth within a mixed darker grey black Shale, siliceous to non calcareous and a softer lighter grey calcareous Siltstone (fining down ?), abundant softer chalky calcareous fragments, Gas show 190 units.

2927.0 to 2936,0 Interlaminated SILTSTONE with SHALE

(9.0) 70% lighter grey massive Siltstone, firm to minor harder with abundant apparent softer, dirty slightly chalky, lower to medium silt, 10% calcareous ? component, interlaminated with medium grey firm Shale, non to very slightly calcareous only, minor to 5% darker grey black Shale, trace white chalky calcareous fragments, uniform with depth.

2936.0 to 2948.0 Interlaminated SHALE with minor SILTSTONE

(12.0) Predominately medium grey, massive, amorphous, platy, blocky, harder, very competent, very slightly calcareous to possible slightly dolomitic, siliceous in part, Shale becoming harder and more siliceous than above, 20-30% lighter grey, slightly softer, moderate calcareous, clay rich, lower to medium silt only.

2948.0 to 2957.0 SHALE

(9.0) Medium gray, massive, blocky to platy, harder to competent in general, siliceous in part to rare trace dolomitic, abundant very slightly lighter gray, softer, very slightly calcareous, interlaminated with minor softer lighter grey Siltstone, minor darker grey to trace grey black, slightly calcareous to very clean Siltstone lenses to laminations?, off white, clean, quartz, calcareous in part, trace disseminated blocky pyrite, uniform with depth, minor gas only, No shows, no cut.

2957.0 to 2967.0 SHALE

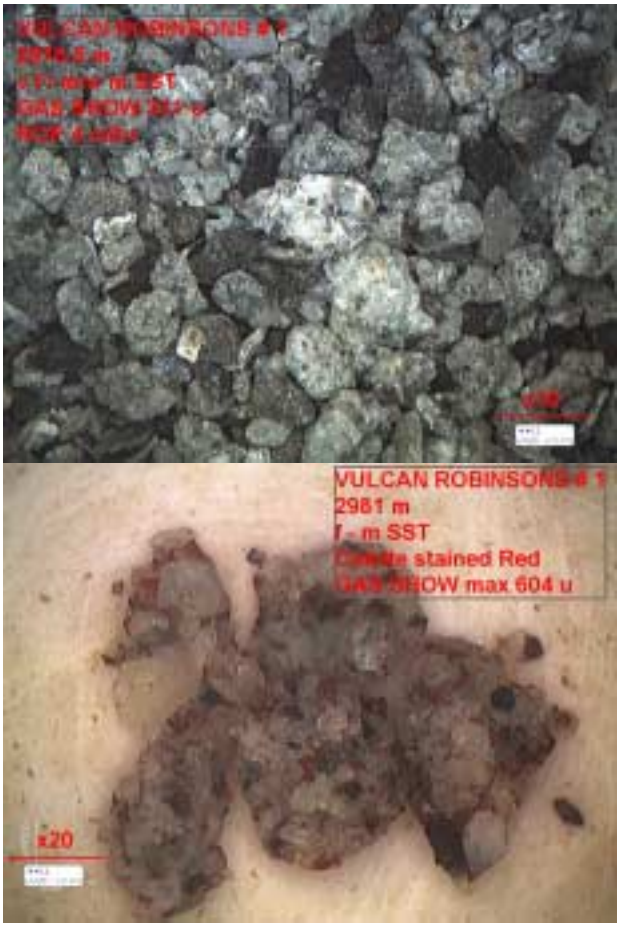
(10.0) Medium grey, rare darker grey, massive, amorphous, blocky to platy, siliceous in part with very slightly calcareous to dolomitic component, trace pyrite, continued harder to indurated compared to shales above 2900 meters, interlaminated with minor softer lighter grey shales and minor Siltstone, off white, chalky in part, calcareous, very uniform samples with depth. POOH at 2967 meters for Drill bit and Pressure testing.

2967.0 to 2975.0 SHALE with SILTSTONE

(8.0) Medium grey to gray black, massive, amorphous, blocky, hard, siliceous with trace calcareous to dolomitic only, abundant off white Siltstone from first sample after bit trip, clean, lower to upper silt, quartz, crystalline in part, some chalky fragments, slightly calcareous but less than 10% overall, moderate well cemented, siliceous in part, minor harder lower Siltstone ?, trace gas only, No Shows, no cut.

2975.0 to 2982.0 SANDSTONE

(7.0) Off white, clean very fine Sandstone, well sorted, quartz only, siliceous in part, well cemented, apx 5% calcareous only, minor chalky, local grading to fine quartz sandstone, abundant medium Sandstone, clean, off white with quartz, opaque, white, trace black lithics, moderate sorted, subangular to subrounded, minor upper medium to lower coarse rounded quartz, siliceous in general with 3-6% calcareous component, moderate relief, no visible porosity under x45 power but inferred 5-7% hidden to possible 3-4% effective ?, ROP up to 6 m/hr with maximum Gas Show 604 units, No shows, no stain, no cut.



2982.0 to 2985.0 SANDSTONE

(3.0) Off white, clean, predominately very fine to upper silt, quartz, siliceous in part with less than 10% calcareous, continued upper fine to lower medium Sandstone, quartz, clean, minor lithics, crystalline in part, no to trace chalky only, poorer sorted, some upper medium to rare lower coarse quartz, subrounded to subangular with rounded coarser, siliceous with less than 5% calcareous cement, moderate relief, no visible porosity, 2-3% effective ? Good trace chalky siliceous to slightly calcareous gouge ?, (see photos).

2985.0 to 2993.0 SHALE with SILTSTONE

(8.0) Medium to darker grey, massive, amorphous, blocky, hard, siliceous with trace calcareous to dolomitic, abundant semi crystalline to lower silt, minor dirty lower to medium Siltstone, greyish, softer, slightly chalky to harder, crystalline, rare Sandstone fragments, as above, trace coarse fractured quartz shards, possible some pebbles to cobbles within Shales ?.

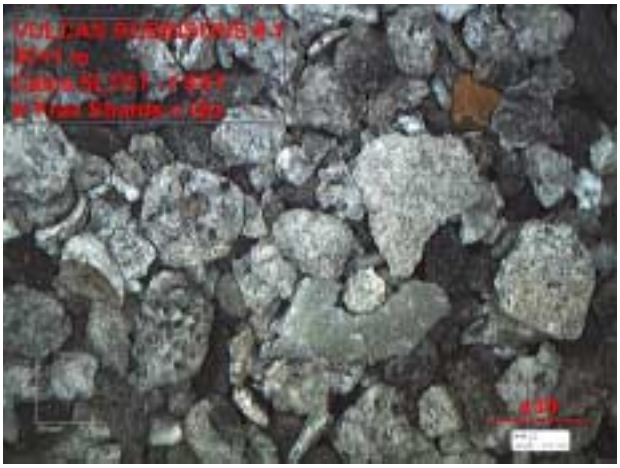
SAMPLE CUTTINGS DESCRIPTIONS

2993.0 to 3003.0 SHALE with minor SILTSTONE

(10.0) Medium to predominately darker grey, massive, amorphous, siliceous with trace carbonate dolomitic component, gritty, lower silty ?, abundant crystalline to microcrystalline, slightly brittle, very competent, hard to crush or break, minor pyritic blocky to disseminated fragments, minor to 10% lighter grey shale to silty laminations throughout, uniform ROP, no gas.

3003.0 to 3012.0 SILTSTONE grading to SANDSTONE

(9.0) Off white to very light grey, general clean, 10-15% calcareous cement, predominant upper silt, competent, well cemented but crushable, minor slightly dirty harder siliceous crystalline laminations?, with depth grading to and interlaminated with fine Sandstone, quartz, opaque, grey, black argillaceous lithics, moderate sorted, subrounded to subangular, well cemented, calcareous in part, poorer relief, trace to minor coarse fractured quartz throughout, possible lithics, assuming poorer sorted floating quartz pebbles? Within a better sorted fine Sandstone, no visible porosity, 10-15% Shale laminations?, trace gas only, No shows, no cut.



3012.0 to 3019.0 SILTSTONE to SANDSTONE

(7.0) Predominately upper Siltstone to very fine Sandstone, off white, very slightly salt and pepper, quartz, clear to opaque, minor grayish, good trace black argillaceous lithics,10-15% calcareous component, generally well cemented, lower relief, with depth localized fine to minor lower medium poorer sorted quartz Sandstone, trace lithics, subangular to subrounded, minor coarser floating quartz within finer matrix, Apparent coarser floating pebbles ? To coarser component within top of interval, Gas Show 180 units, tighter 2-3% effective porosity.

3019.0 to 3032.0 Interlaminated SHALE to SILTSTONE

(13.0) Medium to darker grey Shale, interlaminated slightly softer lighter grey, minor calcareous to harder semi crystalline to microcrystalline slightly gritty to lower silty siliceous with trace dolomitic component, very competent, harder to crush, with minor slightly dirty mottled calcareous Siltstone to minor very fine Sandstone laminations throughout, uniform with depth, no gas, No shows.

3032.0 to 3038.0 SILTSTONE grading to SHALE

(6.0) 20-30% grayish slightly dirty softer Siltstone, argillaceous in part (rare darker medium grey to lithic), with minor very clean off white quartz calcareous Siltstone, interlaminated with medium to darker grey Shale, massive, blocky, very firm to local hard, siliceous with very slightly calcareous to dolomitic component, minor softer chalky siliceous to slightly to very calcareous mechanical "bit gouge" type fragments. Small increased gas background from Silts?.

3038.0 to 3050.0 SHALE

(12.0) Medium to darker grey to increasing greyish black, massive, amorphous, localized micromicaceous, generally moderate hard, competent, siliceous with slightly calcareous to minor dolomitic component, minor interlaminated graded dirty blackish microcrystalline Siltstone, rare trace micro calcareous fracture filled, 3047 samples has indications of striations to shearing from drill bit ? or formation ?.minor trace lighter grey Siltstone, possible very thin lenses to laminations, No shows, no cut.

3050.0 to 3060.0 Interlaminated SILTSTONE with SHALE

(10.0) 30-40% cleaner off white upper Siltstone grading to very fine Sandstone, quartz, rare lithics, well sorted, subangular, calcareous, well cemented, to abundant softer slightly calcareous chalky, rare trace pyrite, interlaminated to thinly bedded with Shale, medium grey, massive, amorphous, blocky, moderate hard, some microcrystalline, rare cryptocrystalline, minor very hard, brittle, siliceous to localized dolomitic component, localized darker grey, minor grading to upper siltstone, uniform with depth, low to no gas.

3060.0 to 3068.0 Interlaminated SILTSTONE with SHALE

(8.0) As above, increasing cleaner Siltstone grading to very fine to rare lower fine Sandstone with depth, overall clean, whitish, quartz, rare lithics, minor mica with lower fine Sands, good calcareous component, tight, no visible porosity, interlaminated with Shale, medium grey, massive, amorphous, blocky to platy, harder, minor microcrystalline texture, siliceous with slightly dolomitic component, rare trace pyrite, no trace gas only, No shows, no cut.

3068.0 to 3077.0 SILTSTONE to SANDSTONE

(9.0) Very light grey to off white, medium to upper silt, clean, massive, calcareous in part, very slightly dirty?, interlaminated with grading to increasing very fine to lower fine Sandstone throughout and with depth, fine Sandstone predominately quartz, off white, semi translucent, minor greyish, rare trace black lithics, very rare trace reddish orange feldspars grains, minor localized micaceous, stained samples indicate 5% calcareous component.

3077.0 to 3084.0 SANDSTONE with SILTSTONE

(7.0) 50-60% upper silt to very fine moderate well cemented Siltstone to Sandstone, calcareous in part, overall increasing fine to trace lower medium Sandstone with depth, abundant loose quartz, abundant fragments, upper fine Sandstone quartz, opaque, whitish, semi translucent, apparent frosted ?, moderate sorted loose quartz, subrounded to subangular, medium quartz rounded, fragments weakly cemented, siliceous with less than 3% calcite, trace possible chalky, poorer sorted, subangular to rare angular fragments, general subrounded, trace floating medium to occasional loose coarse quartz, no visible porosity but moderate relief, thin bedding to laminations?, 5-7% hidden porosity ?, possible 3-4% effective, trace gas only.

3084.0 to 3096.0 SANDSTONE with CONGLOMERATE

(12.0) Predominately loose lower to upper medium, lower coarse quartz, fractured to subangular to subrounded, abundant loose rounded upper medium to coarse, weaker cemented, 10-20% fractured lithics to shards of quartz, opaque, white, very slightly greenish, varied gray, rare trace pinkish to reddish, no apparent chert, very minor poorer sorted fragments, quartz, trace black argillaceous ? lithics, rare trace mica, abundant very fine Sandstone to Siltstone throughout, well sorted, calcareous in part, rare trace lithics, rare orange fragments, well cemented, continued with depth, angular shards throughout, increasing better cemented upper medium quartz fragments with depth, siliceous with fragments fractured through quartz grains, (cemented), siliceous, other fragments 5% calcareous, 5-7% hidden porosity ?, effective ?, Assuming a laminated medium poorer sorted Sandstone with floating pebbles to cobbles and or thinner Conglomerate banding, some apparent Siltstone bedding?, poor ROP, no Gas. (Drill bit wearing out ?). Loose Quartz indicates some porosity? but poor ROP and trace Gas only ? (wet ?) – (Bit Graded 7-7)

3096.0 to 3104.0 SANDSTONE with CONGLOMERATE

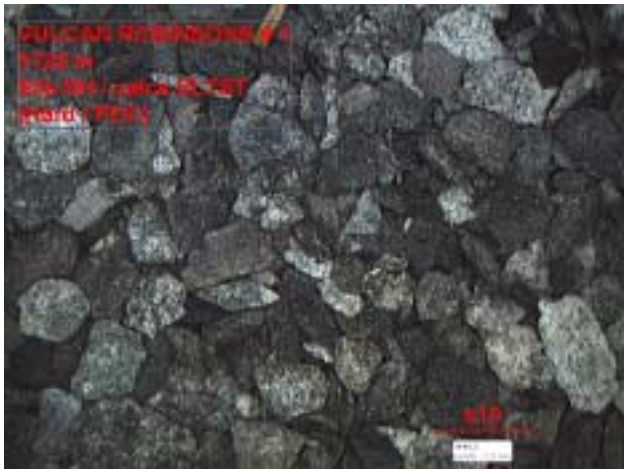
(8.0) As above, loose medium to upper fine quartz +coarser fractured Shards, apparent increasing finer Sandstone to very fine to upper silt calcareous Siltstone with depth, minor increasing Shale, transition into shaly lower unit with depth.

3104.0 to 3110.0 Interlaminated SHALE to SILTSTONE

(6.0) 20-30% harder grey black massive Shale, very competent, siliceous with trace dolomitic?, with interlaminated softer lighter grey clay? rich Siltstone, general very argillaceous, slightly calcareous, increasing Siltstone to softer silty greyish Shales to clays with depth, minor softer silty with micromicaceous to trace disseminated pyrite, rare coarser quartz shards, cavings?, no loose sands, slower ROP, drill bit dull ?. (Graded 7-7). POOH at 3110 meters due to poor ROP.

3110.0 to 3125.0 Interlaminated SHALE to SILTSTONE

(15.0) Medium to darker grey, massive, amorphous, local micromicaceous, blocky, platy, siliceous in part with minor trace calcareous, hard, competent, local grading to lower silt, some darker grey to lighter grey very hard, siliceous, abundant softer slightly silty laminations, grading to lower Siltstone, increased calcareous, interlaminated with cleaner Siltstone, off white, very light grey, quartz, opaque white, minor greyish, trace to very rare black lithic specks, siliceous component with 5-10% calcareous, grading from apx 10% to 40% with depth, very uniform, no Sands, No shows, no cut, (ROP slowing with depth from start of PDC Run).



3125.0 to 3140.0 Interlaminated SILTSTONE

(15.0) Lighter grey to off white, massive, lower to medium silt to rare upper silt, no sands, quartz, rare race lithic specks, slightly to 10% maximum calcitic component, siliceous in part, interlaminated with lighter to medium mottled grey silty Shale to argillaceous Siltstone, massive, amorphous, blocky, hard, minor microcrystalline, slightly calcareous, grading with depth to predominately lighter grey slightly argillaceous Siltstone, siliceous with slightly calcareous component, hard, abundant slightly microcrystalline, minor cleaner off white calcareous lenses ?, very uniform with depth, steady ROP apx 3.5 m/hr.

3140.0 to 3150.0 Interlaminated SILTSTONE with minor SHALE

(10.0) As above, lighter grey to local medium grey, argillaceous, dirty, massive, siliceous with trace calcareous only, minor micromicaceous, interlaminated with cleaner Siltstone, off white to very light mottled grey, quartz, rare trace black lithics, possible trace micro carbonaceous to coaly laminations, 5-10% calcareous component, (good fizz but dies quickly) to overall moderate siliceous non calcareous cement ?, dirtier with depth, minor increasing apparent silty Shale with depth, darker grey, blocky, massive, harder, siliceous in part, rare calcareous, Uniform ROP apx 3.5 m/hr, no to trace Gas background, very poor slide attempts.

3150.0 to 3160.0 SHALE with minor SILTSTONE

(10.0) Grading to 80% Shale with depth, darker grey to slightly grey black, massive, amorphous, platy to blocky, harder, siliceous in part with trace dolomitic only, minor initial weakly calcareous ?, minor silty throughout, trace micromicaceous, interlaminated with dirty to clean very light grey to off white lower to medium Siltstone, quartz, slightly calcareous only, no sands, slightly increasing Gas background with depth.

3160.0 to 3167.0 SHALE with minor SILTSTONE

(7.0) Medium to darker grey throughout, massive, amorphous, blocky, platy, harder, very firm, siliceous in general with very slightly calcareous to trace dolomitic component, abundant slightly lower to medium silty component, generally slightly black micromicaceous, rare medium Siltstone, very dirty, argillaceous, apparent micro laminations darker argillaceous Shale with possible slightly lighter greyish very slightly calcareous softer Siltstone ?, less than 3% off white calcareous Siltstone as above, cavings or trace micro lenses to laminations, rare trace micro calcite filled fractures ?, rare trace apparent slightly coaly micro partings ?. Gas background up to 60 units, ROP steady apx 3.5 m/hr. no sands, minor brown walnut shells added for sliding.

3167.0 to 3173.0 SHALE with minor SILTSTONE

(6.0) Darker grey to minor grey black, massive, amorphous, blocky to platy, hard, silty in part, local grading to lower to medium Siltstone, very dirty, argillaceous, trace disseminated pyrite, minor cleaner off white quartz Silt to very fine Sandstone, well cemented, siliceous with very minor calcareous, rare upper fine well cemented fragments, poor ROP after slide.

SAMPLE CUTTINGS DESCRIPTIONS

3173.0 to 3180.0 SANDSTONE

(7.0) Mottled off white very fine to upper fine well cemented quartz, rare trace lithics, moderate sorted, abundant hard well cemented Siltstone, minor poorer sorted upper fine to medium lithics Sandstone fragments with depth, minor to 1% coarse to fractured pebble quartz Shards, no loose quartz or sand grains, predominately flaky well cemented Sandstone to Siltstone fragments, abundant small wafer thin fragments, continued Shale, 10-20%, hard, silty in part, grading back into Shale with depth to 80% hard massive grey black, siliceous with trace calcareous to dolomitic only, rare trace pyrite. Gas show at 3174 meters of 338 units. Slow ROP under 1 m/hr decreasing to 0.3 m/hr. POOH for Bit.

3180.0 to 3193.0 Pebble SANDSTONE with SHALE

(13.0) Off white to slightly salt and pepper, very fine to fine to medium fragments with fractured quartz shards pebbles ?, abundant upper silt, quartz, clean, opaque, white, translucent, good trace black shale lithics, poorer sorted, angular to subrounded, well cemented, siliceous with 5 to 10% calcitic cement, local moderate relief, no visible porosity, 3-4% effective, abundant laminated siliceous harder slightly calcareous upper Siltstone to very fine Sandstone, interlaminated with Shale, medium to darker grey to grey black, massive, amorphous, blocky, microcrystalline, hard, siliceous with very slightly trace dolomitic, increasing black Shale with depth, very hard, siliceous, trace micromicaceous.

3193.0 to 3203.0 Interlaminated SHALE

(10.0) Medium to darker grey, massive, amorphous, platy to blocky, hard to local very hard, very competent but generally crushable, local lower silty, abundant slightly microcrystalline to rare cryptocrystalline, siliceous with very slightly calcareous to minor dolomitic component, local micromicaceous to slightly micaceous, minor to rare micro calcitic filled fractures to partings, minor interlaminated slightly softer greyish silty shales to slightly calcareous off white to very light grey calcareous chalky Siltstone, uniform with depth, No Shows, no cut.

3203.0 to 3215.0 Interlaminated SHALE

(12.0) Predominately darker grey, massive, amorphous, blocky to platy, very hard to hard, competent, crushable in part, minor interlaminated lighter to darker grey black silty to amorphous SHALE, uniform with depth, as above, siliceous with slightly calcareous to dolomitic component, (generally remaining compact after sitting in acid), No shows, no cut.

3215.0 to 3232.0 SHALE

(17.0) Darker grey, interlaminated with and to predominately grey black to blackish with depth, massive, amorphous, blocky to platy, hard to abundant very hard, local lower silty component, minor trace calcitic filled micro fractures ?, very uniform, grey black Shale slightly carbonaceous throughout ?, siliceous, trace dolomitic, ROP apx 3.5 m/hr, silty component with trace porosity ?, Gas show 248 units, No Shows, no cut.

3232.0 to 3240.0 SHALE grading to bedded SILTSTONE

(8.0) Grey black to black, as above, grading to medium grey, massive, amorphous, blocky, hard to very hard, some cryptocrystalline, siliceous with trace dolomitic, interlaminated with very light grey lower to medium Siltstone, slightly earthy texture, calcareous in part with cleaner off white, Siltstone increasing to 70% with depth, off white, massive, blocky, lower to upper silt to abundant very fine to medium fine Sandstone, quartz, clean, trace black shale lithics, trace micromicaceous, rare trace pyrite, moderate sorted, subrounded to subangular, well cemented, siliceous with 10% calcareous component, no visible porosity, 1-2% effective?, No shows, no cut.

3240.0 to 3245.0 SILTSTONE to SANDSTONE

(5.0) Predominately very light grey to off white Siltstone, crystalline to slightly chalky, overall clean, quartz, trace lithics, siliceous with 10% calcareous component, to softer moderate calcareous fragments, moderate well sorted, subangular to subrounded, local very fine, micromicaceous, minor fine to lower medium Sandstone with depth, general well cemented, moderate to lower relief, quartz, trace lithics, siliceous to 5% calcareous, no visible porosity, 2-3% effective?, Gas show 3242 meters of 287 units, possible thin Sandstone or fracture ?, Poor ROP, No shows, no cut.

3245.0 to 3248.0 SANDSTONE

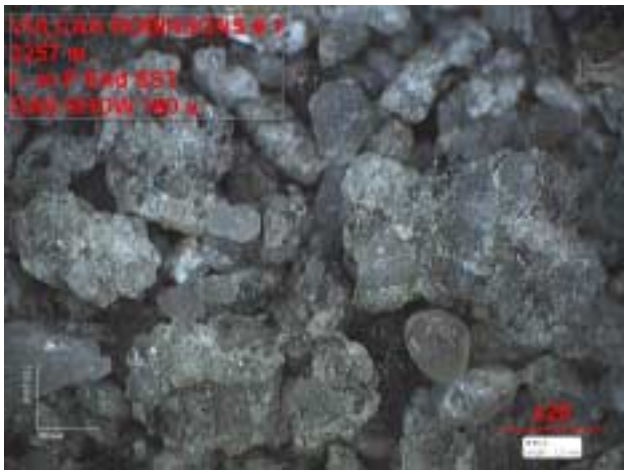
(3.0) Predominately very fine to fine moderate well cemented Sandstone, off white, quartz, trace lithics, rare trace disseminated pyrite, rare micromicaceous, siliceous with minor calcareous, abundant upper Siltstone, abundant soft Chalky fragments, calcareous, gouge?, minor fine to upper medium Sandstone fragments, clean, trace lithics, moderate poor sorted, siliceous with 5% calcareous, moderate cemented, poor to moderate relief, 4-5% effective streaky porosity, possible fractures, trace Calcite rhombs, abundant possible gouge?, possible Faulting ?.

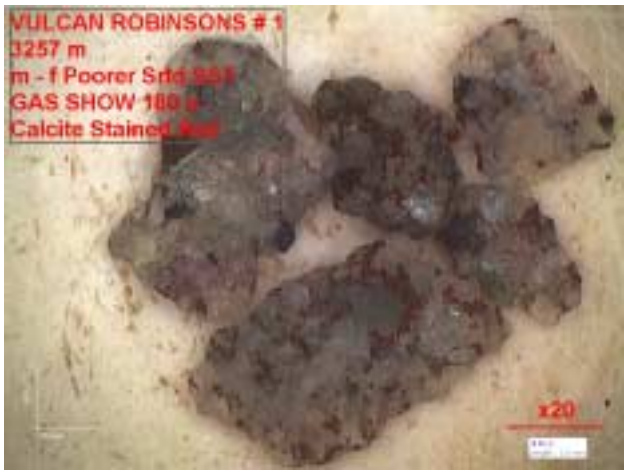
3248.0 to 3252.0 SILTSTONE to SANDSTONE

(4.0) Well cemented clean off white to very light grey lower to upper Silt to laminated very fine to lower fine Sandstone, siliceous with 15-15% calcareous, quartz, trace lithics, rare micromicaceous, minor coarser fragments, rare coarse angular quartz, tight, no visible porosity.

3252.0 to 3257.0 SANDSTONE

(5.0) Off white to very light grey, fine to upper medium with coarse, abundant loose quartz, subrounded to well rounded lower coarse, minor coarse fractured shards, fragments fine to upper medium poorer sorted in general, quartz, clean, minor finer to silty matrix only, grain support, subrounded to subangular, abundant rounded, moderate cemented, moderate relief, siliceous with 5-10% calcareous cement, possible 6-8% non visible porosity, 4-5% effective, Gas show 180 units, Better clean Sandstone quality overall, ROP apx 2.5 m/hr assuming tighter but interesting, No Shows, no cut.





3257.0 to 3266.0 Interlaminated SILTSTONE to SANDSTONE

(9.0) Off white, clean, massive, medium to upper silt, interlaminated with very fine to abundant fine Sandstone, quartz, opaque, translucent, trace black lithics only, minor trace pyrite, minor micromicaceous to sparsely micaceous, overall well cemented, siliceous with 10-15% calcareous component, abundant softer chalky to calcareous to slightly calcareous fragments, gouge like, minor upper fine to medium moderate cemented fragments, possible cavings or thin bedding?, slow ROP apx 1 m/hr or less while sliding and no gas.

3266.0 to 3268.0 SANDSTONE

(2.0) Off white, clean, lower to upper medium, rare angular coarse, quartz, opaque, translucent, grey, trace black lithics, moderate well cemented, siliceous to 5 to 10% calcareous, moderate to poorer sorted, subangular to subrounded, minor rounded, grain support and crystalline to grain support with finer to silty matrix infilling, no loose quartz, fragments fractured through and around quartz grains, some slightly weaker cemented with moderate relief, no visible porosity, 2-3% effective, continued abundant upper Siltstone to well cemented very fine to fine Sandstone, Gas show 152 units.

3268.0 to 3276.0 Interlaminated SILTSTONE to SANDSTONE

(8.0) Off white to very light grey massive well cemented Siltstone, general very clean, quartz, siliceous with minor calcareous component, interlaminated to thinly bedded very fine to fine moderate well to well cemented Sandstone, overall clean, off white, quartz, opaque, translucent, minor grayish, trace lithics, trace disseminated pyrite, siliceous with 10% calcareous component, minor slightly dirty argillaceous Siltstone, trace grayish black Shales, cavings to thin laminations ?.

3276.0 to 3284.0 SANDSTONE grading to SHALE

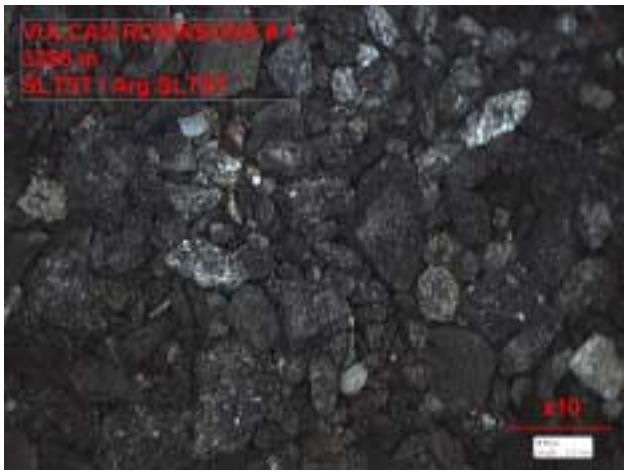
(7.0) Dirty mottled medium grey very fine to upper fine Sandstone, argillaceous, quartz, opaque, white, translucent, shale lithics to interstitial argillaceous material, minor calcareous, weaker cemented, general good relief, moderate poorer sorted, subrounded to subangular to rounded, softer fragments appear to have calcite replacement ?, assuming overall 7-10% ineffective porosity, grading to medium to darker grey Shale, massive, amorphous, micromicaceous in part, platy, siliceous with slightly calcareous to dolomitic, trace disseminated pyrite. POOH due to rig failure – Swivel failure.

3284.0 to 3290.0 SILTSTONE with SHALE

(6.0) Minor lighter grey cleaner very fine to upper Siltstone, off white, crystalline in part, quartz, grading to dirty argillaceous medium to upper Siltstone, greyish black to dark grey, hard, quartz, micromicaceous to micaceous, siliceous with minor to non calcareous, minor floating fine to medium quartz, translucent, interbedded with and increasing with depth to massive Shale, medium to darker grey, hard to minor very hard, siliceous, minor cryptocrystalline to microcrystalline, very hard, brittle, minor interlaminated darker grey black, slightly carbonaceous ?, firm to slightly softer, minor silty.

3290.0 to 3297.0 SHALE with interlaminated SILTSTONE to SANDSTONE

(7.0) Medium to local darker grey, massive, amorphous, blocky, hard, siliceous with trace dolomitic ?, interlaminated with dirty medium to darker grey Siltstone to very fine Sandstone, minor grey black, quartz, argillaceous matrix, micromicaceous to micaceous, hard, crystalline in part, siliceous. Minor trace calcareous, uniform, No Shows, no cut.

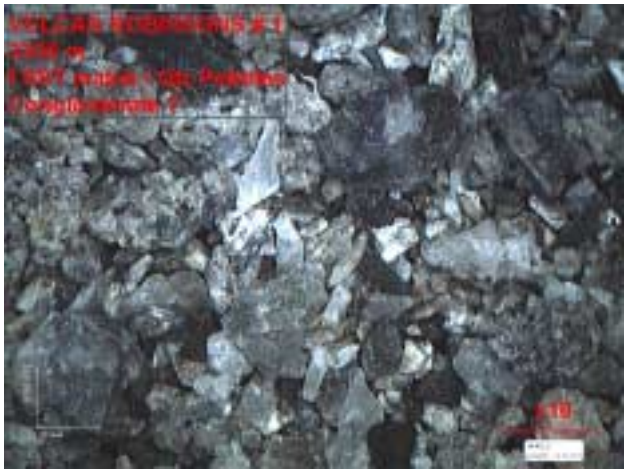


3297.0 to 3303.0 SILTSTONE with SHALE

(6.0) Off white to dirty mottled grey, massive, amorphous, blocky to platy, calcareous to cleaner, micaceous, well cemented with minor to grading to very hard crystalline upper silt to very fine Sandstone, light greyish, siliceous to slightly calcareous to dolomitic, grey black massive Shale, as above, decreasing with depth, no gas.

3303.0 to 3309,0 Pebble SANDSTONE with CONGLOMERATE

(6.0) Upper salt and pepper Sandstone, fine to lower medium, quartz, translucent, off white, opaque, black shale lithics, massive, blocky, well cemented, siliceous to calcareous component, poorer sorted, subangular to angular to minor subrounded, with quartz pebbles, varied grayish, minor very slightly tan to greenish, trace pink feldspathic, fractured shards up to 3 mm, increasing fractured quartz, fine to very coarse with depth, minor loose angular quartz only, decreasing Sandstone fragments with depth, fine to medium Sandstone matrix, no gas, No Shows, no gas.



3309.0 to 3315.0 CONGLOMERATE to SANDSTONE

(6.0) As above, fractured loose Quartz, Conglomerate grading to fine to medium very poorer sorted Sandstone, fine to upper medium, quartz, opaque, translucent, grey, black shale lithics, trace white micaceous, angular to subangular to subrounded, well cemented, (fragments fractures through quartz grains), no visible porosity, minor possible shale lithic fragments, No visible porosity, No Shows, no cut.

3315.0 to 3318.0 SHALE

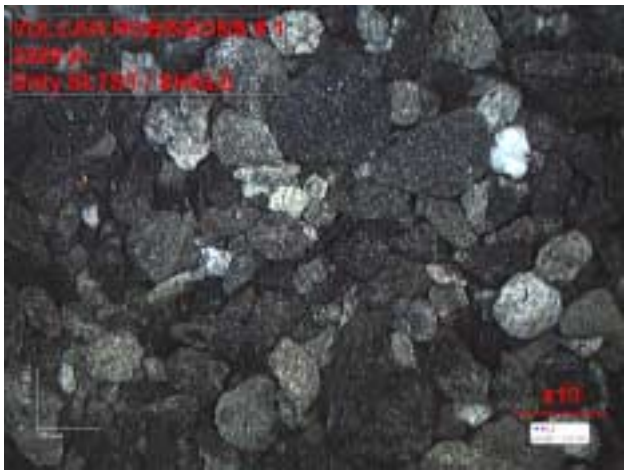
(3.0) Grey black, massive, amorphous, hard, silty, local micromicaceous, minor grading to dirty grey black Siltstone, trace disseminated pyrite.

3318.0 to 3321.0 SANDSTONE

(3.0) Off white to very slightly dirty mottled grey white, fine to upper medium fragments, minor floating pebbles, fractured shards, Quartz, opaque, translucent, black lithic fragments, minor micaceous, rare trace disseminated pyrite, very well cemented, siliceous with trace calcareous, poorer sorted, angular to subangular to subrounded, probable Shale laminations to thin bedding?, grey black massive shales, no visible porosity, No shows, no cut.

3321.0 to 3329.0 Interlaminated SHALE with SANDSTONE

(8.0) Medium to darker grey interlaminated Shales, massive, amorphous, local micromicaceous, hard, blocky to platy, abundant slightly softer, silty, siliceous with minor calcareous to dolomitic component, thinly bedded fine to upper medium poorer sorted Sandstone ?, as above, increasing dirty laminated Siltstone with depth, ROP up to 3 m/hr in rotation, No Shows, no cut.



3329.0 to 3338.0 Interlaminated SHALE with SILTSTONE

(9.0) Medium to darker grey to grey black, massive, amorphous, blocky to platy, abundant silty, general hard to minor very hard, local interlaminated Siltstone, dirty grey black, semi crystalline to crystalline, very hard, quartz, argillaceous, trace micromicaceous, minor localized carbonaceous, siliceous, trace dolomitic to calcareous, no sands, minor upper cleaner off white medium to upper Siltstone to very fine Sandstone laminations to lenses ?, very well cemented, siliceous with minor calcareous, (lithic contaminants from mud transfer to active in 3338 sample)

3338.0 to 3347.0 Interlaminated SHALE with SILTSTONE

(9.0) Darker grey to grey black, medium grey, massive, amorphous, micromicaceous in part, slightly carbonaceous, hard, slightly silty, semi crystalline, siliceous with calcareous to minor dolomitic, minor interlaminated Siltstone, grey black, lower to medium silt, hard, massive, rare upper Siltstone, rare trace to local calcite, (fracturing ?), minor increasing cleaner calcareous salt and pepper, upper Siltstone with depth, uniform ROP apx 3 m/hr, slightly increased Gas Background apx 50 units, No shows, no cut.

3347.0 to 3355.0 SHALE

(8.0) Interlaminated medium to darker grey, minor increasing lighter grey, massive, amorphous, platy to blocky, competent, siliceous with good calcareous component, rare micromicaceous, rare silty, minor chalky to microcrystalline calcite, possible fracture filling ?, rare micro Siltstone laminations?, Gas show 150 units at 3353 meters, no Shows, no cut. (sulphur smell when acid added)

3355.0 to 3364.0 SHALE

(9.0) Darker to medium grey, minor grey black, massive, amorphous, blocky to platy, firm to hard, competent, siliceous with good calcareous component, rare silty, good trace calcite, rare blocky, general micro laminations to possible fracture infilling, trace "distorted blacker shale fragments". Possible minor shear to faulting? or possible fractures?, ROP steady, Gas Show 370 units at 3357 meters, Gas background apx 70 units.

3364.0 to 3371.0 SHALE

(7.0) Interlaminated medium to darker grey Shale, as above, massive, amorphous, blocky to platy, calcareous in part, with lighter grey softer silty Claystone grading to softer chalky Siltstone, minor calcareous only, grading with depth to upper Siltstone, semi crystalline, harder, slightly calcareous, quartz, tight, No shows, no gas.

3371.0 to 3380.0 Interlaminated SILTSTONE with SHALE

(9.0) Lighter grey, lower to upper silt, quartz, opaque, translucent, trace black lithic only, non to local micromicaceous to minor micaceous, very firm to moderate hard, easily crushable, slightly chalky to softer in part, minor calcareous only, rare trace disseminated pyrite, minor crystalline very fine Sandstone, interlaminated with Shale, medium to darker grey, massive, amorphous, blocky, platy, rare silty, hard, good calcareous component, no Shows, no Gas, Steady ROP.

3380.0 to 3391.0 Black SHALE

(11.0) Darker grey to grey black, massive, amorphous, blocky, larger fragments, rare silty, minor grey black to black lower Siltstone, slightly carbonaceous, minor medium grey Shale only, laminations?, rare trace white calcite, uniform with depth, No Shows, no cut.

3391.0 to 3394.0 SANDSTONE

(3.0) Off white, slightly mottled grey white, very fine to upper fine, quartz, translucent, opaque, white, rare trace black lithic to rare interstitial argillaceous matter, overall clean, moderate well cemented, crushable, siliceous with minor to 10% calcareous, rare trace slightly chalky fragments, crystalline in part, no visible porosity, no gas, grading to very fine to Siltstone to Shale with depth, No Shows, no cut.

3394.0 to 3403.0 Black SHALE

(9.0) Darker grey to grey black, massive, amorphous, blocky to platy, hard to very firm, minor very hard to trace brittle, local slightly micromicaceous, minor carbonaceous only, localized lower silty, siliceous with fair calcareous component, minor to 10% black possible carbonaceous laminations, minor thin lighter grey calcareous lenses?, uniform with depth, No Shows, no cut.

KENNELS BROOK 3403.0 m MD, 3395.17 TVD, -3219.87 SSL

3403.0 to 3416.0 Interlaminated SILTSTONE with SANDSTONE

(13.0) Light grey to dirty off white Siltstone, softer, massive, blocky, slightly chalky, calcareous in part, with laminated Shale ?, as above, decreasing with depth, increasing cleaner Siltstone, off white, medium to upper silt, chalky in part to more crystalline, minor calcareous component, quartz, trace mica only, rare trace black lithics, grading to interlaminated very fine to trace fine Sandstone, off white, clean, massive, blocky, crystalline, quartz, white, grey, silty siliceous to slightly calcareous matrix, moderate sorted, subangular to subrounded, rare trace upper fine quartz rounded, well cemented, (good trace chalky softer fragments, slightly calcareous), no visible porosity, No Shows, no cut, no gas.

3416.0 to 3420.0 SILTSTONE with SANDSTONE

(4.0) Predominantly medium to upper Siltstone, very light grey to off white, clean, massive, blocky, siliceous with slightly calcareous component, with Sandstone, off white, fine to upper medium to coarse, quartz, opaque, white, translucent, clean, abundant matrix support, siliceous to slightly calcareous infilling, poorly sorted, subrounded to subangular, well rounded coarse to fractured floating very coarse to pebbles?, no visible porosity, well cemented but crushable weaker cement, no visible porosity, No shows, no cut, Gas show 120 units.

3420.0 to 3428.0 SILTSTONE with SANDSTONE

(8.0) Continued very light grey to off white Siltstone to very fine Sandstone, as above, Upper Sandstone becoming harder and better cemented with depth, very light grey, fine to lower medium quartz siliceous to slightly calcareous matrix, well cemented, (fragments fractures through grains), tight, moderate sorted, subrounded to subangular, continued minor coarse rounded and fractured pebbles?, ROP slowdown, No gas, No shows.

3428.0 to 3440.0 Interlaminated SANDSTONE with SILTSTONE

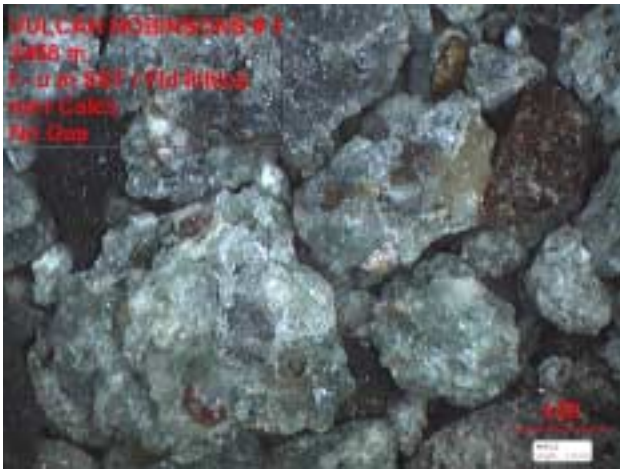
(12.0) Very light grey, off white, very fine to upper silt, rare medium lower fine, massive, blocky, competent, quartz, opaque, white, trace grey, hard to very firm, generally easily crushable, siliceous with 3-10% calcareous cement, minor lower to upper fine Sandstone lenses to laminations?, poorer sorted, subangular to subrounded with rounded fine quartz, well cemented, no visible porosity, tight, Possible minor medium to lighter grey slightly calcareous Shale laminations, No shows, no cut, No Gas, uniform with depth., no visible porosity, tight, Possible minor medium to lighter grey slightly calcareous Shale laminations, No shows, no cut, No Gas, uniform with depth.

3440.0 to 3452.0 SILTSTONE grading to SANDSTONE

(12.0) Very light grey to off white, medium to upper silt, quartz, clean, siliceous with minor to 10% calcareous, firm, friable to easily crushable, rare micromicaceous, interlaminated with very fine quartz Sandstone grading to fine to medium poorer sorted Sandstone with depth, competent, firm to hard, crushable, siliceous with 5-10% calcareous cement, general lower relief, minor coarser Sandstone with moderate relief, minor floating coarse rounded quartz, rare trace lithic, rare mica flakes, (local very slightly greenish tinge), overall slightly calcareous poorer sorted fine to coarse Sandstone, moderate weaker cemented, No Show, no cut, no gas, (Slight sulphur smell to samples when acid added) POOH at 3452 meters for drill bit.

3452.00 to 3460.0 SILTSTONE to SANDSTONE

(8.0) Interlaminated off white to very light grey to greyish Siltstone, massive, amorphous, blocky, platy, minor micromicaceous, hard, siliceous with 5-10% calcareous, with thin Sandstone bedding ?, very fine to upper fine, quartz, clean, rare trace lithic, moderate sorted, subangular to subrounded, moderate well cemented in general, siliceous to 3-5% calcareous, (fragments general broken through quartz grains), low relief, crushable, minor upper medium poorer sorted quartz Sandstone, trace red feldspar lithics, minor loose rounded floating coarse quartz, local trace greenish matrix ?, moderate well cemented, crushable, minor fine brownish micaceous rich, trace black shale only, No shows, no cut, Zero Gas.



3460.0 to 3468.0 SILTSTONE to SANDSTONE with Redbeds

(8.0) Predominately very light grey to off white cleaner Siltstone, quartz, opaque, white, greyish, massive, blocky, siliceous to slightly calcareous, minor white micromicaceous, rare trace reddish micro lithics, interlaminated with very fine to minor fine Sandstone, off white, to greyish, quartz, opaque, translucent, greyish, rare trace lithics, clean, minor very slightly greenish matrix?, rare slightly greenish to reddish feldspars? lithics, minor white micaceous to abundant fragments with red brown micaceous, 5 to 10% Redbeds interlams ? reddish brown, massive, blocky, slightly calcareous, trace silty to minor micromicaceous, No Shows, no cut, no gas

3468.0 to 3481.0 SILTSTONE with SANDSTONE and minor Redbeds

(13.0) Overall very light grey to very slightly greenish grey, very fine to fine Sandstone, quartz, opaque, translucent, rare trace black lithic to pink feldspar, moderate to moderate poorer sorted, subangular, massive, blocky, moderate hard but softer, slightly friable, weaker cemented, siliceous in part, rare trace to 3% calcareous cement only, possible minor green clay infilling?, easily crushable, lower relief, crystalline in part but crushable to minor higher relief, weakly cemented, no loose quartz, abundant whiter clean Siltstone to very fine Sandstone, firm, softer, weakly cemented, siliceous to minor calcareous only, trace mica to micromicaceous, rare trace black lithics, pink to orange feldspar ?, minor crystalline poorer sorted angular medium Sandstone only, trace redbeds with 5% in 3479 sample, minor lighter grey semi waxy shale, No Shows, no cut, no gas.

3481.0 to 3488.0 SANDSTONE

(7.0) Very light mottled greenish white, off white, (wet samples pale green), very fine to fine poorer sorted Sandstone grading with depth to fine to medium to minor very poorly sorted medium with floating ? coarse quartz with depth, overall finer moderate well cemented, weakly siliceous with minor clay matrix infilling ?, tighter, crushable but very low relief grains, grading to higher relief poorer sorted fine to medium Sandstone, subangular to subrounded to minor rounded coarser grains with more subangular matrix, trace gas only at 3484 meters with looser weaker cemented poor sorted subrounded to rounded Sandstone, general low relief, tighter, siliceous, minor Siltstone, as above, minor loose fractured lithics, pinkish feldspars, greyish brown cherty?, clear translucent quartz, No Shows, no cut, no gas.

3488.0 to 3497.0 Interlaminated SILTSTONE to SANDSTONE with minor Redbeds

(9.0) Off white, clean, massive, quartz, softer, weaker cemented, quartz, rare trace reddish specks, siliceous to slightly calcareous component, interlaminated with slightly greenish Siltstone to very fine Sandstone, clean, possible very slightly clay rich (greenish), massive, blocky, crystalline in part, minor poorer sorted fine quartz Sandstone, greenish, subrounded to subangular, weaker cemented, minor clays?, siliceous to trace calcareous only, minor Redbeds to reddish soft shale in samples, (non calcareous to silty red calcareous), minor Sandstone fragments with apparent argillaceous specks, possible minor reddish clays laminated within greenish Sandstone, (bagged samples reddish prior to washing), No shows, no cut, no gas.

3497.0 to 3509.0 SANDSTONE

(12.0) Overall very slightly greenish, very fine to fine to upper medium with minor coarse, Quartz, opaque, translucent, minor greenish?, trace pinkish feldspars, minor green clay lithics to infilling ?, poorer to very poor sorted, angular to subangular silt to very fine with increasing rounded upper medium to coarse quartz to feldspars, moderate well cemented, siliceous with trace calcareous only, (fragments predominately broken through grains), some weaker cemented, minor loose quartz, minor higher relief fragments, abundant interlaminated greenish moderate well cemented siliceous Siltstone to off white calcareous Siltstone, minor trace redbed fragments only, No Shows, no gas.

3509.0 to 3521.0 Mixed SANDSTONE with Pebbles and SHALE ?

(12.0) Intermixed fine to medium greenish Sandstone to very light greenish white Siltstone, as above, with abundant poorly sorted dirty lithic medium to coarse Sandstone, quartz, opaque, translucent, white, minor red stained, minor greenish, fragments with blackish to reddish matrix, very poorly sorted, angular to subangular with coarser rounded, abundant loose fractured coarse to pebble lithics, pinkish to reddish feldspars, greyish to creamy chert, grey black siliceous lithics, opaque white coarse fractured quartz, trace grey black platy shale, minor reddish Siltstone to silty shale laminations, reworked intermixed to laminated poorly sorted dirty medium to Pebble Sands and probably cleaner greenish sands and minor red to grey clays to shale, No shows, no gas.

3521.0 to 3526.0 SANDSTONE

(5.0) Greenish grey to very light greenish white, fine to lower medium, quartz, opaque, translucent, minor trace greenish, minor apparent greenish clay infilling, weaker cemented siliceous, very slightly trace calcareous, moderate relief, interlaminated with Siltstone to very fine Sandstone, greenish, competent, blocky, moderate hard, micro to cryptocrystalline in part, trace coarse quartz to pink feldspar grains.

3526.0 to 3536.0 Interlaminated REDBEDS with SANDSTONE

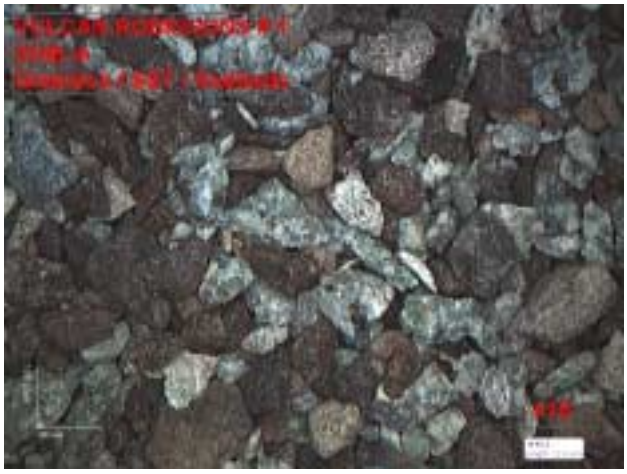
(10.0) 20-50% Redbeds to reddish brown shale, massive, amorphous, blocky to platy, competent, moderate hard, siliceous in part to slightly calcareous silty, uniform, interlaminated with greenish clay rich ? Siltstone to very fine Sandstone, moderate sorted, quartz, clean to upper fine to lower medium poorer sorted Sandstone, greenish, moderate sorted, subangular to subrounded finer matrix with medium rounded quartz, weaker cemented, siliceous with minor trace calcareous only, uniform with depth.

3536.0 to 3545.0 SANDSTONE with minor Redbeds

(9.0) Intermixed varied very fine to upper medium generally poorly sorted greenish Sandstone, predominant quartz, opaque, translucent, greenish, rare trace orange stained floating quartz, minor rare trace pink feldspar lithic grains, coarser sands minor black argillaceous lithic fragments, generally tighter, lower relief, massive, blocky, siliceous with trace calcareous only, some clay infilling cement?, minor very fine to greenish Siltstone interlams, minor -15% thinly bedded Redbeds to reddish silty shales, uniform with depth, no shows, no cut, no gas.

3545.0 to 3552.0 SANDSTONE with minor Redbeds

(7.0) Predominately very fine to upper fine greenish Sandstone, quartz, clean ?, opaque, translucent, minor greenish, as above, minor lower medium, general poorly sorted, subangular to subrounded to well rounded medium quartz, general lower to moderate low relief, harder, moderate well cemented, minor calcareous, crystalline, to higher relief, (fragments broken around grains), weaker cemented, minor greenish clay matrix?, siliceous with minor trace calcareous, 10-30% interlaminated Redbeds to silty reddish brown shales, minor very hard siliceous to generally very firm slightly siliceous, rare slightly silty, calcareous, No Shows, no gas.



3552.0 to 3560.0 Interlaminated SANDSTONE

(8.0) Predominately very light greenish Sandstone, very fine to upper fine, massive, blocky, quartz, opaque, translucent, minor greenish, rare trace pinkish feldspars?, possible black lithic, generally lower relief, moderate well to well cemented, siliceous to minor calcareous only, interlaminated with off white very fine to lower silt Sandstone to Siltstone, clean, quartz, softer to calcareous component, rare trace micromicaceous, minor chalky, no apparent Redbeds, rare trace black shale fragments, uniform with depth, slower ROP, No Shows, No cut, No gas.

FTD Well at 3560 meters, October 02, 2009 at 1500 hrs.

SIDEWALL CORE DESCRIPTIONS

Date	October 7, 2009	Service Company:	Baker Hughes
Run No	1	Tool Type	RCOR
Top Depth	2,172.61	Cores Required	30
Base Depth	3,310.69	Cores Obtained	28
Geologist:	Michael Smith	Cores Lost	(2 Canceled due to Sticky Hole)

Geologist Comments regarding visual / microscopic porosity estimates:

The estimates of porosity / cementation in the Sidewall Cores and Cuttings during the drilling operation of the Robinsons # 1 well are based on the Geologists System and Methods, developed during the drilling of the McCully Gas Field in New Brunswick, and adopted for Vulcan Minerals in order to remain consistent within the Carboniferous Basin as a whole.

To avoid confusion with terminology over the Porosity estimates for the Sidewall Cores below and cuttings recorded in the sample descriptions - The following definitions should be reviewed.

Porosity Estimates Criteria: Sample / Sidewall Core Descriptions and Porosity Estimates are generally recorded under an x10 power magnification. The Wellsite geologist used an x20 power magnification for the Robinsons # 1 well. Maximum magnification of x45 power was used as required but as a general “rule of thumb” - any visual porosity not seen with an x20 magnification would be considered ineffective.

Visual Porosity: Naturally occurring “holes” within the rock matrix or generally – between or besides touching grains that can be seen with the naked eye - or up to and including an x20 magnification. Also would include secondary “after the fact” porosity generally found in Carbonates but also possible within clastics such as Sandstone – Siltstones resulting from fracturing, digenesis or leaching.

Effective Porosity: The volume of rock that would be filled by Recoverable Oil and or Gas. For the Robinsons # 1 Well, the stated effective porosity is for possible Gas, as generally, effective gas porosity would be higher than effective oil porosity. Effective Porosity does not always equal visible porosity but visible porosity is generally effective. Effective porosity as qualified in this report would also include an educated unseen porosity estimate.

Ineffective Porosity: The volume of rock that is occupied by “hidden” porosity such as Clays, Argillaceous material such as Shale clasts, grains, laminae, and or other material such as a weaker cemented silica silty matrix. Although the Neutron Porosity Tool would record this hidden porosity, the physical characteristics of the “fill” material would not be capable of holding gas within its volume and/or incapable of liberating gas, and could be considered as non Recoverable porosity.

Total Porosity: Visual porosity including Effective + Ineffective porosity. (Generally Neutron Logging Tool)

Grain Relief / Cementation: The Relief of the rock / grains / cuttings / sidewall cores is generally inversely proportional to the cementation. High Relief cuttings generally required weaker cement and/or compaction, and the matrix of the rock will break and/or fracture prior to the quartz grains. Low Relief cuttings are generally very well cemented, resulting in much lower total porosity. The cement is generally silica or calcite/dolomite. The rock with the estimated low relief will be observed to break through the grains as the cement is harder / tougher and the lower stress point would be the quartz grains verses the matrix/cement. High relief can also be observed in cuttings with high ineffective porosity due to the intergranular volume being filled by clays, silica material, argillaceous / shale, pyrobitumen or any other “filling” material.

SIDEWALL CORE DESCRIPTIONS

Date	October 7, 2009	Service Company:	Baker Hughes
Run No	1	Tool Type	RCOR
Top Depth	2,172.61	Cores Required	30
Base Depth	3,310.69	Cores Obtained	28
Geologist:	Michael Smith	Cores Lost	(2 Canceled due to Sticky Hole)

Core #1
Recovered 80%
2,172.61 m

SANDSTONE

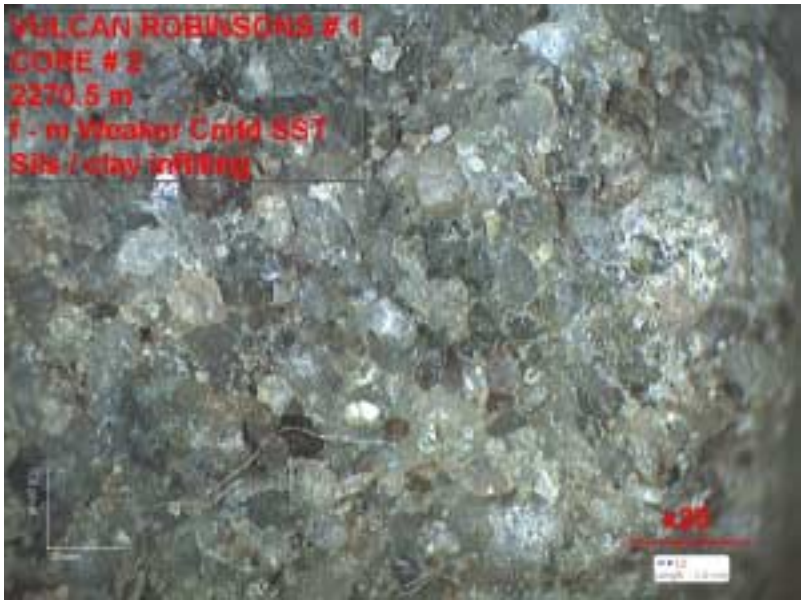
Lighter to medium grey, lower to upper fine with minor medium, quartz, translucent, opaque, greyish, trace black argillaceous lithics, rare trace altered clay ? lithics, massive, moderate well cemented, siliceous with 1-2% calcareous, crystalline, grain supported with siliceous silty? infilling cement to 5-10% very light greyish white clay?, moderate sorted, angular to subangular to subrounded with lower medium rounded, moderate high relief (Core broken around quartz grains to minor fractured larger translucent quartz, 7-10% ineffective porosity, 2-3% effective porosity, CN 16.2%, ZDEN 5.4%, No Shows.

SIDEWALL CORE DESCRIPTIONS

Core #2
Recovered 20%
2,270.50 m

SANDSTONE

Very light grey, grayish white, fine to upper medium, quartz, opaque, translucent, white, rare trace black lithic, moderate sorted, subangular to subrounded, minor angular to abundant medium rounded, weaker cemented, poorer recovery of core and overall softness to friability of core suggest poorer weaker cemented, siliceous with minor to 2% calcareous, localized minor very light greyish to rare very slightly pale greenish clay infilling, high relief, (Core broken and fractured around grains), 7-9% ineffective porosity, 3-4% effective porosity due to apparent clay to soft siliceous component, questionable black "dry" argillaceous? Isolated infilling to micro blotches around quartz grains, character and appearance of Pyrobitumen, CN 13.7% ZDEN 4.3%, No Shows.

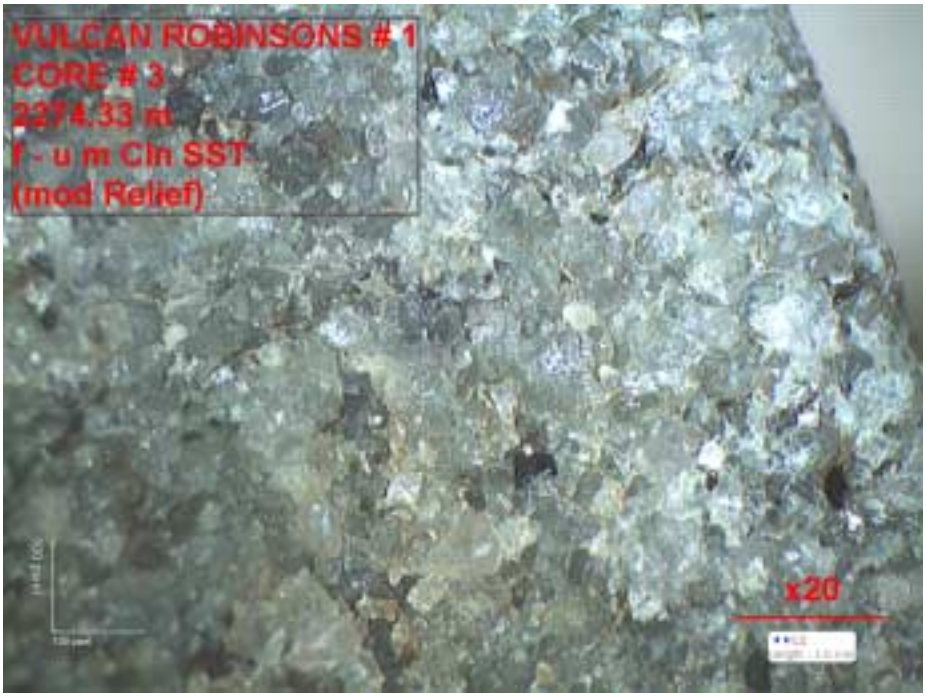


SIDEWALL CORE DESCRIPTIONS

Core #3
Recovered 100%
2,274.33 m

SANDSTONE

Very light grey, fine to upper medium, quartz, opaque, white, translucent, grayish, clean, trace white mica, rare trace argillaceous lithic fragments only, crystalline, massive, moderate sorted, subangular to subrounded with abundant rounded, moderate cemented, competent but slightly friable, siliceous to less than 5% calcareous component, trace greenish clay grains, rare to minor apparent very light grayish white to siliceous clay infilling only, moderate relief, 2-3% ineffective porosity, 3-4% effective porosity?, CN 15.1% ZDEN 5.1%, No Shows.

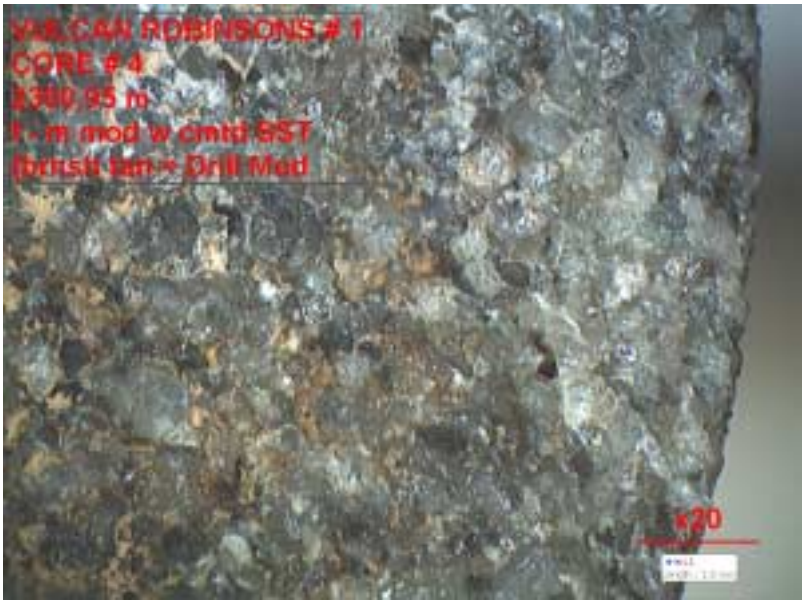


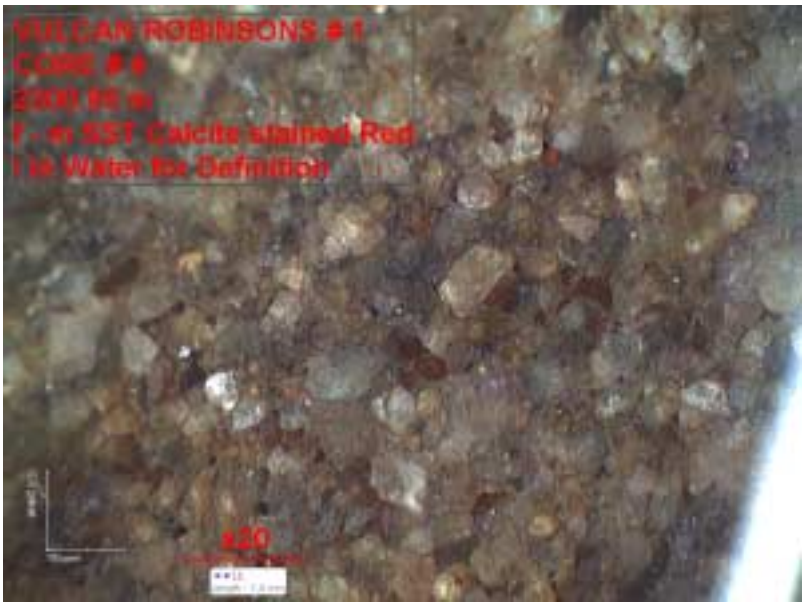
SIDEWALL CORE DESCRIPTIONS

Core #4
Recovered 50%
2,300.95 m

SANDSTONE

Very light grey, fine to upper medium with minor isolated floating coarse, quartz, opaque, white - light greyish, some translucent, rare trace black shale lithics, overall clean, no apparent clay matrix, moderate well cemented, siliceous with less 1% calcareous, moderate sorted, subangular to subrounded with rounded upper medium to coarse quartz, grain supported with fine to very fine matrix infilling to siliceous silt cement ?, moderate relief, Core fractures and breaks through matrix and around quartz grains, 4-6% ineffective porosity, 1-2% effective porosity, CN 14.5% ZDEN 3.4%, No Shows.



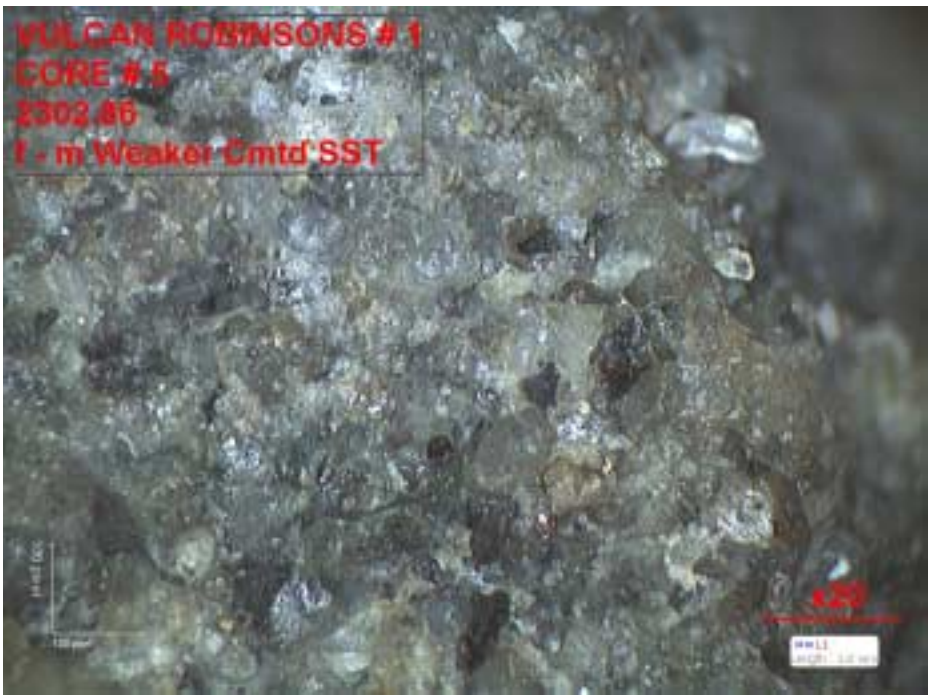


SIDEWALL CORE DESCRIPTIONS

Core #5
Recovered 20%
2,302.86 m

SANDSTONE

Light grey, fine to upper medium with 10% coarse, quartz, opaque, white, greyish, translucent, trace black argillaceous lithic only, moderate to moderate poor sorted, subangular to generally subrounded with abundant coarse rounded, rare angular, grain supported, appearance clean, weaker cemented, siliceous with apparent siliceous whiter clay matrix infilling to cement, minor to less than 1% calcareous component, (core sides very rough), poor core recovery, friable remaining piece, higher relief, 8-10% ineffective porosity, 1-2% effective porosity due to clays?, CN 14% ZDEN 3.5%, No Shows.

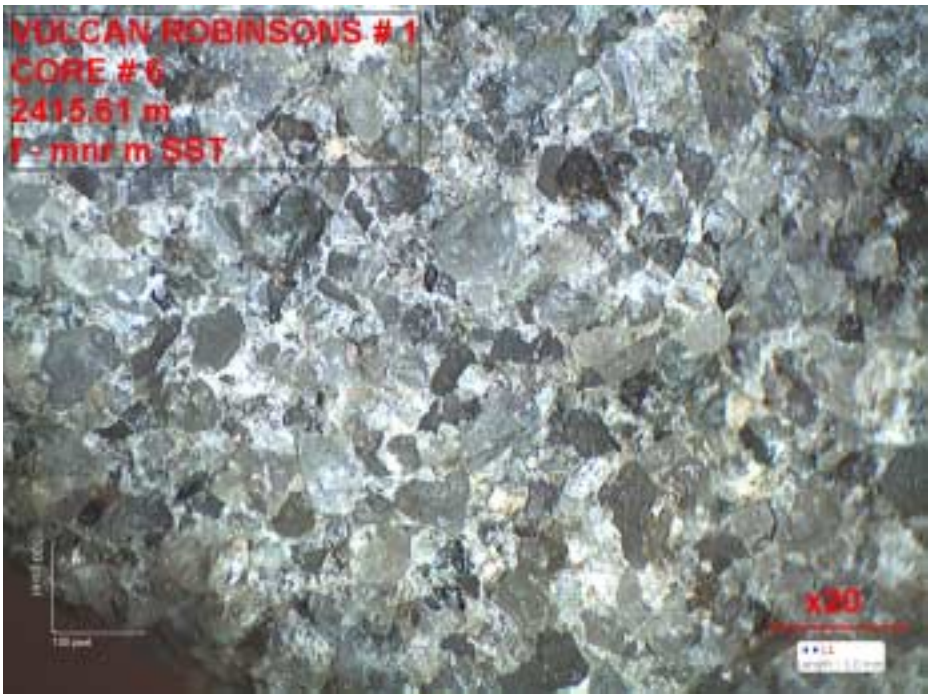


SIDEWALL CORE DESCRIPTIONS

Core #6
Recovered 75%
2,412.81 m

SANDSTONE

Light grey, predominately lower to upper fine with 15% medium, rare lower coarse, quartz, opaque, white, grayish, semi translucent, rare trace black argillaceous? lithics, overall clean, moderate sorted, subangular to subrounded, minor trace coarser rounded, moderate well cemented, siliceous with 2-3% calcareous, staining indicates minor calcareous clay ? matrix infilling, grain supported, visible silty? siliceous cement, overall more competent core but stress fractures from coring? cutting across axis, (Core breaks around quartz grains), varied relief, moderate lower relief within finer quartz to moderate higher within poorer sorted medium to fine, 6-8% ineffective porosity, 2-3% effective porosity, CN 15.1% ZDEN 4.5%, No Shows.



SIDEWALL CORE DESCRIPTIONS

Core #7
Recovery 100%
2,418.12 m

SANDSTONE

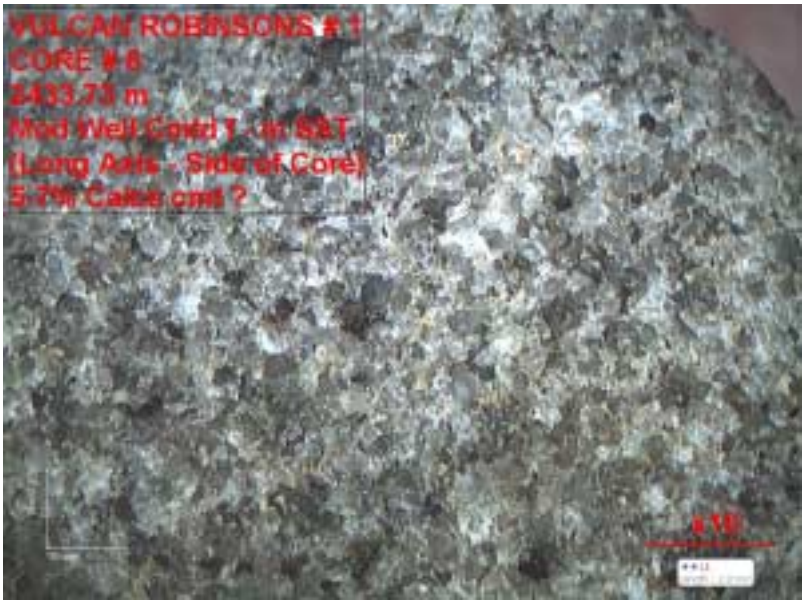
Lighter grey, fine to lower medium with 10% upper medium, rare coarse, quartz, opaque, white, greyish, translucent, rare to trace black lithics, trace white mica, overall clean, minor very light grayish clay? isolated infilling, moderate sorted, subangular to subrounded with minor rounded, competent, moderate well cemented, siliceous with 5-7% calcareous component, rare apparent clay infilling, silty to abundant very fine matrix, grain supported, moderate to local moderate low relief, Core breaks around and 20% through quartz grains, 4-5% ineffective porosity, 2-3% effective porosity, CN 13.4% ZDEN 3.9%, No Shows.

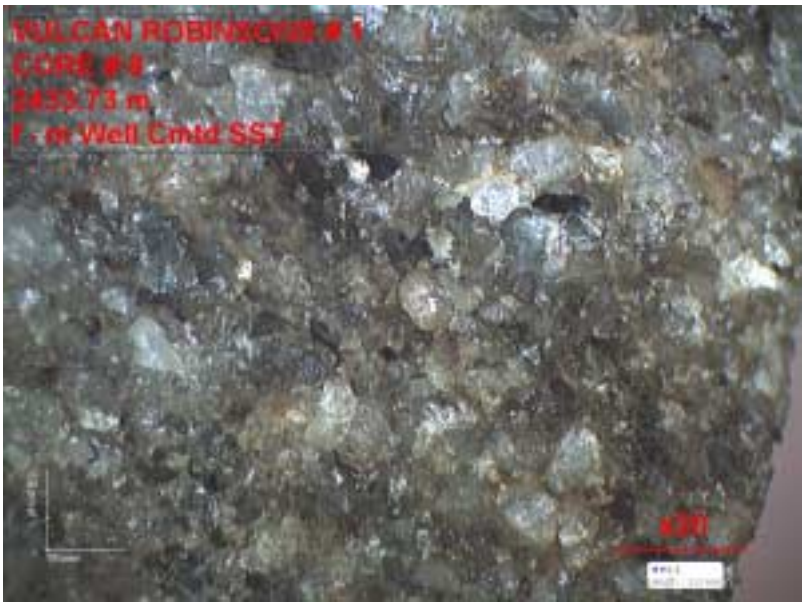
SIDEWALL CORE DESCRIPTIONS

Core #8
Recovery 90%
2,433.73 m

SANDSTONE

Lighter grey, fine to medium, quartz, opaque, translucent, grayish to white, minor black lithics, minor very slightly argillaceous, trace white mica, rare trace disseminated pyrite specks, moderate well cemented, siliceous with 5-7% calcareous component ?, moderate to moderate poorer sorted, subangular to subrounded, grain supported, with silty to very fine quartz siliceous matrix infilling, no apparent clay, moderate lower relief, Core breaks around finer grains but through coarser quartz, 4-5% ineffective porosity, 1-2% effective porosity, CN 14.1% ZDEN 2.9%, No Shows.



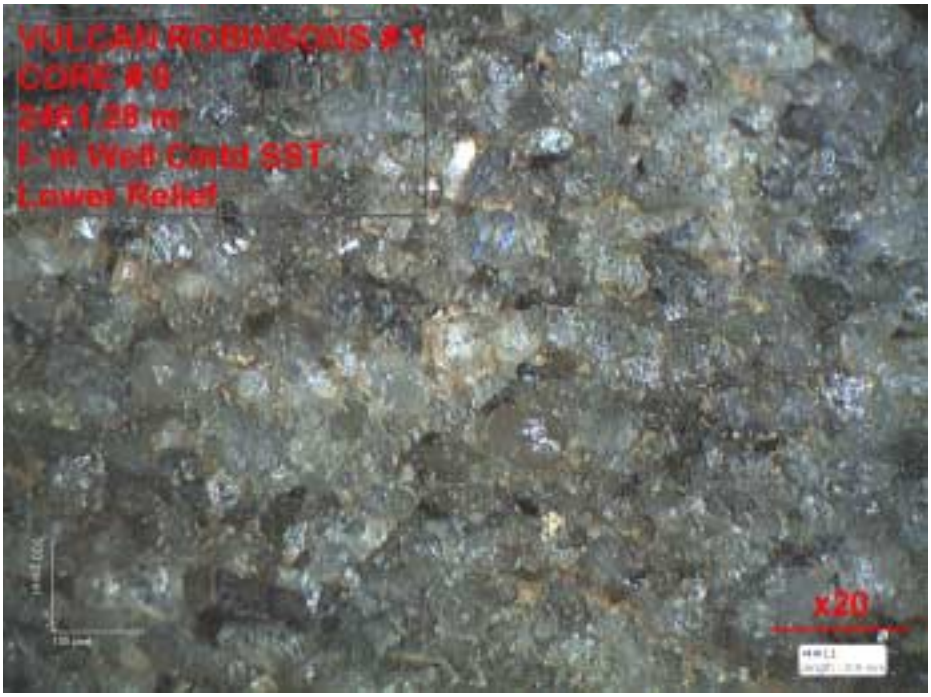


SIDEWALL CORE DESCRIPTIONS

Core #9
Recovered 100%
2,461.28 m

SANDSTONE

Lighter grey, lower fine to upper medium, rare trace lower coarse, abundant very fine matrix, quartz, opaque, greyish, translucent, minor trace black lithics, trace white mica, moderate poorer sorted, subangular to subrounded to rounded coarser, moderate well cemented, siliceous with 6-8% calcareous component, (moderate good fizz to core), no apparent clays, grain support with minor silty matrix, siliceous to calcareous silty? cement, lower relief, tighter, 3-5% ineffective porosity, 1% effective porosity, CN 13.3% ZDEN 3.9%, No Shows.

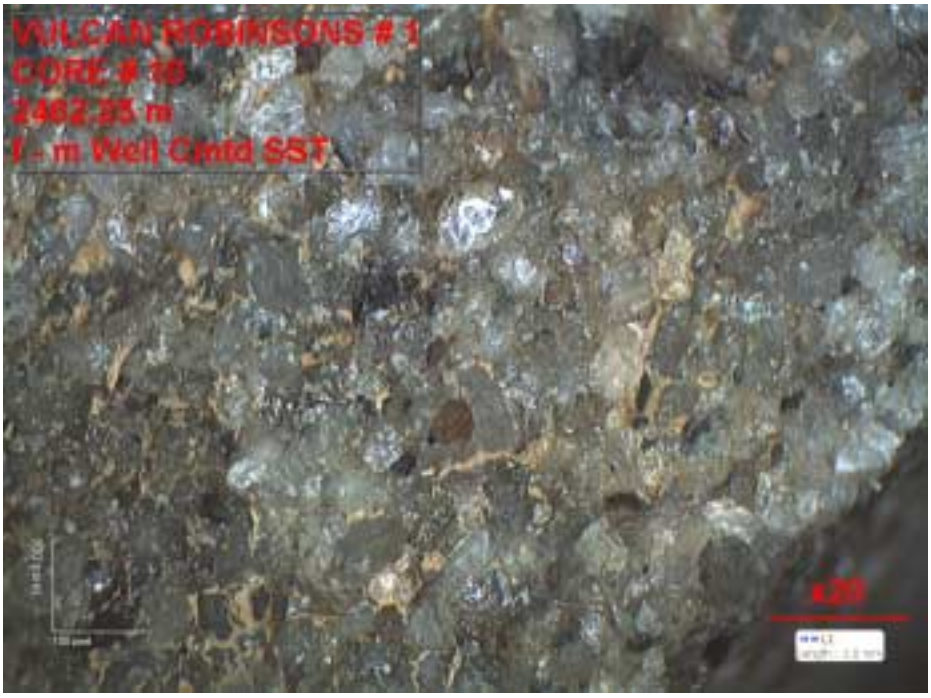


SIDEWALL CORE DESCRIPTIONS

Core #10
Recovered 70%
2,462.25 m

SANDSTONE

Light grey, fine to upper medium with very fine matrix, quartz, grayish, translucent, opaque, trace lithics, trace white mica, moderate sorted, subangular to subrounded to medium rounded, clean, no visible clays, moderate well cemented, siliceous with 3-5% calcareous component, competent, moderate relief, Core breaks fractures around quartz grains, 4-6% ineffective porosity, 1-2% effective porosity?, CN 13.1% ZDEN 3.6%, No Shows.

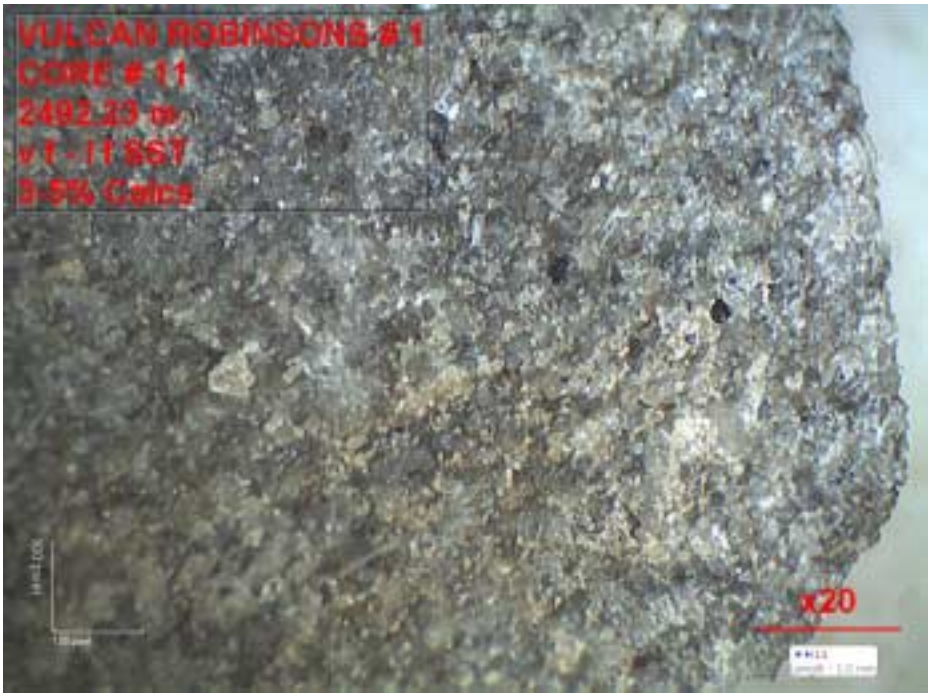


SIDEWALL CORE DESCRIPTIONS

Core #11
Recovered 90%
2,492.23 m

SANDSTONE

Light grey, very fine to lower fine, quartz, opaque, greyish, translucent, minor trace black lithics to possible vitreous black coaly specks?, rare white mica, moderate sorted, subangular to subrounded, moderate well cemented, siliceous with 3-5% calcareous component, clean, no apparent clay infilling, moderate relief, 3-5% ineffective porosity, 1-2% effective porosity?, CN 14.3% ZDEN 3.9%, No Shows.

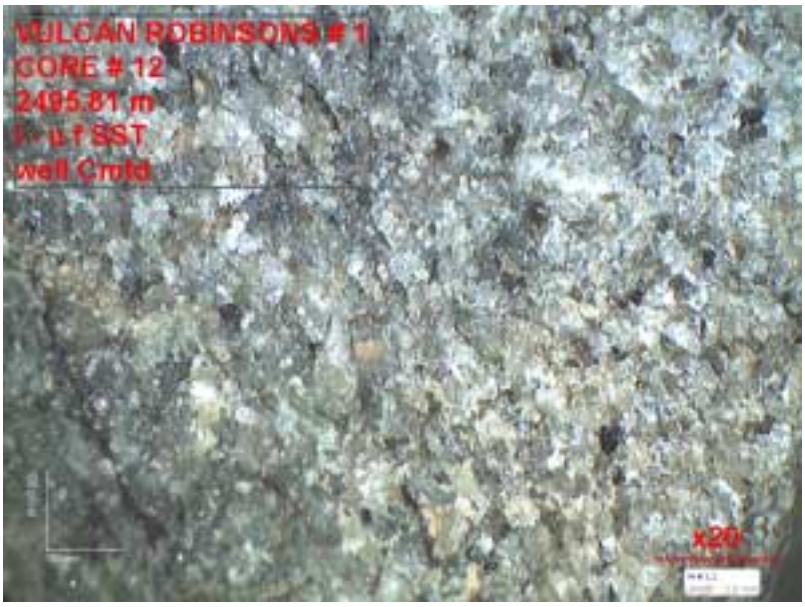


SIDEWALL CORE DESCRIPTIONS

Core #12
Recovered 70%
2,495.81 m

SANDSTONE

Very light grey, very fine to lower to upper fine, quartz, opaque, translucent, grayish, trace black lithics to micro laminae coaly to carbonaceous, coaly specks ?, trace white mica, moderate sorted, subangular to subrounded, minor lower medium rounded, moderate well cemented, siliceous to 5-7% calcareous component, clean, no apparent clays, moderate to moderate lower relief, 4-6% ineffective porosity, 2-3% effective porosity, CN 14.9% ZDEN 5.6%, No Shows.

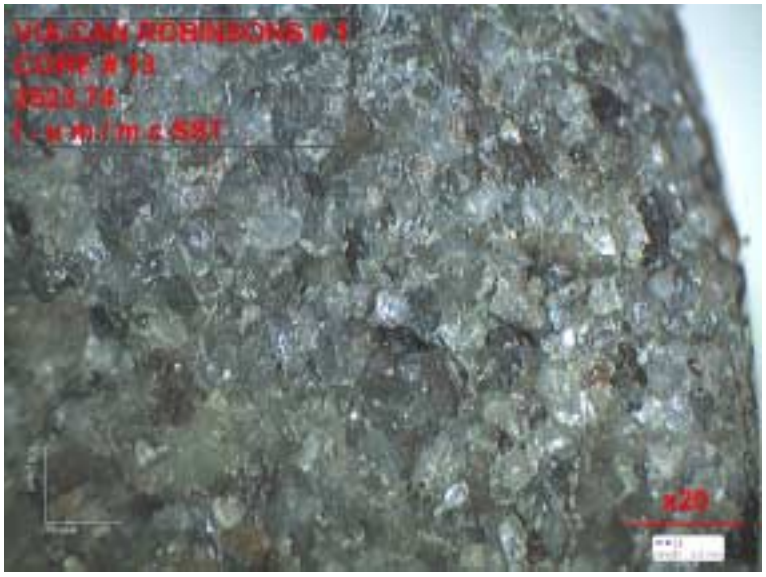


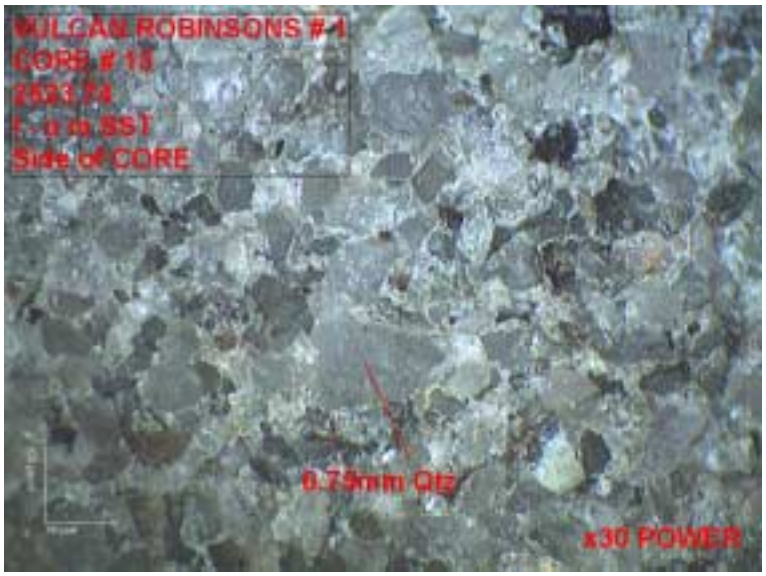
SIDEWALL CORE DESCRIPTIONS

Core #13
Recovered 80%
2,523.74 m

SANDSTONE

Light grey, predominately lower to upper medium with rare lower coarse and finer to very fine matrix, quartz, opaque, translucent, grayish, trace lithics, rare trace white mica, moderate poorer sorted, subangular to subrounded with abundant upper medium to lower coarse rounded, moderate cemented, siliceous with 3-5% calcareous component, no apparent clay infilling, moderate to higher relief, competent, 4-7% ineffective porosity, 2-3% effective porosity, CN 15.2% ZDEN 5.1%, No Shows.



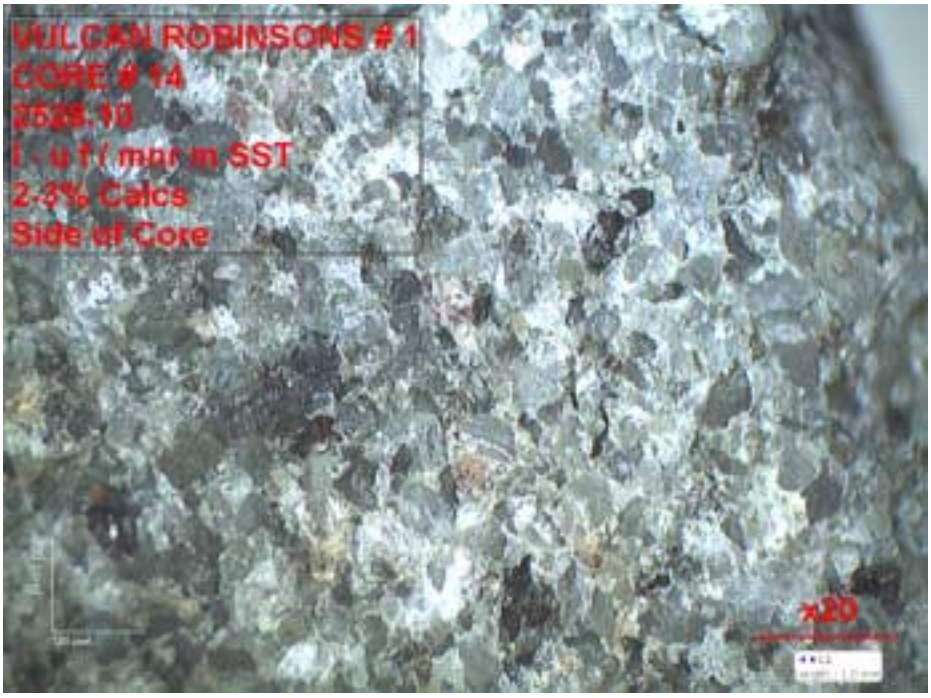


SIDEWALL CORE DESCRIPTIONS

Core #14
Recovered 70%
2,528.10 m

SANDSTONE

Light grey, lower to upper fine with 20% lower medium, quartz, opaque, translucent, grayish, trace black lithics, rare white mica, moderate sorted, subangular to subrounded with coarser rounded, moderate well cemented, siliceous with 2-3% calcareous only, competent, grain supported, minor possible clay infilling, clean, silty siliceous matrix?, moderate relief, 5-7% ineffective porosity, 2-3% effective porosity, CN 15.3% ZDEN 3.3%, No Shows.

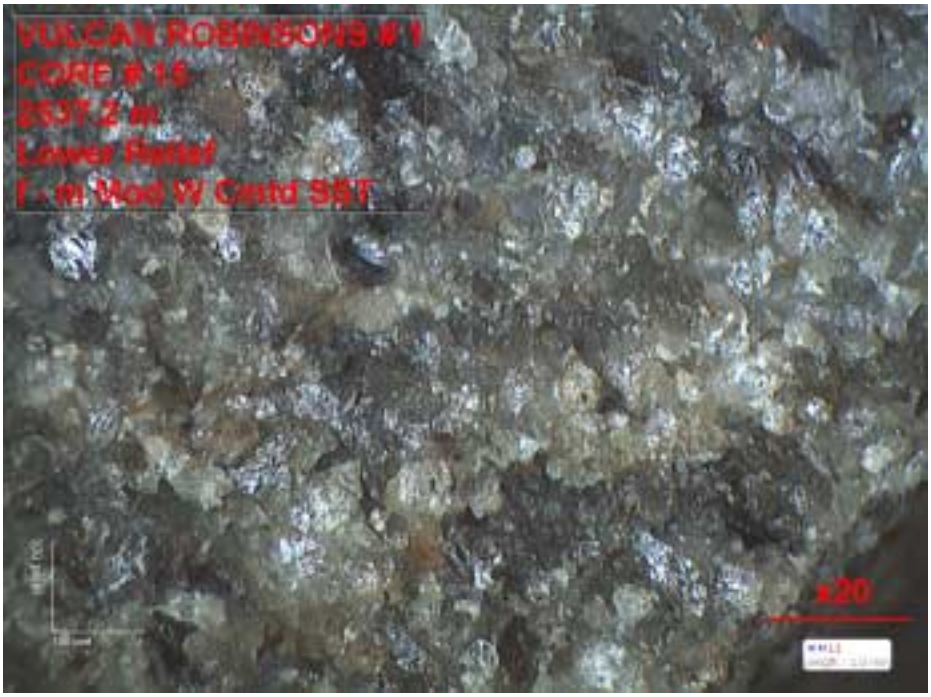


SIDEWALL CORE DESCRIPTIONS

Core #15
Recovered 90%
2,537.20 m

SANDSTONE

Lighter to slightly medium grey, lower to upper fine to upper medium, quartz, opaque, translucent, grayish, trace black argillaceous lithic only, rare trace white mica, clean, no apparent clay infilling, moderate sorted, subangular to subrounded with abundant medium rounded, well cemented, siliceous with 2-3% calcareous component, grain supported, Core broken and fractured through and around quartz grains, minor very fine matrix only, moderate to moderate lower relief, 3-4% ineffective porosity, 1-2% effective porosity, CN 13.5% ZDEN 3.3%, No Shows.

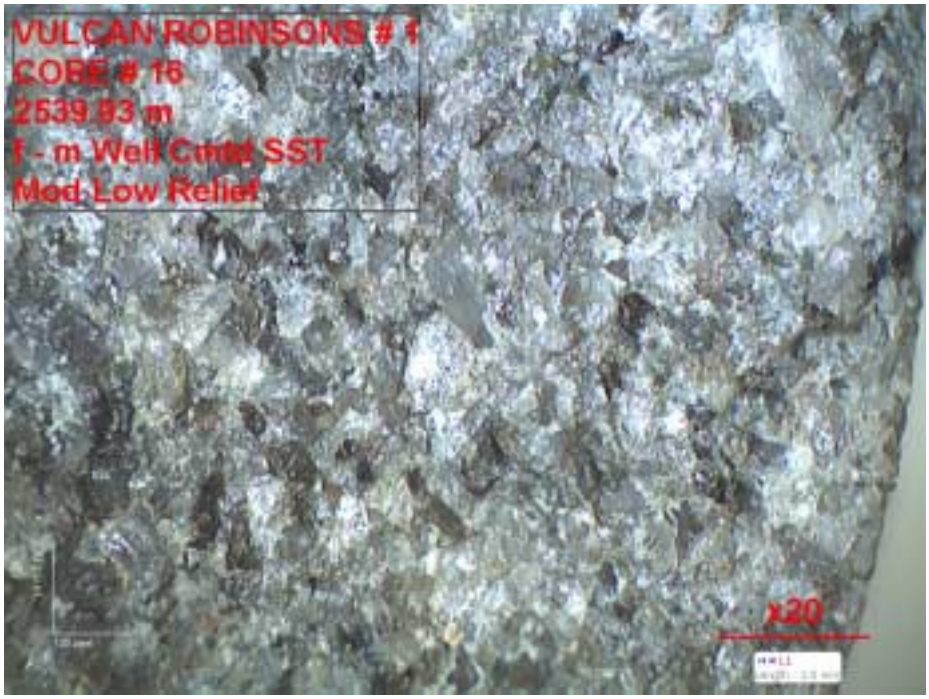


SIDEWALL CORE DESCRIPTIONS

Core #16
Recovered 40%
2,539.93 m

SANDSTONE

Lighter grey, grayish white, very slightly salt and pepper, quartz, translucent, opaque, grayish, good trace black lithics, trace white mica, moderate sorted, subangular to subrounded, abundant medium rounded, well cemented, siliceous with 2-3% calcareous component, no apparent clay infilling, very rare clay slightly greenish? micro clasts, black argillaceous micro laminae through center of core, competent, some fracturing to core across axis due to coring?, moderate to lower relief, 4-5% ineffective porosity, 1-2% effective porosity, CN 14.7% ZDEN 4.0%, No Shows.

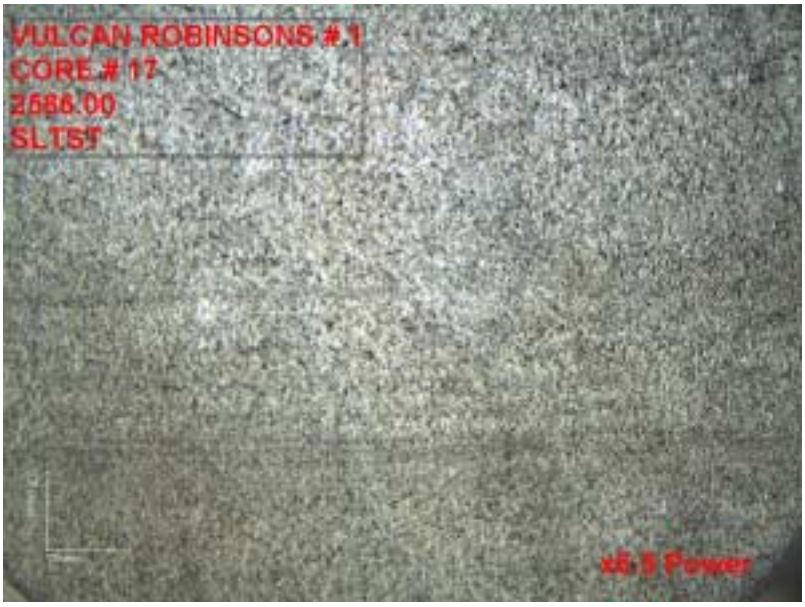


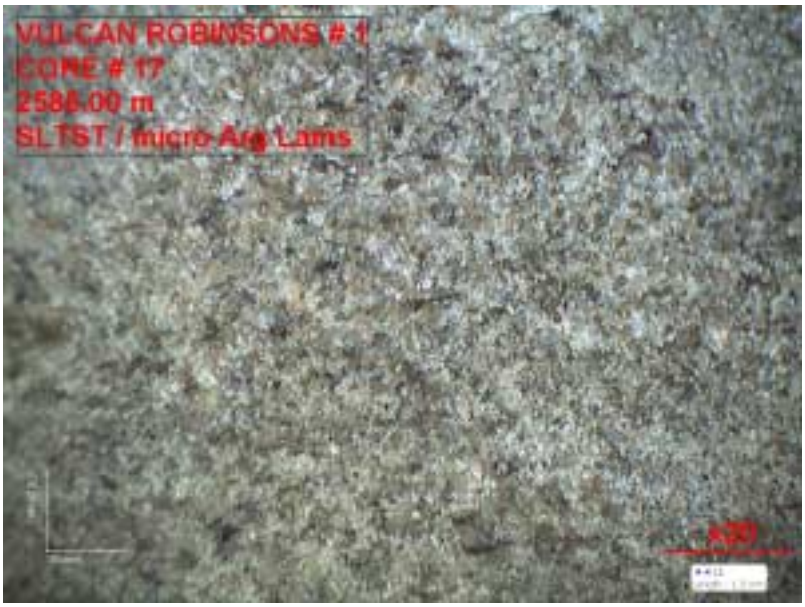
SIDEWALL CORE DESCRIPTIONS

Core #17
Recovered
2,586.00 m

SILTSTONE

Very light grey, medium to upper silt to rare very fine, quartz, opaque, translucent, minor grayish, rare trace micro lithic specks, trace vitreous black micro specks, rare white mica, faint micro argillaceous laminations throughout core, no apparent clay infilling, moderate well cemented, siliceous with 6-8% calcareous component, moderate well sorted, subangular to subrounded, moderate lower relief, 8-10% ineffective porosity, 2-3% effective porosity ?, CN 14.3% ZDEN 4.9%, No Shows.



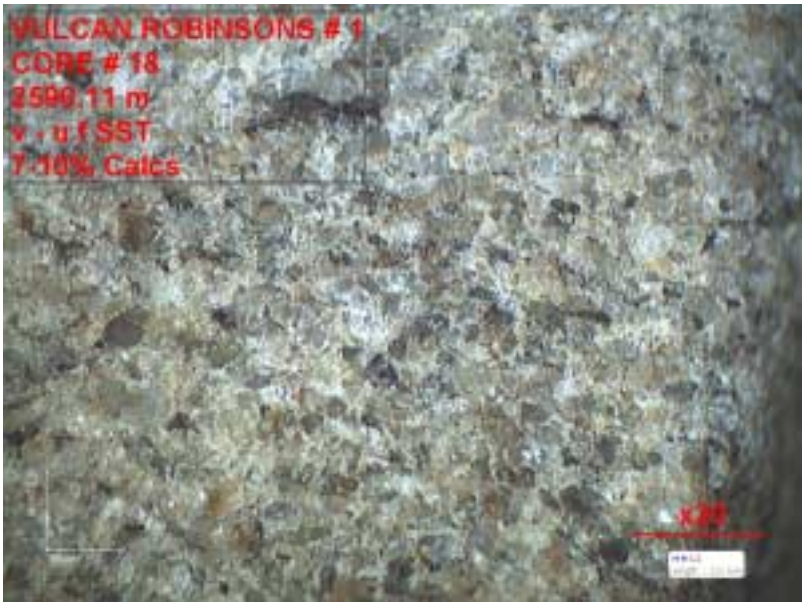


SIDEWALL CORE DESCRIPTIONS

Core #18
Recovered 90%
2590.11 m

SANDSTONE

Lighter grey, lower to upper fine, abundant very fine, quartz, opaque, grey, translucent, minor black argillaceous lithics, possible trace black micro carbonaceous specks, rare micro argillaceous laminae, trace white mica, very faintly banded slightly grayer more siliceous with whiter more calcareous, grain supported with micro to silty siliceous infilling to matrix, well cemented, siliceous with 8-10% calcareous component, moderate relief, 7-10% ineffective porosity, 2-3% effective porosity, CN 13.6% ZDEN 5.6% , No Shows.

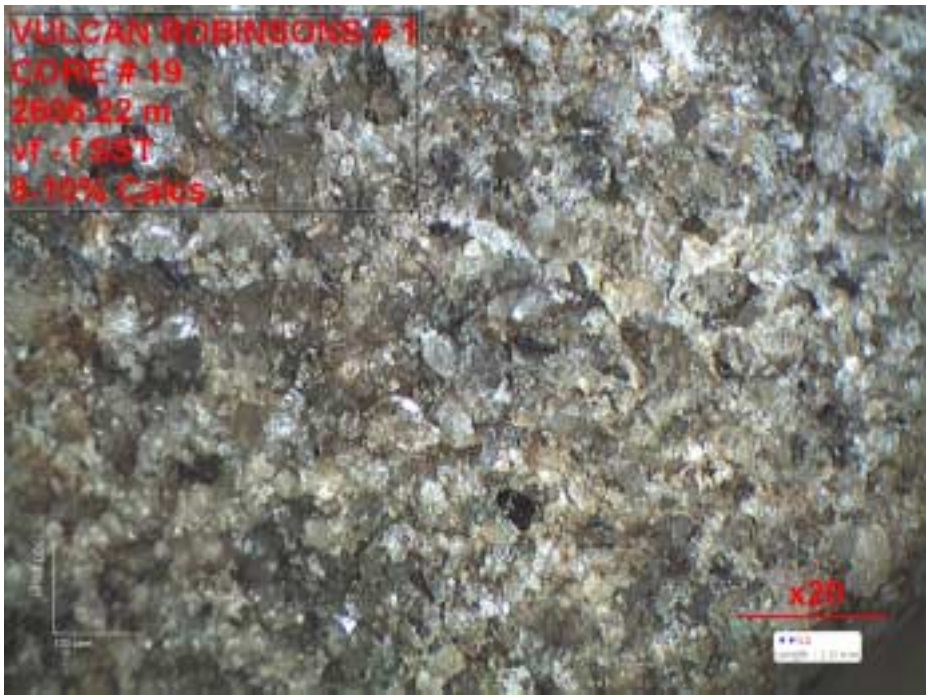


SIDEWALL CORE DESCRIPTIONS

Core #19
Recovered 80%
2,606.22 m

SANDSTONE

Light to slightly medium grey, very fine to lower to upper fine with trace lower medium, quartz, opaque, translucent, grey, trace to 1% argillaceous lithics, trace black carbonaceous specks?, trace micro argillaceous laminae, trace white mica, moderate sorted, subangular to subrounded with rounded upper fine to lower medium quartz, well cemented, siliceous with 8-10% calcareous component, minor to 2% argillaceous component, grain supported, siliceous to silty matrix, moderate cemented, Core breaks or fractures around and through quartz grains, trace clays around some quartz grains only, 8-10% ineffective porosity, 1-2% effective porosity, CN 13.5% ZDEN 3.9%, No Shows.

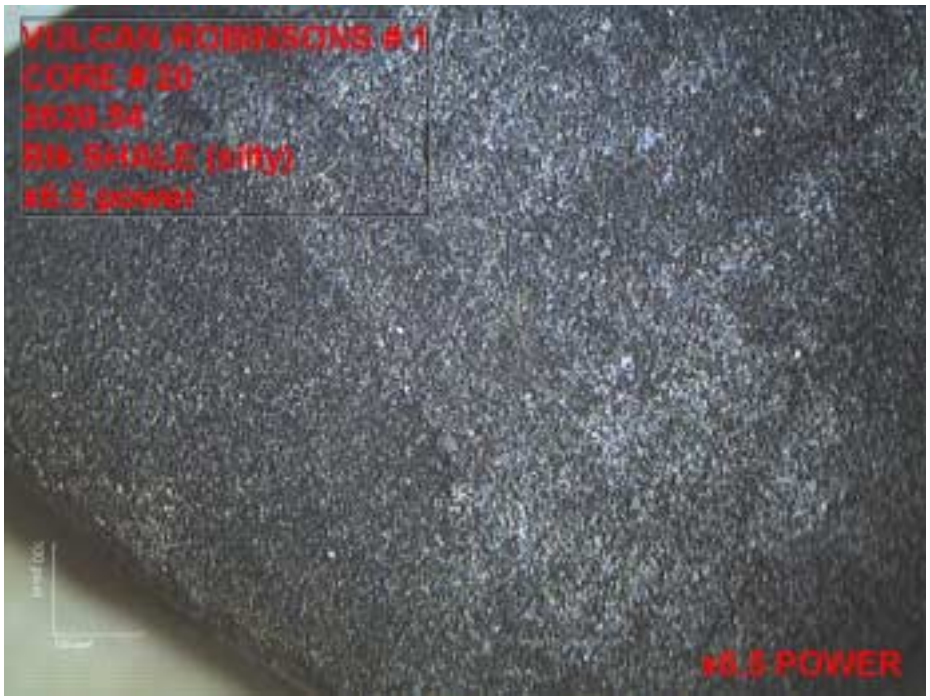


SIDEWALL CORE DESCRIPTIONS

Core #20
Recovered 100%
2,629.54 m

SHALE

Grey black, massive, amorphous, hard, siliceous with trace calcareous, grading to lower Silt, faint laminations to banding, uniform, No effective porosity, CN 13.1% ZDEN 7.8%, No Shows. (Core Cut off Depth ?)



SIDEWALL CORE DESCRIPTIONS

Core #21
Recovered 60%
2,631.85 m

SHALE

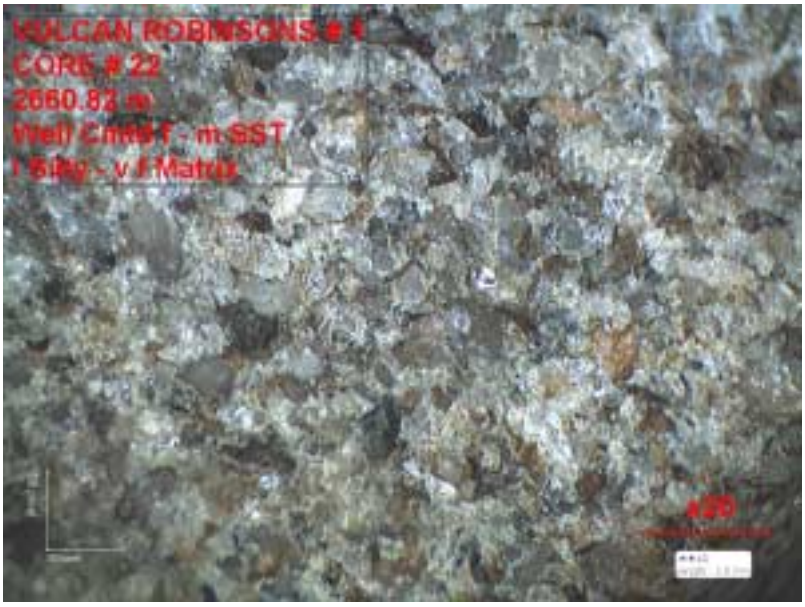
Black, massive, Fractured Core, fractures apx 20 degrees to core axis, convoluted shiny vitreous black surfaces, slickenside?, brownish calcite within healed fractures to no calcareous, possible carbonaceous?, Shale itself is hard, massive, Good Gas show of 295 units through interval, No Primary porosity but assuming some secondary fracture porosity, CN 28.3% ZDEN - 3.7%, No Shows.

SIDEWALL CORE DESCRIPTIONS

Core #22
Recovered 60%
2,660.82 m

SANDSTONE

Light to slightly medium grey, lower to upper fine with minor medium, quartz, opaque, translucent, grey, trace to 1% shale lithics, minor black micro coaly? specks, trace micro argillaceous laminae to micro argillaceous infilling around grains, trace white mica, moderate to moderate poorer sorted, subangular to subrounded, abundant upper fine to lower medium rounded, grain supported, with finer silty to very fine matrix infilling, minor argillaceous only, well cemented, siliceous with 3-5% calcareous component, moderate relief, Core breaks or fractures around quartz grains, 6-8% ineffective porosity, 2-3% effective porosity, CN 14.0% ZDEN 3.5%, No Shows.

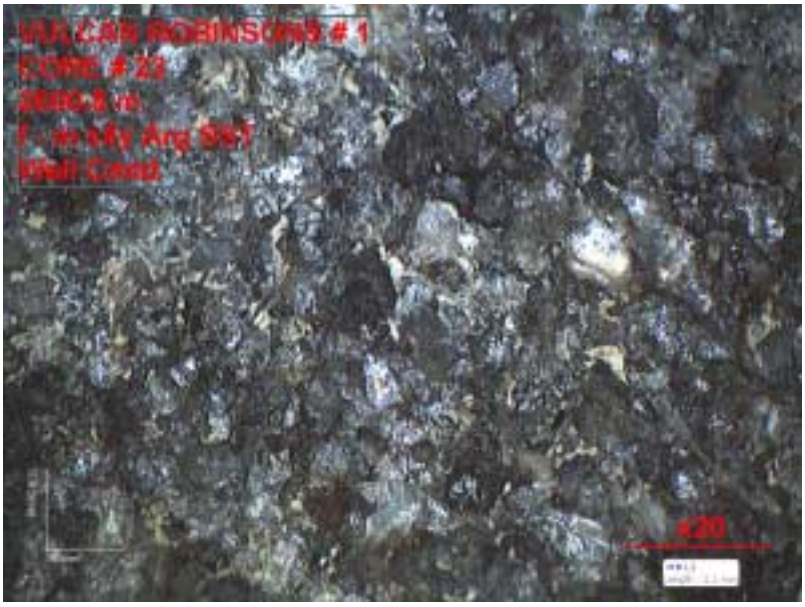


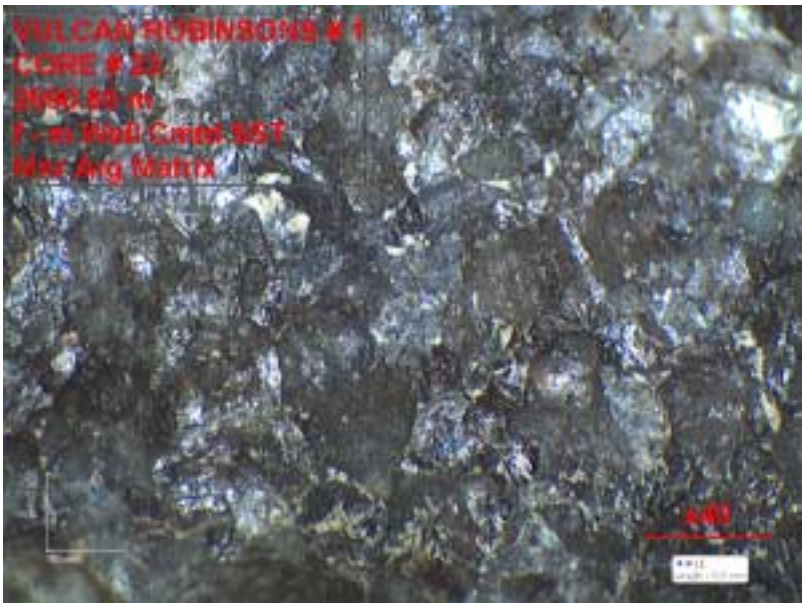
SIDEWALL CORE DESCRIPTIONS

Core #23
Recovered 100%
2,690.80 m

SANDSTONE

Medium grey, predominately lower to upper fine with 20% medium, quartz, opaque, translucent, grey, 3-5% grayish to black Shale lithics grains, with 5-8% argillaceous matrix, possible some micro pyrobitumen ? within argillaceous component?, poorer sorted, subangular to subrounded with upper medium rounded, rare angular, abundant very fine angular matrix within argillaceous infilling, grain supported with minor floating quartz within argillaceous matrix, well cemented, siliceous with 2-3% calcareous component, moderate poorer relief overall, Core broken predominately through quartz grains, 10-13% ineffective porosity, 2-3% effective porosity, CN 14.1% ZDEN 2.6%, No Shows.



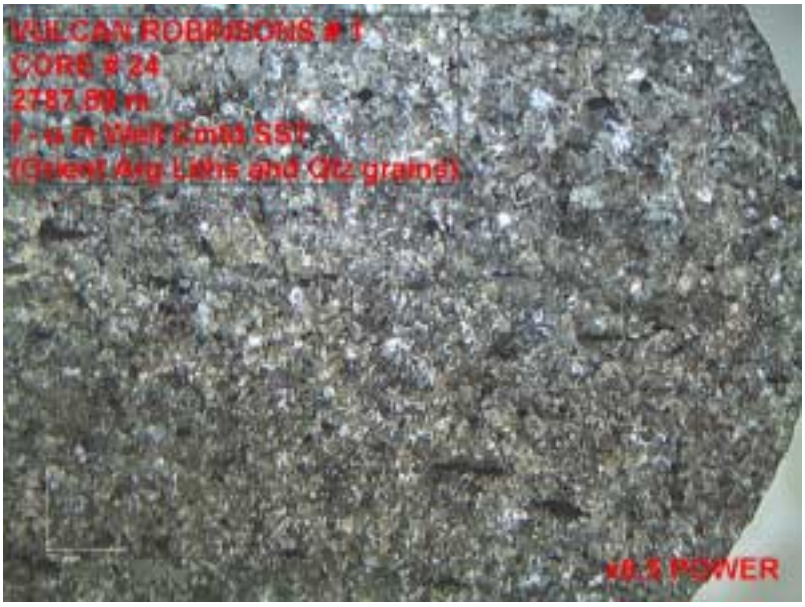


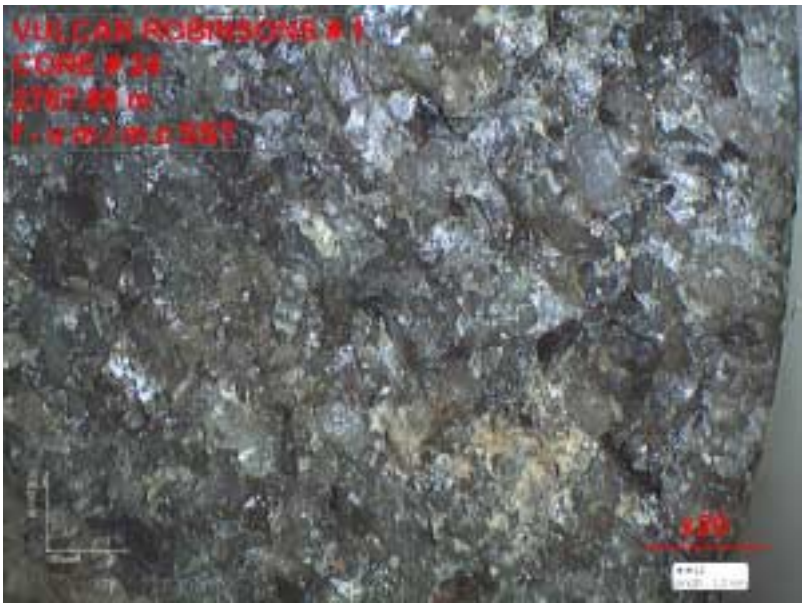
SIDEWALL CORE DESCRIPTIONS

Core #24
Recovered 100%
2,787.89

SANDSTONE

Light to slightly medium grey, lower to upper fine to upper medium with medium coarse, quartz, opaque, translucent, grey, minor to 1% black argillaceous lithic grains with orientated argillaceous laminae, moderate sorted, subangular to subrounded with more rounded upper medium to rare coarse, possible minor very light grey white clay infilling, moderate well cemented, siliceous with 4-6% calcareous component, moderate to moderate low relief, grain supported, 4-6% ineffective porosity, 1-2% effective porosity, CN 12.1% ZDEN 3.7%, No Shows.



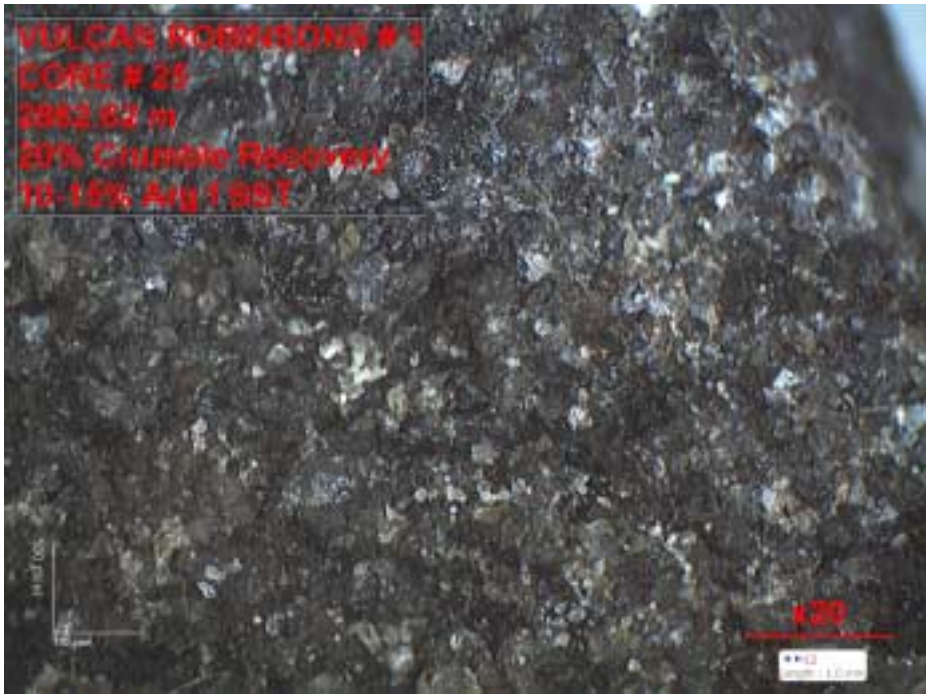


SIDEWALL CORE DESCRIPTIONS

Core #25
Recovered 20%
2,862.62

SANDSTONE

Medium to darker grey, lower to upper fine, minor medium, quartz, opaque, grey, translucent, 3-5% grey to grey black argillaceous lithics, 10-15% argillaceous matrix?, moderate sorted, subangular to subrounded with upper fine to medium rounded, moderate weaker cemented, siliceous with 5-7% calcareous component with argillaceous matrix?, moderate relief, 8-10% ineffective porosity, 1% effective porosity, CN 10.3% ZDEN 4.6%, No Shows.

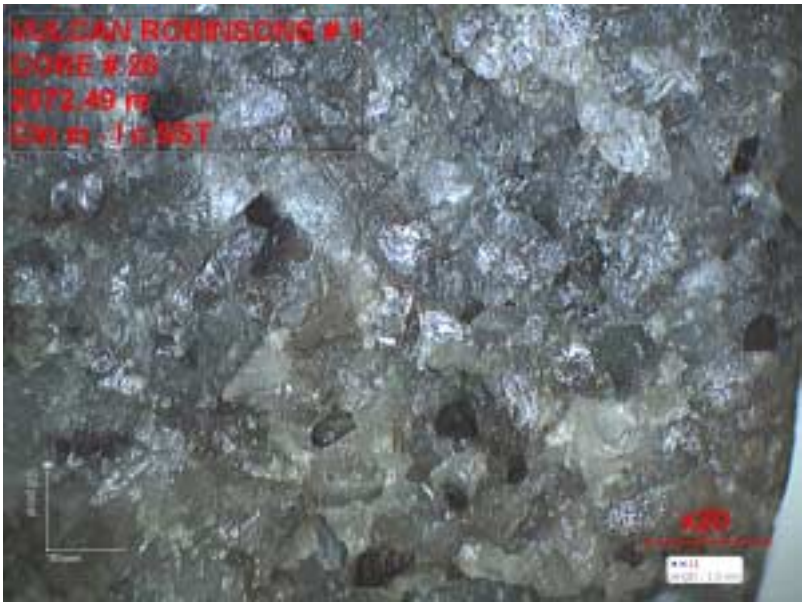


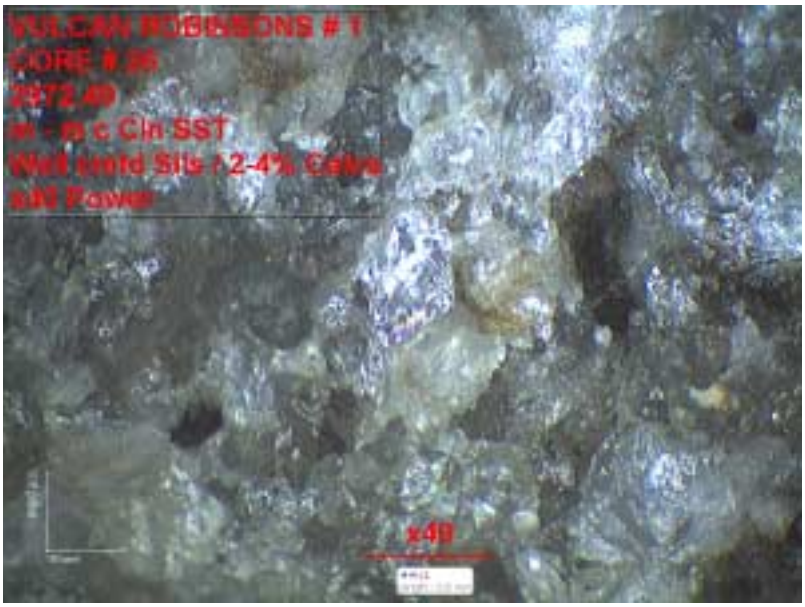
SIDEWALL CORE DESCRIPTIONS

Core #26
Recovered 60%
2,972.49 m

SANDSTONE

Light grey, fine to upper medium with minor lower coarse, quartz, opaque, translucent, minor black to grey lithics only, clean, well crystalline, moderate sorted, subangular to subrounded, minor rounded, grain supported, minor finer matrix, well cemented, siliceous with 2-4% calcareous component only?, lower overall relief, Core broken predominately through quartz grains, Good overall Sandstone but well cemented, 4-5% ineffective, 1-2% effective porosity,
CN 11.0% ZDEN 4.1%, No Shows.



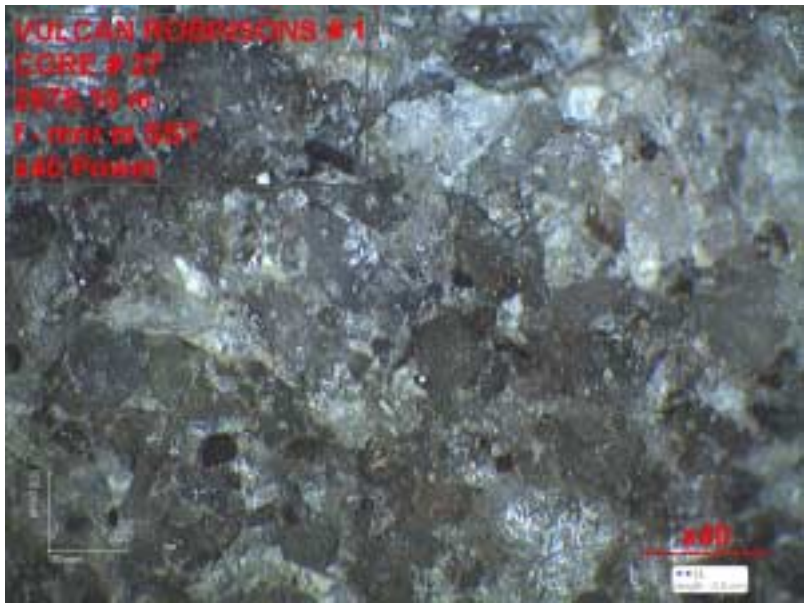


SIDEWALL CORE DESCRIPTIONS

Core #27
Recovered 70%
2,978.10 m

SANDSTONE

Light grey, lower to upper fine with minor medium, quartz, opaque, translucent, grayish, trace to less than 1% black lithics, clean, moderate sorted, subangular to subrounded with minor rounded medium, minor finer silty matrix, well cemented, siliceous with 2-4% calcareous component, grain supported, moderate relief, Core breaks generally around quartz grains, 6-8% ineffective porosity, 2-3% effective porosity, CN 11.6% ZDEN 5.4%, No Shows.



SIDEWALL CORE DESCRIPTIONS

Core #28
Recovered 15%
3,310.69 m

Fractured SHALE with SANDSTONE

Rubble recovery, black massive Shale, micromicaceous, (partings) lithic clast? or intermixed with fine to upper fine Sandstone, poor sorted, quartz, opaque to white, translucent, lithic argillaceous fragments, siliceous to trace calcareous, no apparent porosity, very poor Sample,
CN 12.6% ZDEN 0.0%, No Shows

END OF CORE DESCRIPTIONS

VULCAN INVESTCAN ROBINSONS # 1

END OF WELLSITE GEOLOGICAL REPORT

SEE STRIPLOGS AND INCLOSED CD’s FOR ADDITIONAL INFORMATION

APPENDIX 7: GEOLOGICAL STRIPLOG

(A full copy of the log is on the CD accompanying this report)

APPENDIX 8: WIRELINE LOGS

(hardcopies of all logs were submitted with this report and full digital copies are included on the accompanying CD)

APPENDIX 9: DST SUMMARIES (ROBINSONS #1)

Drill Stem Test Report

Storage Units: Metric

Run #:	1	**Date:**	Aug 18, 2009
Test #:	1	**Misrun:**	Yes
Test Company:	Northstar Drillstem Testers	**Closed Chamber Company:**	n/a
Representative:	Bob Tokar	**Representative:**	n/a
Unit #:		**K.B. Elevation:**	175.30
Test Type:	Inflate Bottom Hole		

Formations Tested **From the:** **Sprout Falls**
To the: **Sprout Falls**

Test Interval:	**From:**	2,012.90 (MD)	**To:**	2,063.50 (MD)	(50.60)
	From:	2,011.16 (TVD)	**To:**	2,061.73 (TVD)	(50.57)

Total Depth: 2,063.50 (MD) 2,061.73 (TVD) ***(At the time of the Test)***

String Configuration: 41 m Heavy Weight Pipe Tail
/ packer assembly - xovers, subs, recorders
1.52 meters Perforations
(See Engineering Reports)

Drilling Fluid Type and Properties: MW = 1095
VIS = 89
pH = 9.7
WL = 6.2

Cushion Type / Amount: Cushion Run but unknown length - check with Drilling department

Hole Condition: Excellent - No apparent hole problems Logging

Bottom Hole Temperature: ° **Tool Chased Distance:** **Mud Drop:**

Period	Intitial Pressure	Final Pressure	Times	Flow Description

Recovery: N/A

Analyses: N/A

Remarks: Failed Test - Unable to seat Tool / Packers

Drill Stem Test Report

Storage Units: Metric

Run #:	2	**Date:**	Aug 19, 2009
Test #:	1	**Misrun:**	Yes
Test Company:	Northstar Drillstem Testers	**Closed Chamber Company:**	n/a
Representative:	Bob Tokar	**Representative:**	n/a
Unit #:		**K.B. Elevation:**	175.30
Test Type:	Inflate Straddle		

Formations Tested **From the:** **Sprout Falls**
To the: **Sprout Falls**

Test Interval:	**From:**	872.00 (MD)	**To:**	901.00 (MD)	(29.00)
	From:	870.54 (TVD)	**To:**	899.53 (TVD)	(28.99)

Total Depth: 2,063.50 (MD) 2,061.73 (TVD) ***(At the time of the Test)***

String Configuration: Two Inflate Packers
0.86 m Perforations within interval
Drillpipe to surface
(See Drilling Dept for complete details)

Drilling Fluid Type and Properties: MW = 1100
VIS = 89
pH = 10.6
WL = 6.4

Cushion Type / Amount: Cushion run but unknow length

Hole Condition: Excellent

Bottom Hole Temperature: ° **Tool Chased Distance:** **Mud Drop:**

Period	Intitial Pressure	Final Pressure	Times	Flow Description

Recovery: N/A

Analyses: N/A

Remarks: Test Failed - Unable to obtain seat with Packers.

Drill Stem Test Report

Storage Units: Metric

Run #:	3	**Date:**	Oct 09, 2009
Test #:	1	**Misrun:**	
Test Company:	Holland Testers	**Closed Chamber Company:**	n/a
Representative:	Dale Holland	**Representative:**	n/a
Unit #:		**K.B. Elevation:**	175.30
Test Type:	Conventional Straddle		

Formations Tested **From the:** **Snakes Bight**
To the: **Snakes Bight**

Test Interval: **From:** 2,963.00 (MD) **To:** 2,990.00 (MD) (27.00)
From: 2,959.01 (TVD) **To:** 2,985.96 (TVD) (26.95)

Total Depth: 3,560.00 (MD) 3,548.55 (TVD) ***(At the time of the Test)***

String Configuration:
561.75 m Tail Pipe (127 mm, 31.9 kg/m)
Conventional Compression Packer 196.85 mm Set @ 2990.01 m
9.45 m Perforations between Packers
17.61 m of Packers, blanks, x-overs, DC, Recorders
Conventional Compression Packer 196.85 mm Set @ 2962.95 m

Drilling Fluid Type and Properties:
Polymere Water Base
MW = 1135
Vis = 75
WL = 7.0
pH = 10.4
Filter Cake = 0.5 mm

Cushion Type / Amount: No Cushion, NGTS

Hole Condition: 216 mm Wellbore in Excellent Condition. No Logging Problems, No Issues RIH / DST Packers.

Bottom Hole Temperature: 44.3 º **Tool Chased Distance:** **Mud Drop:** 0.0

Period	Intitial Pressure	Final Pressure	Times	Flow Description
Initial Hydrostatic	33,677.0			
Flow 1	4,235.0	993.0	10	Open for Preflow with weak initial puff. Bubbles to bottom of Pail in three (3) minutes. Steady throughout, NGTS
Flow Details				
Time / Pressure / Flow Rate Measurements			Choke Type	Orifice Diameter / Units of measurement
No Flow Rates				
Shut-in 1	993.0	2,154.0	90	
Flow 2	885.0	942.0	60	Open for Valve Open with weak initial Puff 1 inch Bubble Pail increasing to 6 inches in Bubble Pail after ten (10) minutes. Opened to Flair, No Gas to Surface (NGTS). Closed Manifold and back to Pail with only 2 inches for remainder of Valve Open.
Flow Details				
Time / Pressure / Flow Rate Measurements			Choke Type	Orifice Diameter / Units of measurement
No Flow rate observed - weak 2 inch bubble flow				

only form pail.			
Shut-in 2	942.0	2,684.0	360
Final Hydrostatic		33,565.0	

Recovery: 65 meters Drilling Fluid

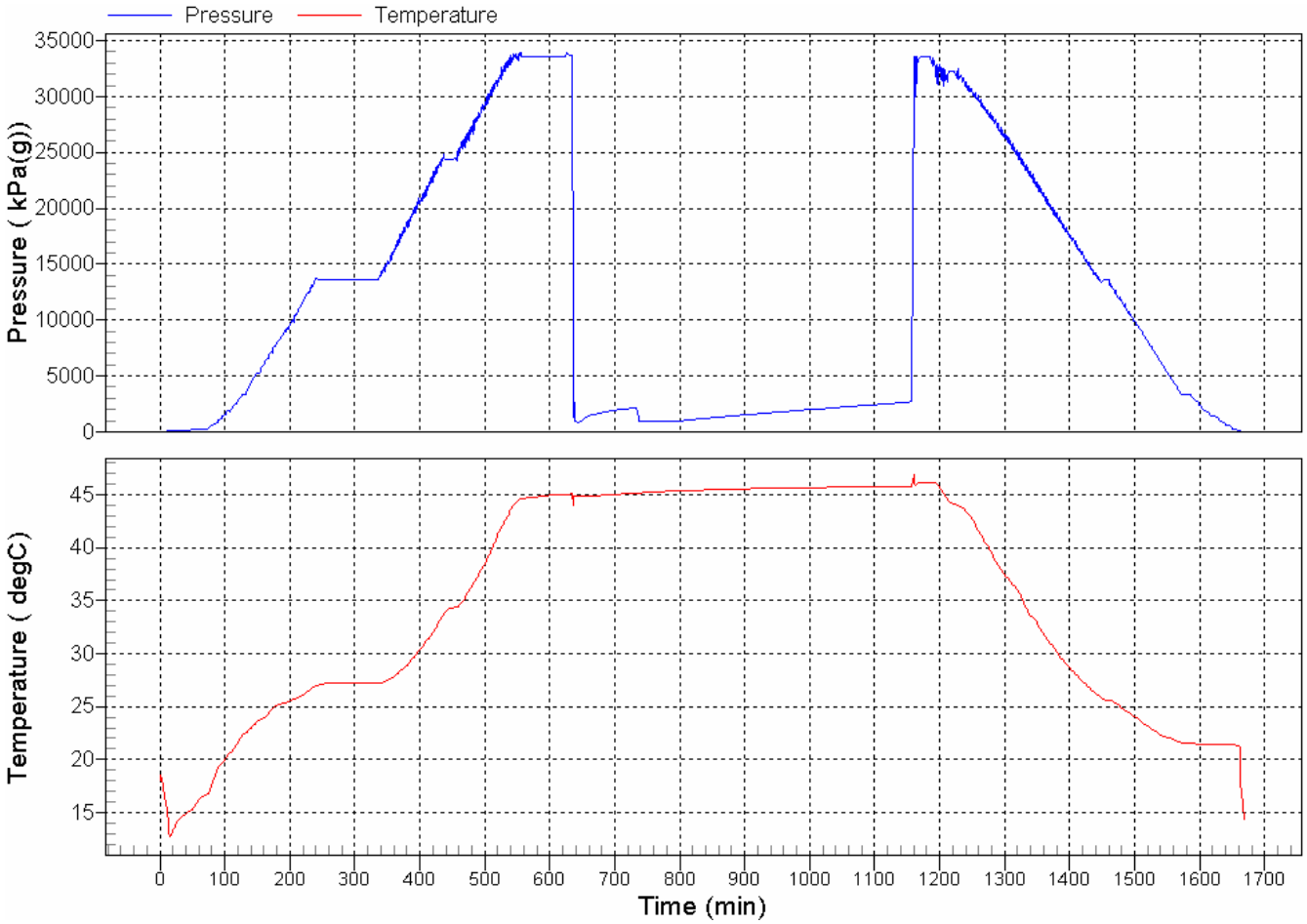
Analyses: Drilling fluid Samples taken at 54 m, 27 m and 5 m above top packer from recoverey fluid column
1 gas sample collected from Bottom Hole Sampler (#05004278)
No Gas to Surface

Remarks: DUEL STRADDLE CONVENTIONAL
Sucessful Test
No problems
Extended Final Shut in Time due to poor indicators during final Valve Open / Final Flow
No Gas to Surface (NGTS)

VULCAN ROBINSONS # 1

DST # 3 CHART

(See Written Report)



2963 – 2990 m

Drill Stem Test Report

Storage Units: Metric

Run #:	4	**Date:**	Oct 10, 2009
Test #:	1	**Misrun:**	
Test Company:	Holland Testers	**Closed Chamber Company:**	n/a
Representative:	Dale Holland	**Representative:**	n/a
Unit #:		**K.B. Elevation:**	175.30
Test Type:	Conventional Straddle		

Formations Tested **From the:** **Snakes Bight**
To the: **Snakes Bight**

Test Interval: **From:** 2,574.00 (MD) **To:** 2,640.00 (MD) (66.00)
From: 2,570.77 (TVD) **To:** 2,636.64 (TVD) (65.87)

Total Depth: 3,560.00 (MD) 3,548.55 (TVD) ***(At the time of the Test)***

String Configuration:
920.2 m Tail Pipe (127 mm, 31.9 kg/m) Conventional Compression Packer 196.85 mm Set at 2573.94 m
7.62 m Perforations between Packers
66.0 m of Packers. blanks. x-overs, DC, Recorders
Conventional Compression Packer 196.85 mm Set @ 2639.99 m

Drilling Fluid Type and Properties:
Polymere Water Base
MW = 1135
VIs = 75
WL = 7.0
pH = 10.4
Filter Cake = 0.5 mm

Cushion Type / Amount: No Cushion, NGTS

Hole Condition: Hole in Good Condition - Weather sucked. Possible that lower packer was set in larger hole than reco

Bottom Hole Temperature: 39.1 º **Tool Chased Distance:** **Mud Drop:** 0.0

Period	Intitial Pressure	Final Pressure	Times	Flow Description
Initial Hydrostatic	29,271.0			
Flow 1	2,306.0	1,032.0	30	Open for preflow with weak initial puff 2 inches in bubble pail, to bottom of pail in 4 mins, NGTS.
Flow Details				
Time / Pressure / Flow Rate Measurements				Choke Type Orifice Diameter Units of measurement
N/A				
Shut-in 1			90	Bearing failure in Shut-In tool did not allow for full closure on Initial Shutin - No Pressures Recorded - See Charts and Raw data for further analysis.
Flow 2	1,279.0	1,243.0	65	Valve Open with faint Airblow 1/4 inch in Bubble Pail and increasing to 2 inches in Bubble Pail at end of Valve open. NGTS
Flow Details				
Time / Pressure / Flow Rate Measurements				Choke Type Orifice Diameter Units of measurement
NO FLOWS RECORDED.				

Shut-in 2	1,243.0	2,050.0	115

Flow Details

Time / Pressure / Flow Rate Measurements	Choke Type	Orifice Diameter	Units of measurement
Partial Communication around bottom packer. Nothing changed / moved at surface during shutin so no reason for loss of seal after apx 2 hours shutin is known.			

Final Hydrostatic	29,180.0	N/A

Flow Details

Time / Pressure / Flow Rate Measurements	Choke Type	Orifice Diameter	Units of measurement
All Packers came out of hole in good shape but upper section of lower packer was slightly damaged. Possible set in bigger hole than calipers indicated. Two Donuts damaged but not destroyed.			

Recovery: 88 meters Drilling Fluid - NGTS.

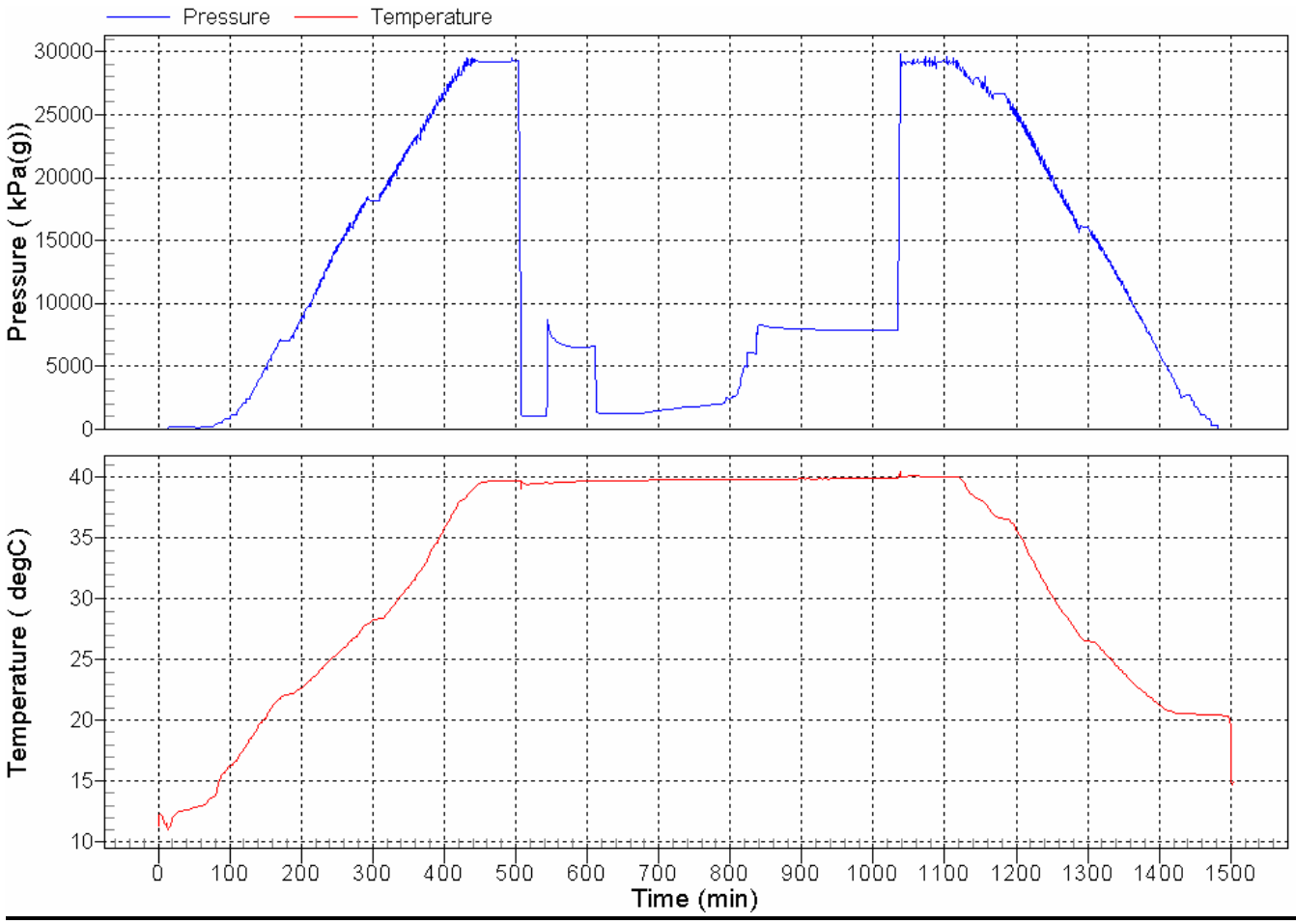
Analyses: Samples of fluid recover caught at 83 m, 27 m, 5 m above tools.
Sample from Bottom Hole sample chamber probably Drilling Fluid plus Gas ?.
NGTS

Remarks: Upon retrieving tools, found Shut-In tool bearing disinagrated, Charts indicate that tool did not shut in after 15 mins. Preflow / remained opened for apx 30 mins. Partial Communication around bottom Packer indicated. No Initial Shut-In Recorded.

VULCAN ROBINSONS # 1

DST # 4 CHART

(See Written Report)



2574 – 2640 m

Drill Stem Test Report

Storage Units: Metric

Run #:	5	**Date:**	Oct 11, 2009
Test #:	1	**Misrun:**	
Test Company:	Holland Testers	**Closed Chamber Company:**	n/a
Representative:	Dale Holland	**Representative:**	n/a
Unit #:		**K.B. Elevation:**	175.30
Test Type:	Conventional Straddle		

Formations Tested **From the:** Friar's Cove
To the: Friar's Cove

Test Interval: **From:** 2,517.00 (MD) **To:** 2,572.00 (MD) (55.00)
From: 2,513.89 (TVD) **To:** 2,568.77 (TVD) (54.88)

Total Depth: 3,560.00 (MD) 3,548.55 (TVD) ***(At the time of the Test)***

String Configuration:
988.1 m Tail Pipe (127 mm, 31.9 km/m)
Conventional Compression Packer 196.85 mm Set at 2517.19 m
10.1 m Perforations between Packers
55.0 m of Packers. blanks. x-overs, DC, Recorders
Conventional Compression Packer 196.85 mm Set @ 2572.1 m

Drilling Fluid Type and Properties:
Polymere Water Base
MW = 1135
VIs = 75
WL = 7.0
pH = 10.4
Filter Cake = 0.5 mm

Cushion Type / Amount: No Cushion / NGTS

Hole Condition: Good

Bottom Hole Temperature: 37.9 º **Tool Chased Distance:** **Mud Drop:** 150.0

Period	Intitial Pressure	Final Pressure	Times	Flow Description
Initial Hydrostatic	28,621.0			
Flow 1	1,230.0	1,660.0	10	Open for Preflow with weak initial Puff to bottom of Pail in four (4) minutes. Steady throughout. NGTS.
Flow Details				
Time / Pressure / Flow Rate Measurements				Choke Type: n/a; Orifice Diameter; Units of measurement
Shut-in 1	1,660.0		100	Picked up on tool string at end of Preflow to lessen chance of damaging Shut In Tool Bearing, Lost 260 litres of mud.
Flow Details				
Time / Pressure / Flow Rate Measurements				Choke Type: n/a; Orifice Diameter; Units of measurement

Shut-in 2	2,044.0	2,100.0	90	On valve open had weak initial puff 1/2" in pail decreasing to faint in 2 minutes. Dead after 15 minutes. After 60 minutes Turn Shut In Tool two (2) turnes and had faint air blow 1/2" in pail, Increasing 2 inches (2") in bubble pail after 90 minutes.

Flow Details

Time / Pressure / Flow Rate Measurements	Choke Type	Orifice Diameter	Units of measurement
n/a			

Shut-in 2	2,100.0	3,940.0	380	Shut in on final Shut In on Charts show Lost upper Packer Seat on Initial Shutin.

Flow Details

Time / Pressure / Flow Rate Measurements	Choke Type	Orifice Diameter	Units of measurement
n/a			

Final Hydrostatic		28,649.0		

Recovery: 140 m Drilling Fluid (NGTS)

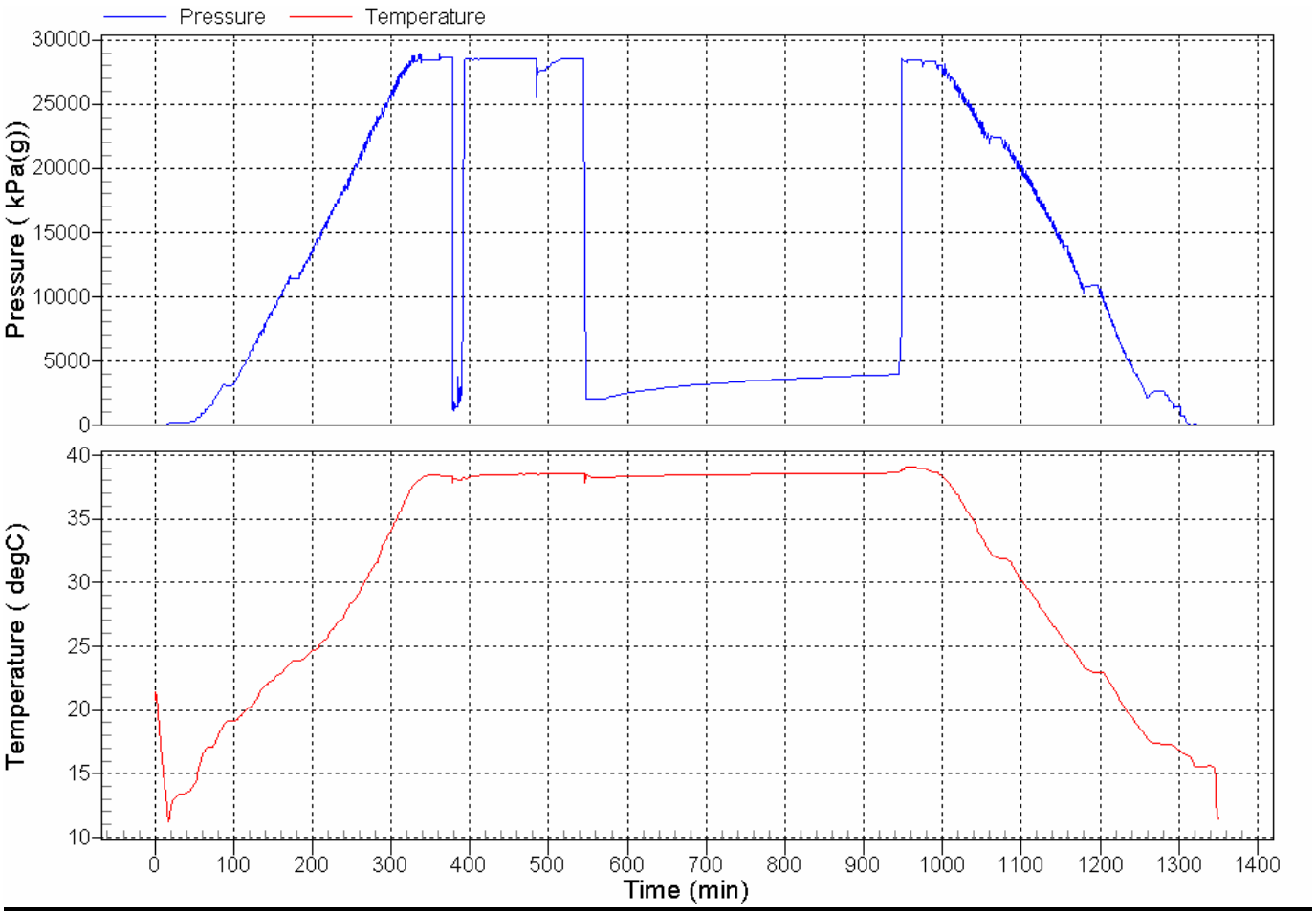
Analyses: Drilling fluid Samples caught 158 m, 55 m, 1.5 m above tool in pipe.

Remarks: Failed test due to leaking upper packer

VULCAN ROBINSONS # 1

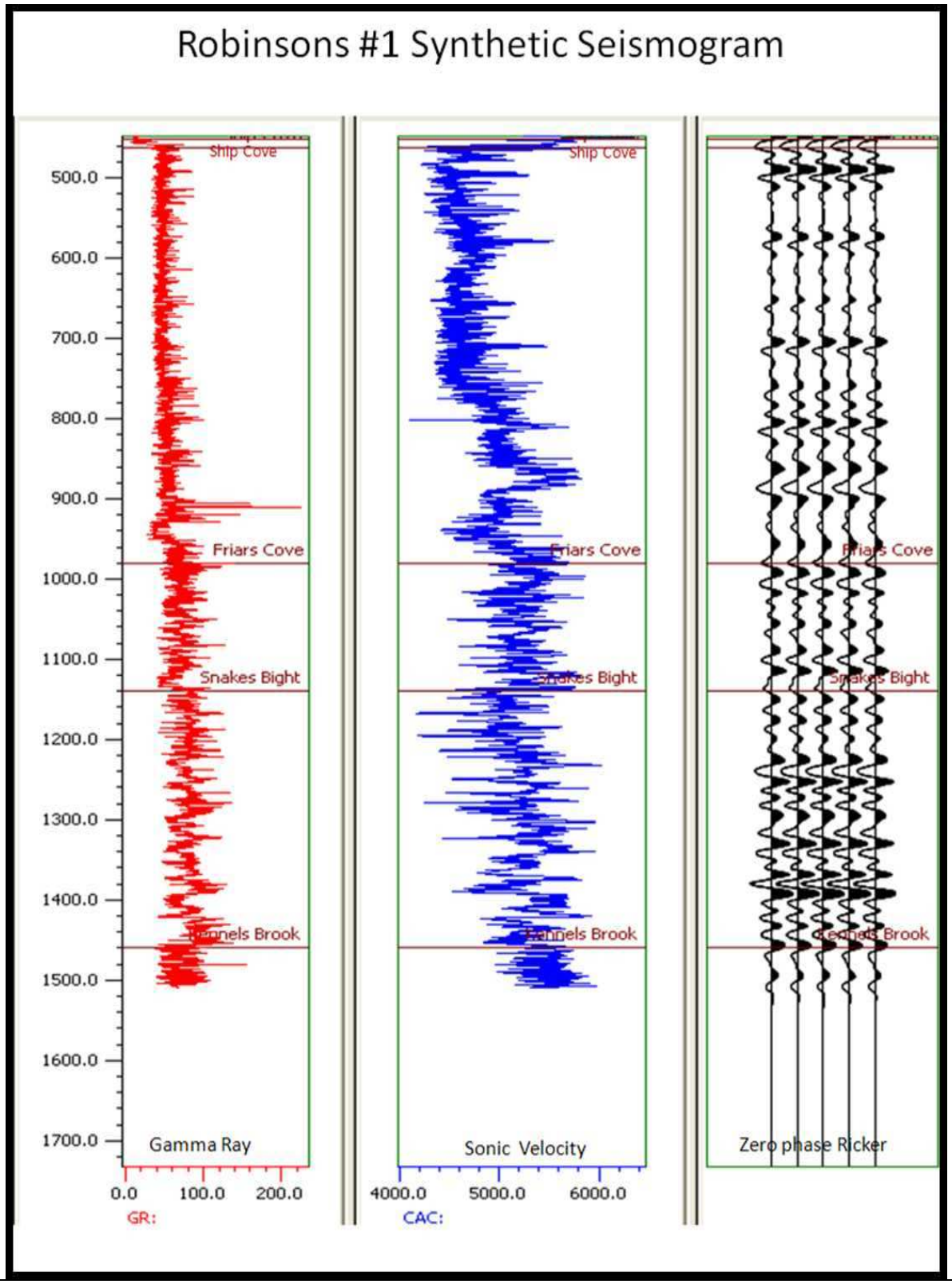
DST # 5 CHART

(See Written Report)



2517 – 2572 m

APPENDIX 10: SYNTHETIC SEISMIC INFORMATION


Robinsons #1 Synthetic Seismogram
Ship Cove
Friars Cove
Snakes Bight
Kennels Brook
500.0
600.0
700.0
800.0
900.0
1000.0
1100.0
1200.0
1300.0
1400.0
1500.0
1600.0
1700.0
Gamma Ray
0.0
100.0
200.0
GR:
Sonic Velocity
4000.0
5000.0
6000.0
CAC:
Zero phase Ricker

APPENDIX 11: ZVSP REPORT

ZERO OFFSET VSP
&
ACOUSTIC LOG CALIBRATION

REPORT

for

Vulcan Minerals Inc.

Well: Vulcan Investcan Robinson #1
Location: Newfoundland, Canada

Report Status:	**Final Report**
Authors:	Zhiqiang Luo
Reviewer:	Nicholas Dray
Date:	October 2009

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VSfusion
A Baker Hughes - CGGVeritas Company

In the processing and interpretation of the data, VSFusion employees have relied on experience and have exercised their best judgment. However, since all interpretations are opinions based on inferences from acoustical or other measurements, we cannot and we do not guarantee the accuracy or the correctness of any interpretations. As such, we shall not be liable for any loss, damages or expenses resulting from reliance on such interpretation.

CONTENTS

1 ACQUISTION AND PROCESSING

1.1 INTRODUCTION

Baker Atlas conducted a Zero Offset VSP Survey (ZVSP) for **Vulcan Minerals Inc.** in their **Vulcan Investcan Robinson #1** well, located in Canada.

The VSP was acquired in two runs ensuring good coupling of the downhole geophone to the formation and avoiding operating behind multiple strings of casing.

The objectives of the VSP survey were to:

- Provide time-depth information
- Generate a VSP corridor stack

At the time of the 2nd survey, the well had been drilled to depth of 3,560 m and cased to a depth of 2,058.5 m. All measured depths are referenced to the Kelly Bushing *(KB.)* elevation of 175.3 m above MSL. The ground elevation at the wellhead was 169 m above mean sea level.

The well had a maximum deviation of 13.24° at 3,560 m. KB. A well deviation survey report was used to correct the wireline measured depths to true vertical depth. A copy of the deviation survey is included as Enclosure 1C in the back of this report. The display of the deviation survey is included (Figure 3).

Table 1 is a summary of the survey acquisition information.

Table 1: Survey information

Run #	Survey Type	Depth Range from KB	# Levels	# of files	Tool	# Receivers
1	VSP	30 – 2,055 m	131	1,143	ASR	Single 5 Level
2	VSP	1,005 – 3,555 m	110	840	ASR	2 Level MLR

1.2 DATA ACQUISITION

The data were collected in 2 runs.

Run1: The survey began at 11:20 *hrs* on August 16, 2009 and was finished at 03:00 *hrs* on August 17, 2009 recording between 30 m and 2,055 m MD.

Run2: The survey began at 11:12 *hrs* on October 4, 2009 and was finished at 23:03 *hrs* on same day, recording between 1,005 m and 3,555 m MD.

The source used for both runs of the ZVSP survey was 500 cu. In. airgun array. Table 2 is a summary of the source location information for the 2 runs. The elevation of the source was 169 m above MSL. A reference hydrophone was positioned 1.4 m from the gun source array. The reference hydrophone was used for the time break correction and to monitor the source signature.

A 3-component, single ASR downhole receiver tool was used to record the first survey; a 3-component, 2 level, ASR downhole receiver array was used to record the 2nd survey. The inter-tool spacing was 15 m.

At the start of the survey, the wireline depth sensor was zeroed at the KB elevation and the tool was lowered down the well. As the tool was lowered down the well, it was stopped at a number of depths to check the equipment performance and depth control before reaching TD. The tool was going down the well until reaching a run 1 maximum depth of 2,055 m KB. The survey recording then proceeded as the geophone was raised to the shallowest station depth of 30 m KB. For the second run, the tool was stopped at a number of depths going down the well until reaching a maximum depth of 3,555 m KB. ZVSP survey recording then proceeded as the geophone was raised to the shallowest station depth of 1,950 m KB. The data from corresponding depth in both surveys yielded compatible results.

Data was gathered at 231 downhole receiver stations. There were a total of 1,983 files acquired during the two surveys. Data was recorded for 6 seconds using a one millisecond sampling rate.

The VSP survey configuration is shown on Figure 2. Enclosure 1A and Enclosure 1B contains the Field Engineer's reports for the both survey.

The source information is listed in table 2.

Table 2: Source information

Run #	Survey Type	Source from Easting	Source from Northing	Source Elevation from Sea Level	Source Depth Below Ground Level	Instrument Delay
1	ZVSP	-39.6 m	224.5 m	169 m	2.1 m	3.13 ms
2	ZVSP	-39.6 m	224.5 m	169 m	2.4 m	3.13 ms

For depth correlation, a gamma-ray wireline tool was placed at the top of the array tool to check on the geophone depth locations. As the receiver descends into the borehole, measurements are taken periodically using the gamma ray tool. Readings from the original wireline gamma ray and the receiver gamma ray are correlated. If a difference between the two gamma ray readings is found, the geophone tool depth is corrected to the original gamma-ray log depth. This ensures that the borehole seismic data will depth tie the wireline logs.

1.3 DATA PROCESSING

1.3.1 - Edit and Stack Raw Data

The three component digital data were reformatted and displayed. To determine the true digital start time, the true reference signal traces were examined and their onset times were picked. Each downhole geophone trace was subsequently shifted by the first break arrival time of its corresponding true reference trace. These arrival times were then corrected by 3.13 ms to compensate for the instrument (gun) delay. Each downhole geophone trace was subsequently shifted by the first break time value of the corresponding reference hydrophone trace. This shift will reference the downhole geophone traces to the depth of the source.

The downhole geophone traces for each depth level were edited as necessary and then stacked using a median summation algorithm. First break times were picked for each stacked trace. *Enclosure 5* displays the stacked raw data (3-component) for the VSP survey.

The vertical component was used for VSP processing and velocity analysis.

The accuracy of the depth sensor was checked by comparing the first-break times of the same levels occupied during the down and up runs of the tool and between runs. The time agreement was found to be acceptable. For consistency, the data occupied during the down trip of the tool was not used in any of the computations.

1.3.2 - Velocity Survey Computations

The observed first break times at each depth were converted to vertical times and then referenced to the seismic reference datum (SRD) of ground level using a correction velocity of 1,500 m/sec. These time-depth pairs were then used as the input data for the velocity survey computations. The computed average, RMS, and interval velocities are listed in Section 2 and displayed in *Enclosure 2*. The geophone levels not used in the computations are denoted on the time / depth listing by an asterisk and on the display by a small red box on the average/interval velocity track.

1.3.3- Acoustic Log Calibration

The input log data consisted of acoustic, caliper and gamma ray logs over the interval of 1,999.4 – 3,555.7 m measured depth below KB.

Prior to performing the acoustic log calibration, the VSP data are edited to remove levels affected by noise or casing arrivals. The data are then interactively examined during the calibration routine to check the first arrival times and ensure that no anomalous data are used.

For the log calibration, the acoustic log is integrated to produce a depth-indexed time log. The difference between the corrected checkshot time of the shallowest checkshot level (within the logged interval) and the corresponding log derived time is computed and the time log is then shifted by adding this value to all values of the acoustic time log. This will force the acoustic log to time tie the checkshot time at the depth of the first checkshot.

At each checkshot depth the time difference (drift) between the checkshot times and the acoustic times are computed. Calibration points are selected at discrete depth levels. The depths of these calibration points are chosen using two criteria. The first is that the calibration points divide the drift curve into intervals that contain approximately linear drift. The second is that the calibration points occur at a depth where a velocity contrast (typically formation boundaries) already exists. Choosing the calibration point at an area that exhibits a velocity change insures that no new (calibration generated) velocity contrasts are created. The calibration points used in the acoustic calibration are indicated with a triangular mark on the drift curve displayed in *Enclosure 2*.

Over each calibration interval, a constant time shift for each log sample is computed using the linear drift curve slope value. This constant time is added to all acoustic log values over the calibration interval. This effectively shifts the acoustic log over the calibration interval to match the check shot generated velocity values. This process is done over each calibration interval on the acoustic log. The calibrated log is then re-integrated and a residual drift curve is computed using the same methodology discussed above. The residual drift curve is shown in *Enclosure 2*.

Sections 2.1, 2.2, 2.3, & 2.4 contain the tabulated depth-time and velocity tables. Sections 3.1 & 3.2 contain the acoustic log calibration details.

The calibrated acoustic log corrected to TVD is supplied in digital form as an ascii file on the accompanying CD.

1.3.4 - ZVSP Processing

Spherical Divergence Correction

A compensation for amplitude decay due to spherical divergence was applied to the stacked vertical component data using an exponential gain function of T**2 (where T is the recorded time).

A display of the gained VSP total wavefield is shown in *panel 1* of *Enclosure 3*.

An f-k spectral analysis display of the gained VSP total wavefield is shown as Figure 4 and Figure 5.

The FK analysis shows that while some downgoing energy extends as high as 80 Hz, much of the energy is confined to below 50 Hz. Similarly, the upgoing energy is indistinct but does not extend beyond the band of 60 Hz noise.
There are large amounts of high amplitude noise present on many traces above 2,430 m MDKB. It was not possible to attenuate this noise whilst retaining valid data beneath so some traces were removed. Strong tube waves on the rest of the data were attenuated using dip median filter. A display of the edited VSP total wavefield is shown in *panel 3* of Enclosure 3.

Wavefield Separation

The upcoming and downgoing wavefields were separated using a median filter. The VSP total wavefield was time aligned using the direct arrival time of each trace. This time shift will align the compressional P downgoing wavefield. A constant 200 ms shift is then applied to ensure that no data is lost when the time shifts are removed.

An 11-trace median filter was applied to the aligned VSP total wavefield. This filter will pass the downgoing wavefield. The downgoing wavefield is then arithmetically subtracted from the total

wavefield. This subtracted dataset will contain the upcoming P waves, as well as any residual wave energy and noise.

A zero phase 10(18)-45(36) Hz (dB/Oct) bandpass filter was applied to the downgoing and residual upcoming wavefield.

The downgoing wavefield after wavefield separation is shown in *panel 4* of *Enclosure 3*.

The residual upcoming wavefield after wavefield separation is shown in *panel 6* of *Enclosure 3*.

Residual Upcoming Wavefield Enhancement

The residual upcoming wavefield is time aligned to two-way time. A 5-trace dip median filter was applied to the upcoming wavefield to remove unwanted wave modes and unwanted residual energy left in the dataset after the wavefield separation.

A zero phase 10(18)-45(36) Hz (dB/Oct) bandpass filter was applied to the enhanced upcoming wavefield. The upcoming wavefield is shown in *panel 8* of *Enclosure 3*.

VSP Downwave Deconvolution

VSP downwave deconvolution is a deterministic process. Because the downgoing wavetrain can be isolated from the VSP dataset, the reflectivity response of the earth at the well location is known for the VSP source wavelet. The downgoing VSP wavetrain contains the direct arrival source wavelet followed by multiple arrivals. Every event that follows the direct arrival is a downgoing multiple reflection.

The deconvolution process will analyze the downgoing wavetrain and compute an operator that will collapse a user specified portion of the downgoing wavetrain to a unit spike. This operator is then applied to the upcoming waves. The VSP downwave deconvolution will shape the input source wavelet to zero phase and collapse upcoming multiple reflections generated above the depth of the deepest receiver.

A 700 ms operator was used to collapse the downgoing wavetrain to a unit spike. A zero phase 10(18)-45(36) Hz (dB/Oct) bandpass filter was applied to the deconvolved data. The deconvolved downgoing and upcoming wavefields are shown in *panel 5* and *panel 9* of *Enclosure 3*.

Datum Correction

The upcoming wavefield data was time corrected to seismic datum using a correctional velocity of 1,500 m/sec.

Post Deconvolution Median Filter

A 5-trace dip median filter is applied to the datum corrected upcoming waves. This filter will remove random high frequency noise generated by the deconvolution process. A zero phase 10(18)-45(36) Hz (dB/Oct) bandpass filter was applied to the median filtered upcoming wavefield. The post deconvolution median filtered upcoming wavefield is shown in *panel 10* of *Enclosure 3*.

Corridor Mute and Stack

A narrow time window close to the first arrival time on each trace was carefully chosen. The time window is designed to include only traces whose reflection character is similar enough to be included in the stack and is kept relatively short to exclude long travel path reflections. The data that lies outside of the stacking corridor is muted. The display of the corridor window is shown in *panel 11* of *Enclosure 3*.

The data in this time window is then stacked to generate a single VSP corridor stack trace. This stacked trace is repeated 16 times for visual clarity and represents the seismic response at the wellbore.

Bandpass filters of 10(18)-45(36), 10(18)-35(36), 10(18)-25(36) and 10(18)-20(36) Hz (dB/Oct) were applied to the corridor stack data. Displays of the corridor stacks for both normal and reversed polarities at four frequency bands are included on *Enclosure 4* at 5 in/sec (Corridor Stack Display).

Polarity

VSP data after deconvolution, normal polarity shows a positive reflection coefficient as a peak. This corresponds to SEG convention.

1.4 ACQUISITION PARAMETERS

Client: **Vulcan Minerals Inc.**
Well: **Vulcan Investcan Robinson #1**
Location: **Canada**
Survey Type: Zero Offset VSP
Date Survey Completed: 17 August, 2009 for run 1
4 October, 2009 for run 2
Wireline Contractor: Baker Atlas
Casing: 45 mm from 0 to 829 m MDKB
311 mm from 829 to 2.058 m MDKB

Total Depth: 3,555 m MDKB

Elevations:
Kelly Bushing Elevation: 175.3 m above sea level
Ground Elevation at Wellhead: 169 m above mean sea level
Seismic Datum: Ground level

Recording System:
Type: VSProwess
Format: RCD
Record Length: 6 seconds
Sample Rate: 1 msec

Geophone
Geophone Type: 3-component, single level ASR for run1
3-component, 2 level, ASR for run2

Total Number of Levels Occupied: 231 levels
Shallowest Geophone Level: 30 m (K.B.)
Deepest Geophone Level: 3,555 m (K.B.)
Quality of Geophone Breaks: poor above 2,430 m depth level

Source:

Table 3: Source information

Run #	Survey Type	Source from Easting	Source from Northing	Source Elevation from Sea Level	Source Depth Below Ground Level
1	ZVSP	-39.6 m	224.5 m	169 m	2.1 m
2	ZVSP	-39.6 m	224.5 m	169 m	2.4 m

Personnel:
Seismic Observer: Lloyd Hicks
Client Representative: Phonse Fagan

2 VELOCITY SURVEY COMPUTATIONS

2.1 VELOCITY SURVEY

CLIENT	VULCAN MINERALS INC.
WELL	ROBINSON #1
AREA	CANADA
CONTRACTOR	BAKER ATLAS
SURVEY DATE	16 AUG 09
SURVEY UNITS	M
RCVR REF. ELEVATION	175.30 M ABOVE SEA LEVEL
DATUM ELEVATION	169.00 M ABOVE SEA LEVEL
KB ELEVATION	175.30 M ABOVE SEA LEVEL
WELL GROUND ELEVATION	169.00 M ABOVE SEA LEVEL
DATUM CORRECT. VELOCITY	1500.00 M /SEC
SOURCE TYPE	AIR GUN
GEOPHONE TYPE	ANALOG
SAMPLE RATE	1.00 MSEC
WELL CASING	445 MM FROM 0 TO 829 M
	311 MM FROM 829 TO 2,058 M

VULCAN MINERALS INC.
WELL ROBINSON #1

2.2 DIRECTIONAL SURVEY

CONTRACTOR BAKER ATLAS
SURVEY DATE 16 AUG 09
REFERENCE ELEVATION 175.30 M ABOVE SEA LEVEL

MEASURED DEPTH (M)	VERTICAL DEPTH (M)	NORTH-SOUTH COORDINATE NORTH = + (M)	EAST-WEST COORDINATE EAST = + (M)
0.00	0.00	0.00	0.00
103.36	103.32	0.19	2.36
131.01	130.94	0.25	3.72
158.44	158.33	0.25	5.18
185.36	185.20	0.25	6.79
212.92	212.71	0.33	8.54
234.43	234.17	0.49	9.88
254.23	253.94	0.70	11.09
268.64	268.32	0.89	11.92
282.12	281.78	1.13	12.67
295.43	295.07	1.40	13.40
308.96	308.57	1.67	14.13
323.03	322.62	1.98	14.90
337.43	336.99	2.32	15.71
350.99	350.53	2.63	16.44
364.29	363.81	2.94	17.14
377.43	376.93	3.25	17.80
391.66	391.14	3.53	18.37
405.24	404.71	3.75	18.80
419.00	418.46	4.00	19.24
432.77	432.22	4.33	19.75
446.38	445.81	4.73	20.35
460.67	460.07	5.22	21.07
474.04	473.41	5.72	21.86
487.33	486.66	6.21	22.75
500.97	500.26	6.72	23.72
514.76	514.00	7.24	24.79
529.05	528.22	7.74	26.02
542.90	542.01	8.27	27.30
556.44	555.47	8.87	28.61
570.53	569.48	9.53	29.91
584.01	582.91	10.14	30.95
597.01	595.87	10.78	31.70
610.61	609.44	11.45	32.39
624.10	622.89	12.05	33.11
638.29	637.05	12.66	33.86
652.34	651.07	13.23	34.58
665.87	664.58	13.75	35.22
679.36	678.05	14.27	35.74
695.52	694.19	14.91	36.15
706.77	705.43	15.37	36.29
720.73	719.38	15.94	36.38
732.34	730.98	16.39	36.39
761.95	760.56	17.59	36.54
775.58	774.18	18.16	36.71
789.59	788.18	18.67	36.97
806.75	805.33	19.14	37.42
831.82	830.38	19.68	38.16
844.74	843.29	19.95	38.50

MEASURED DEPTH (M)	VERTICAL DEPTH (M)	NORTH-SOUTH COORDINATE NORTH = + (M)	EAST-WEST COORDINATE EAST = + (M)
858.31	856.85	20.23	38.81
872.27	870.81	20.49	39.10
885.85	884.38	20.77	39.39
899.79	898.32	21.06	39.68
913.43	911.95	21.36	39.94
927.28	925.80	21.67	40.17
941.80	940.31	21.98	40.39
954.57	953.08	22.27	40.59
968.34	966.84	22.55	40.79
982.51	981.01	22.84	40.97
995.79	994.28	23.15	41.14
1009.85	1008.34	23.48	41.35
1023.38	1021.86	23.76	41.54
1036.69	1035.17	24.04	41.71
1100.00	1098.46	25.26	42.41
1170.00	1168.46	25.93	42.79
1265.00	1263.45	26.82	43.30
1362.00	1360.43	28.48	44.25
1456.00	1454.42	30.08	45.17
1648.00	1646.37	33.71	47.25
1702.00	1700.35	34.94	47.95
1801.00	1799.32	37.00	49.14
1907.00	1905.30	39.00	50.29
2054.00	2052.24	42.62	52.36
2103.00	2101.21	44.10	53.21
2157.00	2155.17	45.94	54.26
2211.36	2209.46	47.67	52.86
2266.45	2264.31	49.34	48.01
2295.75	2293.43	50.40	44.94
2309.42	2307.01	50.90	43.51
2323.33	2320.85	51.34	42.17
2336.99	2334.46	51.67	41.01
2350.08	2347.50	52.02	39.91
2364.18	2361.54	52.42	38.72
2378.64	2375.95	52.78	37.55
2391.38	2388.65	53.07	36.59
2405.14	2402.37	53.31	35.58
2418.82	2416.01	53.49	34.59
2432.99	2430.14	53.69	33.56
2446.36	2443.48	53.86	32.60
2459.80	2456.88	54.01	31.61
2473.38	2470.42	54.14	30.54
2487.56	2484.55	54.29	29.40
2500.86	2497.81	54.46	28.32
2514.52	2511.42	54.59	27.27
2528.81	2525.68	54.71	26.28
2541.93	2538.77	54.83	25.45
2556.18	2553.00	54.96	24.58
2569.27	2566.05	55.11	23.67
2582.84	2579.58	55.31	22.62
2597.24	2593.94	55.55	21.62
2610.98	2607.66	55.80	20.87
2624.19	2620.85	56.09	20.23
2638.93	2635.57	56.46	19.42
2652.53	2649.13	56.80	18.52
2665.21	2661.77	57.09	17.59
2678.97	2675.50	57.42	16.76
2692.92	2689.44	57.77	16.23

MEASURED DEPTH (M)	VERTICAL DEPTH (M)	NORTH-SOUTH COORDINATE NORTH = + (M)	EAST-WEST COORDINATE EAST = + (M)
2706.24	2702.75	58.12	15.75
2720.92	2717.40	58.57	15.05
2734.01	2730.47	58.99	14.33
2761.60	2757.99	59.56	12.54
2775.45	2771.80	59.64	11.47
2789.61	2785.92	59.70	10.38
2802.43	2798.72	59.76	9.64
2817.22	2813.49	59.88	8.97
2830.18	2826.43	60.02	8.31
2843.25	2839.48	60.27	7.55
2857.80	2853.99	60.74	6.64
2871.65	2867.81	61.22	5.83
2885.27	2881.40	61.64	5.08
2899.02	2895.12	62.06	4.27
2912.43	2908.50	62.49	3.47
2926.39	2922.44	62.90	2.75
2940.21	2936.24	63.15	2.26
2953.98	2950.00	63.28	1.75
2966.90	2962.91	63.46	1.07
2980.69	2976.67	63.76	0.27
2994.76	2990.71	64.18	-0.44
3008.46	3004.39	64.67	-1.11
3021.91	3017.81	65.19	-1.88
3035.44	3031.29	65.79	-2.83
3048.91	3044.70	66.48	-3.95
3063.35	3059.06	67.30	-5.23
3076.72	3072.36	68.06	-6.35
3090.57	3086.15	68.86	-7.37
3104.38	3099.90	69.66	-8.31
3117.81	3113.27	70.46	-9.27
3131.54	3126.94	71.22	-10.36
3145.49	3140.82	71.92	-11.52
3158.75	3154.02	72.60	-12.66
3172.05	3167.24	73.32	-13.82
3186.28	3181.39	74.17	-15.16
3200.41	3195.40	75.09	-16.75
3213.77	3208.61	76.04	-18.50
3227.96	3222.60	77.09	-20.58
3241.40	3235.85	78.08	-22.62
3254.57	3248.86	78.98	-24.49
3268.54	3262.68	79.84	-26.29
3282.21	3276.21	80.70	-28.07
3295.66	3289.50	81.64	-29.89
3309.34	3303.03	82.57	-31.73
3323.39	3316.92	83.50	-33.60
3337.46	3330.81	84.46	-35.60
3352.25	3345.39	85.50	-37.89
3365.50	3358.42	86.49	-40.10
3378.04	3370.72	87.51	-42.30
3391.88	3384.28	88.68	-44.78
3406.35	3398.45	89.95	-47.46
3419.41	3411.22	91.15	-49.91
3433.19	3424.70	92.41	-52.48
3448.17	3439.36	93.75	-55.24
3460.80	3451.72	94.89	-57.58
3474.10	3464.72	96.16	-60.10
3488.23	3478.52	97.51	-62.79
3501.86	3491.84	98.79	-65.37

MEASURED DEPTH	VERTICAL DEPTH	NORTH-SOUTH COORDINATE NORTH = +	EAST-WEST COORDINATE EAST = +
(M)	(M)	(M)	(M)
3516.01	3505.66	100.22	-68.05
3529.26	3518.59	101.63	-70.58
3542.55	3531.55	103.04	-73.17
3560.00	3548.55	104.86	-76.67

VULCAN MINERALS INC.
WELL ROBINSON #1

2.3 SOURCE / RECEIVER GEOMETRY TABLE

RECEIVER REFERENCE ELEVATION = 175.30 M ABOVE SEA LEVEL
SOURCE / RECEIVER COORDINATES ARE REFERENCED TO WELLHEAD
SOURCE / RECEIVER (S-R) OFFSET IS PLAN VIEW

---------- RECEIVER ----------				--------- SOURCE ----------				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
30.0	30.0	0.7	0.1	169.0	2.1	-12.1	68.4	69.6
60.0	60.0	1.4	0.1	169.0	2.1	-12.1	68.4	69.6
90.0	90.0	2.1	0.2	169.0	2.1	-12.1	68.4	69.7
120.0	119.9	3.2	0.2	169.0	2.1	-12.1	68.4	69.9
150.0	149.9	4.7	0.2	169.0	2.1	-12.1	68.4	70.2
180.0	179.8	6.5	0.2	169.0	2.1	-12.1	68.4	70.7
195.0	194.8	7.4	0.3	169.0	2.1	-12.1	68.4	70.9
210.0	209.8	8.4	0.3	169.0	2.1	-12.1	68.4	71.1
225.0	224.8	9.3	0.4	169.0	2.1	-12.1	68.4	71.3
240.0	239.7	10.2	0.5	169.0	2.1	-12.1	68.4	71.5
255.0	254.7	11.1	0.7	169.0	2.1	-12.1	68.4	71.6
270.0	269.7	12.0	0.9	169.0	2.1	-12.1	68.4	71.7
285.0	284.7	12.8	1.2	169.0	2.1	-12.1	68.4	71.7
300.0	299.6	13.6	1.5	169.0	2.1	-12.1	68.4	71.7
315.0	314.6	14.5	1.8	169.0	2.1	-12.1	68.4	71.7
330.0	329.6	15.3	2.1	169.0	2.1	-12.1	68.4	71.7
345.0	344.5	16.1	2.5	169.0	2.1	-12.1	68.4	71.7
360.0	359.5	16.9	2.8	169.0	2.1	-12.1	68.4	71.7
375.0	374.5	17.7	3.2	169.0	2.1	-12.1	68.4	71.7
390.0	389.5	18.3	3.5	169.0	2.1	-12.1	68.4	71.7
405.0	404.5	18.8	3.7	169.0	2.1	-12.1	68.4	71.7
420.0	419.5	19.3	4.0	169.0	2.1	-12.1	68.4	71.6
435.0	434.4	19.8	4.4	169.0	2.1	-12.1	68.4	71.6
450.0	449.4	20.5	4.9	169.0	2.1	-12.1	68.4	71.5
465.0	464.4	21.3	5.4	169.0	2.1	-12.1	68.4	71.4
480.0	479.4	22.3	5.9	169.0	2.1	-12.1	68.4	71.3
495.0	494.3	23.3	6.5	169.0	2.1	-12.1	68.4	71.3
510.0	509.3	24.4	7.1	169.0	2.1	-12.1	68.4	71.4
525.0	524.2	25.7	7.6	169.0	2.1	-12.1	68.4	71.6
540.0	539.1	27.0	8.2	169.0	2.1	-12.1	68.4	71.9
555.0	554.0	28.5	8.8	169.0	2.1	-12.1	68.4	72.1
570.0	569.0	29.9	9.5	169.0	2.1	-12.1	68.4	72.3
585.0	583.9	31.0	10.2	169.0	2.1	-12.1	68.4	72.5
600.0	598.9	31.9	10.9	169.0	2.1	-12.1	68.4	72.4
615.0	613.8	32.6	11.6	169.0	2.1	-12.1	68.4	72.3
630.0	628.8	33.4	12.3	169.0	2.1	-12.1	68.4	72.3
645.0	643.7	34.2	12.9	169.0	2.1	-12.1	68.4	72.3
660.0	658.7	34.9	13.5	169.0	2.1	-12.1	68.4	72.3
675.0	673.7	35.6	14.1	169.0	2.1	-12.1	68.4	72.3
690.0	688.7	36.0	14.7	169.0	2.1	-12.1	68.4	72.1
705.0	703.7	36.3	15.3	169.0	2.1	-12.1	68.4	71.8
720.0	718.7	36.4	15.9	169.0	2.1	-12.1	68.4	71.5
735.0	733.6	36.4	16.5	169.0	2.1	-12.1	68.4	71.0
750.0	748.6	36.5	17.1	169.0	2.1	-12.1	68.4	70.7
765.0	763.6	36.6	17.7	169.0	2.1	-12.1	68.4	70.3
780.0	778.6	36.8	18.3	169.0	2.1	-12.1	68.4	70.0
795.0	793.6	37.1	18.8	169.0	2.1	-12.1	68.4	69.9
810.0	808.6	37.5	19.2	169.0	2.1	-12.1	68.4	69.9

---------- RECEIVER ----------				--------- SOURCE ----------				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
825.0	823.6	38.0	19.5	169.0	2.1	-12.1	68.4	70.0
840.0	838.6	38.4	19.9	169.0	2.1	-12.1	68.4	70.0
855.0	853.5	38.7	20.2	169.0	2.1	-12.1	68.4	70.1
870.0	868.5	39.1	20.4	169.0	2.1	-12.1	68.4	70.1
885.0	883.5	39.4	20.8	169.0	2.1	-12.1	68.4	70.1
900.0	898.5	39.7	21.1	169.0	2.1	-12.1	68.4	70.2
915.0	913.5	40.0	21.4	169.0	2.1	-12.1	68.4	70.2
930.0	928.5	40.2	21.7	169.0	2.1	-12.1	68.4	70.1
945.0	943.5	40.4	22.1	169.0	2.1	-12.1	68.4	70.1
960.0	958.5	40.7	22.4	169.0	2.1	-12.1	68.4	70.0
975.0	973.5	40.9	22.7	169.0	2.1	-12.1	68.4	70.0
990.0	988.5	41.1	23.0	169.0	2.1	-12.1	68.4	69.9
1005.0	1003.5	41.3	23.4	169.0	2.1	-12.1	68.4	69.8
1020.0	1018.5	41.5	23.7	169.0	2.1	-12.1	68.4	69.8
1035.0	1033.5	41.7	24.0	169.0	2.1	-12.1	68.4	69.7
1050.0	1048.5	41.9	24.3	169.0	2.1	-12.1	68.4	69.7
1065.0	1063.5	42.0	24.6	169.0	2.1	-12.1	68.4	69.6
1080.0	1078.5	42.2	24.9	169.0	2.1	-12.1	68.4	69.6
1095.0	1093.5	42.4	25.2	169.0	2.1	-12.1	68.4	69.5
1110.0	1108.5	42.5	25.4	169.0	2.1	-12.1	68.4	69.5
1125.0	1123.5	42.5	25.5	169.0	2.1	-12.1	68.4	69.5
1140.0	1138.5	42.6	25.6	169.0	2.1	-12.1	68.4	69.5
1155.0	1153.5	42.7	25.8	169.0	2.1	-12.1	68.4	69.4
1170.0	1168.5	42.8	25.9	169.0	2.1	-12.1	68.4	69.4
1185.0	1183.5	42.9	26.1	169.0	2.1	-12.1	68.4	69.4
1200.0	1198.5	43.0	26.2	169.0	2.1	-12.1	68.4	69.4
1215.0	1213.5	43.0	26.4	169.0	2.1	-12.1	68.4	69.3
1230.0	1228.5	43.1	26.5	169.0	2.1	-12.1	68.4	69.3
1245.0	1243.5	43.2	26.6	169.0	2.1	-12.1	68.4	69.3
1260.0	1258.5	43.3	26.8	169.0	2.1	-12.1	68.4	69.3
1275.0	1273.4	43.4	27.0	169.0	2.1	-12.1	68.4	69.2
1290.0	1288.4	43.5	27.2	169.0	2.1	-12.1	68.4	69.2
1305.0	1303.4	43.7	27.5	169.0	2.1	-12.1	68.4	69.2
1320.0	1318.4	43.8	27.8	169.0	2.1	-12.1	68.4	69.1
1335.0	1333.4	44.0	28.0	169.0	2.1	-12.1	68.4	69.1
1350.0	1348.4	44.1	28.3	169.0	2.1	-12.1	68.4	69.1
1365.0	1363.4	44.3	28.5	169.0	2.1	-12.1	68.4	69.1
1380.0	1378.4	44.4	28.8	169.0	2.1	-12.1	68.4	69.0
1395.0	1393.4	44.6	29.0	169.0	2.1	-12.1	68.4	69.0
1410.0	1408.4	44.7	29.3	169.0	2.1	-12.1	68.4	69.0
1425.0	1423.4	44.9	29.6	169.0	2.1	-12.1	68.4	69.0
1440.0	1438.4	45.0	29.8	169.0	2.1	-12.1	68.4	68.9
1455.0	1453.4	45.2	30.1	169.0	2.1	-12.1	68.4	68.9
1470.0	1468.4	45.3	30.3	169.0	2.1	-12.1	68.4	68.9
1485.0	1483.4	45.5	30.6	169.0	2.1	-12.1	68.4	68.9
1500.0	1498.4	45.6	30.9	169.0	2.1	-12.1	68.4	68.8
1515.0	1513.4	45.8	31.2	169.0	2.1	-12.1	68.4	68.8
1530.0	1528.4	46.0	31.5	169.0	2.1	-12.1	68.4	68.8
1545.0	1543.4	46.1	31.8	169.0	2.1	-12.1	68.4	68.8
1560.0	1558.4	46.3	32.0	169.0	2.1	-12.1	68.4	68.8
1575.0	1573.4	46.5	32.3	169.0	2.1	-12.1	68.4	68.8
1590.0	1588.4	46.6	32.6	169.0	2.1	-12.1	68.4	68.8
1605.0	1603.4	46.8	32.9	169.0	2.1	-12.1	68.4	68.8
1620.0	1618.4	46.9	33.2	169.0	2.1	-12.1	68.4	68.7
1635.0	1633.4	47.1	33.5	169.0	2.1	-12.1	68.4	68.7
1650.0	1648.4	47.3	33.8	169.0	2.1	-12.1	68.4	68.7
1665.0	1663.4	47.5	34.1	169.0	2.1	-12.1	68.4	68.7

---------- RECEIVER ----------				--------- SOURCE ----------				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
1680.0	1678.4	47.7	34.4	169.0	2.1	-12.1	68.4	68.7
1695.0	1693.4	47.9	34.8	169.0	2.1	-12.1	68.4	68.7
1710.0	1708.3	48.0	35.1	169.0	2.1	-12.1	68.4	68.7
1725.0	1723.3	48.2	35.4	169.0	2.1	-12.1	68.4	68.7
1740.0	1738.3	48.4	35.7	169.0	2.1	-12.1	68.4	68.8
1755.0	1753.3	48.6	36.0	169.0	2.1	-12.1	68.4	68.8
1770.0	1768.3	48.8	36.4	169.0	2.1	-12.1	68.4	68.8
1785.0	1783.3	48.9	36.7	169.0	2.1	-12.1	68.4	68.8
1800.0	1798.3	49.1	37.0	169.0	2.1	-12.1	68.4	68.8
1815.0	1813.3	49.3	37.3	169.0	2.1	-12.1	68.4	68.8
1830.0	1828.3	49.5	37.5	169.0	2.1	-12.1	68.4	68.8
1845.0	1843.3	49.6	37.8	169.0	2.1	-12.1	68.4	68.9
1860.0	1858.3	49.8	38.1	169.0	2.1	-12.1	68.4	68.9
1875.0	1873.3	49.9	38.4	169.0	2.1	-12.1	68.4	68.9
1890.0	1888.3	50.1	38.7	169.0	2.1	-12.1	68.4	68.9
1905.0	1903.3	50.3	39.0	169.0	2.1	-12.1	68.4	69.0
1920.0	1918.3	50.5	39.3	169.0	2.1	-12.1	68.4	69.0
1935.0	1933.3	50.7	39.7	169.0	2.1	-12.1	68.4	69.0
1950.0	1948.3	50.9	40.1	169.0	2.1	-12.1	68.4	69.1
1965.0	1963.3	51.1	40.4	169.0	2.1	-12.1	68.4	69.1
1980.0	1978.3	51.3	40.8	169.0	2.1	-12.1	68.4	69.2
1995.0	1993.3	51.5	41.2	169.0	2.1	-12.1	68.4	69.2
2010.0	2008.3	51.7	41.5	169.0	2.1	-12.1	68.4	69.3
2025.0	2023.3	52.0	41.9	169.0	2.1	-12.1	68.4	69.3
2040.0	2038.2	52.2	42.3	169.0	2.4	-12.1	68.4	69.4
2055.0	2053.2	52.4	42.7	169.0	2.4	-12.1	68.4	69.4
2070.0	2068.2	52.6	43.1	169.0	2.4	-12.1	68.4	69.5
2085.0	2083.2	52.9	43.6	169.0	2.4	-12.1	68.4	69.6
2100.0	2098.2	53.2	44.0	169.0	2.4	-12.1	68.4	69.7
2115.0	2113.2	53.4	44.5	169.0	2.4	-12.1	68.4	69.7
2130.0	2128.2	53.7	45.0	169.0	2.4	-12.1	68.4	69.8
2145.0	2143.2	54.0	45.5	169.0	2.4	-12.1	68.4	70.0
2160.0	2158.2	54.2	46.0	169.0	2.4	-12.1	68.4	69.9
2175.0	2173.1	53.8	46.5	169.0	2.4	-12.1	68.4	69.4
2190.0	2188.1	53.4	47.0	169.0	2.4	-12.1	68.4	68.9
2205.0	2203.1	53.0	47.5	169.0	2.4	-12.1	68.4	68.4
2220.0	2218.1	52.1	47.9	169.0	2.4	-12.1	68.4	67.4
2235.0	2233.0	50.8	48.4	169.0	2.4	-12.1	68.4	66.0
2250.0	2247.9	49.5	48.8	169.0	2.4	-12.1	68.4	64.6
2265.0	2262.9	48.1	49.3	169.0	2.4	-12.1	68.4	63.2
2280.0	2277.8	46.6	49.8	169.0	2.4	-12.1	68.4	61.5
2295.0	2292.7	45.0	50.4	169.0	2.4	-12.1	68.4	59.9
2310.0	2307.6	43.5	50.9	169.0	2.4	-12.1	68.4	58.2
2325.0	2322.5	42.0	51.4	169.0	2.4	-12.1	68.4	56.7
2340.0	2337.5	40.8	51.8	169.0	2.4	-12.1	68.4	55.4
2355.0	2352.4	39.5	52.2	169.0	2.4	-12.1	68.4	54.1
2370.0	2367.3	38.2	52.6	169.0	2.4	-12.1	68.4	52.8
2385.0	2382.3	37.1	52.9	169.0	2.4	-12.1	68.4	51.5
2400.0	2397.2	36.0	53.2	169.0	2.4	-12.1	68.4	50.4
2415.0	2412.2	34.9	53.4	169.0	2.4	-12.1	68.4	49.3
2430.0	2427.2	33.8	53.6	169.0	2.4	-12.1	68.4	48.2
2445.0	2442.1	32.7	53.8	169.0	2.4	-12.1	68.4	47.1
2460.0	2457.1	31.6	54.0	169.0	2.4	-12.1	68.4	46.0
2475.0	2472.0	30.4	54.2	169.0	2.4	-12.1	68.4	44.8
2490.0	2487.0	29.2	54.3	169.0	2.4	-12.1	68.4	43.6
2505.0	2501.9	28.0	54.5	169.0	2.4	-12.1	68.4	42.4
2520.0	2516.9	26.9	54.6	169.0	2.4	-12.1	68.4	41.3

---------- RECEIVER ----------				--------- SOURCE ----------				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
2535.0	2531.9	25.9	54.8	169.0	2.4	-12.1	68.4	40.3
2550.0	2546.8	25.0	54.9	169.0	2.4	-12.1	68.4	39.4
2565.0	2561.8	24.0	55.1	169.0	2.4	-12.1	68.4	38.4
2580.0	2576.7	22.8	55.3	169.0	2.4	-12.1	68.4	37.3
2595.0	2591.7	21.8	55.5	169.0	2.4	-12.1	68.4	36.2
2610.0	2606.7	20.9	55.8	169.0	2.4	-12.1	68.4	35.3
2625.0	2621.7	20.2	56.1	169.0	2.4	-12.1	68.4	34.5
2640.0	2636.6	19.3	56.5	169.0	2.4	-12.1	68.4	33.6
2655.0	2651.6	18.3	56.9	169.0	2.4	-12.1	68.4	32.5
2670.0	2666.5	17.3	57.2	169.0	2.4	-12.1	68.4	31.4
2685.0	2681.5	16.5	57.6	169.0	2.4	-12.1	68.4	30.6
2700.0	2696.5	16.0	58.0	169.0	2.4	-12.1	68.4	29.9
2715.0	2711.5	15.3	58.4	169.0	2.4	-12.1	68.4	29.2
2730.0	2726.5	14.6	58.9	169.0	2.4	-12.1	68.4	28.3
2745.0	2741.4	13.6	59.2	169.0	2.4	-12.1	68.4	27.3
2760.0	2756.4	12.6	59.5	169.0	2.4	-12.1	68.4	26.3
2775.0	2771.4	11.5	59.6	169.0	2.4	-12.1	68.4	25.2
2790.0	2786.3	10.4	59.7	169.0	2.4	-12.1	68.4	24.1
2805.0	2801.3	9.5	59.8	169.0	2.4	-12.1	68.4	23.3
2820.0	2816.3	8.8	59.9	169.0	2.4	-12.1	68.4	22.6
2835.0	2831.2	8.0	60.1	169.0	2.4	-12.1	68.4	21.8
2850.0	2846.2	7.1	60.5	169.0	2.4	-12.1	68.4	20.8
2865.0	2861.2	6.2	61.0	169.0	2.4	-12.1	68.4	19.7
2880.0	2876.1	5.4	61.5	169.0	2.4	-12.1	68.4	18.8
2895.0	2891.1	4.5	61.9	169.0	2.4	-12.1	68.4	17.8
2910.0	2906.1	3.6	62.4	169.0	2.4	-12.1	68.4	16.8
2925.0	2921.1	2.8	62.9	169.0	2.4	-12.1	68.4	15.9
2940.0	2936.0	2.3	63.1	169.0	2.4	-12.1	68.4	15.3
2955.0	2951.0	1.7	63.3	169.0	2.4	-12.1	68.4	14.7
2970.0	2966.0	0.9	63.5	169.0	2.4	-12.1	68.4	13.9
2985.0	2981.0	0.1	63.9	169.0	2.4	-12.1	68.4	12.9
3000.0	2995.9	-0.7	64.4	169.0	2.4	-12.1	68.4	12.1
3015.0	3010.9	-1.5	64.9	169.0	2.4	-12.1	68.4	11.2
3030.0	3025.9	-2.4	65.5	169.0	2.4	-12.1	68.4	10.0
3045.0	3040.8	-3.6	66.3	169.0	2.4	-12.1	68.4	8.7
3060.0	3055.7	-4.9	67.1	169.0	2.4	-12.1	68.4	7.3
3075.0	3070.6	-6.2	68.0	169.0	2.4	-12.1	68.4	5.9
3090.0	3085.6	-7.3	68.8	169.0	2.4	-12.1	68.4	4.8
3105.0	3100.5	-8.4	69.7	169.0	2.4	-12.1	68.4	3.9
3120.0	3115.5	-9.4	70.6	169.0	2.4	-12.1	68.4	3.4
3135.0	3130.4	-10.6	71.4	169.0	2.4	-12.1	68.4	3.3
3150.0	3145.3	-11.9	72.2	169.0	2.4	-12.1	68.4	3.7
3165.0	3160.2	-13.2	72.9	169.0	2.4	-12.1	68.4	4.6
3180.0	3175.1	-14.6	73.8	169.0	2.4	-12.1	68.4	5.9
3195.0	3190.0	-16.1	74.7	169.0	2.4	-12.1	68.4	7.5
3210.0	3204.9	-18.0	75.8	169.0	2.4	-12.1	68.4	9.4
3225.0	3219.7	-20.1	76.9	169.0	2.4	-12.1	68.4	11.7
3240.0	3234.5	-22.4	78.0	169.0	2.4	-12.1	68.4	14.1
3255.0	3249.3	-24.5	79.0	169.0	2.4	-12.1	68.4	16.3
3270.0	3264.1	-26.5	79.9	169.0	2.4	-12.1	68.4	18.4
3285.0	3279.0	-28.4	80.9	169.0	2.4	-12.1	68.4	20.6
3300.0	3293.8	-30.5	81.9	169.0	2.4	-12.1	68.4	22.8
3315.0	3308.6	-32.5	82.9	169.0	2.4	-12.1	68.4	25.0
3330.0	3323.4	-34.5	84.0	169.0	2.4	-12.1	68.4	27.3
3345.0	3338.2	-36.8	85.0	169.0	2.4	-12.1	68.4	29.7
3360.0	3353.0	-39.2	86.1	169.0	2.4	-12.1	68.4	32.3
3375.0	3367.7	-41.8	87.3	169.0	2.4	-12.1	68.4	35.2

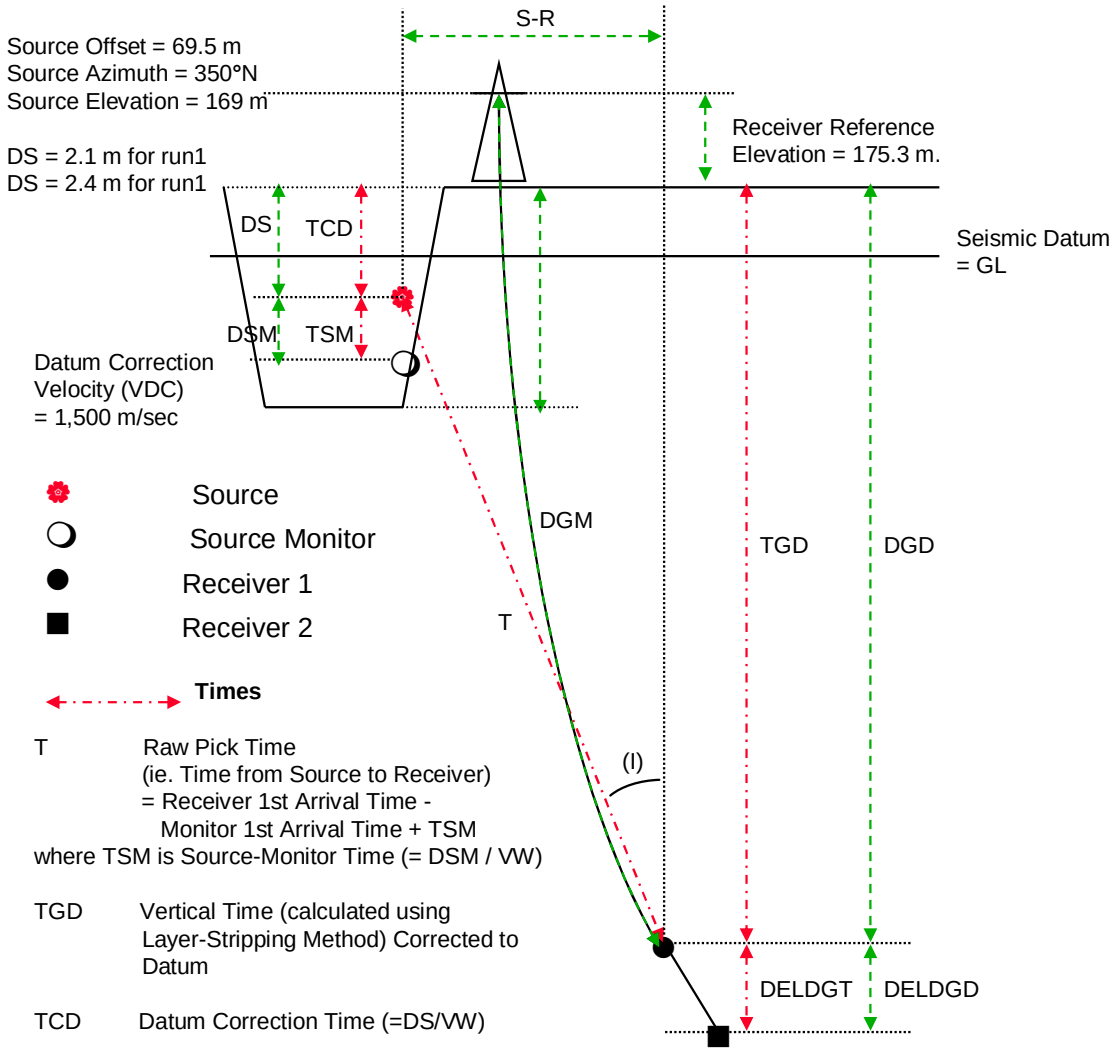
---------- RECEIVER ----------				--------- SOURCE ----------				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
3390.0	3382.4	-44.4	88.5	169.0	2.4	-12.1	68.4	38.1
3405.0	3397.1	-47.2	89.8	169.0	2.4	-12.1	68.4	41.1
3420.0	3411.8	-50.0	91.2	169.0	2.4	-12.1	68.4	44.3
3435.0	3426.5	-52.8	92.6	169.0	2.4	-12.1	68.4	47.4
3450.0	3441.2	-55.6	93.9	169.0	2.4	-12.1	68.4	50.4
3465.0	3455.8	-58.4	95.3	169.0	2.4	-12.1	68.4	53.5
3480.0	3470.5	-61.2	96.7	169.0	2.4	-12.1	68.4	56.7
3495.0	3485.1	-64.1	98.1	169.0	2.4	-12.1	68.4	59.9
3510.0	3499.8	-66.9	99.6	169.0	2.4	-12.1	68.4	63.1
3525.0	3514.4	-69.8	101.2	169.0	2.4	-12.1	68.4	66.3
3540.0	3529.1	-72.7	102.8	169.0	2.4	-12.1	68.4	69.7
3555.0	3543.7	-75.7	104.3	169.0	2.4	-12.1	68.4	73.0

3. LIST OF FIGURES

Figure 1 Onshore Acquisition Parameters

Client: Vulcan Minerals Inc.

Well: Vulcan Investcan Robinson #1



Times

T Raw Pick Time (ie. Time from Source to Receiver) = Receiver 1st Arrival Time - Monitor 1st Arrival Time + TSM where TSM is Source-Monitor Time (= DSM / VW)

TGD Vertical Time (calculated using Layer-Stripping Method) Corrected to Datum

TCD Datum Correction Time (=DS/VW)

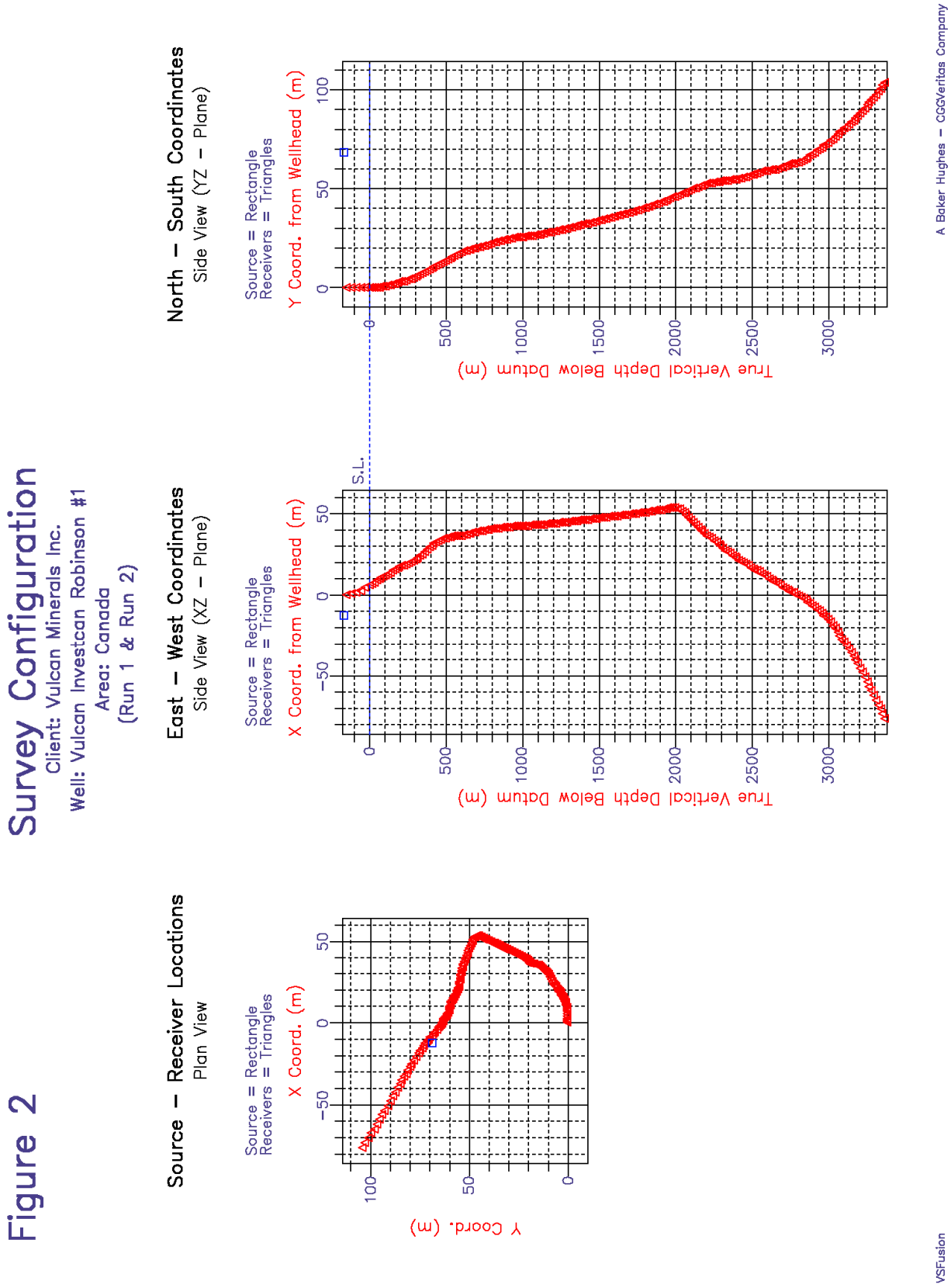
DELDGT Difference in TGD between Receivers

Distances

DSM Distance of Source Monitor from Source
DS Depth of Source Referenced to Ground Elevation
S-R Source-Receiver Offset (SRC_REC)
DGM Measured Depth of Receiver below Reference
DGD True Vertical Depth of Receiver below Datum
DELDGD Difference in DGD between Receivers

Velocity

VDC Datum Correction Velocity


Survey Configuration
Client: Vulcan Minerals Inc.
Well: Vulcan Investcan Robinson #1
Area: Canada
(Run 1 & Run 2)
Figure 2
Source – Receiver Locations
Plan View
Source = Rectangle
Receivers = Triangles
X Coord. (m)
Y Coord. (m)
East – West Coordinates
Side View (XZ – Plane)
X Coord. from Wellhead (m)
True Vertical Depth Below Datum (m)
S.L.
North – South Coordinates
Side View (YZ – Plane)
Y Coord. from Wellhead (m)
A Baker Hughes – CGGVeritas Company
VSFusion

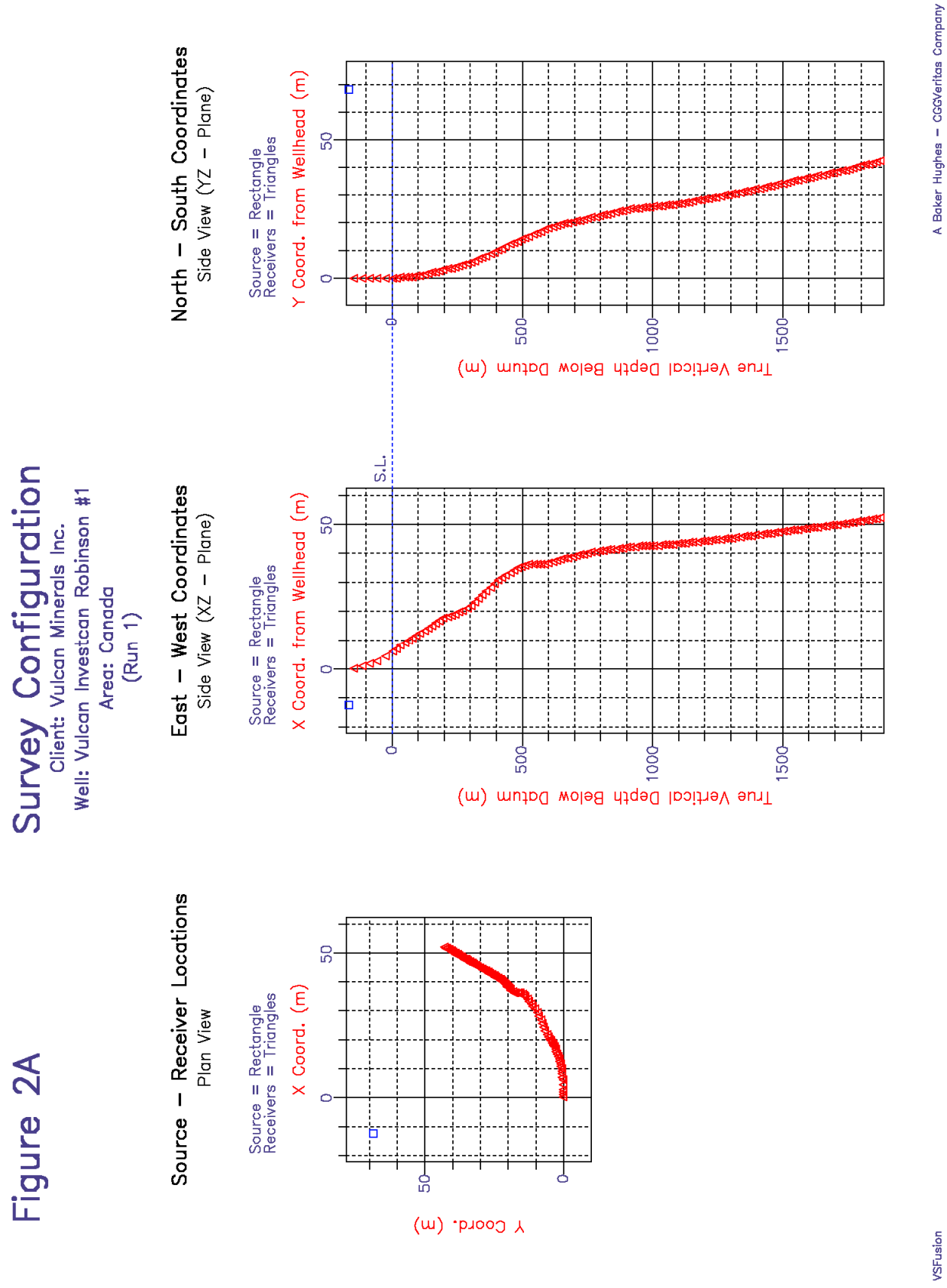
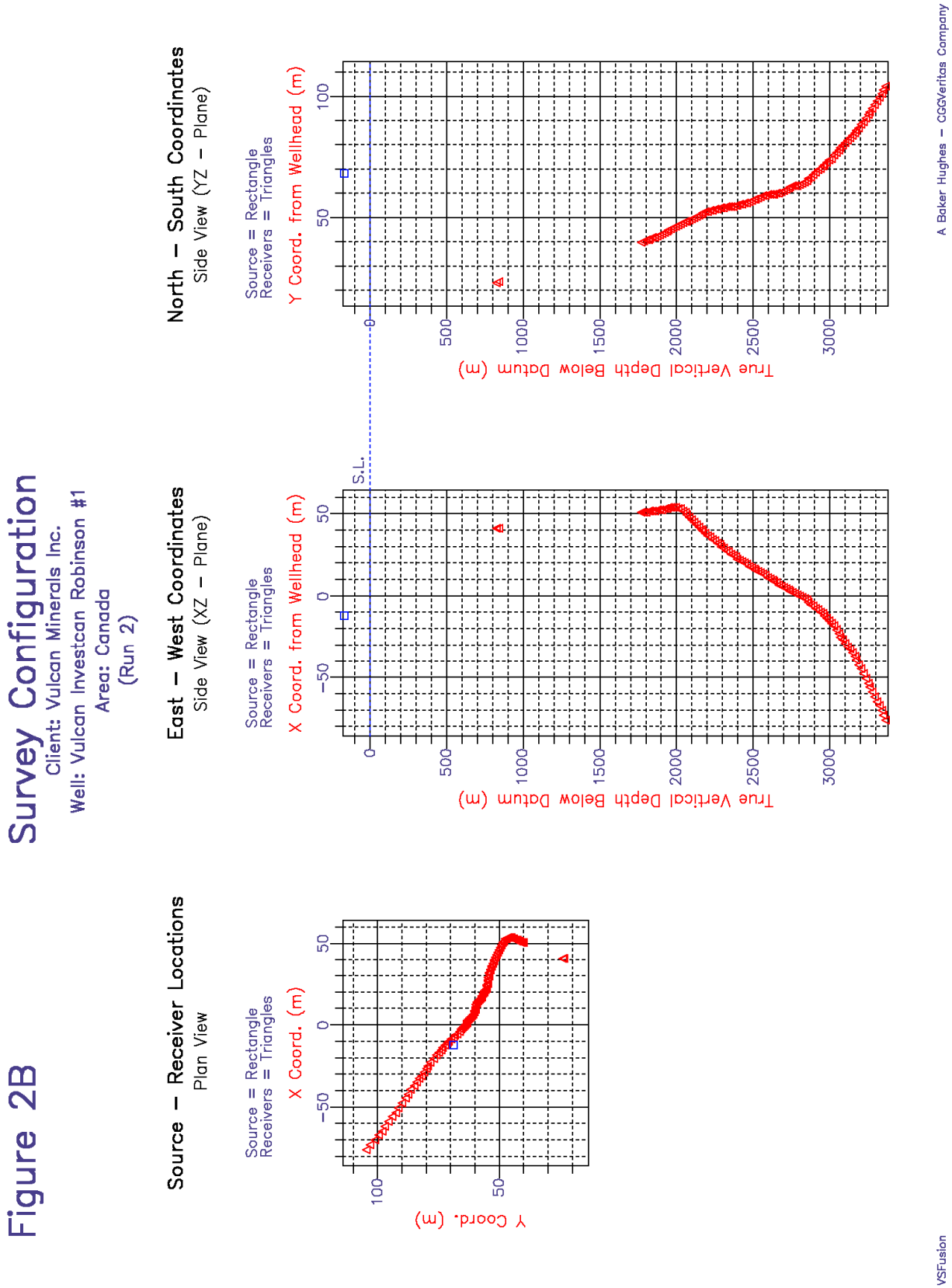


Figure 2A
Survey Configuration
Client: Vulcan Minerals Inc.
Well: Vulcan Investcan Robinson #1
Area: Canada
(Run 1)
Source – Receiver Locations
Plan View
Source = Rectangle
Receivers = Triangles
X Coord. (m)
Y Coord. (m)
East – West Coordinates
Side View (XZ – Plane)
X Coord. from Wellhead (m)
True Vertical Depth Below Datum (m)
S.L.
North – South Coordinates
Side View (YZ – Plane)
Y Coord. from Wellhead (m)
A Baker Hughes – CGGVeritas Company
VSFusion


Survey Configuration
Client: Vulcan Minerals Inc.
Well: Vulcan Investcan Robinson #1
Area: Canada
(Run 2)
Figure 2B
Source – Receiver Locations
Plan View
Source = Rectangle
Receivers = Triangles
X Coord. (m)
Y Coord. (m)
East – West Coordinates
Side View (XZ – Plane)
Source = Rectangle
Receivers = Triangles
X Coord. from Wellhead (m)
True Vertical Depth Below Datum (m)
S.L.
North – South Coordinates
Side View (YZ – Plane)
Source = Rectangle
Receivers = Triangles
Y Coord. from Wellhead (m)
True Vertical Depth Below Datum (m)
A Baker Hughes – CGGVeritas Company
VSFusion

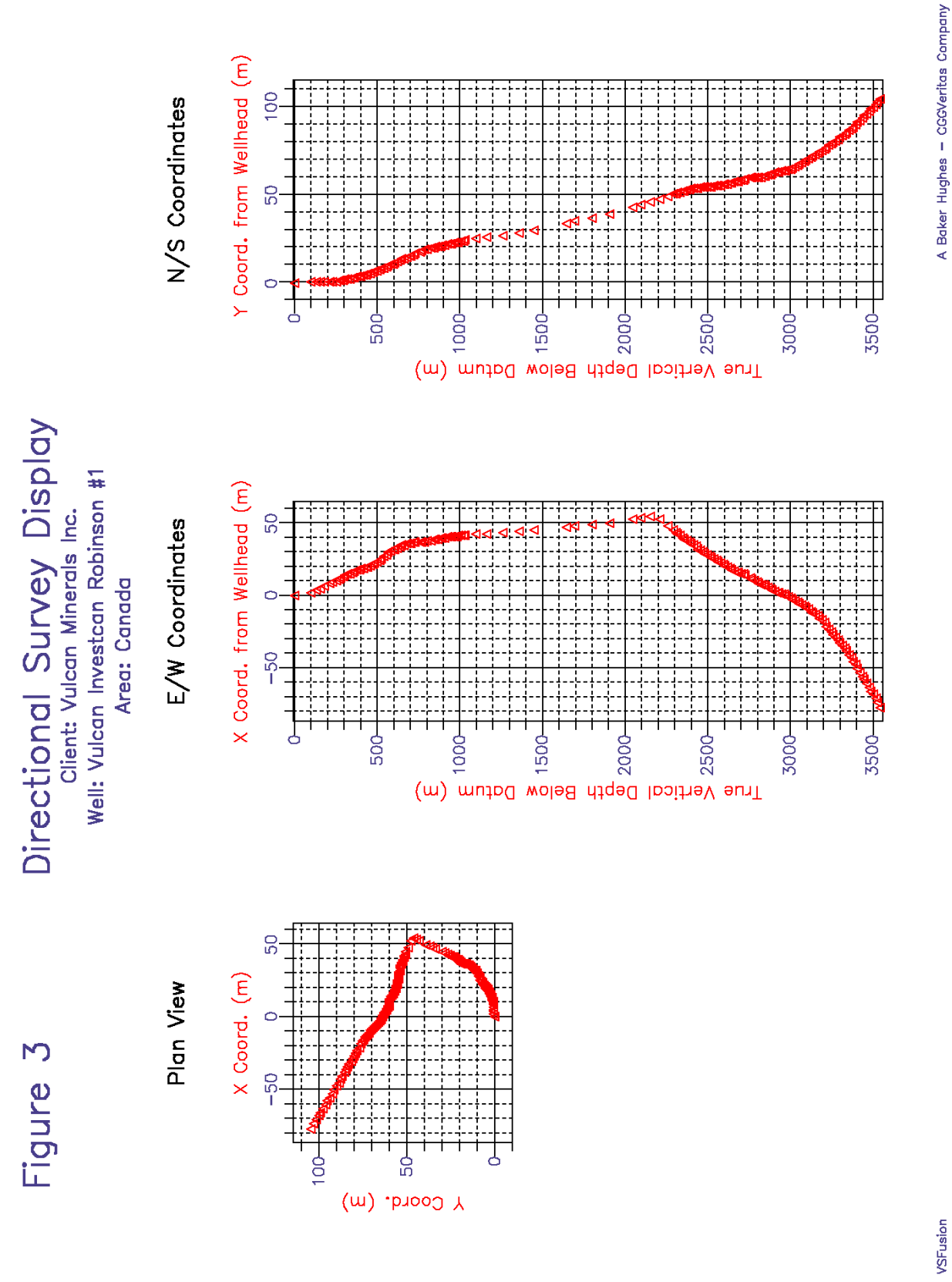


Figure 3
Directional Survey Display
Client: Vulcan Minerals Inc.
Well: Vulcan Investcan Robinson #1
Area: Canada
Plan View
X Coord. (m)
Y Coord. (m)
E/W Coordinates
X Coord. from Wellhead (m)
True Vertical Depth Below Datum (m)
N/S Coordinates
Y Coord. from Wellhead (m)
True Vertical Depth Below Datum (m)
A Baker Hughes – CGGVeritas Company
VSFusion

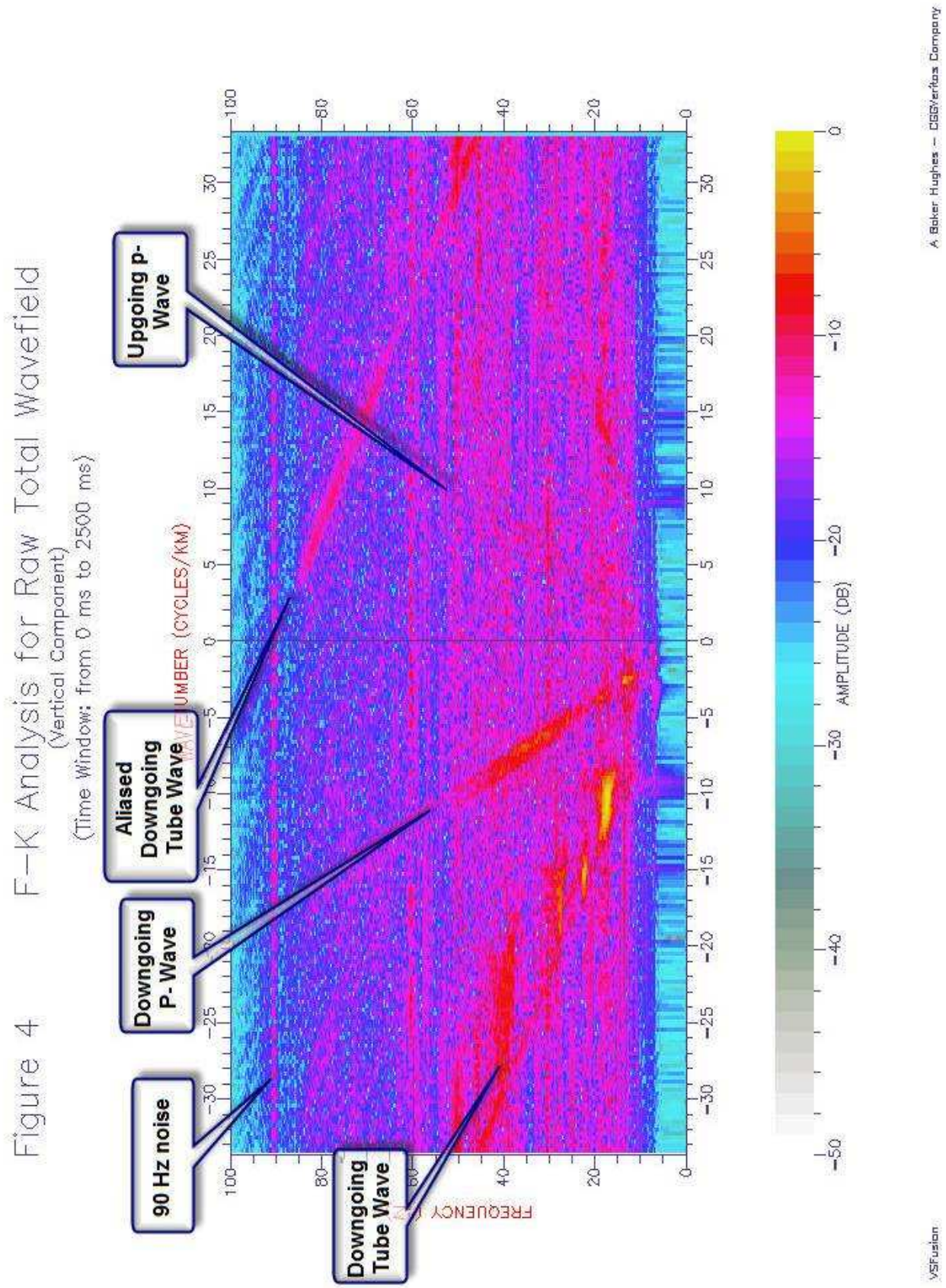
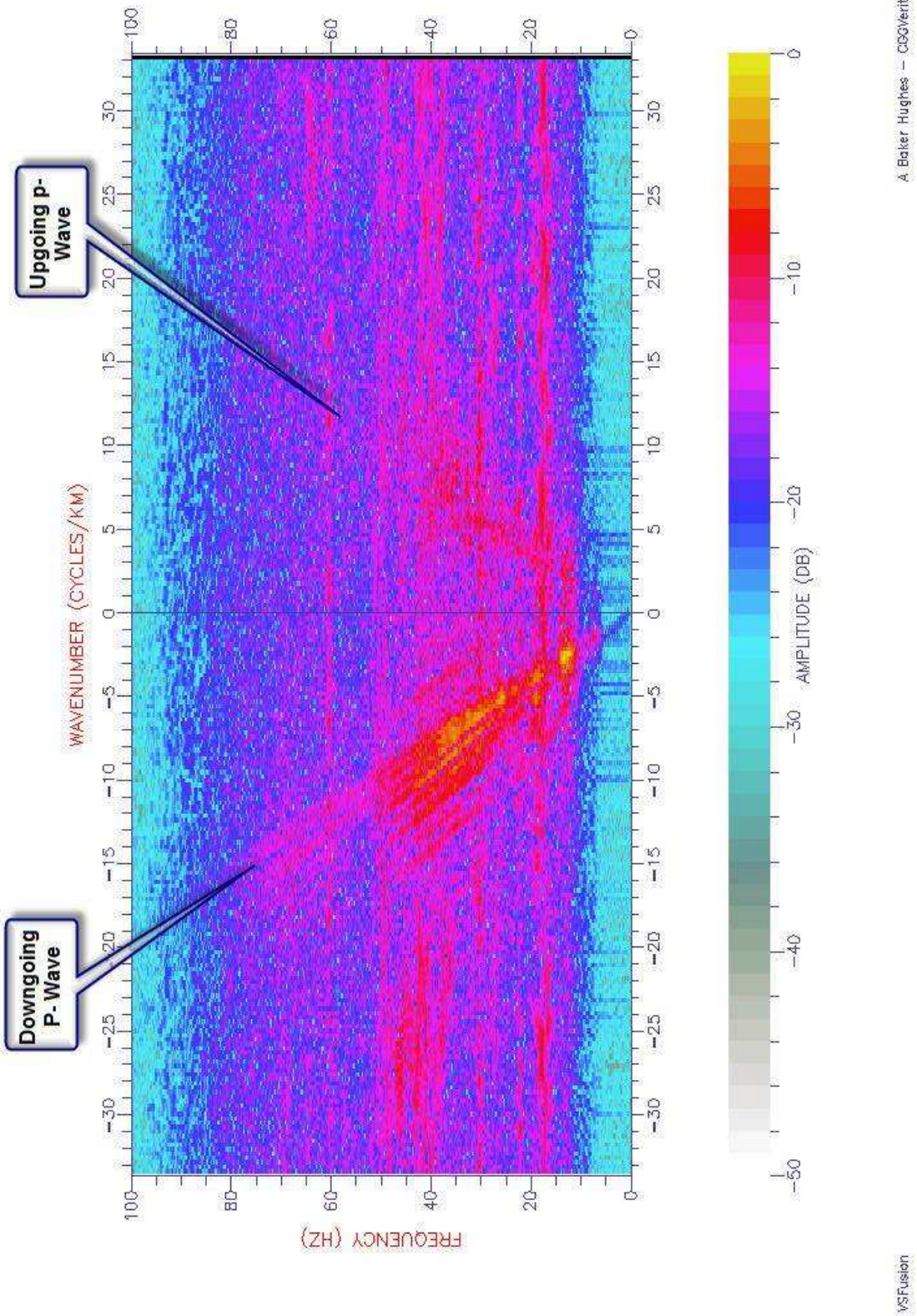


Figure 4 F-K Analysis for Raw Total Wavefield
(Vertical Component)
(Time Window: from 0 ms to 2500 ms)
Upgoing p-Wave
Aliased Downgoing Tube Wave
Downgoing P-Wave
90 Hz noise
Downgoing Tube Wave
WAVENUMBER (CYCLES/KM)
FREQUENCY (HZ)
AMPLITUDE (DB)
A Baker Hughes – CGGVeritas Company
VSFusion

Figure 5 F-K Analysis for Raw Total Wavefield
(after removing noisy traces and muting noise)
(Time Window: from 0 ms to 2500 ms)



APPENDIX 12: EMPLOYEE BENEFITS SUMMARY

Vulcan Investcan Robinsons #1: Drilling Operations

	Residence		
Week	**NL**	**Other**	**Total**
1	24	5	**29**
2	26	6	**32**
3	23	9	**32**
4	24	5	**29**
5	23	5	**28**
6	21	1	**22**
7	24	5	**29**
8	24	11	**35**
9	20	3	**23**
10	19	3	**22**
11	18	4	**22**
12	18	4	**22**
13	19	4	**23**
14	19	2	**21**
15	21	4	**25**
16	18	8	**26**

Average number of workers on site each week	26
Percentage of workers residents of NL	81.2%
Percentage of workers non-residents of NL	18.8%

Week	1: 29 June - 5 July					2: 6 July - 12 July				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	7			1
Supervisors	1	7	1	7	2					0
Rig Mangers	1	7	1	7	2	1	7	1	4	2
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	1	7	1	2	2			1	7	1
Mud Loggers					0					0
MWD/Directional					0	5	7			5
Wireline Logging					0					0
Cementing					0			2	2	2
Testing					0					0
Casing Handling			2	3	2			2	2	2
Administration					0	1	2			1
Security	2	5			2	1	7			1
Heavy Equipment Operators	5	7			5	5	4.25			5
Welders & Helpers	1	6			1					0
Fuel Hauler	1	2			1	1	2			1
Winterization					0					0
Waste Disposal	1	1			1	1	1			1
Total	**24**		**5**		**29**	**26**		**6**		**32**

Week	3: 13 July - 19 July					4: 20 July - 26 July				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer	1	7			1	1	7			1
Supervisors					0					0
Rig Mangers			1	7	1			1	7	1
Drillers	2	7			2	2	7			2
Floorhands	6	7	2	7	8	8	7			8
Geologists			1	7	1			1	7	1
Mud Loggers					0					0
MWD/Directional	2	7			2	2	7			2
Wireline Logging					0					0
Cementing			3	7	3			3	1	3
Testing					0					0
Casing Handling	2	6	2	6	4					
Administration	1	2			1	1	2			1
Security	1	7			1	1	7			1
Heavy Equipment Operators	5	4			5	5	4			5
Welders & Helpers	1	2			1	2	2			2
Fuel Hauler	1	3			1	1	2			1
Winterization					0					0
Waste Disposal	1	1			1	1	1			1
Total	**23**		**9**		**32**	**24**		**5**		**29**

Week	5: 27 July - 2 Aug					6: 3 Aug - 9 Aug				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1					0
Supervisors					0					0
Rig Mangers			1	7	1	1	7			1
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	1	2	1	5	2	1	2	1	7	2
Mud Loggers					0					0
MWD/Directional	2	3			2	0	0			0
Wireline Logging					0					0
Cementing			3	1	3					0
Testing					0					0
Casing Handling										
Administration	1	3			1	1	3			1
Security	1	7			1	1	7			1
Heavy Equipment Operators	4	3.5			4	4	3.5			4
Welders & Helpers	1	1			1	1	1			1
Fuel Hauler	1	2			1	1	2			1
Winterization					0					0
Waste Disposal	1	1			1	1	3			1
Total	**23**		**5**		**28**	**21**		**1**		**22**

Week	7: 10 Aug - 16 Aug					8: 17 Aug - 23 Aug				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	7			1
Supervisors					0					0
Rig Mangers	1	7			1			1	7	1
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	0	0	1	7	1	0	0	1	7	1
Mud Loggers					0					0
MWD/Directional	0	0			0	1	2	1	5	2
Wireline Logging	3	4	2	4	5	3	2	2	2	5
Cementing					0			2	4	2
Testing			2	5	2			2	4	2
Casing Handling								2	5	2
Administration	1	3			1	1	3			1
Security	1	7			1	1	7			1
Heavy Equipment Operators	4	4			4	4	4			4
Welders & Helpers	1	3			1	1	3			1
Fuel Hauler	1	3			1	1	3			1
Winterization					0					0
Waste Disposal	1	2			1	1	1			1
Total	**24**		**5**		**29**	**24**		**11**		**35**

Week	9: 24 Aug - 30 Aug					10: 31 Aug - 6 Sept				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	7			1
Supervisors					0					0
Rig Mangers			1	7	1			1	7	1
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	0	0	1	7	1	0	0	1	7	1
Mud Loggers					0					0
MWD/Directional	1	7	1	7	2	1	7	1	7	2
Wireline Logging	0	0	0	0	0	0	0	0	0	0
Cementing			0	0	0			0	0	0
Testing			0	0	0			0	0	0
Casing Handling			0	0				0	0	
Administration	1	3			1	1	2			1
Security	1	7			1	0	0			0
Heavy Equipment Operators	3	4			3	2	2			2
Welders & Helpers	1	2			1	1	1			1
Fuel Hauler	1	3			1	1	3			1
Winterization					0					0
Waste Disposal	1	1			1	2	3			2
Total	**20**		**3**		**23**	**19**		**3**		**22**

Week	11: 7-13 Sept					12: 14 - 20 Sept				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	7			1
Supervisors			1	7	1			1	7	1
Rig Mangers			1	7	1	1	4	1	3	2
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	0	0	1	7	1	0	0	1	7	1
Mud Loggers					0					0
MWD/Directional	1	7	1	7	2	1	7	1	7	2
Wireline Logging	0	0	0	0	0	0	0	0	0	0
Cementing			0	0	0			0	0	0
Testing			0	0	0			0	0	0
Casing Handling			0	0				0	0	
Administration	1	2			1	1	1			1
Security	0	0			0	0	0			0
Heavy Equipment Operators	1	2			1	1	3			1
Welders & Helpers	1	3			1	1	2			1
Fuel Hauler	1	3			1	1	3			1
Winterization					0					0
Waste Disposal	2	4			2	1	3			1
Total	**18**		**4**		**22**	**18**		**4**		**22**

Week	13: 21 - 27 Sept					14: 28 Sept - 4 Oct				
Position	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**	**NL Residents**	**# of Days Worked**	**Non- NL Residents**	**# of Days Worked**	**Total**
Project Manager / Engineer	1	7			1	1	7			1
Supervisors	1	7	1	1	2	1	7	0	0	1
Rig Mangers	1	4	1	3	2	1	7	0	0	1
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	0	0	1	7	1	0	0	1	7	1
Mud Loggers					0					0
MWD/Directional	1	7	1	7	2	1	7	1	7	2
Wireline Logging	0	0	0	0	0	0	0	0	0	0
Cementing			0	0	0			0	0	0
Testing			0	0	0			0	0	0
Casing Handling			0	0				0	0	
Administration	1	1			1	1	1			1
Security	0	0			0	0	0			0
Heavy Equipment Operators	1	3			1	1	2			1
Welders & Helpers	1	1			1	1	2			1
Fuel Hauler	1	2			1	1	2			1
Winterization					0					0
Waste Disposal	1	4			1	1	1			1
Total	**19**		**4**		**23**	**19**		**2**		**21**

Week	15: 5 - 11 Oct					16: 12 - 15 Oct				
Position	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total	NL Residents	# of Days Worked	Non- NL Residents	# of Days Worked	Total
Project Manager / Engineer	1	7			1	1	7			1
Supervisors	1	7	0	0	1	1	7	1	1	2
Rig Mangers	1	7	0	0	1	1	7	0	0	1
Drillers	2	7			2	2	7			2
Floorhands	8	7			8	8	7			8
Geologists	0	0	1	7	1	0	0	1	4	1
Mud Loggers					0					0
MWD/Directional	1	5	1	5	2	0	0	0	0	0
Wireline Logging	2	4	2	4	4	0	0	0	0	0
Cementing			0	0	0			3	3	3
Testing			0	0	0			1	5	1
Casing Handling			0	0		0		2	3	
Administration	1	1			1	1	1			1
Security	0	0			0	0	0			0
Heavy Equipment Operators	1	2			1	1	2			1
Welders & Helpers	1	2			1	1	4			1
Fuel Hauler	1	2			1	1	1			1
Winterization					0					0
Waste Disposal	1	1			1	1	2			1
Total	**21**		**4**		**25**	**18**		**8**		**24**

APPENDIX 13: OPERATIONAL COST SUMMARY

Well: Vulcan Investcan Robinsons #1
Well Cost Summary (All funds in CAD)

Category	Cost (108 days)
Lease Preparation	$ 338,718.06
Rig & Camp Move	$ 687,997.00
Fuel & Boiler	$ 252,974.31
Crew Travel & Subsistence	$ 174,820.00
Drilling - Rat hole & Mouse hole & Cellar ar	$ 60,300.00
Drilling - directional	$ 533,407.46
Drilling - day work $14,500 + extra	$ 1,530,631.24
Drilling - Bit & BHA	$ 364,644.00
Drilling - mud and chemicals	$ 225,410.95
Cementing Services	$ 241,325.73
Casing	$ 884,211.74
Welding	$ 13,796.05
Power tongs and casing tools	$ 152,705.07
Trucking and hauling	$ 298,065.00
Wellhead	$ 150,159.48
Safety services	$ 20,685.00
Drill stem testing	$ 102,521.98
Logging	$ 457,626.00
Cutting Disposal	$ 82,074.31
Drilling supervision	$ 187,155.02
Engineering supervision	$ 570,839.00
Geological supervision	$ 162,387.00
Equipment Rentals	$ 69,013.29
Tanks	$ 25,790.00
Centrifuge	$ 196,691.51
Ssub / Jars / Stab	$ 106,052.80
Pason and gas detection equipment	$ 110,027.35
Communication	$ 13,846.00
Misc. Rentals	$ 152,497.00
Survey equipment & Monels	$ 12,998.31
Demobilization	$ 850,000.00
Overhead	$ 94,698.00
Inventory (casing)	$ 218,427.45
TOTAL	**$ 9,342,496.11**

APPENDIX 14: COPIES OF GOVERNMENT APPROVALS

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources
Energy Branch

DRILLING PROGRAM APPROVAL - APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act(1.)*, VULCAN MINERALS INC.
as operator on behalf of VULCAN MINERALS INC., holding a
subsisting licence, permit or lease issued pursuant to the *Petroleum Regulations(2)*, namely; #03-106
(licence, permit, or lease #)

hereby applies for approval to conduct a drilling program using the drilling rig Stoneham Drilling Rig #11
and equipment and procedures described in the detailed program dated 9-Jun-09

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 19/09
Operator's Representative President

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 3rd day of July, 20 10

2. This Authorization shall be prominently displayed at the well site at all times during which operations are being conducted;

3. Evidence of financial responsibility, as required pursuant to Section 14 of the *Petroleum Drilling Regulations (3)*, shall be provided by the operator to the Minister of Natural Resources;

4. The operator shall use the equipment and procedures described in the detailed program dated June 21, 2009 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: _____ Effective Date: 2009-07-03

Drilling Program Approved No. 2009-116-02

(1) - (R.S.N.L. 1990, c. P-10)

(2) - CNR 1151/96

(3) - CNR 1150/96

SCHEDULE "A"
TO
DRILLING PROGRAM APPROVAL #2009-116-02
OTHER CONDITIONS

1. Notwithstanding condition #4 of the Approval (see previous page), the Operator shall comply with the requirements of the *Petroleum Drilling Regulations (CNR 1150/96)* (the Regulations) unless the Operator has received written approval from the Director to deviate from the Regulations.

2. Pursuant to Section 154 of the Regulations, the director shall release to the public, general information including the name, classification, location, identity of the drilling contractor and rig used by the Operator, depth and operational status of the drilling program.

3. It is a condition of approval of this DPA that the Operator, pursuant to Section 88 of the Regulations, shall submit tour sheets to the director on a weekly basis.

4. It is a condition of approval of this DPA that the Operator, pursuant to Section 52(2)(a) of the *Petroleum Regulations, (CNR1151/96)* provide to the director at the end of the well a benefits monitoring report as well as a cost summary report showing AFE costs, costs to date and variances for all major cost categories.

July 3, 2009

Government of Newfoundland and Labrador
Department of Natural Resources
Energy Branch

AUTHORITY TO DRILL A WELL - APPLICATION

Pursuant to sections 8 and 9 of the *Petroleum and Natural Gas Act (R.S.N.L. 1990, c. P-10)* and in compliance with section 29 of the *Petroleum Drilling Regulations,(CNR 1150/96)* VULCAN MINERALS INC. , as operator, hereby applies for Authority to Drill a Well to be known as ROBINSONS#1 using the equipment and procedures described in the well program dated June 15th ,20 09

Permit, Licence or Lease to which this Program applies: Petroleum Exploration Permit #03-106

Area: Inshore western Newfoundland	CO-ORDINATES	
	Long:	UTM (N A D 27)
Field/Pool: Bay St. George		Northing: 343046.987
Drilling Rig: Stoneham rig #11	Lat:	Easting: 379774.568
Rig Type: Telescopic Triple	ELEVATION	DEPTH
Drilling Contractor: Stoneham Drilling	☐ RT ☒ KB ☐ RF 174 m	T.D.: 3600 m
	G.L.: 169m	TVD: 3600 m

ESTIMATES		TARGET HORIZONS
Spud Date: 28-June-09	Well Cost: 8M	All vertical well targets: Ship Cove at 800m, Friar's Cove @ 2100m and Snake's Bight @2600m
Days on Location: 65		

EVALUATION PROGRAM

Ten-metre sample intervals:	Conventional cores at: n/a
Five-metre sample intervals: dry and bagged	Logs and Tests: GR, DENS, RESISITIVITY, NEUTRON, PEF, CALIPER, SONIC, SP
Canned sample intervals:	

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m)	Cementing Program
508	139.9	X-56	85	As per attached program
340	90.8	K-55	750	As per attached program
244.5	64.7	L-80	2100	As per attached program
177.8	34.2	L-80	2400	As per attached program

Other Equipment: 114.3mm, 20.1 kg/m, C-95 @ 3600m

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

Signed: _____ Date: June 19/09.

Operator's Representative

AUTHORIZATION

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

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

1. This Authorization shall be prominently displayed at the well sita 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 aquistition;
3. The operator shall comply with all conditions of the Drilling Program Approval No. 2009-116-02 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: _____ Effective Date: 2009-07-03

Authority to Drill a Well No. 2009-116-02-01

SCHEDULE "A" TO
AUTHORITY TO DRILL A WELL #2009-116-02-01
OTHER CONDITIONS

1. The Operator shall, prior to commencement of major site operations, ensure that an approved Operator's representative is on site to supervise all site operations.

2. The Operator shall ensure that the well is drilled in a prudent and reasonable manner, consistent with good oilfield practices and with due consideration for the safety of personnel, property and the environment.

3. Notwithstanding condition #3 of the Authorization (see previous page), the Operator shall comply with the requirements of the *Petroleum Drilling Regulations, (CNR 1150/96)* (the Regulations) unless the Operator has received written approval from the Director to deviate from the Regulations.

4. The Operator shall be liable for its actions and the actions of its agents, contractors, employees and any others acting under the Operator's authority in drilling the well.

5. The Operator's liability for the actions of its agents, contractors, employees and any others acting under the Operator's authority in drilling the well does not limit any liability that those agents, contractors, employees or others acting under the Operator's authority may have to the Operator.

6. The Operator shall ensure that all necessary approvals have been acquired from other government agencies and other rights holders, in respect of access to and use of land for the purpose of the drilling and testing operations, and disposal of all materials.

7. The Operator shall attorn to the jurisdiction of the courts of the Province of Newfoundland and Labrador.

8. Prior to commencing drilling operations out of the conductor, the Operator shall supply a statement signed by a Registered Professional Engineer attesting that the drilling rig and associated equipment, including the diverter assembly and the PVT system and fluid returns monitoring system have been installed, inspected and are operational, and pursuant to Section 34 of the Regulations, meet all regulatory requirements and will perform the drilling operations as outlined in the Drilling Program. In addition, the statement must confirm that gas monitoring equipment (H_2S, HC's and LEL) and industry approved respiratory protective equipment is available on site, has been properly inspected and is ready for use.

9. Prior to commencing drilling operations out of the surface casing, the Operator shall supply a statement signed by a Registered Professional Engineer attesting that the drilling rig and associated drilling equipment, including the BOP system and manifold has been installed, inspected and is operational, and pursuant to Section 34 of the Regulations, meets all regulatory requirements and will perform the drilling operations as outlined in the Drilling Program. These statements must be accompanied by a site inspection report completed by a person qualified to provide it. These statements will be accompanied, if not previously provided to the Department, with documentation showing the BOP system meets necessary certification requirements.

10. If deficiencies are noted in the inspection report provided in items 8 and/or 9 above, follow-up report(s) must be submitted by the site supervisor attesting that work to correct the deficiencies has been completed.

11. A summary report of all operations performed during this phase of drilling, normally referred to as the daily drilling report and daily geological reports, shall be submitted on a daily basis.

12. The DST details, including a downhole tool schematic, as well as surface testing equipment details and layout, must be submitted for approval prior to carrying out those operations.

13. The details of any completion program must be submitted for approval prior to carrying out those operations.

14. Where the well is to be terminated, a termination program must be submitted for approval prior to carrying out those operations. As per section 122 of the Regulations, a termination record signed by the operator's representative must be submitted within 21 days of the rig release date.

15. The Operator shall provide the Director with a videotape, or photographs showing the final condition of the drillsite.

16. Prior to the end of drilling operations, the Operator shall provide a legal survey of the site acceptable to the Director to confirm the location of the well.

17. Prior to the end of drilling operations, the Operator shall provide a copy of the ADW document corrected for discrepancies and grammatical errors to the Director.

18. The Operator shall ensure crew is familiar with diverting procedures and related equipment.

19. The Operator shall, prior to commencement of drilling operations, supply to the Department a security deposit in total for the amount of $155,000 to ensure abandonment, reclamation, and reporting requirements are met.

July 3, 2009

Shane Halley

From: Stoyles, Mike [mikestoyles@gov.nl.ca]
Sent: September 9, 2009 5:02 PM
To: Shane Halley
Subject: BOP Pressure Testing

Shane,

In response to your request for exemption to pressure testing BOPs:

> Mike,
>
> As per the Consolidated NL Regulations section 62 (v) we are required to pressure test the BOPs every 15 drilling days. The last pressure test was conducted using the cementing equipment on August 23rd. The next BOP test is required today. We had recieved the pumping equipment required to do the BOP tests ourselves on the rig without cementing equipment but over the Labor Day weekend we we not able to get a air compressor mobilized to test the BOPS during the last trip. We respectfully ask the department's approval to extend the pressure testing requirement for our next trip.
>
> Best Regards,
>
> Shane E. Halley
> Project Manager
> Vulcan Minerals Inc.
> (709) 754-3186 Ext. 225
> shalley@vulcanminerals.ca
> GMT -3.5

Please be advised that waiver has been granted for pressure testing at this time with the stipulation that testing be conducted at the next trip.

Regards,

Mike

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources
Energy Branch

WELL TERMINATION RECORD

WELL DATA

Well Name:	Vulcan Investcan Robinsons #1	**CO-ORDINATES**			
Operator:	Vulcan Minerials Inc.	**Long :**		**UTM** (NAD 27)	
				Northing:	
Drilling Rig :	Stoneham Rig #11	**Lat. :**		**Easting :**	
Rig Type :	Telescopic Triple	**ELEVATION**		**DEPTH**	
		☐ RT ☒ KB ☐ RF 6.3 m		**M.D. :**	3560 m
Drilling Contractor :	Stoneham Drilling	**G.L. :**	169 m	**T.V.D. :**	3548.55 m

Spud Date:	30-Jun-2009	**FOR INTERNAL USE ONLY**	
T.D. Date:	02-Oct-2009	For the purpose of interpreting subsection 154 (5) of the Petroleum Drilling Regulations, the rig release date is deemed to be:	
Rig Release Date:	15-Oct-2009	October 15, 2009	
Well Termination Date:	18-Oct-2009		
Purpose of Termination:	☒ Suspension ☐ Abandonment	☒ Completion	Other:

CASING AND CEMENTING PROGRAM

O.D. (mm)	WEIGHT (kg/m)	GRADE	SETTING DEPTH (m)	CEMENTING DETAILS
508	139.9	X-56	88	27.7 t Class "A" + 3% CaCl @ 1871 kg/m3
339.7	90.8	K-55	829	63.5 t Class "G" + 3% CaCl @ 1600 kg/m3
244.5	64.7	L-80	2058.5	48 t Fill-Lite*+ 10.1 t Class "G" w/.4% FL @ 1901 kg/m3
177.8	38.7	L-80	3547.6	18.2t Fill-Lite**+11t Class "G" w/2% Micrsil @1901kg/m3

*w/1.3% R-3 Retarder & 1% A-11 Accelerator; **w/ 1.2% R-3 Retarder

PLUGGING PROGRAM

Approval of the following program was obtained by (person) _____

from (person) _____ of the Department of Natural Resources by means of _____ dated _____

Type of Plug	Interval	Felt/Pressure Tested	Cement and Additives

Lost Circulation/Overpressure Zones: None encountered

Downhole Completion/Suspension Equipment (Describe Below and Attach Sketch of Wellbore)

Well suspended after 177.8mm casing was cemented.

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.

Name Patrick LARACY **Title** President

Signed _____ **Date** Nov. 10/09.

ACKNOWLEDGEMENT

Acknowledged by: _____ Date: Jan 6, 2010

Director

Revised January 2007 FRM-62

Newfoundland Labrador

David

Government of Newfoundland and Labrador
Department of Environment and Conservation

Lands Branch
Western Regional Lands Office

In Reply Please Quote
File Reference No.
3014503

JUN 18, 2008

VULCAN MINERALS INC.
333 DUCKWORTH ST
ST. JOHN'S NL A1C 1G9

Dear Sir:

RE: APPLICATION NO.: 132338
TYPE: Licence
PURPOSE: Other
LOCATION: Robinsons

This will acknowledge receipt of the above referenced application for a Crown title. The application has now been registered and via a copy of this letter, the Department and/or agencies on the attached schedule have been asked to forward their comments and recommendations on your application to the Regional Lands Office.

Your application will be reviewed and a final decision will be made when the recommendations have been received from these Departments and/or agencies.

To assist inspectors in locating the area applied for and to avoid delays in processing your application it is advisable to place your name and application number on the site. Your application is being processed for the site indicated on the attached map.

Please note that the land is not to be occupied until you receive a fully executed title document.

If you require any additional information concerning the processing of this application please contact the Regional Lands Office at the address below.

Yours truly,

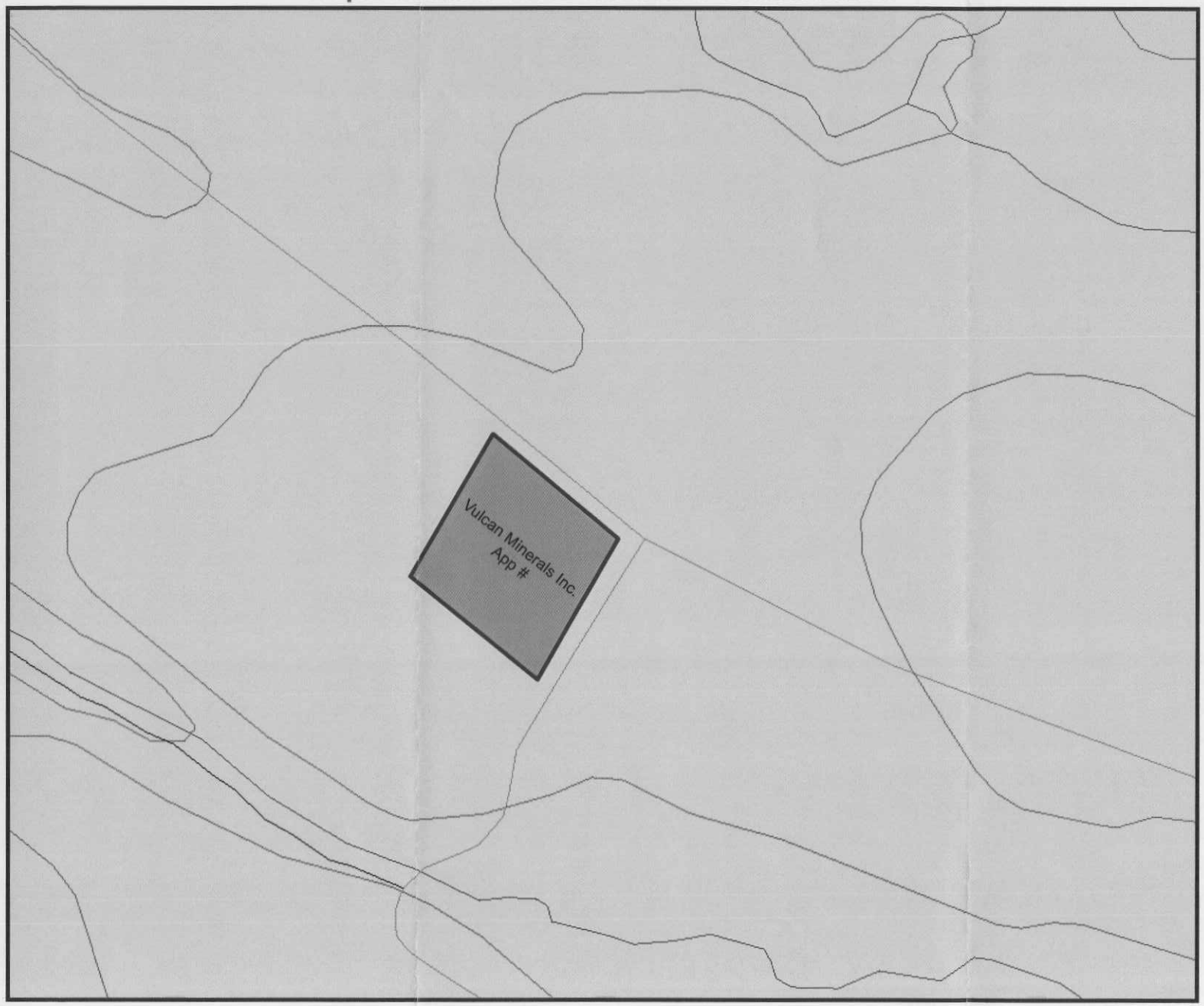
Coolene Brake

COOLENE BRAKE
LANDS OFFICER
Attachment(s)

P.O. Box 2006, Noton Building, Corner Brook, NL, A2H 6J8, Telephone (709) 637 - 2390, Facsimile (709) 637 - 2905

Dept. of Transportation & Works	709-635-4100
Dept. of Natural Resources	709-647-3761
Dept. of Natural Resources	709-729-6408
Dept of Environment and Conservation	709-729-2563
Dept of Tourism, Culture & Rec. (Htg)	709-729-2462
Department of Natural Resources	709-637-2257

Government of Newfoundland & Labrador
Department of Environment & Conservation



Newfoundland Labrador

NOTE TO USERS

The information on this map was compiled from land surveys registered in the Crown Lands Registry.

Since the Registry does not contain information on all land ownership within the Province, the information depicted cannot be considered complete.

The boundary lines shown are intended to be used as an index to land titles issued by the Crown. The accuracy of the plot is not sufficient for measurement purposes and does not guarantee title.

Users finding any errors or omissions on this map sheet are asked to contact the Crown Titles Mapping Section, Howley Building Higgins Line , St. John's Newfoundland.

Users finding error or omissions can contact the Crown Titles Mapping Section by telephone at 729-0061. Some titles may not be plotted due to Crown Lands volumes missing from the Crown Lands registry or not plotted due to insufficient survey information.

The User hereby indemnifies and saves harmless the Minister, his officers, employees and agents from and against all claims, demands, liabilities, actions or cause of actions alleging any loss, injury, damages and matter (including claims or demands for any violation of copyright or intellectual property) arising out of any missing or incomplete Crown Land titles, and the Minister, his or her officers, employees and agents shall not be liable for any loss of profits or contracts or any other loss of any kind as a result.

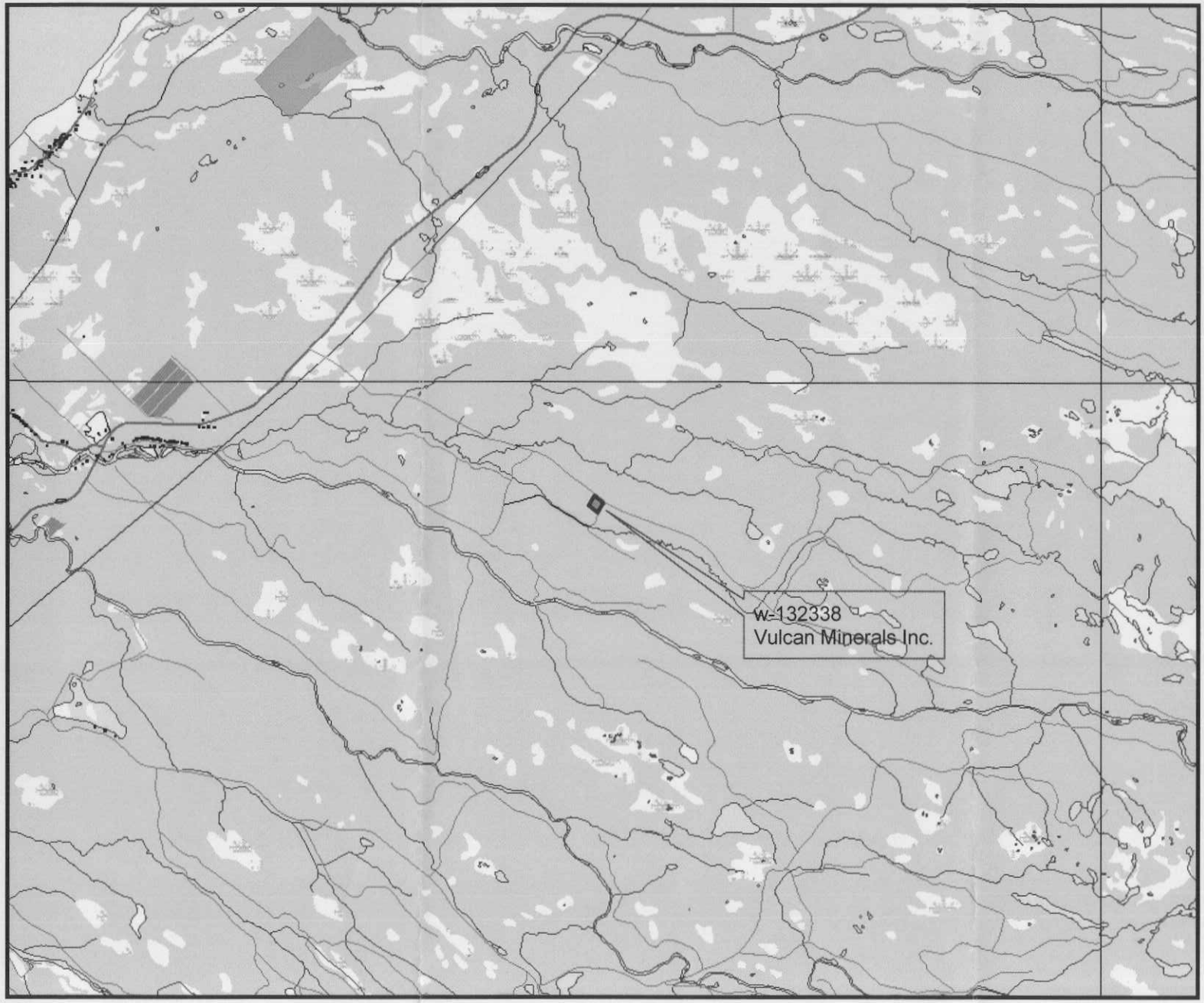
For inquiries please contact a Regional Lands Office.
Corner Brook - 637-2387
Gander - 256-1400
Goose Bay - 896-2488
St. John's - 729-2654
Clarenville - 466-4074

Scale 1:7,000

0 30 60 120 180 240 Meters

Crown Lands Division

Government of Newfoundland & Labrador
Department of Environment & Conservation



Newfoundland Labrador

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Since the Registry does not contain information on all land ownership within the Province, the information depicted cannot be considered complete.

The boundary lines shown are intended to be used as an index to land titles issued by the Crown. The accuracy of the plot is not sufficient for measurement purposes and does not guarantee title.

Users finding any errors or omissions on this map sheet are asked to contact the Crown Titles Mapping Section, Howley Building Higgins Line , St. John's Newfoundland.

Users finding error or omissions can contact the Crown Titles Mapping Section by telephone at 729-0061. Some titles may not be plotted due to Crown Lands volumes missing from the Crown Lands registry or not plotted due to insufficient survey information.

The User hereby indemnifies and saves harmless the Minister, his officers, employees and agents from and against all claims, demands, liabilities, actions or cause of actions alleging any loss, injury, damages and matter (including claims or demands for any violation of copyright or intellectual property) arising out of any missing or incomplete Crown Land titles, and the Minister, his or her officers, employees and agents shall not be liable for any loss of profits or contracts or any other loss of any kind as a result.

For inquiries please contact a Regional Lands Office.
Corner Brook - 637-2387
Gander - 256-1400
Goose Bay - 896-2488
St. John's - 729-2654
Clarenville - 466-4074

Scale 1:100,000

0 445 890 1,780 2,670 3,560 Meters

Crown Lands Division

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Environment and Conservation

DATE: November 27, 2008
FILE: 514

Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6

NOTIFICATION OF ACCEPTANCE OF TEMPORARY WATER USE LICENCE

[Temporary Water Withdrawal from Unnamed Body of Water – Robinsons # 1 Property]

Temporary Water Use Licence No. **WUL-08-101** issued on **November 27, 2008**, and valid until **July 31, 2009**.

As a Licensee of Temporary Water Use Licence No. **WUL-08-101**, issued pursuant to the *Water Resources Act,* **Vulcan Minerals Inc.** (the "Licensee"), agrees to accept this Licence for the stated duration and abide by all terms and conditions, reservations, exceptions and provisions stated therein. The Licensee acknowledges that failure to abide by the terms and conditions, reservations, exceptions and provisions indicated in Appendices A and B and the maps for Exploration Approval E080163 of the Licence and the *Water Resources Act* will render the Licence null and void, place the Licensee and/or their agent(s) in violation of the *Water Resources Act* and regulations thereunder and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.

Signed, sealed, and delivered by
Vulcan Minerals Inc.,
in accordance with its rules and
regulations in that behalf
at St Johns NFLD., this 3rd day
of Dec, 2008 in the presence
of:

Witness

Per:
Signing Officer

Seal:

Important: **The attached Water Use Licence is not valid unless the Licensee completes and turns this notification to the address above within ten (10) days of receipt.**

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Environment and Conservation

TEMPORARY WATER USE LICENCE
(Industrial - Mineral Exploration)

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: November 27, 2008

No: WUL-08-101
File: 514

Licensee: Vulcan Minerals Inc.
333 Duckworth St.
St. John's NL A1C 1G9

Attention: Mr. Patrick Laracy, Exploration Manager

Re: *Temporary Water Withdrawal from Unnamed Body of Water (Robinsons # 1 Property)*

The Minister of Environment and Conservation (the "Minister") hereby grants a non-exclusive water right to: **Vulcan Minerals Inc.** (the "Licensee") to temporarily withdraw water from unnamed body of water (48°13'52"N, 58°37'07"W), as indicated in the map for Exploration Approval E080163 (attached), and use it for the purpose of supplying water to the Licensee's mineral exploration project (**Robinsons # 1 Property**) in reference to the application received on November 18, 2008.

This Temporary Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendices A and B and the map for exploration approval E080163 form part and parcel of this Temporary Licence.

This Temporary Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal and provincial agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Temporary Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within ten (10) days of receipt of this Temporary Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Temporary Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.

Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A

NO: WUL-08-101
FILE: 514

TERMS AND CONDITIONS FOR TEMPORARY WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister hereby grants the Licensee a non-exclusive right to temporarily withdraw water from unnamed body of water (48°13'52"N, 58°37'07"W), as indicated in the map for Exploration Approval E080163 (attached), and use it for the purpose of supplying water to the Licensee's mineral exploration project (**Robinsons # 1 Property**) in reference to the application received on November 18, 2008.

2. Ownership of water rights remains with the Crown and is not transferred. The Temporary Water Use Licence only provides permission for the Licensee to use water for the purpose indicated in this Temporary Licence.

3. The non-exclusive rights and privileges hereby demised by this Temporary Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister.

4. The Licensee acknowledges and agrees that this Temporary Licence does not grant any interest in land.

5. This Temporary Licence shall expire on July 31, 2009 or earlier if suspended or cancelled by the Minister. The Licensee may apply for an extension at least fifteen (15) days before the expiry of the initial term for continuing use of water.

6. The designated purpose of the temporary water use is "*Industrial/Mineral Exploration*".

7. The estimated daily water withdrawal from the said body of water shall not exceed 3,000 litres, subject to water availability without changing the hydraulic characteristics of the said body of water or impact on other existing water users. The Licensee shall not at any time withdraw and use amounts of water in excess of the need for the Licensee's mineral exploration activities, irrespective of the amount of water approved.

8. The Licensee shall not at any time impair, pollute or cause to be polluted the quality of water in the said body of water or any nearby body of water. Also, this Temporary Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the drilling activities areas and all operations must be carried out in a manner that prevents damage to land, vegetation, and body of water. The Water Resources Management Division of the Department of Environment and Conservation must be informed if drilling activities have a potential to impair water quality of the said body of water or any nearby body of water. In addition, any and all waste material that may result from drilling activities must be removed from drilling activities and disposed at a site approved by the regional Government Service Centre of the Department of Government Services. The Department of Government Services may require samples to be submitted for testing and analysis.

TERMS AND CONDITIONS FOR TEMPORARY WATER USE LICENCE

9. Water pumped or discharged from drilling activities, or any runoff or effluent directed out of the drilling activities areas, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to any body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.

10. Used drilling mud and cuttings must be collected in a closed system of settling tanks and disposed of at a site approved by the regional Government Service Centre of the Department of Government Services. This site must not be within 100 metres of any body of water. The water in the system must be recycled.

11. The Licensee shall keep records for water withdrawals and complete and file a form following the format of Appendix B with the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of the completion of the mineral exploration activities.

12. The Licensee shall not construct any systems/works, make changes in the purpose, rates and amounts of water specified in this Temporary Licence, or divert the course or alter the physical features of the said body of water or any nearby body of water without the prior written permission of the Minister.

13. The Licensee shall keep all systems/equipment and vehicles used for drilling in clean and good condition and repair, free of oil, or other harmful substances that could impair water quality of any body of water and shall notify the Minister immediately if any problem arises which may adversely affect public safety or other existing water users. Also, the Licensee shall restore all areas that may be affected by drilling activities to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if necessary in the opinion of this Department.

14. The Licensee and the Licensee's contractor(s) are responsible for reporting any environmental problem encountered in connection with the said body of water or any nearby body of water to the Water Resources Division and environmental monitors within 24 hours. This includes, but is not limited to, any spillage of fuel, lubricant, drilling mud or any other material, siltation of water or depletion of any source of water used for any purpose in connection with the drilling activities.

15. The employees of the Department of Environment and Conservation, authorized by the Minister, may at all reasonable times during the term created by this Temporary Licence enter into the mineral exploration activities areas and the Licensee's designated place of business to inspect the systems/equipment, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister in relation to this Temporary Licence.

TERMS AND CONDITIONS FOR TEMPORARY WATER USE LICENCE

16. The Licensee shall pay the applicable charges or royalties for the use of water, if imposed under the *Water Resources Act*, during the term of this Temporary Licence.

17. The Licensee indemnifies and holds the Minister and Government harmless against any and all liabilities, losses, claims, demands, damages or expenses including legal expenses of any nature whatsoever whether arising in tort, contract, statute, trust or otherwise resulting directly or indirectly from the water rights granted under this Temporary Licence, systems/equipment in the mineral exploration activities areas, or any act or omission of the Licensee in the mineral exploration areas, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Temporary Licence by the Licensee.

18. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Temporary Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ten (10) days notice by personal service or registered mail or facsimile to the Licensee at any time during the term created by this Temporary Licence, modify or cancel this Temporary Licence.

19. Should any provision of this Temporary Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Temporary Licence which shall remain in force and be binding as though the provision had not been included.

20. This Temporary Licence is subject to the *Water Resources Act* and any regulations in effect thereunder from time to time and any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.

21. This Temporary Licence shall be construed and interpreted in accordance with all applicable laws of the Province Newfoundland and Labrador.

22. All notices to be given pursuant to the terms and conditions of this Temporary Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed. The address and facsimile of the Licensee is:

Vulcan Minerals Inc.
333 Duckworth St.
St. John's NL A1C 1G9
(709) 726-3946

The address and facsimile number of the Department of Environment and Conservation is:
Water Rights Section
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6
(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX B
Water Use Report to Department of Environment and Conservation

To: **Water Rights Section**
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL AlB 4J6

No: WUL-08-101
File: 514
Authorized: November 27, 2008

Re: *Temporary Water Withdrawal from Unnamed Body of Water (Robinsons # 1 Property)*

This report must be completed and filed within thirty (30) days of the completion of the mineral exploration activities. Provide the information required below:

1. Has the Licensee used water during the approved temporary period?
Yes ☐ No ☐
If no, explain (use extra sheet to provide more information, if any)
_____
_____

2. Does the Licensee wish to extend the non-exclusive water rights for further temporary period?
Yes ☐ No ☐
If no, explain (use extra sheet to provide more information, if any).
_____
_____

3. Has the Licensee exceeded the estimated daily water withdrawal of that indicated in Appendix A during the approved temporary period? Yes ☐ No ☐
If yes, explain in the space below (use extra sheet to provide more information, if any).
_____
_____
If no, report exact water withdrawal in the space below (use extra sheet, if necessary).
State the total volume of water used during the approved temporary period: _____
_____
_____

4. Is there any other matter on which the Licensee wishes to inform the Department of Environment and Conservation regarding this Temporary Licence and its terms and conditions?
Yes ☐ No ☐
If yes, explain (use extra sheet to provide more information, if any).
_____
_____
_____

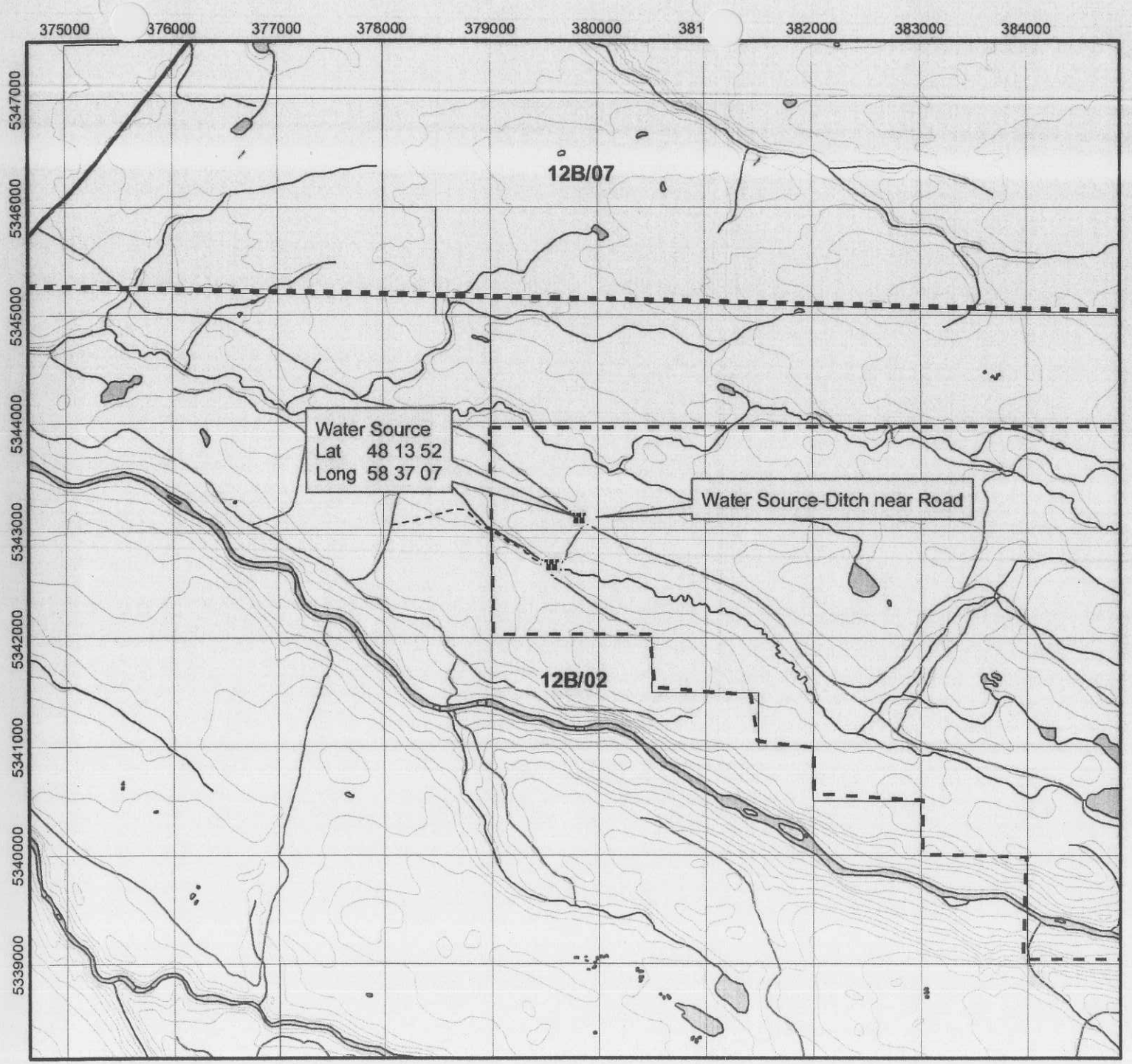
I/We acknowledge that the information contained in this report are true and correct.

Vulcan Minerals Inc.
333 Duckworth St.
St. John's NL A1C 1G9

Signature: _____

Name/Title: _____

Date: _____



Newfoundland Labrador

Department of Environment and Conservation
Water Rights Section

Water Use Licence
for Vulcan Minerals Inc.
on the Robinsons #1 Property,
1 Drill Rig @ 3000 L/day

Legend

Property

Water Source

Mineral Interests

Mining Leases

Mineral Impost Lands

Mineral Claims

Comments

E080163

Location

GeoReference
UTM NAD27 Zone 21

1:50,000

0 1

Kilometre

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources
Mines Branch
Mineral Lands Division

February 25, 2009

E090029
Shane Halley
Vulcan Minerals Inc.
333 Duckworth St.
St. John's, NL
A1C 1G9

Dear Mr. Halley:

Re: Exploration Approval (1 DDH) & Notification Work (Geology)
for Vulcan Minerals Inc. on the Robinsons #1 Property,
NTS: 12B/01, 12B/02
Licence: 012501M

Your proposed exploration program submitted in compliance with Section 5(4) of the *Mineral Act* has been reviewed and approved.

The following conditions apply to your approval:

1. The proponent must comply with any other Provincial and Federal Act or Regulation, or obtain all permits that may be required in connection with the exploration activity.
2. All personnel must comply with the *Mineral Regulations,* in particular sections 41 - 45 and section 46 which refers to the "Guidelines for Exploration and Construction Companies".
3. You are required to provide the Mineral Lands Division with:
   a. 24 hour prior notification of mobilizing equipment to the project area;
   b. two day prior notification of completion of the exploration activity;
   c. a brief monthly update of the progress of your exploration program;
4. As per section 12(2) of the Mineral Act, when exploration work is to take place on private land or upon land where a legal or equitable interests are held, the licencee will obtain prior written permission and forward copies to the department.
5. The proponent must abide by Section 28(4) of the Petroleum Drilling Regulations. Also, the proponent must ensure that the proper precautions are taken when drilling into a salt horizon.
6. Pursuant to Section 106 of the *Wildlife Regulations*; "A person shall not operate an aircraft, motor vehicle, vessel, snow machine or all-terrain vehicle in a manner that will harass any wild life."
   a. Companies are advised not to over-fly caribou if possible or to maintain an altitude of 300 metres over concentrations of caribou.
   b. Under no circumstances should nesting raptors be approached, not even for a "harmless" look. The startle effect that helicopters have on nesting raptors can be detrimental and therefore either a 600m horizontal buffer from cliff faces or an altitude of 300 metres must be observed.
   c. The breeding and brood rearing periods (May15 - August 31) are considered critical to the Harlequin Duck, and disturbance should be minimized. During this critical period and a 300 metre horizontal buffer above ground level must be observed when crossing river valleys.
   d. You are advised to use snowmobiles responsibly in a manner that will not disturb, harass or harm any animal life you encounter.
7. Please be advised on the provisions of the *Historic Resources Act*, protecting archaeological sites and artifacts, and procedures to be followed in the event that either are found:

a A person who discovers an archaeological object in, on or forming part of the land within the province shall report the discovery forthwith to the Minister stating the nature of the object, the location where it was discovered and the date of the discovery.

b No person other than one to whom a permit has been issued under this Act, who discovers an archaeological object shall move, destroy, damage, deface, obliterate, alter, add to, mark or in any other way interfere with, remove, or cause to be removed from the province that object.

c The property in all archaeological objects found in, on or taken from the land within the province, whether or not these objects are in the possession of Her Majesty is vested in Her Majesty.

Should any archaeological remains be encountered, such as stone, bone or iron tools, concentrations of bone, charcoal or burned rock, fireplaces, house pits and/or foundations, activity in the area of the find must cease immediately and contact should be made with the Provincial Archaeologist in St. John's (729- 2462) as soon as possible.

Copies of the *Historic Resources Act*, and information on archaeology in the province may be obtained from the Provincial Archaeology office upon request.

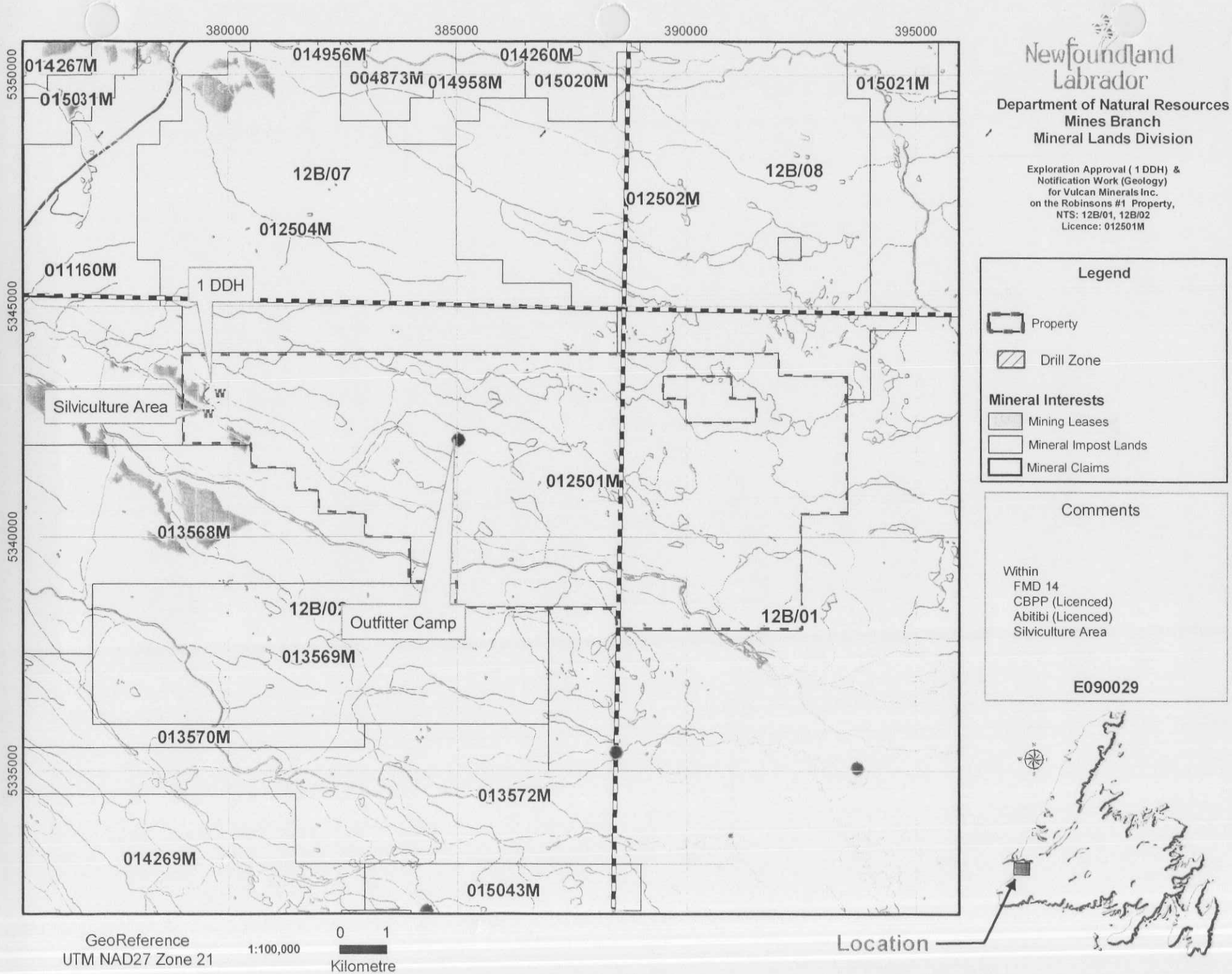
7. If trees have to be cut to access the sites then you are advised to contact the nearest Natural Resources, Forest Resources Branch, local office to obtain a cutting permit before starting your exploration program.
8. Pursuant to Section 13 of the *Forest Fire Regulations*, industrial operations conducted on forest land during the forest fire season must be carried out under an operating permit available from the nearest district office of the Department of Natural Resources, Forest Resources Branch.
9. Your exploration program is within an area of licenced timber rights and you will want to avoid or mitigate impacts on their resource interest. You are advised to contact the office of Corner Brook Pulp and Paper (Steven Balsom 709-637-3027) before starting your mineral exploration.
10. This approval is due to expire on August 30, 2009.

If you have any questions concerning this, please contact Heather Hickman, Geologist, Exploration Approval and Land Use, at 729-6408.

Regards,

Kenneth C.M. Andrews, P. Geo.
Director, Mineral Lands Division

c: Jim Hinchey, Manager of Mineral Rights
Mark Lawlor, Forestry
Steve Balsom, CBPP
Mike Stoyles, Petroleum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014958M
014260M
015020M
015021M
12B/07
12B/08
012502M
012504M
011160M
1 DDH
Silviculture Area
012501M
013568M
12B/02
Outfitter Camp
12B/01
013569M
013570M
013572M
014269M
015043M
Newfoundland
Labrador
Department of Natural Resources
Mines Branch
Mineral Lands Division
Exploration Approval (1 DDH) &
Notification Work (Geology)
for Vulcan Minerals Inc.
on the Robinsons #1 Property,
NTS: 12B/01, 12B/02
Licence: 012501M
Legend
Property
Drill Zone
Mineral Interests
Mining Leases
Mineral Impost Lands
Mineral Claims
Comments
Within
FMD 14
CBPP (Licenced)
Abitibi (Licenced)
Silviculture Area
E090029
GeoReference
UTM NAD27 Zone 21
1:100,000
0
1
Kilometre
Location

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources
Office of the Minister

January 8, 2008

Mr. Patrick Laracy
President
Vulcan Minerals Inc.
333 Duckworth Street
St. John's, NL
A1C 1G9

Dear Mr. Laracy:

RE: Exploration Permits 03-106 and 03-107

Further to your applications submitted December 3, 2007 please find enclosed fully executed copies of the extended Exploration Permits 03-106 and 03-107. The expiry date of these permits is February 12, 2010.

I wish you every success in your exploration activities.

Yours sincerely,

KATHY DUNDERDALE, MHA
Minister

Encls (2)

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources
Energy Branch

COPY

SCHEDULE C

APPLICATION FOR A PERMIT OR SECONDARY TERM OF PERMIT

Applicant: VULCAN MINERALS INC

Address (Mailing): 333 DUCKWORTH ST. ST. JOHN'S NL A1C 1G9

Geographical Area: BAY ST. GEORGE

(attach maps 1:50,000 or as otherwise requested)

Initial Term: 5 YEARS Secondary Term: 2 YEARS

Initial Term - Commencement Date: FEB 12, 2003 Termination Date: FEB 12, 2010
(if applying for secondary term)

Description of Lands

SEE ATTACHMENT 'A' EXPLORATION PERMIT 03-106

The lands to which this exploration permit shall apply are as follows:

Grid	Block	Section	Quadrant	Unit

Work Obligations

The work obligations associated with this exploration permit are described as follows: NOT APPLICABLE

I hereby apply for an Exploration Permit subject to the Petroleum and Natural Gas Act and all regulations thereunder. SECONDARY TERM

Signed: Patrick J. Laracy Name: PATRICK J. LARACY

Title: PRESIDENT Company: VULCAN MINERALS INC

Date: DECEMBER 3, 2007 Phone: 709. 754. 3186

Authorization

Terms and Conditions:

Signed: K. Lundrigan Date: _____

Minister of Natural Resources

Exploration Permit No.: 03-106

Exploration Permit # 03-106

ATTACHMENT A - LANDS

Parcel #	Grid	Block	Sections*
11	UD	73	87-89, 97-99
38 800 ha	*(UP)*	74	80-89, 90-99
		75	80-89, 90-99
		83	07-09, 17-19, 27-29, 37-39, 47-49, 57-59, 67-69, 77-79, 87-89, 97-99
		84	00-09, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, 90-99
		85	00-09, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, 90-99
		93	07-09, 17-19, 27-29, 37-39, 47-49, 57-59, 67-69, 77-79
		94	00-09, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79

(VF) NAD 27 Block Identification

* Sections of land do not include any area of a park, reserve, fee-simple mining grant, or island along the coast. Sections only include areas within the application of section 6 of the *Petroleum Regulations*:

> *"These Regulations shall apply to those lands and submerged areas within the Province that lie landward of the ordinary low water mark along the open coast of the Province."*

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Natural Resources

June 9, 2009

Shane Halley
Drilling Project Manager
Vulcan Minerals Inc.

Dear Mr. Halley:

RE: Surface Casing Waiver Request

Your request for exemption under Section 43 (1)(b), which states that surface casing is to be set "at a depth of not less than 150 metres and not more than 4 times the depth of the previous conductor casing or 500 metres, whichever is greater", is granted based on the following information requested by DNR staff and provided by Vulcan:

- Casing performance ratings from the manufacturer noting that the casing you have selected surpasses API minimum requirements.
- Offset well information for BSG #1 core hole with core description and identifying a lost circulation zone at 168m and hole integrity issues at 343m.

This information, along with Vulcan's two Hurricane wells to the northwest of the proposed location leaves a gap of approximately 150m without record. Due care and caution is required while drilling. Please ensure that a set of diverter procedures is provided with ADW/DPA documentation and that the rig crew is trained in the use of the diverter. Any encountered geohazards (lost circulation zones, hole stability issues, etc.) are to be included in the daily drilling reports.

Please note that this is approval for the surface casing to be set at $\pm$750 metres and full ADW/DPA documentation remains outstanding.

Yours sincerely,

Keith Hynes, P. Eng.
Director
Petroleum Engineering

P.O. Box 8700, St. John's, NL, Canada, A1B 4J6, Telephone (709) 729-2005, Facsimile (709) 729-2871