



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/2/2016	Cust. Supt. Name	Pat CLifford	
Customer Name	J.A. McDonald Inc.	Pick Tks#	48223	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 11:00:00 PM muddy slope

Post Shift Insp.Time (24hrs): 12:00:00 PM

Blaster : Butler;Dean T

License #: 1937

Signature:

DB

Precautions Taken:

stay out of giant mud puddles and carry only one bucket of stone, place stone in ares where foot travel is in close proximity to the stone pile

Weather
Comments:

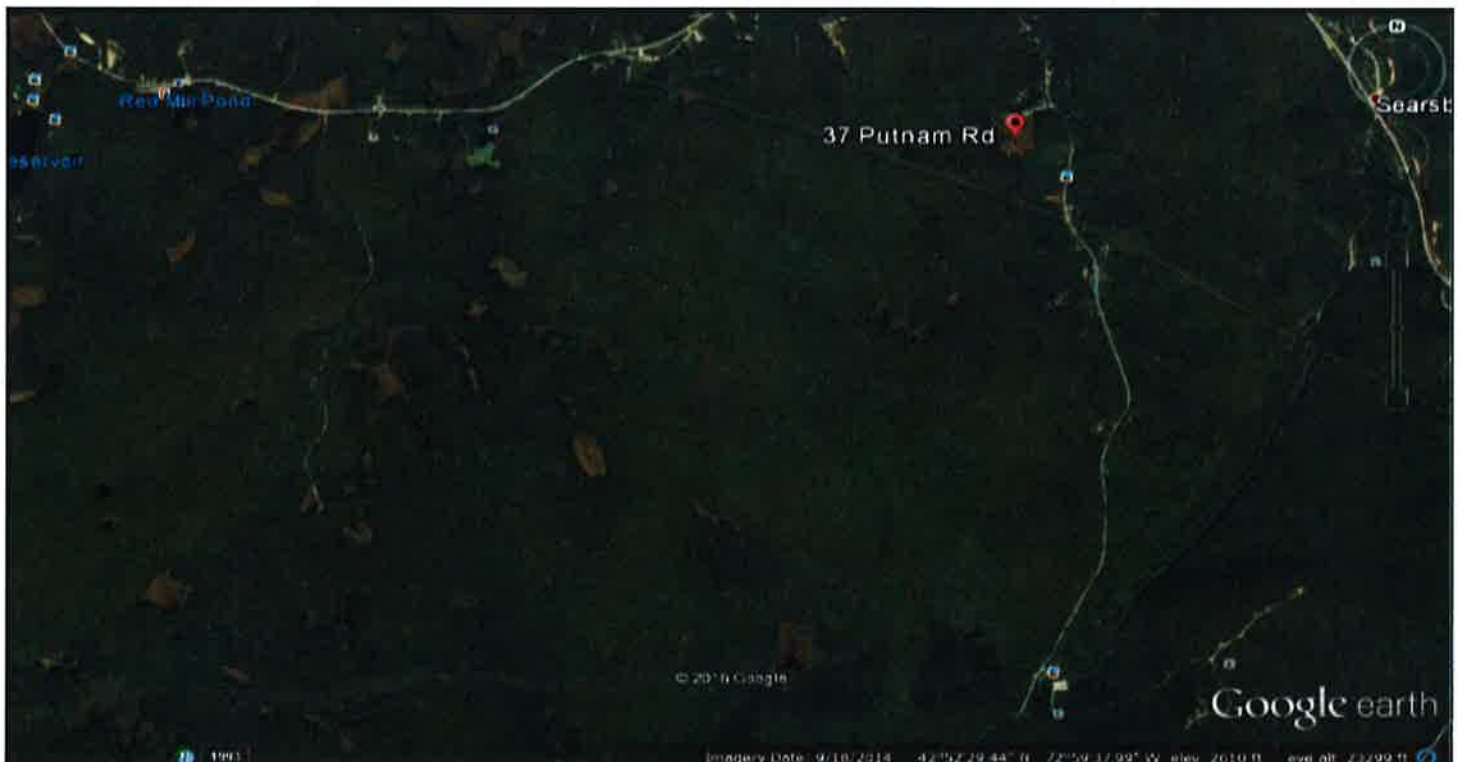
cloudy 30-40

No. of Crew Members 2

Crew Members Names :

Britt Gellenthien	Adam Mackey	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 21 Shot Time (24hrs) 1:04 Shot VideoTaped: NWeather

Notes:

N/A

Weather Conditions: CloudyTemp (°F): 30-35Wind Direction: South-EastWind Spd: 0-10 MPH**Preblast**

Blast Direction: East Max Holes/Delay: 1.00 Predicted K Factor: 242
 Blast Location: roadway between 3-4 Scale Dist.: 308.61
 Location of Structure: roadway tower 2 Max Weight/Delay: 42.00 Lbs Predicted PPV: 0.03
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 10737.00 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

47x9x9=3807
 70x9x11=6930

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft) 1071.00 Total SqFt 9639.00 Powder 1.23 Lbs/Cyd Total Product Weight (Lbs): 3963
 Total Tons N/A Total Yards 3213.00 Factor 0.81 Cyd/Lbs Avg Weight / Hole (Lbs): 33.30

Cal Method Pattern
 # Holes 119 Cover Used/No N/A

	AVG	Min	Max										
Drill Depth	9.00	8.00	18.00	Stone Weight	N/A	/Cyd	Top Stemming	4.00	Min	6.00	Max		
Burden(Feet)	9.00	9.00	9.00	Type of Terrian	Flat/Sloped		Charges/Hole	1	Min	1	Max		
Spacing (Feet)	9.00	9.00	9.00	Type of Rock	Granite		Deck Stemming	0.00	Min	0.00	Max		
Hole Diameter	4.00	4.00	4.00	Stemming Type	3/8" Crushed Stone		Charge Wgt/Deck	21.00	Min	35.00	Max		
OverBurden (Ft)	1.00	0.00	6.00	Height of Face	0.00		Depth of Water	5.00	Min	9.00	Max		

Control Row Taped N Angled Holes /Face Bermed N/N Laser/BoreTracking N

Total Pounds 3962.89 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		3341.00 Lbs
BA BULK Totals:		N/A	3341.00 Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	156.00	519.48 Lbs
BAPACKAGED Totals:		156.00	519.48 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	133.00	102.41 Lbs
BOOSTERS Totals:		133.00	102.41 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	132.00	
DETS DHOLE Totals:		132.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.00	2500.00
LINES Totals:		1.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	9.00	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	6.00	
SURF DELAY Totals:		15.00	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	7.00
1966 Emulsion Blend	2.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	roadway tower 2	2288	Threshold Not Met	N/A	N/A	N/A	2000	N/A



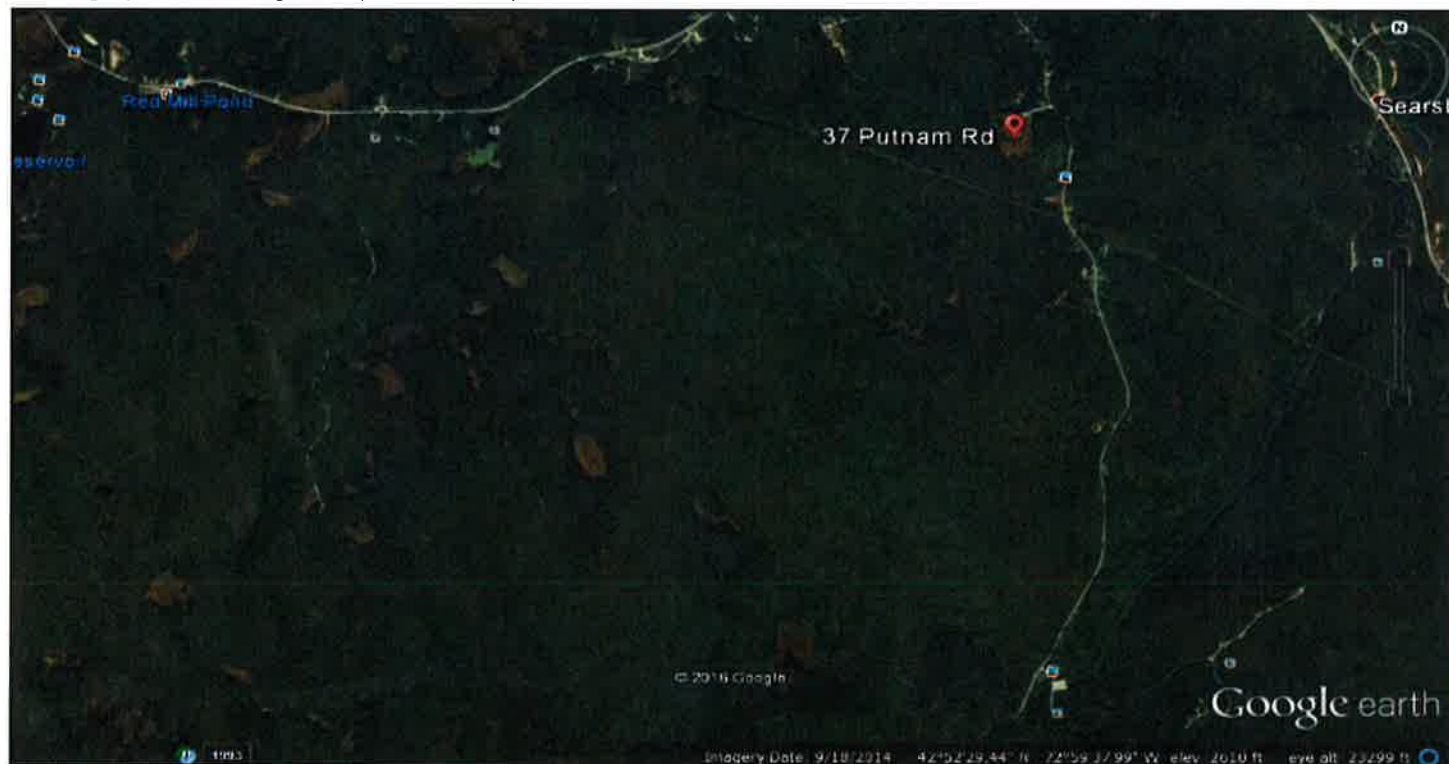
Job#	104-04-02718	Cust. PO#	N/A	
Date	12/6/2016	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48302	48308
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 PM	Identify Hazards	snow and mud	
Post Shift Insp.Time (24hrs):	12:00:00 PM			
Blaster :	Butler;Dean T	Precautions Taken:	wate hfooting used caution when walking in and around shot	
License #:	1937			
Signature:				

Weather
Comments:

overcast 30-40

No. of Crew Members	3		
Crew Members Names :			
adam mackey	britt gellentien	tom clark	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 22 Shot Time (24hrs) 1:27 Shot VideoTaped: Y **Weather**

Notes: N/A Weather Conditions: Cloudy

Temp (°F): 30-40

Wind Direction: South-East

Wind Spd: 0-5 MPH

Preblast

Blast Direction: West Max Holes/Delay: 2 Predicted K Factor: 242

Blast Location: pad 4 Scale Dist.: 125.99

Location of Structure: tower 2 Max Weight/Delay: 252 Lbs Predicted PPV: 0.11

Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 16720 Feet

N/A N/A N/A

N/A N/A N/A

Pay Calculations Notes

152 holes x 10x11 pattern = 16,720 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>2280.00</u>	Total SqFt	<u>16720.00</u>	Powder	<u>1.30</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>12081</u>
Total Tons	<u>N/A</u>	Total Yards	<u>9288.89</u>	Factor	<u>0.77</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>79.48</u>

Cal Method	Pattern		Cover Used/No	<u>N/A</u>
# Holes	<u>152</u>			
	AVG	Min	Max	
Drill Depth	<u>15</u>	<u>9</u>	<u>24</u>	Stone Weight
Burden(Feet)	<u>10</u> Feet	<u>10</u>	<u>10</u>	Type of Terrian
Spacing (Feet)	<u>11</u> Feet	<u>11</u>	<u>11</u>	Type of Rock
Hole Diameter	<u>4</u>	<u>4</u>	<u>4</u>	Stemming Type
OverBurden (Ft)	<u>2</u>	<u>0</u>	<u>6</u>	Height of Face
Control Row Taped	<u>N</u>			Angled Holes /Face Bermed
				<u>N/N</u>
				Laser/BoreTracking
				<u>N</u>

Total Pounds 12081.04 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	11964.00 Lbs
BA BULK Totals:		N/A	11964.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	152	117.04 Lbs
BOOSTERS Totals:		152	117.04 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	107	
DXABZ641	NONEL EZDET 25/350 40FT ZCOMP 30/CS	45	
DETS DHOLE Totals:		152	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1	2500
LINES Totals:		1	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	23	
SURF DELAY Totals:		23	

Descripton: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	22.00

Stemming Stones	5
1966 Emulsion Blend	17
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Descripton: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4
Sub Drilling(ft)	4
Total Depth (ft)	16.00

Stemming Stones	4
1966 Emulsion Blend	12
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
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Job#	104-04-02718	Cust. PO#	N/A	
Date	12/7/2016	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48353	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 PM snow and slippery

Post Shift Insp.Time (24hrs): 12:00:00 PM

Blaster : Butler;Dean T

License #: 1937

Signature:

DB

Precautions Taken:

use foot cleats, take caution

Weather
Comments:

snowy 25-40

No. of Crew Members 2

Crew Members Names :

tom clark	bitt gellenthien	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 18 Shot Time (24hrs) 11:40 Shot VideoTaped: N Weather Weather

Notes: N/A Weather Conditions: Fog

Temp (°F): 25-35

Wind Direction: North-East

Wind Spd: 5-15 MPH

Preblast

Blast Direction: South Max Holes/Delay: 1 Predicted K Factor: 160

Blast Location: pad 2 roadway pond and trench Scale Dist.: 253.55

Location of Structure: tower 4 Max Weight/Delay: 35 Lbs Predicted PPV: 0.02

Measurement Other (See Notes) Dist. to Closest (Ft) Structure 1500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 3510 Feet

Pay Running Length 56 Feet

N/A N/A N/A

Pay Calculations Notes

49x9x19=3510 sqft . we picked up the last piece of the roadway in front of tower 2 east, drainage trench in tower 2, a piece of ditch near station 65, and a piece of roadway just above pond at t2 east

7' spacing x 8 holes = 56 Linear ft trench

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>441.00</u>	Total SqFt	<u>4851.00</u>	Powder	<u>0.70 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>1130</u>
Total Tons	<u>N/A</u>	Total Yards	<u>1617.00</u>	Factor	<u>1.43 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>23.06</u>

Cal Method	<u>Pattern</u>						
# Holes	<u>49</u>	Cover Used/No	<u>N/A</u>				
	<u>AVG</u>	<u>Min</u>	<u>Max</u>				
Drill Depth	<u>9.00</u>	<u>9.00</u>	<u>9.00</u>	Stone Weight	<u>N/A /Cyd</u>	Top Stemming	<u>4.00</u> Min <u>6.00</u> Max
Burden(Feet)	<u>9.00</u> Feet	<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat/Sloped</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>11.00</u> Feet	<u>11.00</u>	<u>11.00</u>	Type of Rock	<u>N/A</u>	Deck Stemming	<u>0.00</u> Min <u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>21.00</u> Min <u>35.00</u> Max
OverBurden (Ft)	<u>2.00</u>	<u>0.00</u>	<u>5.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min <u>7.00</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 1129.73 Lbs

Type Of Initiation: Non-Electric

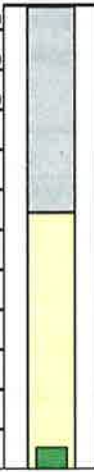
Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		1092.00 Lbs
BA BULK Totals:		N/A	1092.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	49	37.73 Lbs
BOOSTERS Totals:		49	37.73 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	49	
DETS DHOLE Totals:		49	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1	2500
LINES Totals:		1	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	5	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	4	
SURF DELAY Totals:		9	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	tower 4	2288	Threshold Not Met	0	0	N/A	1500	N/A

Shot # 19 Shot Time (24hrs) 15:37 Shot VideoTaped: N **Weather**
 Notes: N/A Weather Conditions: Snow
 Temp (°F): 30-25
 Wind Direction: North-West
 Wind Spd: 10-20 MPH

Preblast

Blast Direction: North Max Holes/Delay: 1 Predicted K Factor: 160
 Blast Location: tower 5 Scale Dist.: 334.08
 Location of Structure: tower 2 pond Max Weight/Delay: 56 Lbs Predicted PPV: 0.01
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 8118 Feet

N/A N/A N/A

N/A N/A N/A

Pay Calculations Notes

82 holes x 9x11 pattern = 8118 sqft, SHot first shot in tower 5 east

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>738.00</u>	Total SqFt	<u>8118.00</u>	Powder	<u>1.28 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>3469</u>
Total Tons	<u>N/A</u>	Total Yards	<u>2706.00</u>	Factor	<u>0.78 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>42.30</u>

Cal Method	Pattern								
# Holes	<u>82</u>	Cover Used/No	<u>N/A</u>						
	AVG	Min	Max						
Drill Depth	<u>9.00</u>	<u>9.00</u>	<u>12.00</u>	Stone Weight	<u>N/A /Cyd</u>	Top Stemming	<u>4.00</u>	Min	<u>6.00</u> Max
Burden(Feet)	<u>9.00</u> Feet	<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat/Sloped</u>	Charges/Hole	<u>1</u>	Min	<u>1</u> Max
Spacing (Feet)	<u>11.00</u> Feet	<u>11.00</u>	<u>11.00</u>	Type of Rock	<u>N/A</u>	Deck Stemming	<u>0.00</u>	Min	<u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>28</u>	Min	<u>56</u> Max
OverBurden (Ft)	<u>2.00</u>	<u>0.00</u>	<u>5.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u>	Min	<u>11.00</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>				

Total Pounds 3469.14 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		<u>3406.00 Lbs</u>
BA BULK Totals:		<u>N/A</u>	<u>3406.00 Lbs</u>
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>82</u>	<u>63.14 Lbs</u>
BOOSTERS Totals:		<u>82</u>	<u>63.14 Lbs</u>

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	<u>82</u>	
DETS DHOLE Totals:		<u>82</u>	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>1</u>	<u>2500</u>
LINES Totals:		<u>1</u>	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>8</u>	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	<u>0</u>	
SURF DELAY Totals:		<u>8</u>	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	9.00

Stemming Stones	4
1966 Emulsion Blend	5
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	13.00

Stemming Stones	5
1966 Emulsion Blend	8
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	tower 2 pond	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/8/2016	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48405	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM slippery conditions

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T

License #: 1937

Signature:

Precautions Taken:

use drill dust to cover ice

Weather
Comments:

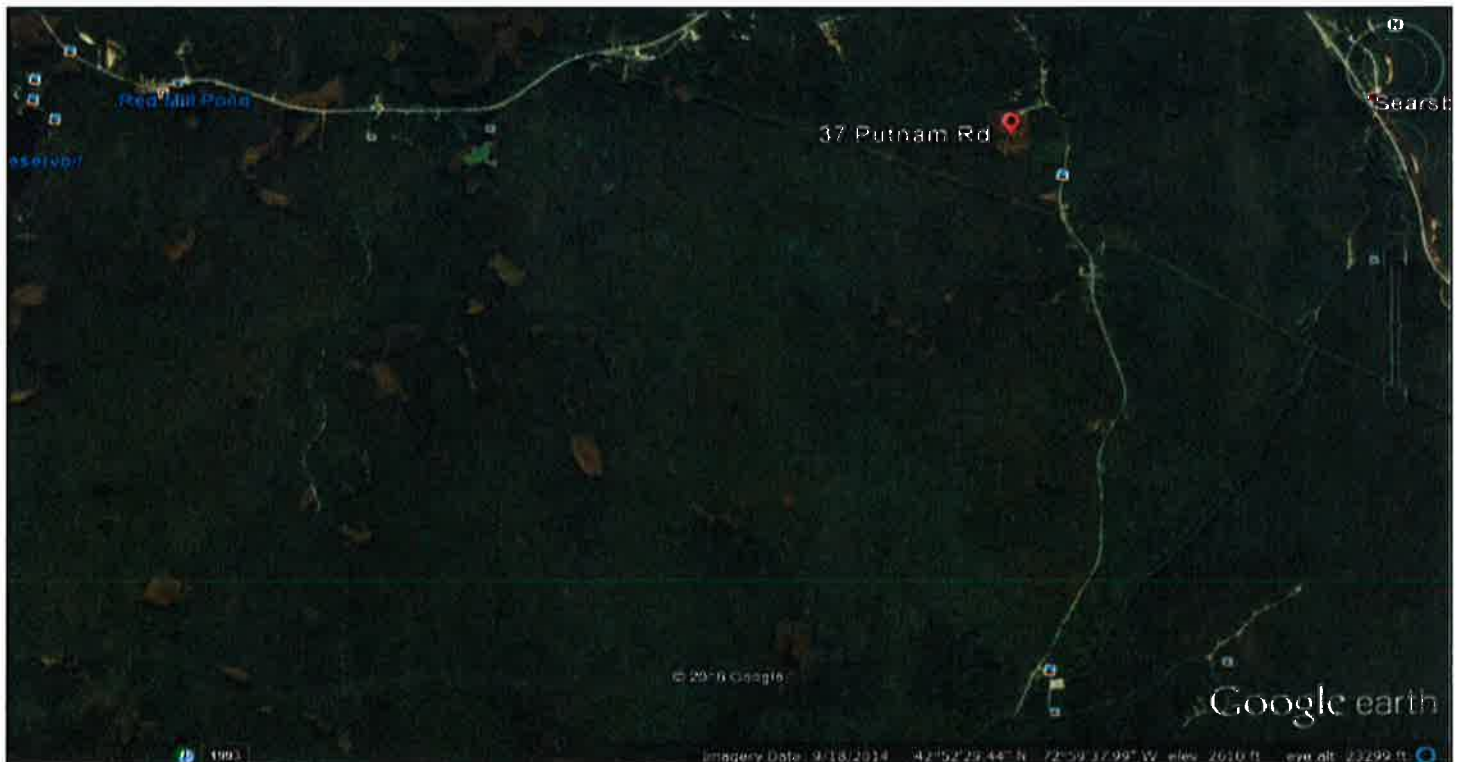
cold 25-35

No. of Crew Members 2

Crew Members Names :

tom clark	britt gellentien	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 23 Shot Time (24hrs) 14:23 Shot VideoTaped: y Weather

Notes:

N/A

Weather Conditions: Snow

Temp (°F): 25-35

Wind Direction: North

Wind Spd: 5-10 MPH

Preblast

Blast Direction: East Max Holes/Delay: 2.00 Predicted K Factor: 160

Blast Location: pad 1 and collector trench to substation Scale Dist.: 282.84

Location of Structure: 1/2 mile mark Max Weight/Delay: 50.00 Lbs Predicted PPV: 0.02

Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 6804 Feet

Pay Running Length 406.00 Feet

N/A N/A N/A

Pay Calculations Notes

87 holes x 9 x 9 pattern = 6804 SQFT finished tower 1 pad with level spreader and high areas.

58 holes x 7' spacing = 406 linear ft trench, Shot trench from tower 1 down to sub station west.

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	1305.00	Total SqFt	13050.00	Powder	0.95 Lbs/Cyd	Total Product Weight (Lbs) :	4134
Total Tons	N/A	Total Yards	4350.00	Factor	1.05 Cyd/Lbs	Avg Weight / Hole (Lbs):	28.51

Cal Method

Pattern

Holes

145

Cover Used/No N/A

AVG

Min

Max

Drill Depth	9.00	Feet	8.00	Max	10.00	Stone Weight	N/A /Cyd	Top Stemming	4.00	Min	7.00	Max
Burden(Feet)	9.00	Feet	9.00	Max	9.00	Type of Terrian	Flat/Sloped	Charges/Hole	1	Min	1	Max
Spacing (Feet)	10.00	Feet	10.00	Max	10.00	Type of Rock	Granite	Deck Stemming	0.00	Min	0.00	Max
Hole Diameter	4.00		4.00	Max	4.00	Stemming Type	3/8" Crushed Stone	Charge Wgt/Deck	14.00	Min	35.00	Max
OverBurden (Ft)	2.00		0.00	Max	5.00	Height of Face	0.00	Depth of Water	0.00	Min	9.00	Max

Control Row Taped

N

Angled Holes /Face Bermed

N/N

Laser/BoreTracking

N

Total Pounds 4133.65 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	4022.00 Lbs
BA BULK Totals:		N/A	4022.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	145.00	111.65 Lbs
BOOSTERS Totals:		145.00	111.65 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	145.00	
DETS DHOLE Totals:		145.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.00	2500.00
LINES Totals:		1.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	18.00	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	1.00	
SURF DELAY Totals:		19.00	

Description: typical

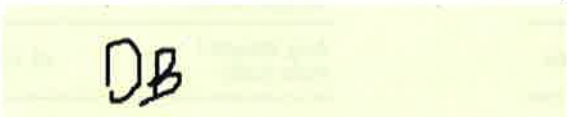
Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	4.50	
1966 Emulsion Blend	4.50	
TROJAN SPARTAN 350G 49/CS	0.00	
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	1/2 mile mark	2288	Threshold Not Met	N/A	N/A	N/A	2000	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/9/2016	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48478	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 PM	Identify Hazards	Ice and frozen ground	
Post Shift Insp.Time (24hrs):	12:00:00 PM			
Blaster :	Butler;Dean T	Precautions Taken:		
License #:	1937		watch out for slips trips and falls with frozen mud ruts and ice packed road	
Signature:				
No. of Crew Members	2	Weather Comments:		
Crew Members Names :				
Cody Barnum	Britt Gellenthien		N/A	N/A
N/A	N/A		N/A	N/A
N/A	N/A		N/A	N/A
Seismograph Monitoring Plan (Not to Scale):				

Shot # 20 Shot Time (24hrs) 12:27 Shot VideoTaped: NWeatherNotes: N/AWeather Conditions: CloudyTemp (°F): 15-20Wind Direction: North-EastWind Spd: 10-20 MPH**Preblast**Blast Direction: WestMax Holes/Delay: 2.00Predicted K Factor: 160Blast Location: tower 5 eastScale Dist.: 298.81Location of Structure: pad 2 pondMax Weight/Delay: 70.00 Lbs Predicted PPV: 0.02Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 12870.00 Feet

N/A N/A N/A

N/A N/A N/A

130 holes x 9x 11 pattern = 12,870 SQFT shot tower 5 blast 2

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 1170.00Total SqFt 12870.00

Powder

1.25 Lbs/Cyd

Total Product Weight (Lbs) :

5354Total Tons N/ATotal Yards 4290.00

Factor

0.80 Cyd/Lbs

Avg Weight / Hole (Lbs):

41.18Cal Method Pattern# Holes 130Cover Used/No N/A**AVG****Min Max**Drill Depth 9.00 Feet9.00 12.00Stone Weight N/A /Cyd

Top Stemming

4.00 Min 5.00 MaxBurden(Feet) 9.00 Feet9.00 9.00

Type of Terrian

Flat

Charges/Hole

1 Min 1 MaxSpacing (Feet) 11.00 Feet11.00 11.00

Type of Rock

Mica/Schist

Deck Stemming

0.00 Min 0.00 MaxHole Diameter 4.004.00 4.00

Stemming Type

3/8" Crushed Stone

Charge Wgt/Deck

20.00 Min 35.00 MaxOverBurden (Ft) 0.000.00 2.00

Height of Face

0.00

Depth of Water

0.00 Min 9.00 Max

Control Row Taped

N

Angled Holes /Face Bermed

N/N

Laser/BoreTracking

NTotal Pounds 5354.10 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	5254.00 Lbs
BA BULK Totals:		N/A	5254.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	130.00	100.10 Lbs
BOOSTERS Totals:		130.00	100.10 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	130.00	
DETS DHOLE Totals:		130.00	

Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.00	2500.00
LINES Totals:		1.00	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	14.00	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	1.00	
SURF DELAY Totals:		15.00	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	4.00	
1966 Emulsion Blend	5.00	
TROJAN SPARTAN 350G 49/CS	0.00	
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	pad 2 pond	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/13/2016	Cust. Supt. Name	PAT CLIFFORD	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48511	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 PM SLOPE AND SNOW

Post Shift Insp.Time (24hrs): 12:00:00 PM

Blaster : Butler;Dean T Precautions Taken:
 License #: 1937 SNOW COVERS HOLES IN GROUND. WATCH FOOTING.

Signature: DB Weather Comments:
CLOUDY 20-30

No. of Crew Members	<u>2</u>		
Crew Members Names :			
Jason guilemette	BRITT GELLENTHIEN	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 24 Shot Time (24hrs) 12:20 Shot VideoTaped: Y **Weather**

Notes: N/A

Weather Conditions: Cloudy
Temp (°F): 20-30
Wind Direction: South-West
Wind Spd: 0-10 MPH

Preblast

Blast Direction: East Max Holes/Delay: 1 Predicted K Factor: 160
Blast Location: TOWER 4 WEST ROADWAY AND PAD SHOT 2 Scale Dist.: 195.18
Location of Structure: TOWER 2 Max Weight/Delay: 105 Lbs Predicted PPV: 0.03
Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
Pay Square Area 8640 Feet
N/A N/A
N/A N/A

Pay Calculations Notes

72X 10X12= 8640 SQFT TOWER 4 WEST SHOT 2.

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>1136.00</u>	Total SqFt	<u>8520.00</u>	Powder	<u>1.04</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>5259</u>
Total Tons	<u>N/A</u>	Total Yards	<u>5048.89</u>	Factor	<u>0.96</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>74.07</u>

Cal Method	Pattern								
# Holes	<u>71</u>	Cover Used/No	<u>N/A</u>						
	<u>AVG</u>	<u>Min</u>	<u>Max</u>						
Drill Depth	<u>16</u>	<u>9</u>	<u>21</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4</u> Min	<u>6</u> Max	
Burden(Feet)	<u>10</u> Feet	<u>10</u>	<u>10</u>	Type of Terrian	<u>Flat/Sloped</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max	
Spacing (Feet)	<u>12</u> Feet	<u>12</u>	<u>12</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0</u> Min	<u>0</u> Max	
Hole Diameter	<u>4</u>	<u>4</u>	<u>4</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>35</u> Min	<u>105</u> Max	
OverBurden (Ft)	<u>0</u>	<u>0</u>	<u>2</u>	Height of Face	<u>0</u>	Depth of Water	<u>0</u> Min	<u>4</u> Max	
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>				

Total Pounds 5258.67 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		5204.00 Lbs
BA BULK Totals:		N/A	5204.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	71	54.67 Lbs
BOOSTERS Totals:		71	54.67 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	71	
DETS DHOLE Totals:		71	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	0.4	1000
LINES Totals:		0.4	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	10	
SURF DELAY Totals:		10	

Descripton: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	9.00

Stemming Stones	4
1966 Emulsion Blend	5
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Descripton: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	20.00

Stemming Stones	5
1966 Emulsion Blend	15
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	TOWER 2	2288	Threshold Not Met	0.045	N/A	114.0	2000	208

Date/Time Long at 12:20:19 December 13, 2016
Trigger Source Geo: 0.040 in/s
Range Geo: 9.999 in/s
Record Time 10.0 sec at 1024 sps

Serial Number 2288 V 5.52 BlastMate II/477
Battery Level 6.0 Volts
Unit Calibration January 26, 2016 by InstanTel
File Name D288GOC2.9V0

Notes

Location: Pad 2 west
 Client: McDonald
 User Name: D Butler
 Converted: December 13, 2016 13:20:19 (V10.72)

Extended Notes

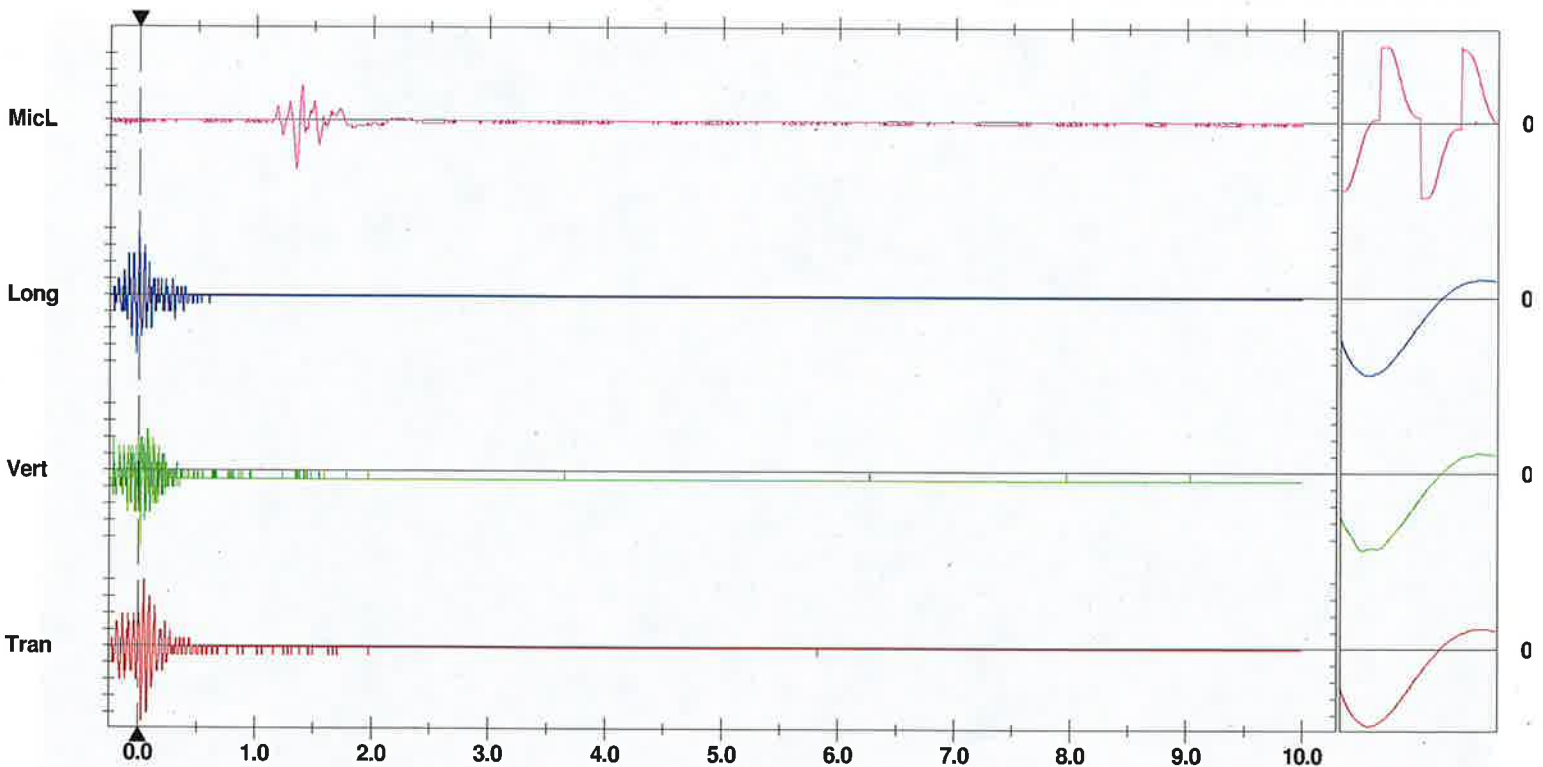
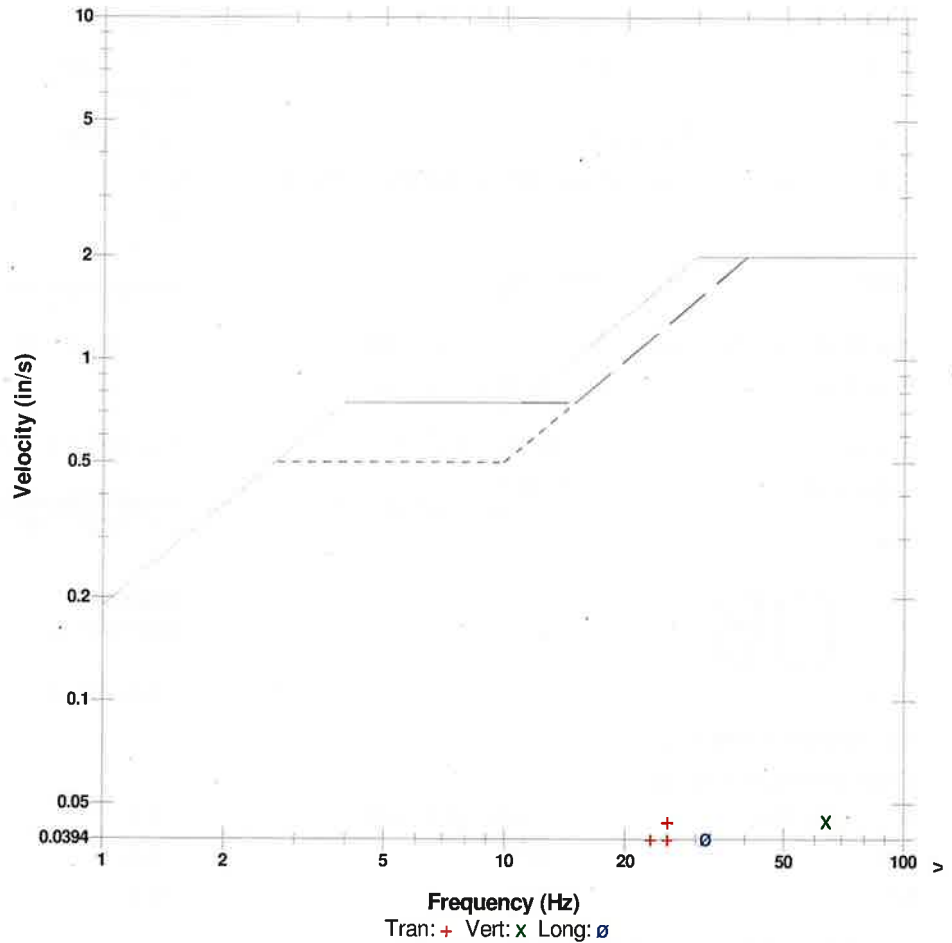
Deerfield Wind searsburg vt 104-04-02718

Microphone Linear Weighting
PSPL 114.0 dB(L) 0.001 psi(L) at 1.351 sec
ZC Freq 9.1 Hz
Channel Test Passed (Freq = 20.0 Hz Amp = 524 mv)

	Tran	Vert	Long	
PPV	0.045	0.045	0.040	in/s
ZC Freq	26	64	32	Hz
Time (Rel. to Trig)	0.035	0.023	0.001	sec
Peak Acceleration	0.040	0.053	0.027	g
Peak Displacement	0.000	0.000	0.000	in
Sensor Check	Passed	Passed	Passed	
Frequency	8.1	8.0	8.0	Hz
Overswing Ratio	3.6	3.6	4.0	

Peak Vector Sum 0.050 in/s at 0.023 sec

USBM RI8507 And OSMRE



Time Scale: 0.50 sec/div Amplitude Scale: Geo: 0.010 in/s/div Mic: 0.001 psi(L)/div
 Trigger =

Sensor Check



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/14/2016	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48586	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM temperatures dropping
 Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T Precautions Taken:
 License #: 1937 temperatures expected to drop quickly during the day. wear appropriate clothing warm up as necessary
 Signature: _____

DB

Weather
 Comments:
cloudy little snowy . 25°

No. of Crew Members	<u>2</u>		
Crew Members Names :			
britt gellenthien	Jason guilmette	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 21 Shot Time (24hrs) 13:00 Shot VideoTaped: Y Weather

Notes:

N/A

Weather Conditions: Cloudy

Temp (°F): 15-25

Wind Direction: North-East

Wind Spd: 5-20 MPH

Preblast

Blast Direction: West Max Holes/Delay: 2.00 Predicted K Factor: 160
 Blast Location: pad 5 east Scale Dist.: 188.98
 Location of Structure: pad 3 east Max Weight/Delay: 112 Lbs Predicted PPV: 0.04
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 13167 Feet

N/A N/A N/A

N/A N/A N/A

Pay Calculations Notes

9x11 pattern x 133 holes = 13,167 sqft at tower 5 east. 3rd shot at tower 5 to finish pad.

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	1197.00	Total SqFt	13167.00	Powder Factor	1.03 Lbs/Cyd	Total Product Weight (Lbs) :	4506
Total Tons	N/A	Total Yards	4389.00		0.97 Cyd/Lbs	Avg Weight / Hole (Lbs):	33.88

Cal Method

Pattern

Holes

133

Cover Used/No N/A

AVG

Min

Max

Drill Depth	9.00	Feet	8.00	14.00	Stone Weight	N/A /Cyd	Top Stemming	4.00	Min	6.00	Max
Burden(Feet)	9.00	Feet	9.00	9.00	Type of Terrian	Flat	Charges/Hole	1	Min	1	Max
Spacing (Feet)	11.00	Feet	11.00	11.00	Type of Rock	Mica/Schist	Deck Stemming	0.00	Min	0.00	Max
Hole Diameter	4.00		4.00	4.00	Stemming Type	3/8" Crushed Stone	Charge Wgt/Deck	21.00	Min	56	Max
OverBurden (Ft)	1.00		0.00	2.00	Height of Face	0.00	Depth of Water	0.00	Min	9.00	Max

Control Row Taped

N

Angled Holes /Face Bermed

N/N

Laser/BoreTracking

N

Total Pounds 4506.41 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		4404.00 Lbs
BA BULK Totals:		N/A	4404.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	133	102.41 Lbs
BOOSTERS Totals:		133	102.41 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	133	
DETS DHOLE Totals:		133	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1	2500
LINES Totals:		1	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	20	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	6	
SURF DELAY Totals:		26	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

N/A
Stemming Stones 4.00
1966 Emulsion Blend 5.00
TROJAN SPARTAN 350G 49/CS 0.00
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	13.00

Stemming Stones 4
1966 Emulsion Blend 9
TROJAN SPARTAN 350G 49/CS 0
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
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Job#	104-04-02718	Cust. PO#	N/A	
Date	12/15/2016	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48637	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM Cold

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T

License #: 1937

Signature: _____

DB

Precautions Taken:

stay covered up wear the appropriate clothing

Weather
Comments:

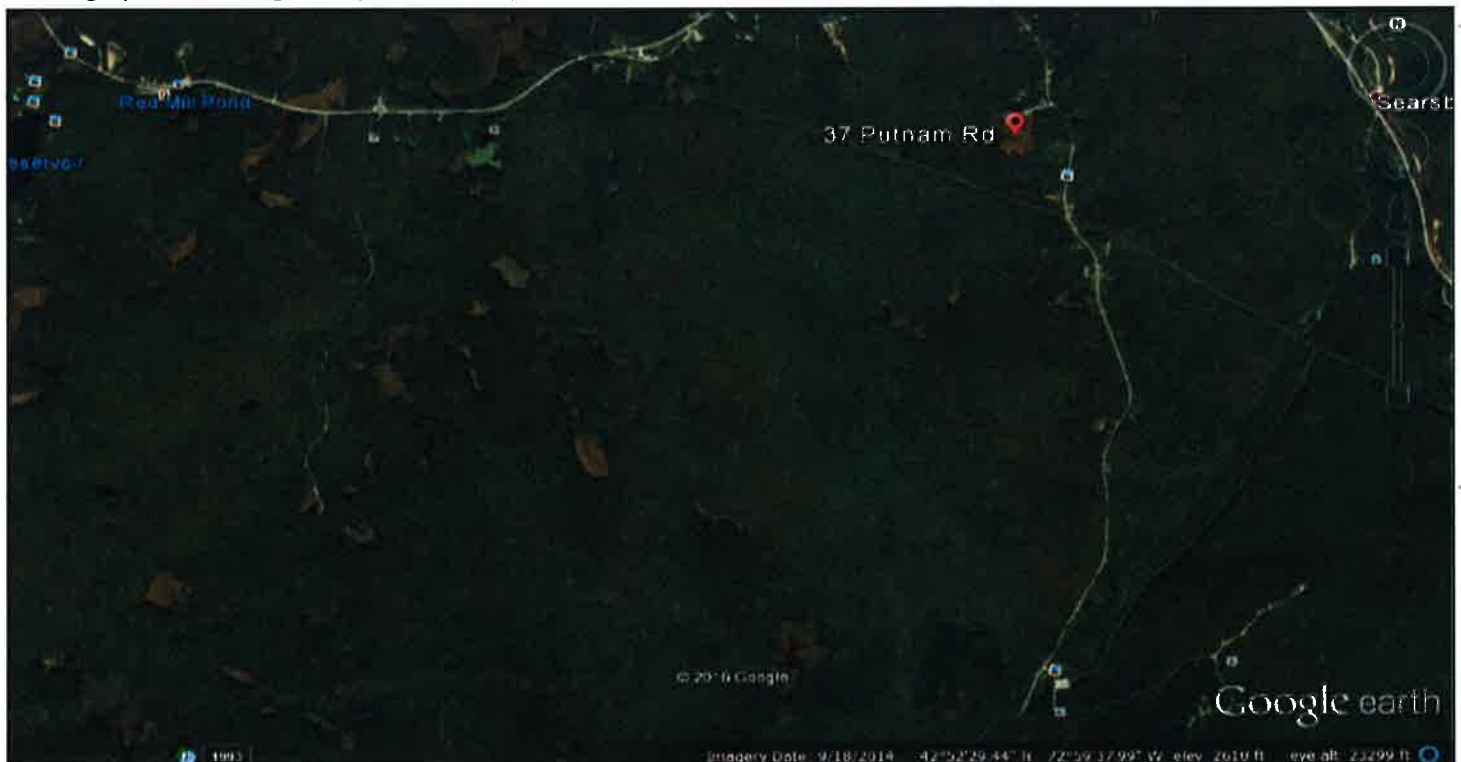
Cold 10* winds up to 30 mph

No. of Crew Members 2

Crew Members Names :

Britt Gellenthien	jason Guimlette	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 25 Shot Time (24hrs) 13:05 Shot VideoTaped: YWeatherNotes: N/AWeather Conditions: CloudyTemp (°F): 0-10Wind Direction: North-EastWind Spd: 5-35 MPH**Preblast**

Blast Direction: East Max Holes/Delay: 2.00 Predicted K Factor: 160
Blast Location: tower 4 west pad Scale Dist.: 188.98
Location of Structure: tower 2 Max Weight/Delay: 112 Lbs Predicted PPV: 0.04
Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay QuantitiesFire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 5400 Feet

45x10x12= 5400 sqft

N/A N/A N/A

N/A N/A N/A

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft) 945.00 Total SqFt 5400.00 Powder 1.19 Lbs/Cyd Total Product Weight (Lbs) : 5003
Total Tons N/A Total Yards 4200.00 Factor 0.84 Cyd/Lbs Avg Weight / Hole (Lbs): 111.18

Cal Method Pattern# Holes 45Cover Used/No N/A**AVG****Min Max**

Drill Depth	<u>21</u>		<u>9</u>	<u>31</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4.00</u> Min	<u>5.00</u> Max
Burden(Feet)	<u>10</u> Feet		<u>10</u>	<u>10</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max
Spacing (Feet)	<u>12</u> Feet		<u>12</u>	<u>12</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max
Hole Diameter	<u>4.00</u>		<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>35</u> Min	<u>115</u> Max
OverBurden (Ft)	<u>0.00</u>		<u>0.00</u>	<u>3.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min	<u>0</u> Max

Control Row Taped NAngled Holes /Face Bermed N/NLaser/BoreTracking NTotal Pounds 5002.65 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		4968.00 Lbs
BA BULK Totals:		N/A	4968.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	45	34.65 Lbs
BOOSTERS Totals:		45	34.65 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	45	
DETS DHOLE Totals:		45	

Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1	2500
LINES Totals:		1	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	12	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12/FT 90/180/CS	2	
SURF DELAY Totals:		14	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	30.00

Stemming Stones	4
1966 Emulsion Blend	26
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	20.00

Stemming Stones	4
1966 Emulsion Blend	16
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
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Job#	104-04-02718	Cust. PO#	N/A	
Date	12/20/2016	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48775	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM COLD WEATHER

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T

License #: 1937

Signature:

Precautions Taken:

DRESS APPROPRIATELY

Weather
Comments:

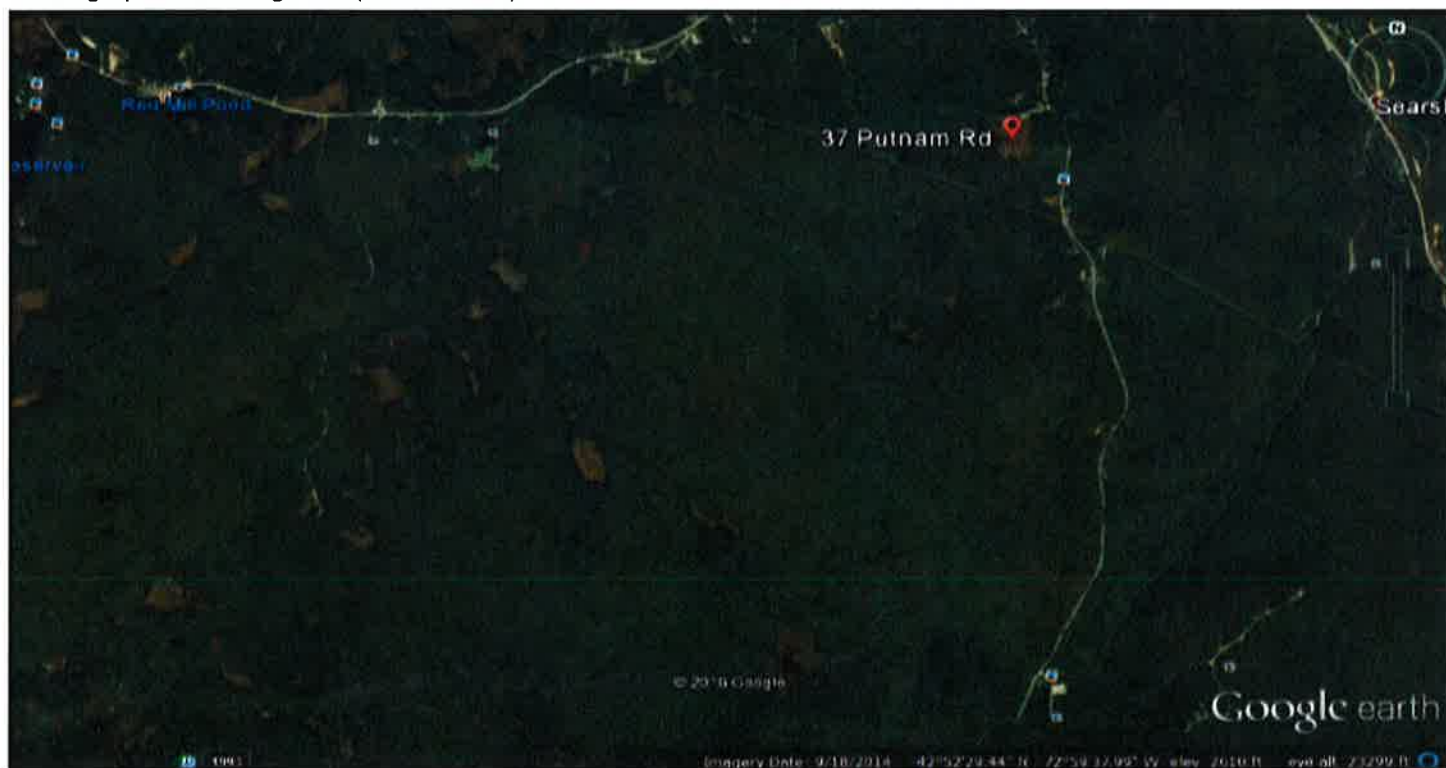
COLD 1 * ON HILL DRESS APPROPRIATELY

No. of Crew Members 1

Crew Members Names :

Britt Gellenthien	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 26 Shot Time (24hrs) 13:12 Shot VideoTaped: Y Weather

Notes:

N/A

Weather Conditions: ClearTemp (°F): -5-20Wind Direction: North-WestWind Spd: 0-10 MPH**Preblast**Blast Direction: East Max Holes/Delay: 2.00 Predicted K Factor: 160Blast Location: TOWER 4 WEST Scale Dist.: 169.03Location of Structure: TOWER 2 WEST Max Weight/Delay: 140.00 Lbs Predicted PPV: 0.04Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 8040 Feet

N/A N/A

N/A N/A

10x12 pattern x 67 holes

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft)	<u>1407.00</u>	Total SqFt	<u>8040.00</u>	Powder	<u>0.98</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>6116</u>
Total Tons	<u>N/A</u>	Total Yards	<u>6253.33</u>	Factor	<u>1.02</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>91.28</u>

Cal Method

Pattern

Holes

67Cover Used/No N/A**AVG****Min****Max**

Drill Depth	<u>21.00</u>		<u>16</u>	<u>21.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4.00</u> Min	<u>8.00</u> Max
Burden(Feet)	<u>10.00</u> Feet		<u>10.00</u>	<u>10.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max
Spacing (Feet)	<u>12.00</u> Feet		<u>12.00</u>	<u>12.00</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max
Hole Diameter	<u>4.00</u>		<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>70</u> Min	<u>112</u> Max
OverBurden (Ft)	<u>1.00</u>		<u>0.00</u>	<u>3.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min	<u>5.00</u> Max
Control Row Taped	<u>N</u>				Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>	

Total Pounds 6115.59 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		<u>6064.00</u> Lbs
BA BULK Totals:		N/A	6064.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>67</u>	<u>51.59</u> Lbs
BOOSTERS Totals:		67	51.59 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	<u>67</u>	
DETS DHOLE Totals:		67	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>1</u>	<u>2500</u>
LINES Totals:		1	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>16</u>	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	<u>0</u>	
SURF DELAY Totals:		16	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	14.00

Stemming Stones	4.00
1966 Emulsion Blend	10.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	20.00

Stemming Stones	4.00
1966 Emulsion Blend	16.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	tower 2	2288	Threshold Not Met	N/A	N/A	N/A	N/A	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/20/2016	Cust. Supt. Name	buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48755	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM drill on site

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Barnum;Cody P. Precautions Taken:
 License #: 1951 stay atleast 50 feet from drill

Signature:

Weather
Comments:

clear

No. of Crew Members 2

Crew Members Names :

Artavis Blue	Brandon Tebo	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 22 Shot Time (24hrs) 15:24 Shot VideoTaped: YWeather

Notes:

N/A

Weather Conditions: ClearTemp (°F): -5-5Wind Direction: North-EastWind Spd: 5-10 MPH**Preblast**

Blast Direction: West Max Holes/Delay: 2.00 Predicted K Factor: 160
Blast Location: windmill tower pad Scale Dist.: 179.28
Location of Structure: tower #4 Max Weight/Delay: 70.00 Lbs Predicted PPV: 0.04
Measurement Physical Dist. to Closest (Ft) Structure 1500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A
Measurement

Pay Quantities

Fire Detail # of Hrs: N/A
Pay Square Area 22770.00 Feet
N/A N/A N/A
N/A N/A N/A

Pay Calculations Notes

10x11x207=22,770 sqft

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft) 1863.00 Total SqFt 22770.00 Powder 0.81 Lbs/Cyd Total Product Weight (Lbs): 6133
Total Tons N/A Total Yards 7590.00 Factor 1.24 Cyd/Lbs Avg Weight / Hole (Lbs): 29.63

Cal Method Pattern
Holes 207 Cover Used/No N/A
AVG Min Max
Drill Depth 9.00 9.00 9.00 Stone Weight N/A /Cyd Top Stemming 4.00 Min 5.00 Max
Burden(Feet) 10.00 Feet 10.00 10.00 Type of Terrian Flat Charges/Hole 1 Min 1 Max
Spacing (Feet) 11.00 Feet 11.00 11.00 Type of Rock Mica/Schist Deck Stemming 0.00 Min 0.00 Max
Hole Diameter 4.00 4.00 4.00 Stemming Type 3/8" Crushed Stone Charge Wgt/Deck 28.00 Min 70.00 Max
OverBurden (Ft) 1.00 0.00 2.00 Height of Face 9.00 Depth of Water 0.00 Min 5.00 Max
Control Row Taped N Angled Holes /Face Bermed N/Y Laser/BoreTracking N

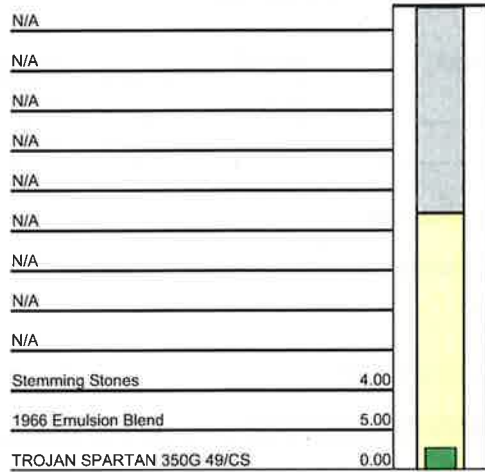
Total Pounds 6133.01 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		5927.00 Lbs
BA BULK Totals:		N/A	5927.00 Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	14.00	46.62 Lbs
BAPACKAGED Totals:		14.00	46.62 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	207.00	159.39 Lbs
BOOSTERS Totals:		207.00	159.39 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	207.00	
DETS DHOLE Totals:		207.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500.00	
LINES Totals:		2500.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	9.00	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	4.00	
SURF DELAY Totals:		13.00	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	1.00
Sub Drilling(ft)	3.00
Total Depth (ft)	9.00

**Seismograhs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
cody barnum	tower #4	2288	Threshold Not Met	N/A	N/A	N/A	1500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	12/21/2016	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	68487	68488
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	shot near powerlines	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Butler;Dean T	Precautions Taken:		
License #:	1937		load carefully and conservatively	
Signature:				

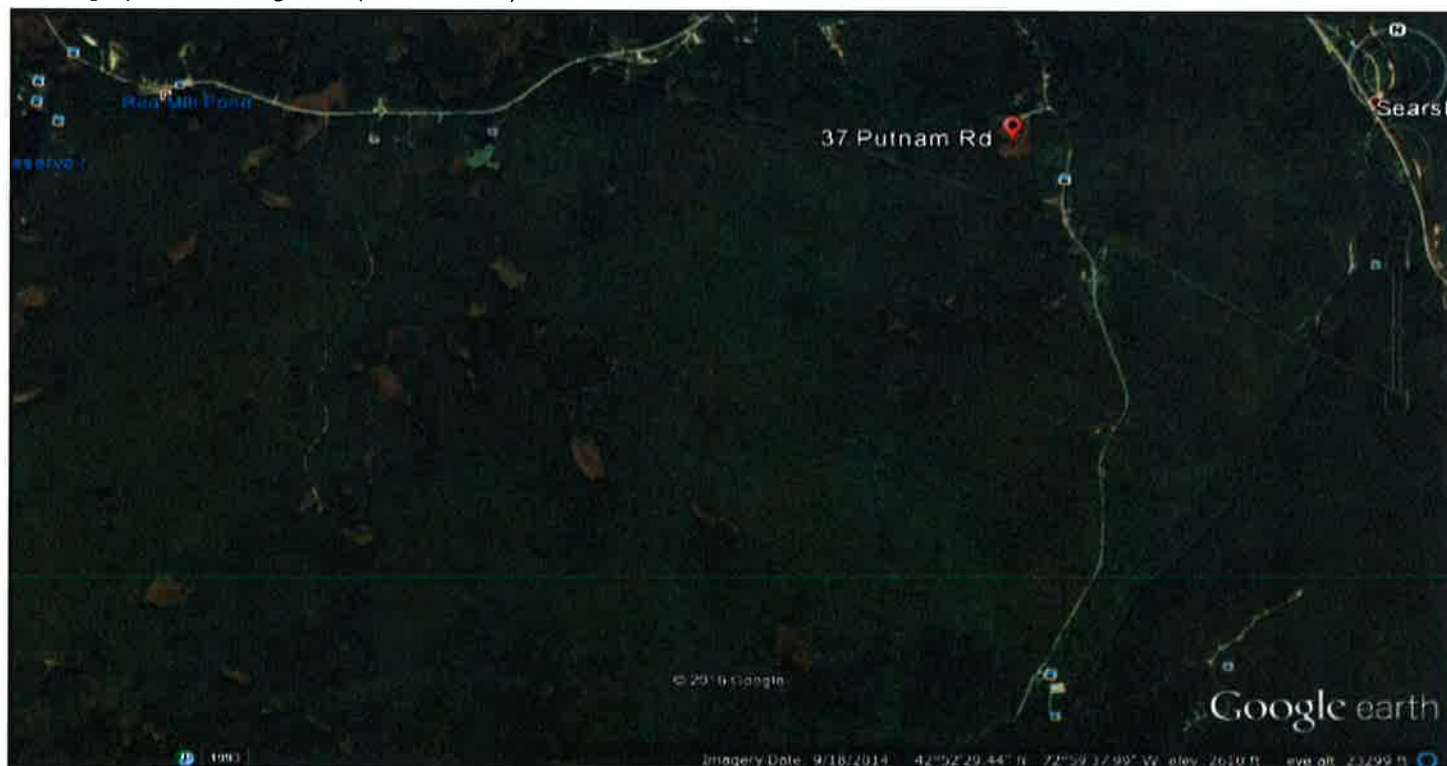
OB

Weather
Comments:

24 * cloudy

No. of Crew Members	4		
Crew Members Names :			
cody barnum	britt gellenthien	brandon tebow	jason guimlette
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 27 Shot Time (24hrs) 13:42 Shot VideoTaped: Y **Weather**

Notes:

N/A

Weather Conditions: CloudyTemp (°F): 20-30Wind Direction: NorthWind Spd: 5-10 MPH**Preblast**Blast Direction: East Max Holes/Delay: 1.00 Predicted K Factor: 242Blast Location: roadway above sub station entrance Scale Dist.: 387.30Location of Structure: 3/4 mile mark in roadway Max Weight/Delay: 15.00 Lbs Predicted PPV: 0.02Measurement Other (See Notes) Dist. to Closest (Ft) Structure 1500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 8736.00 Feet

N/A N/A N/A

N/A N/A N/A

156 holes x 7x8 pattern = 8736 sqft
Blasted area up station from sub station and powerlines.**Shot Info****Configuration****1 - Open**

Total Drill Depth(Ft)	<u>1404.00</u>	Total SqFt	<u>8736.00</u>	Powder	<u>0.59</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>1721</u>
Total Tons	<u>N/A</u>	Total Yards	<u>2912.00</u>	Factor	<u>1.69</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>11.03</u>

Cal Method

Pattern

Holes 156Cover Used/No N/A**AVG****Min****Max**

Drill Depth	<u>9.00</u>		<u>8.00</u>	<u>9.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>6.00</u> Min	<u>7.00</u> Max
Burden(Feet)	<u>7.00</u> Feet		<u>7.00</u>	<u>7.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max
Spacing (Feet)	<u>8.00</u> Feet		<u>8.00</u>	<u>8.00</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max
Hole Diameter	<u>3.50</u>		<u>3.50</u>	<u>3.50</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>10.00</u> Min	<u>15.00</u> Max
OverBurden (Ft)	<u>3.00</u>		<u>0.00</u>	<u>5.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min	<u>5.00</u> Max

Control Row Taped NAngled Holes /Face Bermed N/NLaser/BoreTracking NTotal Pounds 1720.53 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
405	Bulk Powernel 1500 Emulsion		<u>1240.00</u> Lbs
BA BULK Totals:		<u>N/A</u>	<u>1240.00</u> Lbs

Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	<u>108.00</u>	<u>359.64</u> Lbs
BAPACKAGED Totals:		<u>108.00</u>	<u>359.64</u> Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>157.00</u>	<u>120.89</u> Lbs
BOOSTERS Totals:		<u>157.00</u>	<u>120.89</u> Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	<u>156.00</u>	
DETS DHOLE Totals:		<u>156.00</u>	

Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>1.00</u>	<u>2250.00</u>
LINES Totals:		<u>1.00</u>	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>8.00</u>	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	<u>3.00</u>	
SURF DELAY Totals:		<u>11.00</u>	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4.00
Sub Drilling(ft)	4.00
Total Depth (ft)	7.00

Stemming Stones	7.00
N/A	
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	6.00
Blastex 2 1/2 X 16 40LBS/CS 12/STKS	3.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	3/4 mile mark in roadway	2288	Triggered	0.070	N/A	109.6	1500	968

Date/Time Tran at 13:42:38 December 21, 2016
Trigger Source Geo: 0.040 in/s
Range Geo: 9.999 in/s
Record Time 10.0 sec at 1024 sps

Serial Number 2288 V 5.52 BlastMate II/477
Battery Level 5.9 Volts
Unit Calibration January 26, 2016 by Instanetel
File Name D288GOQZ.F20

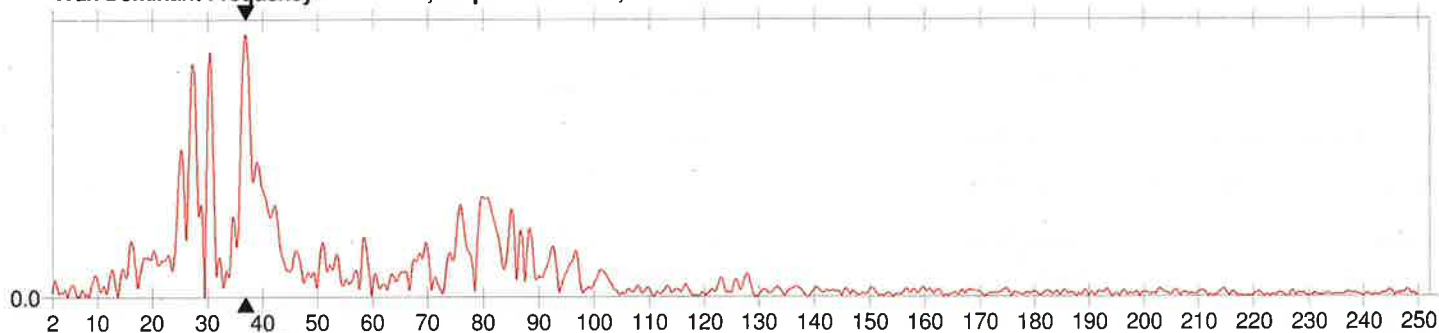
Notes

Location: sub sta entrance west
 Client: McDonald
 User Name: D Butler
 Converted: December 22, 2016 07:18:49 (V10.72)

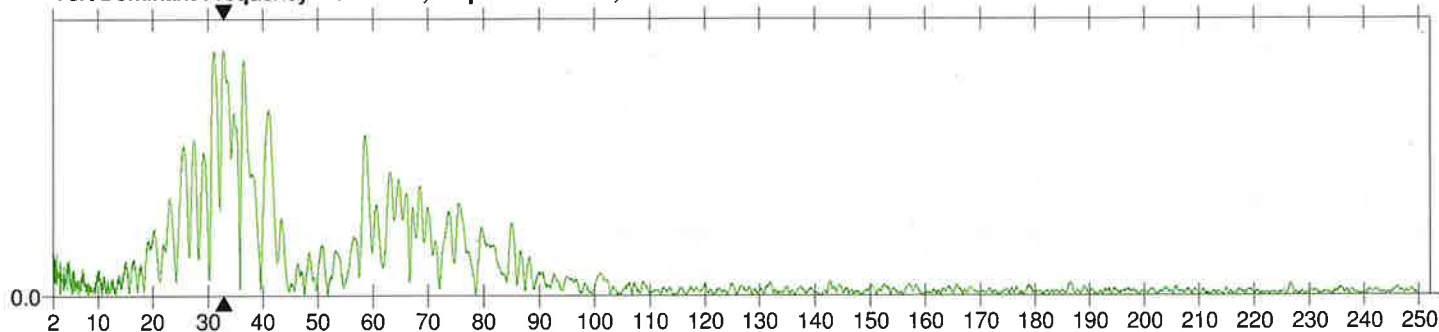
Extended Notes

Deerfield Wind searsburg vt 104-04-02718

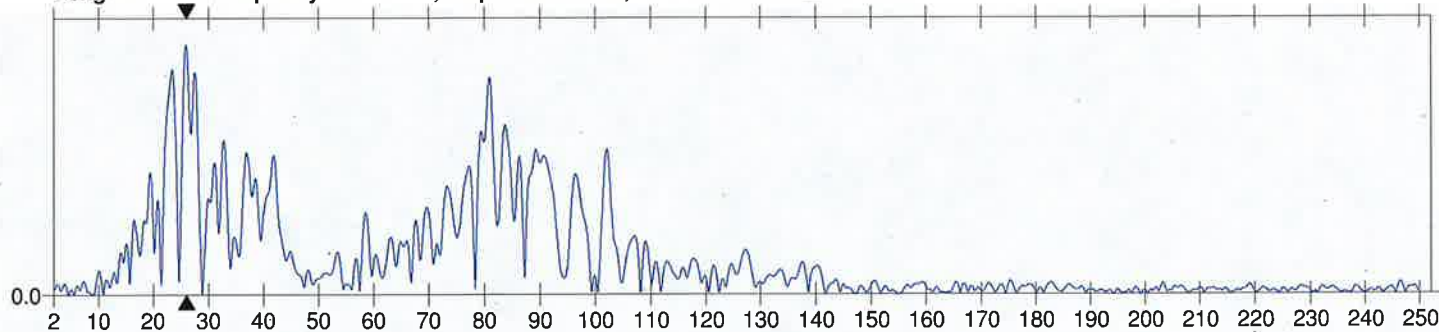
Tran Dominant Frequency = 36.94 Hz., Amplitude = 0.001, PPV from Event = 0.070 in/s



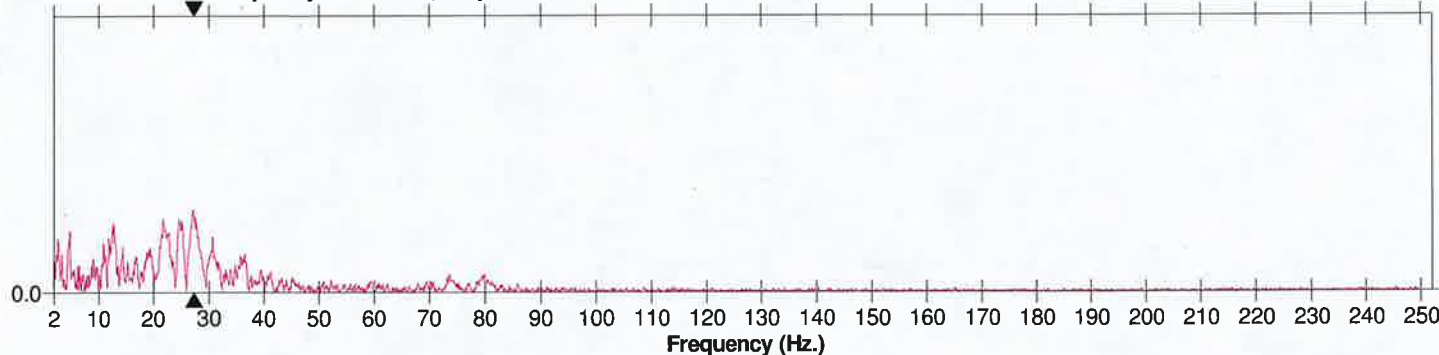
Vert Dominant Frequency = 32.88 Hz., Amplitude = 0.001, PPV from Event = 0.045 in/s



Long Dominant Frequency = 26.06 Hz., Amplitude = 0.000, PPV from Event = 0.045 in/s



MicL Dominant Frequency = 27.38 Hz., Amplitude = 0.000, PSPL From Event = 109.5 dB(L)





Job#	104-04-02718	Cust. PO#	N/A	
Date	12/27/2016	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48913	48911
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	<u>slippery conditons</u>	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Butler;Dean T	Precautions Taken:		
License #:	1937		<u>overnight freezing rain spread appropriate treatment to slippery areas</u>	
Signature:				

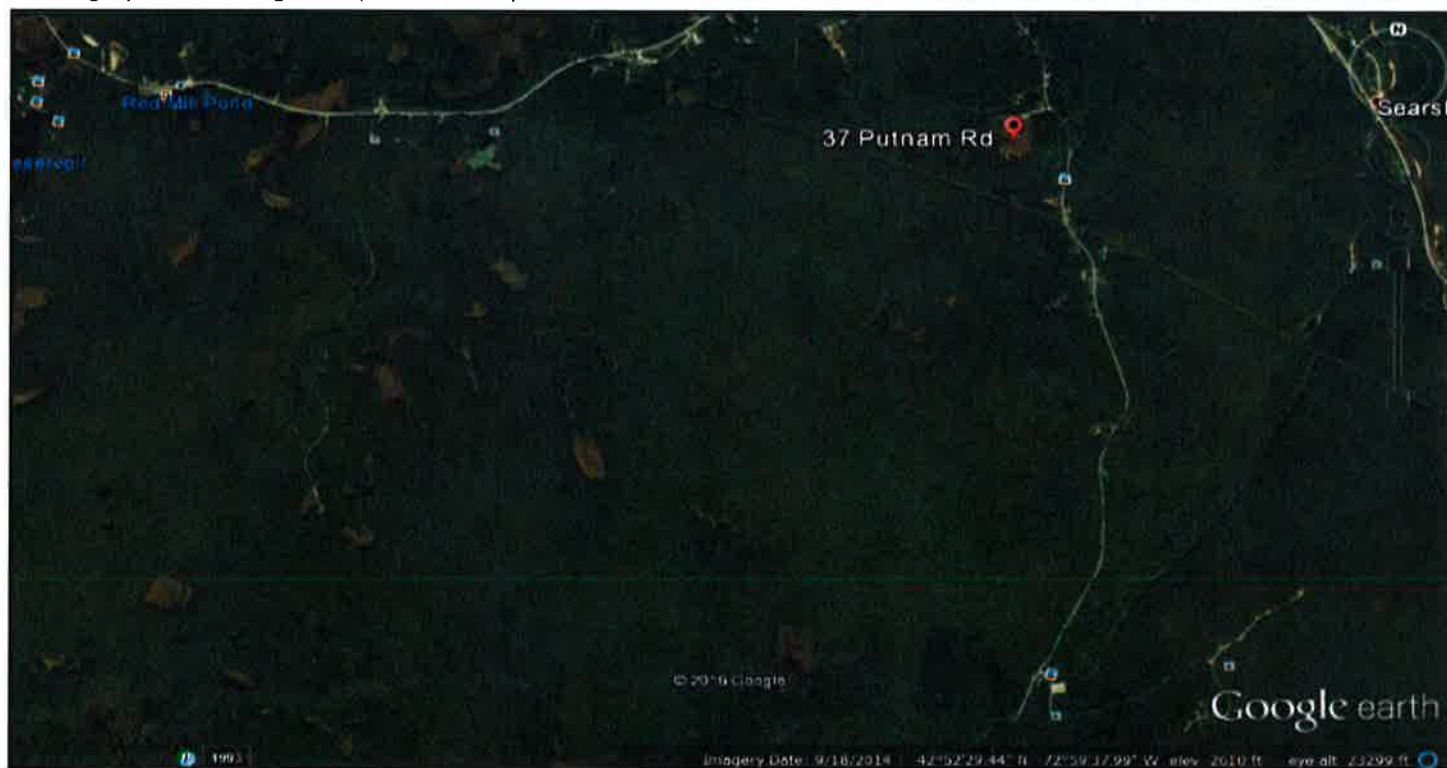
DB

Weather
Comments:

45 * cloudy

No. of Crew Members	3		
Crew Members Names :			
britt	Jason Gulimette	josh yates	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 28 west Shot Time (24hrs) 10:25 Shot VideoTaped: Y **Weather**
 Notes: N/A Weather Conditions: Cloudy
 Temp (°F): 45-25
 Wind Direction: North-East
 Wind Spd: 0-10 MPH

Preblast

Blast Direction: West Max Holes/Delay: 2.00 Predicted K Factor: 242
 Blast Location: tower 1 west roadway upstation of tower 1 Scale Dist.: 179.28
 Location of Structure: substation wye Max Weight/Delay: 70.00 Lbs Predicted PPV: 0.06
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 1500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area: 5427.00 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

67 holes x 9 x 9 pattern = 5427 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>603.00</u>	Total SqFt	<u>5427.00</u>	Powder	<u>0.81</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>1459</u>
Total Tons	<u>N/A</u>	Total Yards	<u>1809.00</u>	Factor	<u>1.24</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>21.78</u>

Cal Method

Pattern

Holes 67 Cover Used/No N/A

AVG Min Max

Drill Depth	<u>9.00</u>		<u>8.00</u>	<u>9.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>5.00</u> Min	<u>8.00</u> Max
Burden(Feet)	<u>9.00</u> Feet		<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max
Spacing (Feet)	<u>9.00</u> Feet		<u>9.00</u>	<u>9.00</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max
Hole Diameter	<u>4.00</u>		<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>14.00</u> Min	<u>35.00</u> Max
OverBurden (Ft)	<u>2.00</u>		<u>0.00</u>	<u>5.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min	<u>6.00</u> Max

Control Row Taped

N

Angled Holes /Face Bermed

N/N

Laser/BoreTracking

N

Total Pounds 1458.59 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		<u>1407.00</u> Lbs
BA BULK Totals:		<u>N/A</u>	<u>1407.00</u> Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>67.00</u>	<u>51.59</u> Lbs
BOOSTERS Totals:		<u>67.00</u>	<u>51.59</u> Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	<u>67.00</u>	
DETS DHOLE Totals:		<u>67.00</u>	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>2500.00</u>	
LINES Totals:		<u>2500.00</u>	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>6.00</u>	
SURF DELAY Totals:		<u>6.00</u>	

Descripton: tycpial

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	6.00
1966 Emulsion Blend	3.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	substation wye	2288	Threshold Not Met	N/A	N/A	N/A	1500	N/A

Shot # 23 east Shot Time (24hrs) 14:48 Shot VideoTaped: N**Weather****Notes:**

N/A

Weather Conditions: CloudyTemp (°F): 40-25Wind Direction: North-WestWind Spd: 15-40 MPH**Preblast**Blast Direction: EastMax Holes/Delay: 2.00Predicted K Factor: 242Blast Location: tower 7Scale Dist.: 192.88Location of Structure: substation wyeMax Weight/Delay: 168.00 Lbs Predicted PPV: 0.05Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 23160.00 Feet

N/A N/A

N/A N/A

193 holes x 10x12 pattern = 23160 sqft,
shot entire pad 7,**Shot Info****Configuration****1 - Open**Total Drill Depth(Ft) 2702.00Total SqFt 23160.00

Powder

1.00 Lbs/Cyd

Total Product
Weight (Lbs) :

11972

Total Tons N/ATotal
Yards 12008.89

Factor

1.00 Cyd/Lbs

Avg Weight /
Hole (Lbs):

62.03

Cal Method

Pattern

Holes

193

Cover Used/No N/A

AVG

Min

Max

Drill Depth

14.00

Burden(Feet)

10.00

Feet

Spacing (Feet)

12.00

Feet

Hole Diameter

4.00

OverBurden (Ft)

1.00

Control Row Taped

N

Min	Max
9.00	20.00
10.00	10.00
12.00	12.00
4.00	4.00
0.00	7.00

Stone Weight

N/A /Cyd

Top Stemming

4.00

Min

8.00

Max

Type of Terrian

Flat

Charges/Hole

1

Min

1

Max

Type of Rock

Granite

Deck Stemming

0.00

Min

0.00

Max

Stemming Type

3/8" Crushed Stone

Charge Wgt/Deck

21.00

Min

168.00

Max

Height of Face

0.00

Depth of Water

0.00

Min

6.00

Max

Angled Holes
/Face Bermed

N/N

Laser/BoreTracking

N

Total Pounds 11971.61 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		11823.00 Lbs
BA BULK Totals:		N/A	11823.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	193.00	148.61 Lbs
BOOSTERS Totals:		193.00	148.61 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	193.00	
DETS DHOLE Totals:		193.00	

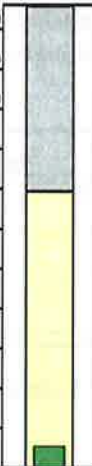
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.00	
LINES Totals:		1.00	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	25.00	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	2.00	
SURF DELAY Totals:		27.00	

Description: typical

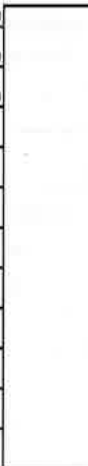
Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	10.00

Stemming Stones	4.00
1966 Emulsion Blend	6.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

**Description: typical**

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	15.00

Stemming Stones	5.00
1966 Emulsion Blend	10.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	substation wye	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A

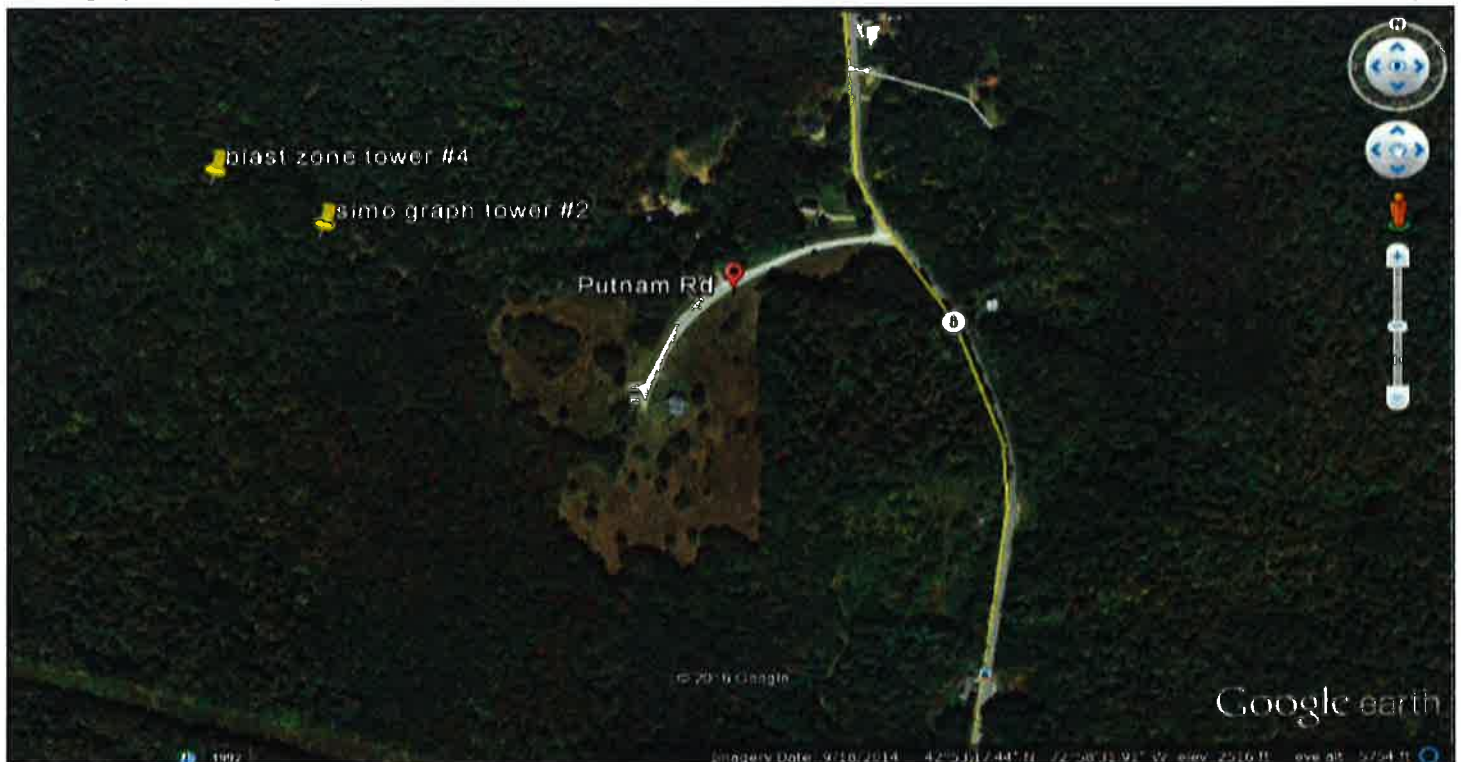


Job#	104-04-02718	Cust. PO#	N/A	
Date	12/28/2016	Cust. Supt. Name	buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	48962	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	drill on shot	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		keep drill 50 feet from loaded bore holes	
Signature:				

Weather
Comments:
cold and snowing

No. of Crew Members	3		
Crew Members Names :			
Britt Gillitin	josh Yates	Dean Butler	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 29 Shot Time (24hrs) 12:32 Shot VideoTaped: YWeather

Notes:

N/A

Weather Conditions: SnowTemp (°F): 15-20Wind Direction: SouthWind Spd: 10-15 MPH**Preblast**Blast Direction: North-EastMax Holes/Delay: 3.00Predicted K Factor: 160Blast Location: tower pad #4 "west ridge"Scale Dist.: 94.49Location of Structure: tower #2Max Weight/Delay: 252.00 LbsPredicted PPV: 0.11Measurement Physical Dist. to Closest (Ft) 1500 Structure 1500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 9768.00 FeetN/A N/A N/AN/A N/A N/A

11x12 pattern x 74 holes = 9768 sqft

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 1184.00Total SqFt 9768.00Powder 1.04 Lbs/CydTotal Product Weight (Lbs): 6008Total Tons N/ATotal Yards 5788.44Factor 0.96 Cyd/LbsAvg Weight / Hole (Lbs): 81.19Cal Method Pattern# Holes 74Cover Used/No N/A**AVG****Min Max**Drill Depth 16.0016.00 16.00Stone Weight N/A /CydTop Stemming 4.00 Min 10.00 MaxBurden(Feet) 11.00 Feet11.00 11.00Type of Terrian FlatCharges/Hole 1 Min 1 MaxSpacing (Feet) 12.00 Feet12.00 12.00Type of Rock Mica/SchistDeck Stemming 0.00 Min 0.00 MaxHole Diameter 4.004.00 4.00Stemming Type 3/8" Crushed StoneCharge Wgt/Deck 77.00 Min 252.00 MaxOverBurden (Ft) 2.000.00 6.00Height of Face 16.00Depth of Water 0.00 Min 10.00 MaxControl Row Taped NAngled Holes /Face Bermed N/YLaser/BoreTracking NTotal Pounds 6007.98 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		5951.00 Lbs
BA BULK Totals:		N/A	5951.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	74.00	56.98 Lbs
BOOSTERS Totals:		74.00	56.98 Lbs

Product #	Desc	Qty	Length
DXABZ641	NONEL EZDET 25/350 40FT ZCOMP 30/CS	74.00	
DETS DHOLE Totals:		74.00	

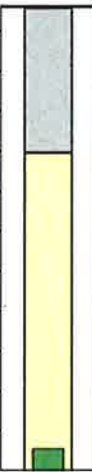
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1500.00	
LINES Totals:		1500.00	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	16.00	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	2.00	
SURF DELAY Totals:		18.00	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	3.00
Sub Drilling(ft)	3.00
Total Depth (ft)	16.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	5.00
1966 Emulsion Blend	11.00
TROJAN SPARTAN 350G 49/CS	0.00

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #2	2288	Threshold Not Met	N/A	N/A	N/A	1500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	2/3/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49896	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 PM cold hilly terrain

Post Shift Insp.Time (24hrs): 12:00:00 PM

Blaster : Butler;Dean T

License #: 1937

Signature:

DB

Precautions Taken:

use caution spread stone where ice is present

Weather
Comments:

cold 10*

No. of Crew Members 2

Crew Members Names :

josh yates	jason guimlette	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 42 west Shot Time (24hrs) 11:05 Shot VideoTaped: YWeatherNotes: N/AWeather Conditions: Partly CloudyTemp (°F): 10-20Wind Direction: WestWind Spd: 5-15 MPH**Preblast**Blast Direction: West Max Holes/Delay: 2 Predicted K Factor: 160Blast Location: last road shot coming in to 7-8 cul-de-sac Scale Dist.: 334.08Location of Structure: tower 5 Max Weight/Delay: 56 Lbs Predicted PPV: 0.01Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 4257 FeetPay Running Length 144 FeetN/A N/A N/A43x 9x11=4257sqft
18 holes x 8 ft spacing = 144 lf**Shot Info****Configuration****1 - Open**Total Drill Depth(Ft) 549.00Total SqFt 6039.00Powder 1.11 Lbs/CydTotal Product Weight (Lbs) : 2238Total Tons N/ATotal Yards 2013.00Factor 0.90 Cyd/LbsAvg Weight / Hole (Lbs): 36.69Cal Method Pattern# Holes 61Cover Used/No N/AAVGMin - MaxDrill Depth 9.00 Feet9.00 14.00Stone Weight N/A /CydTop Stemming 4.00 Min 7.00 MaxBurden(Feet) 9.00 Feet9.00 9.00Type of Terrian HillyCharges/Hole 1 Min 1 MaxSpacing (Feet) 11.00 Feet11.00 11.00Type of Rock GraniteDeck Stemming 0.00 Min 0.00 MaxHole Diameter 4.004.00 4.00Stemming Type 3/8" Crushed StoneCharge Wgt/Deck 28.00 Min 56.00 MaxOverBurden (Ft) 2.000.00 5.00Height of Face 0.00Depth of Water 0.00 Min 2.00 MaxControl Row Taped NAngled Holes /Face Bermed N/NLaser/BoreTracking NTotal Pounds 2237.97 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		2191.00 Lbs
BA BULK Totals:		N/A	2191.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	61	46.97 Lbs
BOOSTERS Totals:		61	46.97 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	61	
DETS DHOLE Totals:		61	

Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500	
LINES Totals:		2500	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	10	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	0	
SURF DELAY Totals:		10	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	14.00

Stemming Stones	6.00
1966 Emulsion Blend	8.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	tower 5	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	2/7/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tks#	49977	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM snow

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Taber, Joseph E.

License #: 1890

Signature:

Precautions Taken:

careful placement of product on ground, placed boosters in buckets

Weather
Comments:

snowy cold 20*

No. of Crew Members 3

Crew Members Names :

Josh Yates Jason Guimlette

britt Gallentine

N/A

N/A N/A

N/A

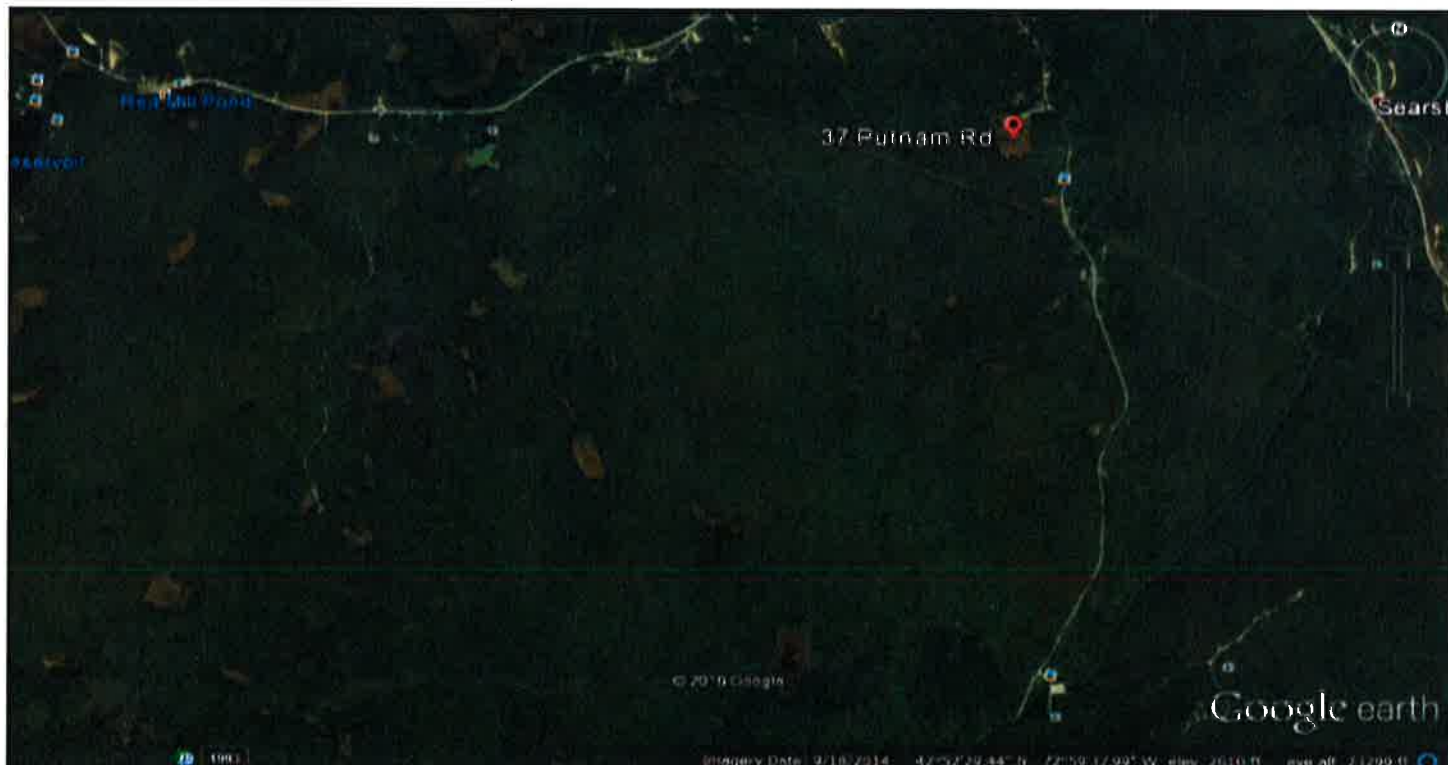
N/A

N/A N/A

N/A

N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 44 west Shot Time (24hrs) 14:34 Shot VideoTaped: N Weather Weather
 Notes: N/A Weather Conditions: Snow
 Temp (°F): 20-30
 Wind Direction: West
 Wind Spd: 5-15 MPH

Preblast
 Blast Direction: East Max Holes/Delay: 4.00 Predicted K Factor: 160
 Blast Location: tower 7 and 8 round about Scale Dist.: 211.29
 Location of Structure: tower 5 Max Weight/Delay: 140.00 Lbs Predicted PPV: 0.03
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities
 Fire Detail # of Hrs: N/A Pay Calculations Notes
 Pay Square Area 19602.00 Feet
 N/A N/A N/A
 N/A N/A N/A

Shot Info
 Configuration 1 - Trench

Total Drill Depth(Ft)	1782.00	Total SqFt	19602.00	Powder	1.23 Lbs/Cyd	Total Product Weight (Lbs) :	8068
Total Tons	N/A	Total Yards	6534.00	Factor	0.81 Cyd/Lbs	Avg Weight / Hole (Lbs):	40.75

Cal Method Pattern
 # Holes 198 Cover Used/No N/A

	AVG	Min	Max						
Drill Depth	9.00	9.00	21.00	Stone Weight	N/A	/Cyd	Top Stemming	4.00	Min 6.00 Max
Burden(Feet)	9.00	9.00	9.00	Type of Terrian	Flat		Charges/Hole	1	Min 1 Max
Spacing (Feet)	11.00	11.00	11.00	Type of Rock	Granite		Deck Stemming	0.00	Min 0.00 Max
Hole Diameter	4.00	4.00	4.00	Stemming Type	3/8" Crushed Stone		Charge Wgt/Deck	35.00	Min 119.00 Max
OverBurden (Ft)	0.00	0.00	2.00	Height of Face	0.00		Depth of Water	0.00	Min 0.00 Max

 Control Row Taped N Angled Holes /Face Bermed N/N Laser/BoreTracking N

Total Pounds 8068.23 Lbs				Type Of Initiation: Non-Electric			
Product #	Desc	Density	Wgt	Product #	Desc	Qty	Length
1966	1966 Emulsion Blend		7915.00 Lbs	DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	198.00	
BA BULK Totals: N/A 7915.00 Lbs				DETS DHOLE Totals: 198.00			
Product #	Desc	Qty	Wgt	Product #	Desc	Qty	Length
SP0350	TROJAN SPARTAN 350G 49/CS	199.00	153.23 Lbs	DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500.00	
BOOSTERS Totals: 199.00 153.23 Lbs				LINES Totals: 2500.00			
Product #	Desc	Qty	Length	Product #	Desc	Qty	Length
				DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	19.00	
				DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	2.00	
				SURF DELAY Totals: 21.00			

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

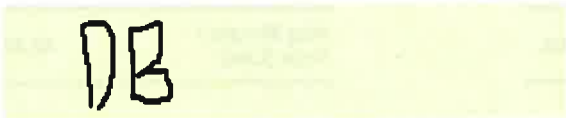
N/A	
Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

**Seismographs**

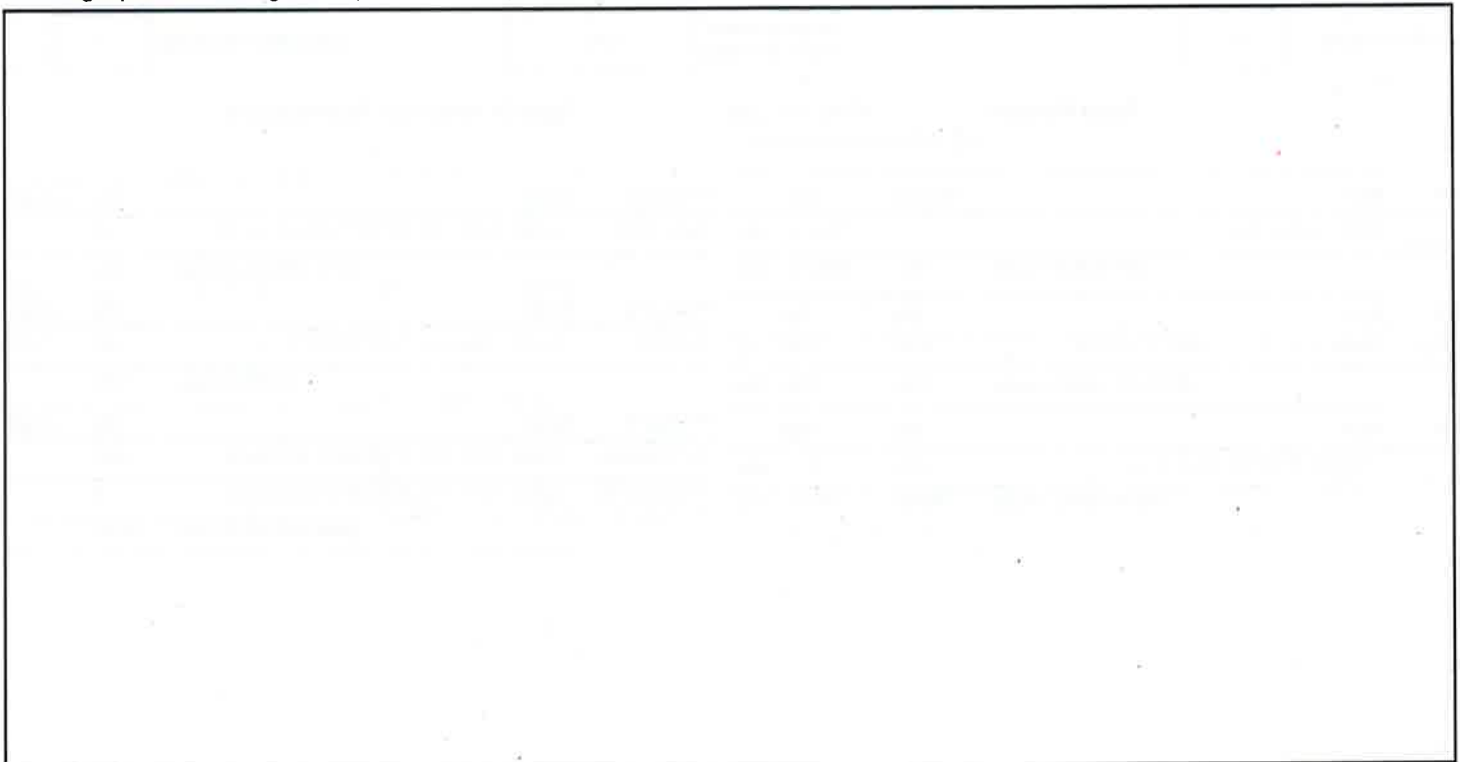
Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Taber;Joseph W.	tower 5	BA18276	Threshold Not Met	N/A	N/A	N/A	2500	N/A

Blast Report



Job#	104-04-02718	Cust. PO#	N/A	
Date	2/14/2017	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	50116	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	deep snow	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Butler;Dean T	Precautions Taken:		
License #:	1937		use caution when shoveling holes out take a break when needed	
Signature:				
No. of Crew Members	3	Weather		
Crew Members Names :		Comments:		
chuck barum	britt g		jared derusha	N/A
N/A	N/A		N/A	N/A
N/A	N/A		N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 45 west Shot Time (24hrs) 23:47 Shot VideoTaped: Y Weather

Notes: N/A Weather Conditions: Cloudy

Temp (°F): 11-25

Wind Direction: North-West

Wind Spd: 0-10 MPH

Preblast

Blast Direction: East Max Holes/Delay: 5.00 Predicted K Factor: 160

Blast Location: tower 7-8 round about Scale Dist.: 279.39

Location of Structure: 367 rt 8 Max Weight/Delay: 175.00 Lbs Predicted PPV: 0.02

Measurement GPS Dist. to Closest (Ft) 3696 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 14157.00 Feet

N/A N/A N/A

N/A N/A N/A

Pay Calculations Notes

9x11 pattern x 143 holes = 14157 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>1287.00</u>	Total SqFt	<u>14157.00</u>	Powder	<u>1.29</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>6082</u>
Total Tons	<u>N/A</u>	Total Yards	<u>4719.00</u>	Factor	<u>0.78</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>42.53</u>

Cal Method	<u>Pattern</u>						
# Holes	<u>143</u>	Cover Used/No	<u>N/A</u>				
	<u>AVG</u>	<u>Min</u>	<u>Max</u>				
Drill Depth	<u>9.00</u>	<u>9.00</u>	<u>9.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4.00</u> Min <u>6.00</u> Max
Burden(Feet)	<u>9.00</u> Feet	<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat/Sloped</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>11.00</u> Feet	<u>11.00</u>	<u>11.00</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0.00</u> Min <u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>28.00</u> Min <u>35.00</u> Max
OverBurden (Ft)	<u>2.00</u>	<u>0.00</u>	<u>3.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min <u>1.00</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 6082.10 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		5962.00 Lbs
BA BULK Totals:		N/A	5962.00 Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	3.00	9.99 Lbs
BAPACKAGED Totals:		3.00	9.99 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	143.00	110.11 Lbs
BOOSTERS Totals:		143.00	110.11 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	143	
DETS DHOLE Totals:		143	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.00	2500.00
LINES Totals:		1.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	13.00	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	3	
SURF DELAY Totals:		16.00	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	5.00	
1966 Emulsion Blend	4.00	
TROJAN SPARTAN 350G 49/CS	0.00	
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		

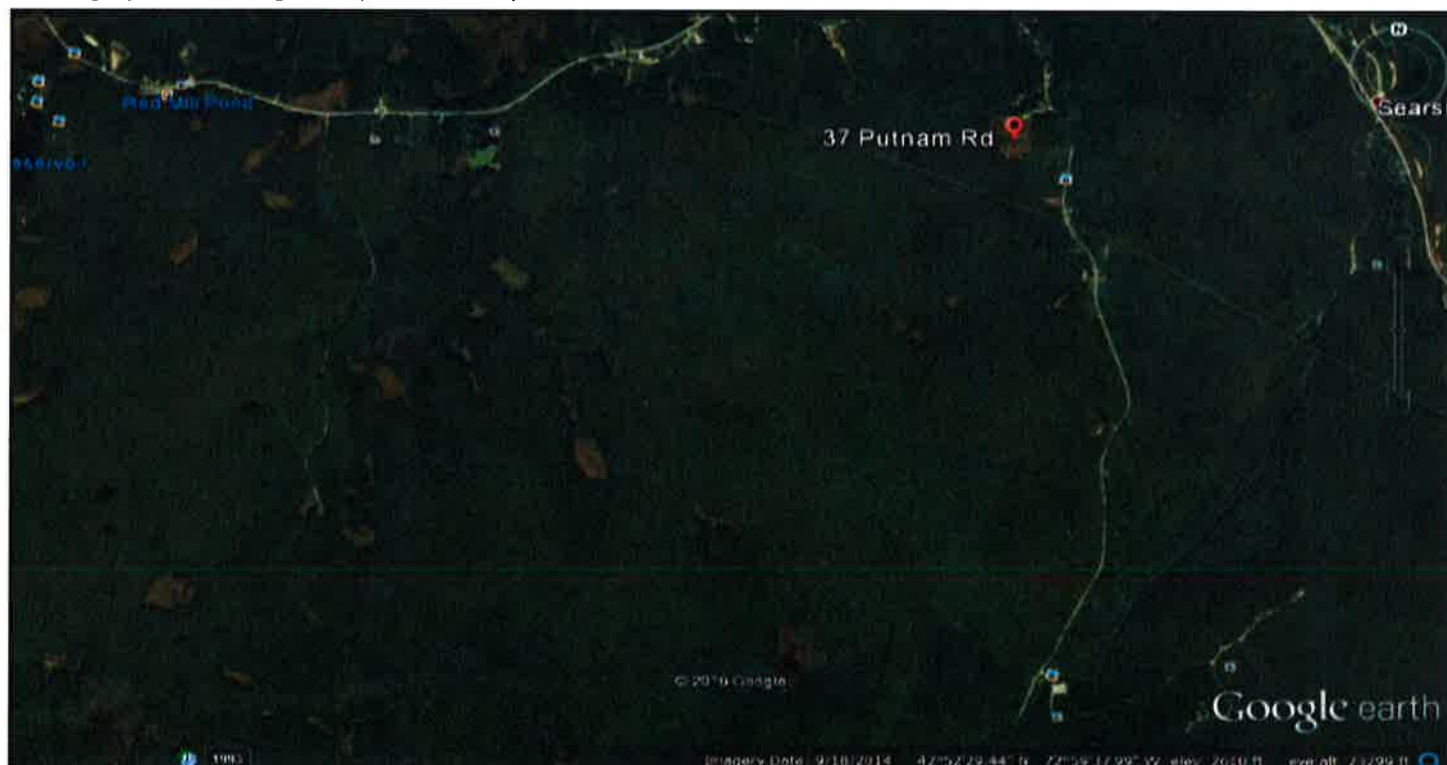
Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	367 rt 8	BA18276	Threshold Not Met	N/A	N/A	N/A	3696	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	2/17/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	50195	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	Deep snow	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Butler,Dean T	Precautions Taken:	shovel out holes. keep caps and boosters together and drop at same time to not lose any in deep snow	
License #:	1937	Weather Comments:	cold 10° windy	
Signature:				
No. of Crew Members	3			
Crew Members Names :				
Josh yates	britt Gellenthien	Jay Guimlette	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	

Seismograph Monitoring Plan (Not to Scale):



Shot # 46 Shot Time (24hrs) 12:00 Shot VideoTaped: N Weather Cloudy

Notes: N/A Weather Conditions: Cloudy

Temp (°F): 10-30

Wind Direction: North-West

Wind Spd: 5 - 20 MPH

Preblast

Blast Direction: East Max Holes/Delay: 10.00 Predicted K Factor: 160

Blast Location: roadway into tower 8 Scale Dist.: 481.37

Location of Structure: 376 rt 8 Max Weight/Delay: 77.00 Lbs Predicted PPV: 0.01

Measurement Google Map Dist. to Closest (Ft) Structure 4224 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Square Area 18458.00 Feet

N/A N/A N/A

N/A N/A N/A

Pay Calculations Notes

85x 10 x 11 = 9350sqft
92 x 9 x 11 = 9108 sqft

Shot Info

Configuration	1 - Open				2 - Open			
Cal Method	Pattern				Pattern			
# Holes	85	Cover Used/No	N/A		92	Cover Used/No	N/A	
	AVG		Min	Max	AVG		Min	Max
Drill Depth	15.00	Feet	14.00	18.00	14.00	Feet	9.00	15.00
Burden	10.00	Feet	10.00	10.00	9.00	Feet	9.00	9.00
Spacing	11.00	Feet	11.00	11.00	11.00	Feet	11.00	11.00
Hole Diameter	4.00	Inches	4.00	4.00	4.00	Inches	4.00	4.00
OverBurden (Ft)	2.00		0.00	4.00	2.00		0.00	5.00
Dimensional	N/A		N/A		N/A		N/A	
Stone Weight	N/A	Tons/Cyd			N/A	Tons/Cyd		
Type of Terrian	Flat				Flat			
Type of Rock	Granite				Granite			
Stemming Type	3/8" Crushed Stone				3/8" Crushed Stone			
Top Stemming	4.00	Min	5.00	Max	4.00	Min	5.00	Max
Charges Per Hole	1	Min	1	Max	1	Min	1	Max
Deck Stemming	0.00	Min	0.00	Max	N/A	Min	N/A	Max
Charge Wgt/Deck	70.00	Min	91.00	Max	56.00	Min	70.00	Max
Depth of Water	10.00	Min	12.00	Max	0.00	Min	8.00	Max
Height of Face	0.00				0.00			
Angled Holes /Face Bermed	N/N				N/N			
Laser/BoreTracking	N				N			
Control Row Taped	N				N			
Type Of Initiation	Non-Electric				Non-Electric			
Total Drill Depth	1275.00 Feet				1288.00 Feet			
Total Sq Area	9350.00 Feet				9108.00 Feet			
Total Cubic Vol.	5194.44 Yards				4722.67 Yards			
Total Weight	N/A US Tons				N/A US Tons			
Total Product Wgt:	10433 Lbs				N/A Lbs			
Avg Weight/Hole :	122.74 Lbs				N/A Lbs			
Powder Factor:	2.01 Lbs/Cyd		0.50 Cyd/Lbs		N/A Lbs/Cyd		N/A Cyd/Lbs	

Product #	Desc	Totals:	Configuraton 1		Configuraton 2		Shot Total	
			Qty	Wgt	Qty	Wgt	Qty	Wgt
1966	1966 Emulsion Blend		10297.00	10297.00			10297.00	10297.00
			Denisty		Denisty			
BA BULK Totals:			10297.00	10297.00			10297.00	10297.00
SP0350	TROJAN SPARTAN 350G 49/CS		177.00	136.29			177.00	136.29
BOOSTERS Totals:			177.00	136.29			177.00	136.29

Product #	Desc	Totals:	Configuraton 1		Configuraton 2		Shot Total	
			Qty	Length	Qty	Length	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS		177.00				177.00	
DETS DHOLE Totals:			177.00				177.00	

Product #	Desc	Qty	Length	Qty	Length	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.00	2500.00			1.00	2500.00
LINES Totals:		1.00				1.00	

Product #	Desc	Qty	Length	Qty	Length	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	10.00				10.00	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	8.00				8.00	
SURF DELAY Totals:		18.00				18.00	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	4.00
Total Depth (ft)	15.0
Stemming Stones	5.00
1966 Emulsion Blend	10.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	4.00
Total Depth (ft)	12.0
Stemming Stones	5.00
1966 Emulsion Blend	7.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	376 rt 8	BA18276	Triggered	0.010	N/A	112.6	4224	196

Date/Time MicL at 13:13:59 February 17, 2017
 Trigger Source Geo: 0.040 in/s, Mic: 110.0 dB(L)
 Range Geo: 10.000 in/s
 Record Time 3.25 sec (Auto=3Sec) at 1024 sps
 Job Number: 1

Serial Number BA18276 V 10.72-8.17 BlastMate III
 Battery Level 6.3 Volts
 Unit Calibration December 12, 2016 by Instantel
 File Name T276GROI.3B0

Notes

Client: Ja McDonald 37 Putnam Rd Searsburg VT
 Location: 376 Rt 8 Searsburg VT
 User: J. Taber Job Number: 104 04 02718

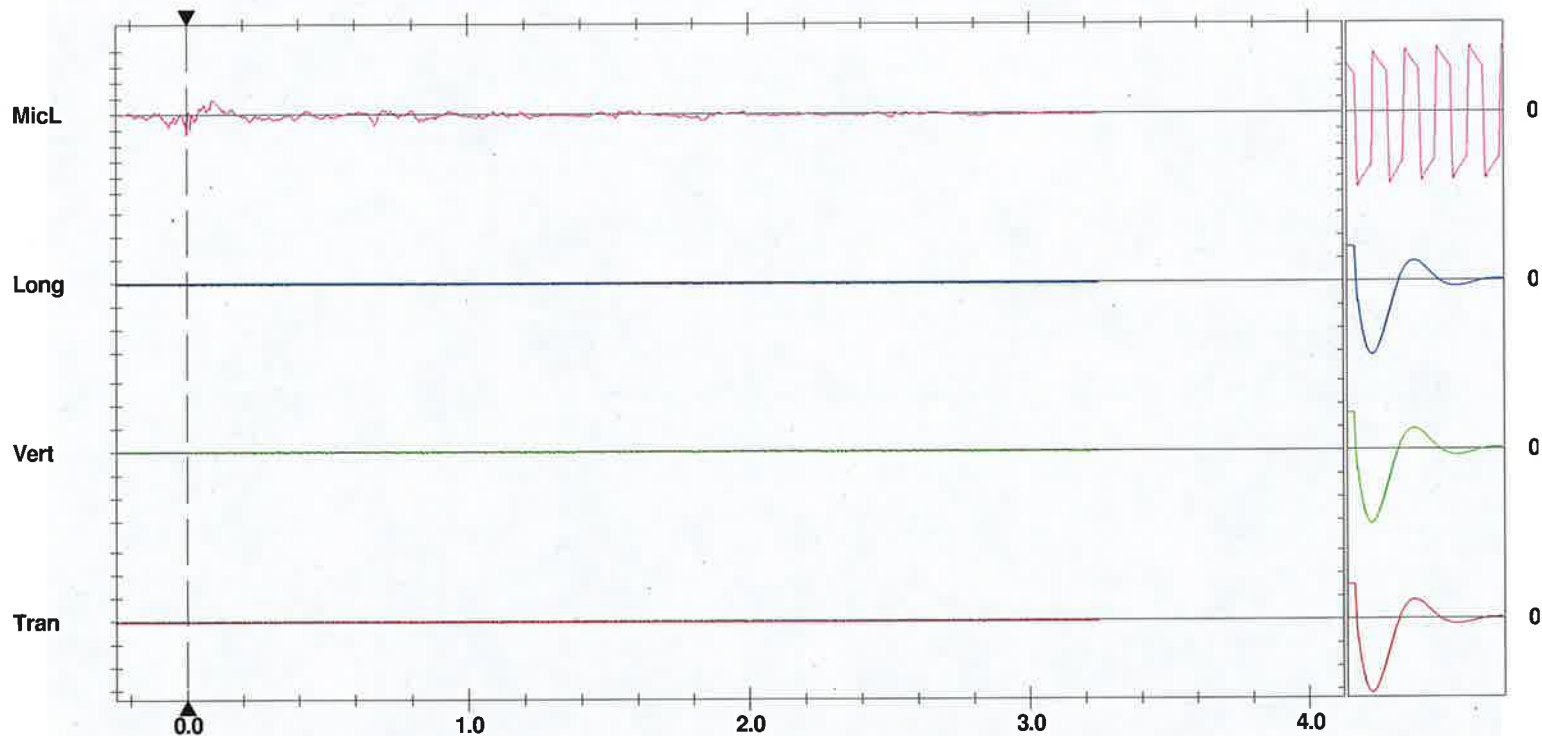
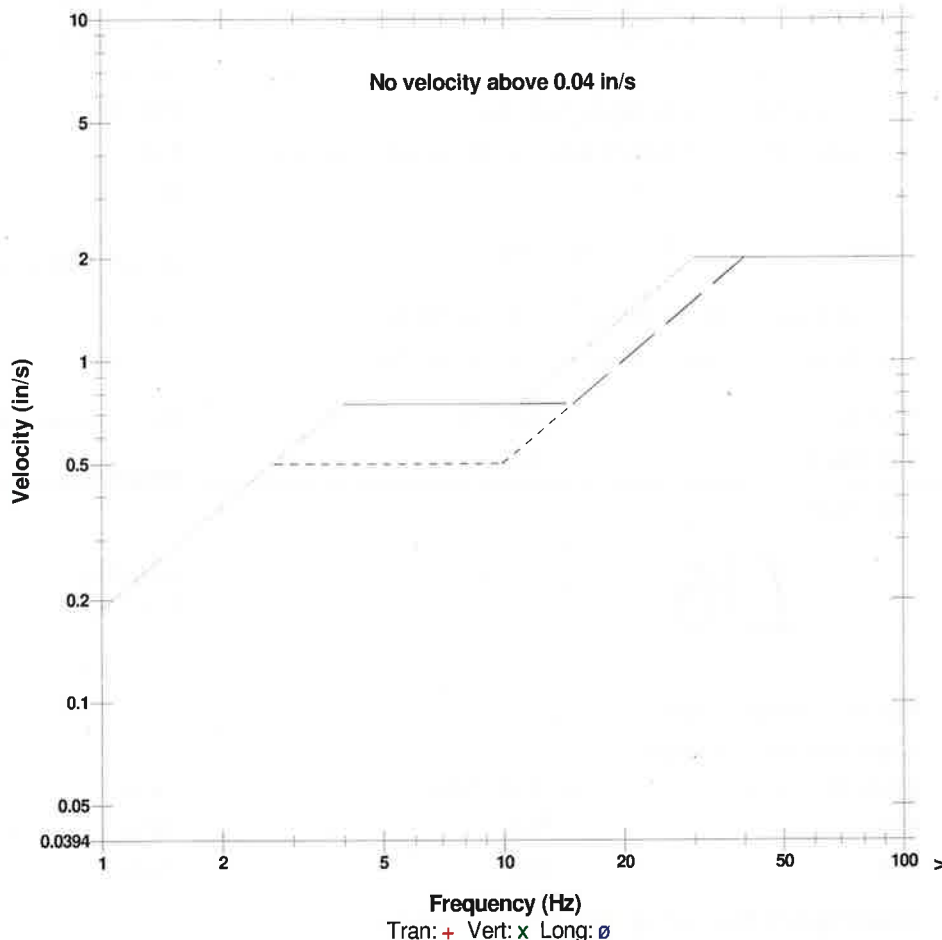
Extended Notes

Microphone Linear Weighting
 PSPL 112.6 dB(L) 0.001 psi(L) at 0.002 sec
 ZC Freq 26 Hz
 Channel Test Passed (Freq = 20.1 Hz Amp = 554 mv)

	Tran	Vert	Long	
PPV	0.005	0.010	0.005	in/s
ZC Freq	>100	>100	>100	Hz
Time (Rel. to Trig)	-0.244	0.777	-0.206	sec
Peak Acceleration	0.013	0.027	0.013	g
Peak Displacement	0.000	0.000	0.000	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.6	7.6	Hz
Overswing Ratio	3.9	3.5	3.7	

Peak Vector Sum 0.011 in/s at 2.329 sec

USBM RI8507 And OSMRE



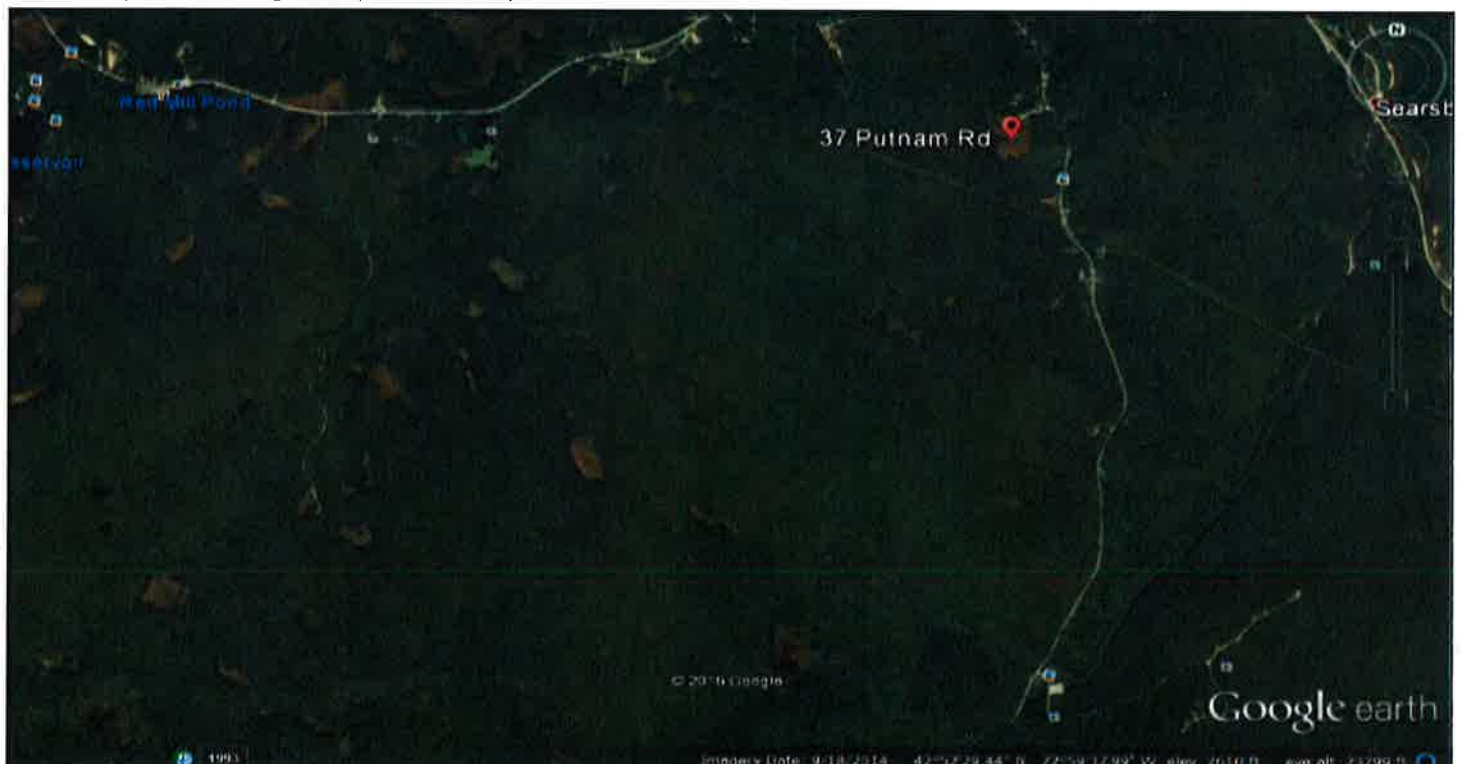
Time Scale: 0.20 sec/div Amplitude Scale: Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div
 Trigger =

Sensor Check



Job#	104-04-02718	Cust. PO#	N/A	
Date	2/2/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49868	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	Snow	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Butler;Dean T	Precautions Taken:		
License #:	1937		watch footing	
Signature:				
		Weather Comments:	20* cloudy	
No. of Crew Members	2			
Crew Members Names :				
jason guilmette	Josh Yates	N/A	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	

Seismograph Monitoring Plan (Not to Scale):



Shot # 41 west Shot Time (24hrs) 2:42 Shot VideoTaped: YWeather

Notes:

N/A

Weather Conditions: CloudyTemp (°F): 20-30Wind Direction: WestWind Spd: 0-10 MPH**Preblast**

Blast Direction: East Max Holes/Delay: 1 Predicted K Factor: 242
 Blast Location: Roadway before tower 7-8 Scale Dist.: 385.76
 Location of Structure: tower 5 Max Weight/Delay: 42 Lbs Predicted PPV: 0.02
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 9108 Feet
 Pay Running Length 240 Feet
 N/A N/A N/A

Pay Calculations Notes

92 holes x 9x11 pattern = 9108 sqft
 30 holes x 8 ft spacing = 240 linear ft trench

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft) 1098.00 Total SqFt 12078.00 Powder 1.16 Lbs/Cyd Total Product Weight (Lbs) : 4687
 Total Tons N/A Total Yards 4026.00 Factor 0.86 Cyd/Lbs Avg Weight / Hole (Lbs): 38.42

Cal Method Pattern
 # Holes 122 Cover Used/No N/A
 AVG Min Max
 Drill Depth 9.00 Feet 9.00 11.00 Stone Weight N/A /Cyd Top Stemming 4.00 Min 6.00 Max
 Burden(Feet) 9.00 Feet 9.00 9.00 Type of Terrian Sloped Charges/Hole 1 Min 1 Max
 Spacing (Feet) 11.00 Feet 11.00 11.00 Type of Rock Granite Deck Stemming 0.00 Min 0.00 Max
 Hole Diameter 4.00 4.00 4.00 Stemming Type 3/8" Crushed Stone Charge Wgt/Deck 28 Min 42 Max
 OverBurden (Ft) 2.00 0.00 4.00 Height of Face 0.00 Depth of Water 0.00 Min 5.00 Max
 Control Row Taped N Angled Holes /Face Bermed N/N Laser/BoreTracking N

Total Pounds 4687.46 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		4114.00 Lbs
BA BULK Totals:		N/A	4114.00 Lbs

Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	144	479.52 Lbs
BAPACKAGED Totals:		144	479.52 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	122	93.94 Lbs
BOOSTERS Totals:		122	93.94 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	122	
DETS DHOLE Totals:		122	

Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500	
LINES Totals:		2500	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	6	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	7	
SURF DELAY Totals:		13	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	5
1966 Emulsion Blend	4
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

N/A	
Stemming Stones	6
1966 Emulsion Blend	3
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	tower 5	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	2/23/2017	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	50366	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 PM Wet holes careful lifting hose

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T

License #: 1937

Signature:

DB

Precautions Taken:

take turns loading holes with two blasters on site

Weather
Comments:

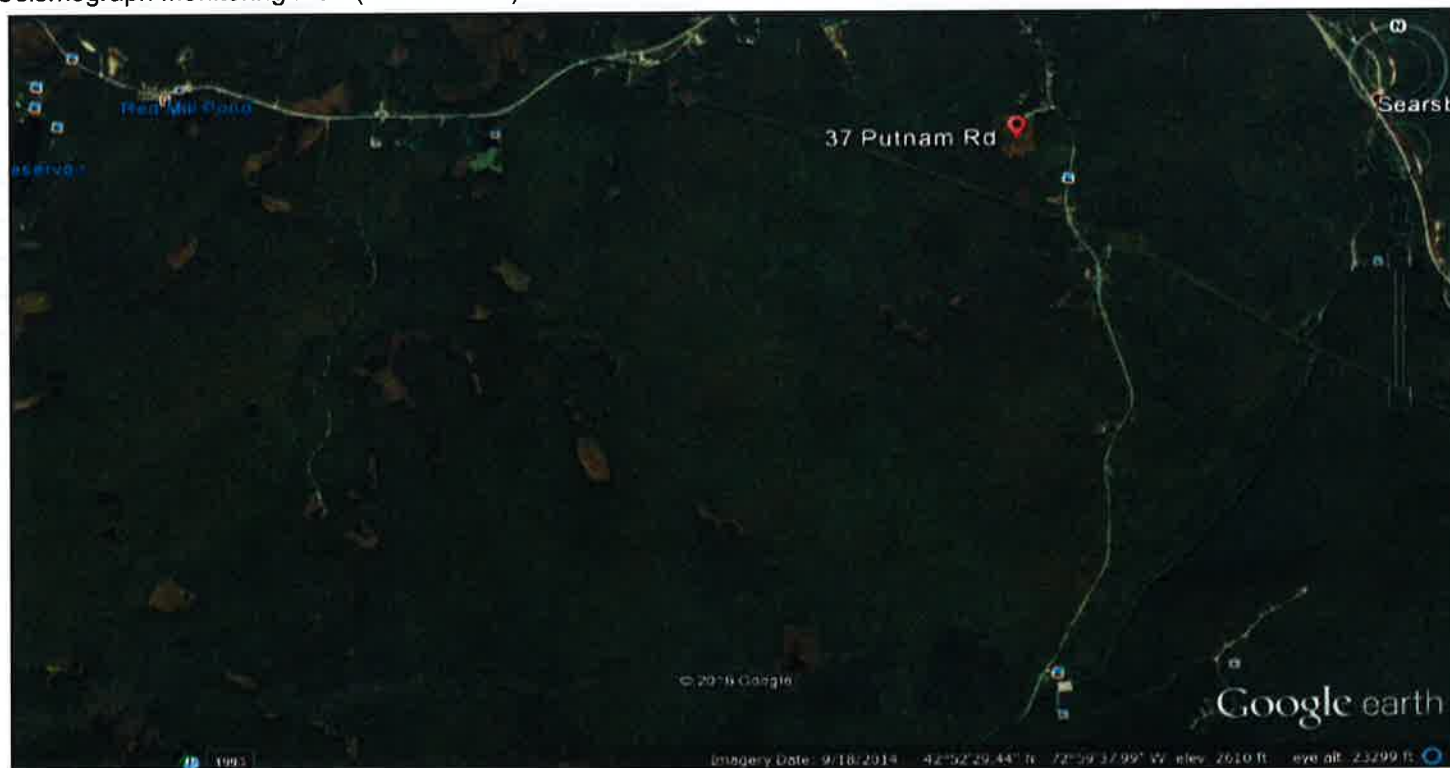
sunny warm 40*

No. of Crew Members 3

Crew Members Names :

pat defusco	britt gellenthien	krystal brown	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 47 Shot Time (24hrs) 1:28 Shot VideoTaped: N **Weather**
 Notes: N/A Weather Conditions: Sunny
 Temp (°F): 30-40
 Wind Direction: South-West
 Wind Spd: 0-10 MPH

Preblast

Blast Direction: East Max Holes/Delay: 2.00 Predicted K Factor: 160
 Blast Location: right side of cul-de-sac Scale Dist.: 296.98
 Location of Structure: 376 rt 8 Max Weight/Delay: 200.00 Lbs Predicted PPV: 0.02
 Measurement Google Map Dist. to Closest (Ft) Structure 4200 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 12760.00 Feet
 N/A N/A
 N/A N/A

Pay Calculations Notes

116x10x11=12760 sqft at second shot on lower side of culdesac on west ridge

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>1404.00</u>	Total SqFt	<u>12870.00</u>	Powder	<u>0.87</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>4997</u>
Total Tons	<u>N/A</u>	Total Yards	<u>5720.00</u>	Factor	<u>1.14</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>42.71</u>

Cal Method	Pattern								
# Holes	<u>117</u>	Cover Used/No	<u>N/A</u>						
	<u>AVG</u>	<u>Min</u>	<u>Max</u>						
Drill Depth	<u>12.00</u>	<u>9.00</u>	<u>17.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4.00</u> Min	<u>8.00</u> Max	
Burden(Feet)	<u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max	
Spacing (Feet)	<u>11.00</u> Feet	<u>11.00</u>	<u>11.00</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max	
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>28.00</u> Min	<u>105.00</u> Max	
OverBurden (Ft)	<u>0.00</u>	<u>2.00</u>	<u>4.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min	<u>8.00</u> Max	
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>				

Total Pounds 4996.62 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		4874.00 Lbs
BA BULK Totals:		N/A	4874.00 Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	10.00	33.30 Lbs
BAPACKAGED Totals:		10.00	33.30 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	116.00	89.32 Lbs
BOOSTERS Totals:		116.00	89.32 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	116.00	
DETS DHOLE Totals:		116.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2000.00	
LINES Totals:		2000.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	12.00	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	11.00	
SURF DELAY Totals:		23.00	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	19.00

Stemming Stones	5.00
1966 Emulsion Blend	14.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4.00
Sub Drilling(ft)	4.00
Total Depth (ft)	13.00

Stemming Stones	8.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	376 rt 8	BA18276	Threshold Not Met	N/A	N/A	N/A	4200	N/A

Please See Attached for Seismograph Report

Job#	104-04-02718	Cust. PO#	N/A	
Date	2/27/2017	Cust. Supt. Name	pat clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	50433	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM Mud freeze thaw conditions

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T Precautions Taken:

License #: 1937 Stay out of very muddy areas

Signature:

DB

Weather
Comments:

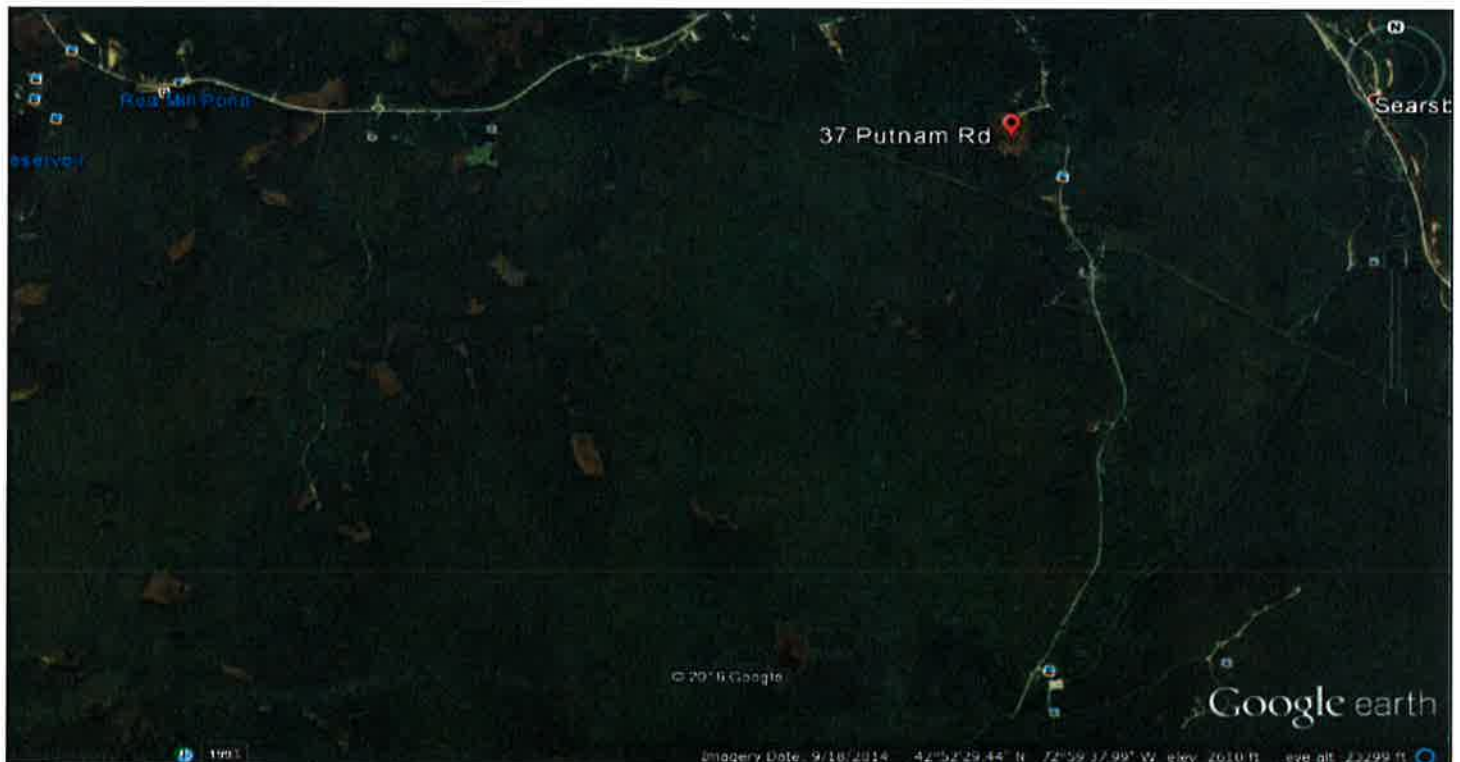
cool 24* - 35*

No. of Crew Members 3

Crew Members Names :

Britt Gellenthien	Krystal Baker	Pat Defusco	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 48 west Shot Time (24hrs) 12:58 Shot VideoTaped: N **Weather**
 Notes: N/A Weather Conditions: Cloudy
 Temp (°F): 24-35
 Wind Direction: South-West
 Wind Spd: 5-10 MPH

Preblast

Blast Direction: East Max Holes/Delay: 1 Predicted K Factor: 160
 Blast Location: tower 7 roadway shot 2 Scale Dist.: 409.88
 Location of Structure: 376 Rt 8 Max Weight/Delay: 105 Lbs Predicted PPV: 0.01
 Measurement Other (See Notes) Dist. to Closest (Ft) Structure 4200 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 6710 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

61x10x11= 6710 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>732.00</u>	Total SqFt	<u>6710.00</u>	Powder	<u>0.69</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>2052</u>
Total Tons	<u>N/A</u>	Total Yards	<u>2982.22</u>	Factor	<u>1.45</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>33.64</u>

Cal Method	Pattern						
# Holes	<u>61</u>	Cover Used/No	<u>N/A</u>				
	<u>AVG</u>	<u>Min</u>	<u>Max</u>				
Drill Depth	<u>12</u>	<u>9</u>	<u>15</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4</u> Min <u>7</u> Max
Burden(Feet)	<u>10</u> Feet	<u>10</u>	<u>10</u>	Type of Terrian	<u>Flat/Sloped</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>11</u> Feet	<u>11</u>	<u>11</u>	Type of Rock	<u>Granite</u>	Deck Stemming	<u>0</u> Min <u>0</u> Max
Hole Diameter	<u>4</u>	<u>4</u>	<u>4</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>21</u> Min <u>105</u> Max
OverBurden (Ft)	<u>2</u>	<u>0</u>	<u>4</u>	Height of Face	<u>0</u>	Depth of Water	<u>6</u> Min <u>10</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 2051.97 Lbs

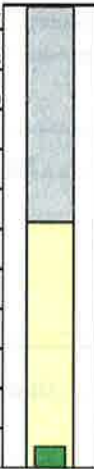
Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	2005.00	Lbs
BA BULK Totals:		N/A	2005.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	61	46.97 Lbs
BOOSTERS Totals:		61	46.97 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	61	
DETS DHOLE Totals:		61	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	0.8	2000
LINES Totals:		0.8	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	8	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	0	
SURF DELAY Totals:		8	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4
Sub Drilling(ft)	4
Total Depth (ft)	15.00

Stemming Stones	7	
1966 Emulsion Blend	8	
TROJAN SPARTAN 350G 49/CS	0	
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		

Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	376 Rt 8	BA18276	Threshold Not Met	N/A	N/A	N/A	4200	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/4/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49087	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 PM Extremely icy

Post Shift Insp.Time (24hrs): 12:00:00 PM

Blaster : Butler,Dean T

License #: 1937

Signature:

DB

Precautions Taken:

Took time walking picked a safe path and didn't carry too much weight

Weather
Comments:

Cloudy Freezing rain/ rain 30*

No. of Crew Members 3

Crew Members Names :

jason gulimette	Josh Yates	Tom Clark	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 24 east Shot Time (24hrs) 2:58 Shot VideoTaped: Y **Weather**
Weather Conditions: Cloudy
Temp (°F): 25-30
Wind Direction: North-East
Wind Spd: 10-20 **MPH**

Notes: N/A

Preblast

Blast Direction: East **Max Holes/Delay:** 2.00 **Predicted K Factor:** 160
Blast Location: shot large piece of roadway into tower 7 **Scale Dist.:** 154.30
Location of Structure: tower 5 **Max Weight/Delay:** 168.00 **Lbs** **Predicted PPV:** 0.05
Measurement Other (See Notes) **Dist. to Closest (Ft)** 2000 **Structure** 2000 **Railroad/Highway** N/A **Overhead Util** N/A **Underground Util** N/A

Pay Quantities

Fire Detail # of Hrs: N/A
Pay Square Area 18840.00 **Feet**
N/A **N/A** **N/A**
N/A **N/A** **N/A**

Pay Calculations Notes

157 holes x 10x 12 pattern = 18,840 SqFt

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft) <u>2198.00</u>	Total SqFt <u>18840.00</u>	Powder <u>0.82</u> Lbs/Cyd	Total Product Weight (Lbs) : <u>8014</u>
Total Tons <u>N/A</u>	Total Yards <u>9768.89</u>	Factor <u>1.22</u> Cyd/Lbs	Avg Weight / Hole (Lbs): <u>51.04</u>

Cal Method <u>Pattern</u>	# Holes <u>157</u>	Cover Used/No <u>N/A</u>
AVG	Min	Max
Drill Depth <u>14.00</u>	<u>9.00</u>	<u>20.00</u>
Burden(Feet) <u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>
Spacing (Feet) <u>12.00</u> Feet	<u>12.00</u>	<u>12.00</u>
Hole Diameter <u>4.00</u>	<u>4.00</u>	<u>4.00</u>
OverBurden (Ft) <u>1.00</u>	<u>0.00</u>	<u>5.00</u>
Control Row Taped <u>N</u>	Angled Holes /Face Bermed <u>N/N</u>	Laser/BoreTracking <u>N</u>

Stone Weight <u>N/A</u> /Cyd	Top Stemming <u>3.50</u> Min <u>6.00</u> Max
Type of Terrian <u>Flat</u>	Charges/Hole <u>1</u> Min <u>1</u> Max
Type of Rock <u>Mica/Schist</u>	Deck Stemming <u>0.00</u> Min <u>0.00</u> Max
Stemming Type <u>3/8" Crushed Stone</u>	Charge Wgt/Deck <u>42.00</u> Min <u>84.00</u> Max
Height of Face <u>0.00</u>	Depth of Water <u>0.00</u> Min <u>10.00</u> Max

Total Pounds 8013.85 **Lbs**

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt	Product #	Desc	Qty	Length
1966	1966 Emulsion Blend		4485.00 Lbs	DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	37	
QR744	TITAN 1000 SD		3368.00 Lbs	DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	120	
BA BULK Totals:		N/A	7853.00 Lbs	DETS DHOLE Totals:		157	
Product #	Desc	Qty	Wgt	Product #	Desc	Qty	Length
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	12	39.96 Lbs	DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2000	
BAPACKAGED Totals:		12	39.96 Lbs	LINES Totals:		2000	
Product #	Desc	Qty	Wgt	Product #	Desc	Qty	Length
SP0350	TROJAN SPARTAN 350G 49/CS	157	120.89 Lbs	DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	7	
BOOSTERS Totals:		157	120.89 Lbs	DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	1	
				SURF DELAY Totals:		8	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4.00
Total Depth (ft)	16.50

Stemming Stones	4.5
1966 Emulsion Blend	12
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Description: typical

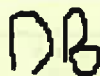
Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4
Total Depth (ft)	9.00

Stemming Stones	3.5
1966 Emulsion Blend	5.5
TROJAN SPARTAN 350G 49/CS	0
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

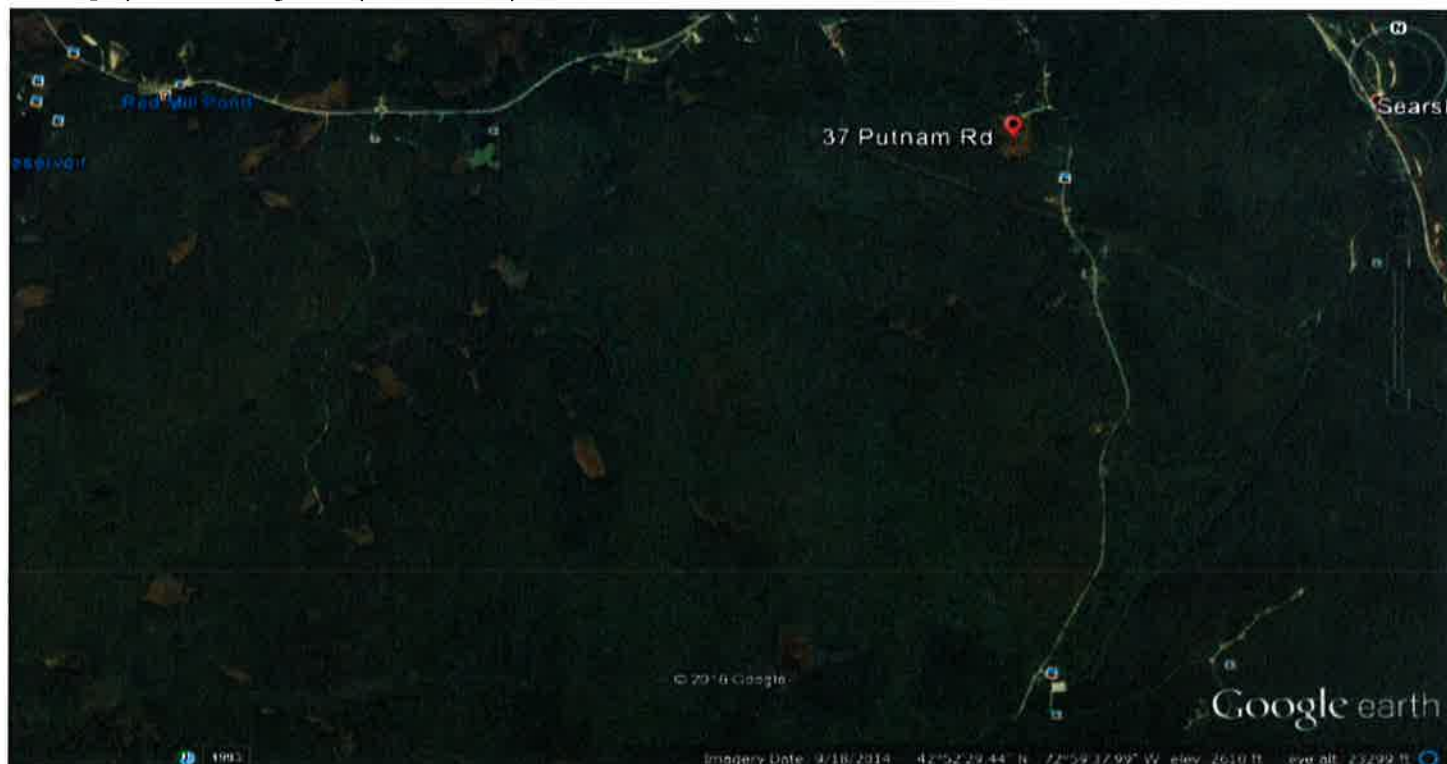
Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	tower 5	2288	Threshold Not Met	N/A	N/A	N/A	2000	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/5/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tks#	49119	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	cold and wind	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Butler,Dean T	Precautions Taken:		
License #:	1937		Stay away from icy trees when the wind is blowing they could snap and fall over	
Signature:				
		Weather Comments:	cold and icy 10*	
No. of Crew Members	2			
Crew Members Names :				
Jason Gumillette	tom clark	N/A	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	

Seismograph Monitoring Plan (Not to Scale):



Shot # 30 WEST Shot Time (24hrs) 3:03 Shot VideoTaped: NWeather

Notes: N/A

Weather Conditions: SunnyTemp (°F): 10-20Wind Direction: North-WestWind Spd: 15-25 MPH**Preblast**Blast Direction: South Max Holes/Delay: 2 Predicted K Factor: 160Blast Location: TOWER 2 WEST ENTRANCE TRENCH AND SOME OF PAD 2 Scale Dist.: 308.61Location of Structure: SUB STATION ENTRANCE Max Weight/Delay: 42 Lbs Predicted PPV: 0.02Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/APay Square Area 10980 FeetPay Running Length 231 FeetN/A N/A N/A**Pay Calculations Notes**

122 holesx 9x10 pattern = 10980sqft

33 holes x 7 ft spacing single line trench= 231 lineae ft trench

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 1386.00Total SqFt 13860.00Powder 1.15 Lbs/CydTotal Product Weight (Lbs) : 5326Total Tons N/ATotal Yards 4620.00Factor 0.87 Cyd/LbsAvg Weight / Hole (Lbs): 34.58

Cal Method

Pattern

Holes

154Cover Used/No N/A**AVG****Min****Max**

Drill Depth

9.00

Burden(Feet)

9.00

Feet

Spacing (Feet)

10.00

Feet

Hole Diameter

4.00

OverBurden (Ft)

2.00

Control Row Taped

N

	Min	Max
Drill Depth	9.00	12.00
Burden(Feet)	9.00	9.00
Spacing (Feet)	10.00	10.00
Hole Diameter	4.00	4.00
OverBurden (Ft)	0.00	6.00

Stone Weight	N/A /Cyd
Type of Terrian	Flat
Type of Rock	Granite
Stemming Type	3/8" Crushed Stone
Height of Face	0

Angled Holes /Face Bermed

N/N

Top Stemming	4.00	Min	8.00	Max
Charges/Hole	1	Min	1	Max
Deck Stemming	0.00	Min	0.00	Max
Charge Wgt/Deck	14	Min	35	Max
Depth of Water	0	Min	2	Max

Laser/BoreTracking

NTotal Pounds 5325.50 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		5127.00 Lbs
BA BULK Totals:		N/A	5127.00 Lbs

Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	24	79.92 Lbs
BAPACKAGED Totals:		24	79.92 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	154	118.58 Lbs
BOOSTERS Totals:		154	118.58 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	154	
DETS DHOLE Totals:		154	

Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	0.6	1500
LINES Totals:		0.6	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	10	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	10	
SURF DELAY Totals:		20	

Descripton: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4
Total Depth (ft)	9.00

Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Descripton: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	4.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	7.00
1966 Emulsion Blend	2.00
TROJAN SPARTAN 350G 49/CS	0.00
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	SUB STATION ENTRANCE	2288	Threshold Not Met	N/A	N/A	N/A	2000	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/6/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49181	49166
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 PM snow covered ground

Post Shift Insp.Time (24hrs): 12:00:00 PM

Blaster : Butler;Dean T

License #: 1937

Precautions Taken:

step cautiously. watch footing frozen icy ground underneath

Signature:

DB

Weather
Comments:

cool 10*

No. of Crew Members 4

Crew Members Names :

cody barnum	jason gumlitte	britt gellenthien	Josh Yates
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 25 east Shot Time (24hrs) 13:24 Shot VideoTaped: NWeather

Notes:

N/A

Weather Conditions: CloudyTemp (°F): 10-15Wind Direction: North-WestWind Spd: 0-10 MPH**Preblast**Blast Direction: EastMax Holes/Delay: 2.00Predicted K Factor: 160Blast Location: tower 6 , tower 5 pipeScale Dist.: 279.51Location of Structure: tower 3Max Weight/Delay: 80.00 LbsPredicted PPV: 0.02Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Running Length 192.00 FeetPay Square Area 33960.00 FeetN/A N/A N/A

24 holesx 8' spacing = 192

283x10x12= 33,960sqft

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 2763.00Total SqFt 36840.00Powder 1.03 Lbs/CydTotal Product Weight (Lbs) : 12626Total Tons N/ATotal Yards 12280.00Factor 0.97 Cyd/LbsAvg Weight / Hole (Lbs): 41.13Cal Method Pattern# Holes 307Cover Used/No N/A

AVG

Min Max

Drill Depth 9.008.00 9.00Stone Weight N/A /CydTop Stemming 3.00 Min 4.00 MaxBurden(Feet) 10.00 Feet10.00 10.00Type of Terrian FlatCharges/Hole 1 Min 1 MaxSpacing (Feet) 12.00 Feet12.00 12.00Type of Rock Mica/SchistDeck Stemming 0.00 Min 0.00 MaxHole Diameter 4.004.00 4.00Stemming Type 3/8" Crushed StoneCharge Wgt/Deck 35.00 Min 41.00 MaxOverBurden (Ft) 0.000.00 0.00Height of Face 0.00Depth of Water 0.00 Min 8.00 MaxControl Row Taped NAngled Holes /Face Bermed N/NLaser/BoreTracking NTotal Pounds 12626.00 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		6584.00 Lbs
QR744	TITAN 1000 SD		5645.00 Lbs
BA BULK Totals:		N/A	12229.00 Lbs

Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	48.00	159.84 Lbs
BAPACKAGED Totals:		48.00	159.84 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	308.00	237.16 Lbs
BOOSTERS Totals:		308.00	237.16 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	307.00	
DETS DHOLE Totals:		307.00	

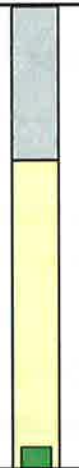
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1.80	4000.00
LINES Totals:		1.80	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	15.00	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12/FT 90/180/CS	2.00	

SURF DELAY Totals: 17.00

Description: typical

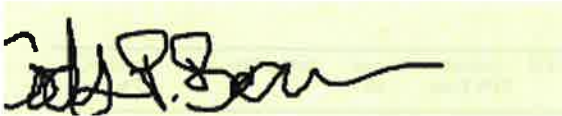
Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	4.00
Total Depth (ft)	9.00

Stemming Stones	3.00	
1966 Emulsion Blend	6.00	
TROJAN SPARTAN 350G 49/CS	0.00	
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		

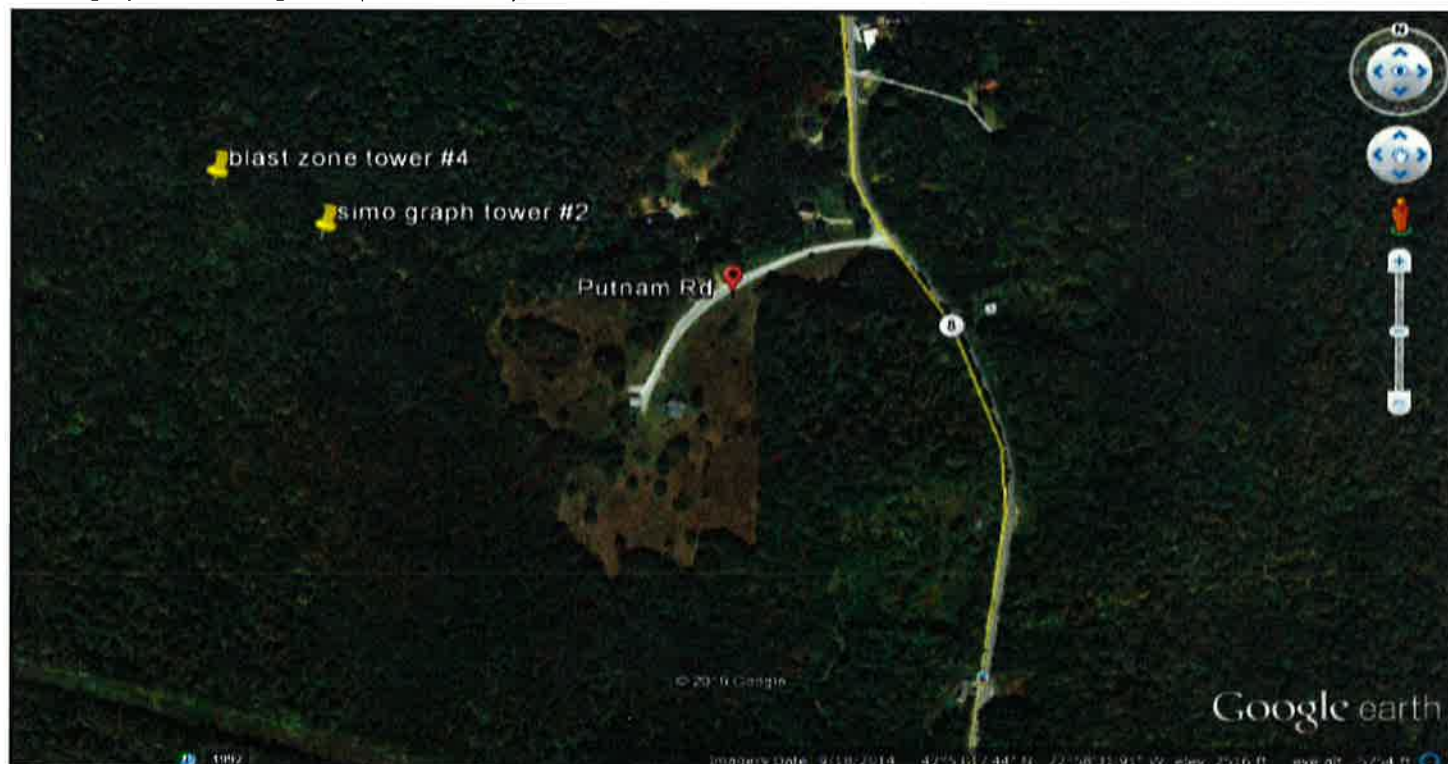
Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler,Dean T	tower 3	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/10/2017	Cust. Supt. Name	buddy	
Customer Name	J.A. McDonald Inc.	Pick Tks#	49266	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	snow and ice	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		watch your footing and pic your walking path	
Signature:				
No. of Crew Members	4	Weather Comments:	cold	
Crew Members Names :				
josh yates	britt gilliten	Dean Butler	Jason Guilmette	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	

Seismograph Monitoring Plan (Not to Scale):



Shot # 31 Shot Time (24hrs) 12:24 Shot VideoTaped: Y**Weather**

Notes:

N/A

Weather Conditions: ClearTemp (°F): 0-10Wind Direction: SouthWind Spd: 5-10 **MPH****Preblast**Blast Direction: NorthMax Holes/Delay: 13Predicted K Factor: 160Blast Location: tower #2Scale Dist.: 208.01Location of Structure: substationMax Weight/Delay: 52 LbsPredicted PPV: 0.03Measurement Physical Measurement Dist. to Closest (Ft) Structure 1500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 12870 Feet

N/A N/A N/A

N/A N/A N/A

9x10 pattern x 143 holes equals 12,870 sqft

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 1573.00Total SqFt 12870.00

Powder

0.67 Lbs/Cyd

Total Product Weight (Lbs) :

3529

Total Tons N/ATotal Yards 5243.33

Factor

1.49 Cyd/Lbs

Avg Weight / Hole (Lbs):

24.68

Cal Method

Pattern

Holes

143

Cover Used/No N/A

AVG

Min

Max

Drill Depth 11.00

9.00

15.00

Stone Weight

N/A

/Cyd

Top Stemming

4

Min

7

Max

Burden(Feet) 9.00 Feet

9.00

9.00

Type of Terrian

Flat

Charges/Hole

1

Min

1

Max

Spacing (Feet) 10.00 Feet

10.00

10.00

Type of Rock

Mica/Schist

Deck Stemming

0.00

Min

0.00

Max

Hole Diameter 4.00

4.00

4.00

Stemming Type

3/8" Crushed Stone

Charge Wgt/Deck

4

Min

52

Max

OverBurden (Ft) 5.00

2.00

7.00

Height of Face

11

Depth of Water

0.00

Min

5.00

Max

Control Row Taped

N

Angled Holes /Face Bermed

N/Y

Laser/BoreTracking

N

Total Pounds 3529.11 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		3419.00 Lbs
BA BULK Totals:		N/A	3419.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	143	110.11 Lbs
BOOSTERS Totals:		143	110.11 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	143	
DETS DHOLE Totals:		143	

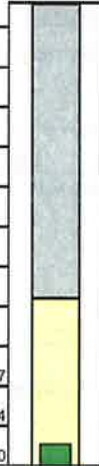
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500	
LINES Totals:		2500	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	20	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	5	
SURF DELAY Totals:		25	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	5
Sub Drilling(ft)	3.00
Total Depth (ft)	11.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	7
TITAN 1000 SD	4
TROJAN SPARTAN 350G 49/CS	0

**Seismograhs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	substation	3439	Threshold Not Met	N/A	N/A	N/A	1500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/11/2017	Cust. Supt. Name	buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49306	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	rain and ice	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		watc your footing	
Signature:				

[Handwritten Signature: Cody P. Barnum]

Weather
Comments:

rainy and windy

No. of Crew Members	4		
Crew Members Names :			
josh yates	britt gilliten	jason guilmette	dean butler
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 26 Shot Time (24hrs) 12:18 Shot VideoTaped: Y **Weather**
 Notes: N/A Weather Conditions: Rain
 Temp (°F): 40-45
 Wind Direction: East
 Wind Spd: 10-15 MPH

Preblast

Blast Direction: North Max Holes/Delay: 12 Predicted K Factor: 160
 Blast Location: tower #5 Scale Dist.: 111.36
 Location of Structure: tower #3 Max Weight/Delay: 504 Lbs Predicted PPV: 0.08
 Measurement Physical Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A
 Measurement

Pay Quantities

Fire Detail # of Hrs: N/A Pay Calculations Notes
 Pay Square Area 28200 Feet
 N/A N/A N/A
 N/A N/A N/A
 10x12 pattern x 235 hole = 28,200 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>2115.00</u>	Total SqFt	<u>28200.00</u>	Powder	<u>0.90</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>8438</u>
Total Tons	<u>N/A</u>	Total Yards	<u>9400.00</u>	Factor	<u>1.11</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>35.91</u>

Cal Method	Pattern						
# Holes	<u>235</u>	Cover Used/No	<u>N/A</u>				
	AVG	Min	Max				
Drill Depth	<u>9.00</u>	<u>9.00</u>	<u>10.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>3.00</u> Min <u>4.00</u> Max
Burden(Feet)	<u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>12.00</u> Feet	<u>12.00</u>	<u>12.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min <u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>126</u> Min <u>504</u> Max
OverBurdén (Ft)	<u>0.00</u>	<u>1.00</u>	<u>2.00</u>	Height of Face	<u>9.00</u>	Depth of Water	<u>0.00</u> Min <u>5.00</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 8437.95 Lbs

Type Of Initiation: Non-Electric

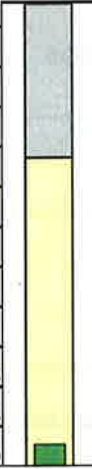
Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		8257.00 Lbs
BA BULK Totals:		N/A	8257.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	235	180.95 Lbs
BOOSTERS Totals:		235	180.95 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	235	
DETS DHOLE Totals:		235	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	3500	
LINES Totals:		3500	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	13	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	3	
SURF DELAY Totals:		16	

Descripton: typical

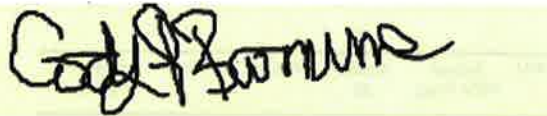
Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	3.00
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	3
TITAN 1000 SD	6
TROJAN SPARTAN 350G 49/CS	0.00

**Seismograhs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #3	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/12/2017	Cust. Supt. Name	buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49343	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	ice	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		watch your footing	
Signature:				
No. of Crew Members	4	Weather Comments:	rain	
Crew Members Names :				
britt gilitten	JOSH YATES	jason guilmette	dean butler	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	

Seismograph Monitoring Plan (Not to Scale):



Shot # 32 west Shot Time (24hrs) 11:12 Shot VideoTaped: Y **Weather**
 Notes: N/A Weather Conditions: Fog
 Temp (°F): 40-50
 Wind Direction: West
 Wind Spd: 5-10 MPH

Preblast

Blast Direction: North-East Max Holes/Delay: 3.00 Predicted K Factor: 160
 Blast Location: tower #3 Scale Dist.: 236.23
 Location of Structure: tower #1 Max Weight/Delay: 112.00 Lbs Predicted PPV: 0.03
 Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 10710.00 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

9X10 PATTERN x 119 h63e = 10,710 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>1190.00</u>	Total SqFt	<u>10710.00</u>	Powder	<u>0.72</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>2843</u>
Total Tons	<u>N/A</u>	Total Yards	<u>3966.67</u>	Factor	<u>1.40</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>23.89</u>

Cal Method	Pattern						
# Holes	<u>119</u>	Cover Used/No	<u>N/A</u>				
	AVG	Min	Max				
Drill Depth	<u>10.00</u>	<u>9.00</u>	<u>13.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>3.00</u> Min <u>6.00</u> Max
Burden(Feet)	<u>9.00</u> Feet	<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min <u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>44.00</u> Min <u>112.00</u> Max
OverBurden (Ft)	<u>3.00</u>	<u>0.00</u>	<u>5.00</u>	Height of Face	<u>10.00</u>	Depth of Water	<u>0.00</u> Min <u>5.00</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 2842.63 Lbs

Type Of Initiation: Non-Electric

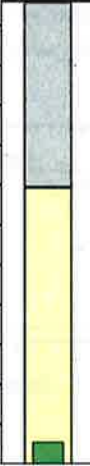
Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		2751.00 Lbs
BA BULK Totals:		N/A	2751.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	119.00	91.63 Lbs
BOOSTERS Totals:		119.00	91.63 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	119.00	
DETS DHOLE Totals:		119.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500.00	
LINES Totals:		2500.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	24.00	
SURF DELAY Totals:		24.00	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	3.00
Sub Drilling(ft)	3.00
Total Depth (ft)	10.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	4.00
TITAN 1000 SD	6.00
TROJAN SPARTAN 350G 49/CS	0.00

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #1	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A

Shot # 27 east Shot Time (24hrs) 2:23 Shot VideoTaped: Y**Weather**Notes: N/AWeather Conditions: RainTemp (°F): 40-50Wind Direction: EastWind Spd: 0-10 MPH**Preblast**

Blast Direction: North-East Max Holes/Delay: 2.00 Predicted K Factor: 160
 Blast Location: tower #5 Scale Dist.: 279.51
 Location of Structure: tower 3 Max Weight/Delay: 80.00 Lbs Predicted PPV: 0.02
 Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 12600.00 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

10X12 PATTERN X 105 HOLES = 12,600SQFT

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft) 945.00 Total SqFt 12600.00 Powder 1.07 Lbs/Cyd Total Product Weight (Lbs) : 4475
 Total Tons N/A Total Yards 4200.00 Factor 0.94 Cyd/Lbs Avg Weight / Hole (Lbs): 42.62

Cal Method Pattern
 # Holes 105 Cover Used/No N/A

	AVG	Min	Max
Drill Depth	9.00	9.00	9.00
Burden(Feet)	10.00	10.00	10.00
Spacing (Feet)	12.00	12.00	12.00
Hole Diameter	4.00	4.00	4.00
OverBurden (Ft)	0.00	0.00	1.00

 Stone Weight N/A /Cyd Top Stemming 3.00 Min 4.00 Max
 Type of Terrian Flat Charges/Hole 1 Min 1 Max
 Type of Rock Mica/Schist Deck Stemming 0.00 Min 0.00 Max
 Stemming Type 3/8" Crushed Stone Charge Wgt/Deck 44.00 Min 80.00 Max
 Height of Face 9.00 Depth of Water 0.00 Min 8.00 Max
 Control Row Taped N Angled Holes /Face Bermed N/Y Laser/BoreTracking N

Total Pounds 4474.85 LbsType Of Initiation: Non-Electric

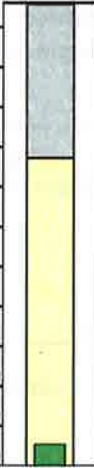
Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		4394.00 Lbs
BA BULK Totals:		N/A	4394.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	105.00	80.85 Lbs
BOOSTERS Totals:		105.00	80.85 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	105.00	
DETS DHOLE Totals:		105.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500.00	
LINES Totals:		2500.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	8	
SURF DELAY Totals:		8	

Description: TYPICAL

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	3.00
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	3.00
TITAN 1000 SD	6.00
TROJAN SPARTAN 350G 49/CS	0.00

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower 3	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job# 104-04-02718 Cust. PO# N/A
 Date 1/13/2017 Cust. Supt. Name Dere2
 Customer Name J.A. McDonald Inc. Pick Tkts# 49375 N/A
 Job Address Route 8 J.A. McDonald Inc. Deerfield Wind N/A N/A N/A
 State VT Permit No. Identify Hazards
 Pre Shift Insp.Time (24hrs): 12:00:00 AM equipment
 Post Shift Insp.Time (24hrs): 12:00:00 AM
 Blaster : Barnum,Cody P. Precautions Taken:
 License #: 1951 stay out of pinch points and use a spotter when backing
 Signature:

[Handwritten Signature]

Weather
Comments:

windy

No. of Crew Members 4
 Crew Members Names :
 Britt Gilliten Josh Yates Jason Guilmette Dean Butler
 N/A N/A N/A N/A
 N/A N/A N/A N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 33 west Shot Time (24hrs) 0:00 Shot VideoTaped: Y **Weather**
 Notes: N/A Weather Conditions: Cloudy
 Temp (°F): 25-30
 Wind Direction: East
 Wind Spd: 0-10 MPH

Preblast

Blast Direction: North-East Max Holes/Delay: 3 Predicted K Factor: 160
 Blast Location: tower #2 Scale Dist.: 243.98
 Location of Structure: sub Station Max Weight/Delay: 105 Lbs Predicted PPV: 0.02
 Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A

Pay Calculations Notes

Pay Square Area 7200 Feet

N/A N/A N/A

N/A N/A N/A

9x10 pattern by 80 holes = 7,200 sqft

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>800.00</u>	Total SqFt	<u>7200.00</u>	Powder	<u>0.79 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>2100</u>
Total Tons	<u>N/A</u>	Total Yards	<u>2666.67</u>	Factor	<u>1.27 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>26.25</u>

Cal Method	Pattern								
# Holes	<u>80</u>	Cover Used/No	<u>N/A</u>						
	AVG	Min	Max						
Drill Depth	<u>10.00</u>	<u>9.00</u>	<u>11.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4.00</u> Min	<u>6.00</u> Max	
Burden(Feet)	<u>9.00</u> Feet	<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max	
Spacing (Feet)	<u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max	
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>35</u> Min	<u>105</u> Max	
OverBurden (Ft)	<u>2.00</u>	<u>0.00</u>	<u>5.00</u>	Height of Face	<u>10.00</u>	Depth of Water	<u>0.00</u> Min	<u>6.00</u> Max	
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>				

Total Pounds 2099.60 Lbs

Type Of Initiation: Non-Electric

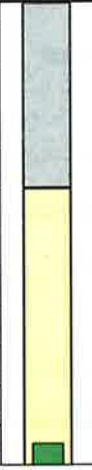
Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		<u>2038.00 Lbs</u>
BA BULK Totals:		<u>N/A</u>	<u>2038.00 Lbs</u>
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>80</u>	<u>61.60 Lbs</u>
BOOSTERS Totals:		<u>80</u>	<u>61.60 Lbs</u>

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	<u>80</u>	
DETS DHOLE Totals:		<u>80</u>	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>2500</u>	
LINES Totals:		<u>2500</u>	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>11</u>	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	<u>3</u>	
SURF DELAY Totals:		<u>14</u>	

Descripton: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	3.00
Total Depth (ft)	10.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	4.00
TITAN 1000 SD	6.00
TROJAN SPARTAN 350G 49/CS	0.00

**Seismograhs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	sub Station	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A

Blast Report



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/17/2017	Cust. Supt. Name	Buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49429	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM equipment

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Barnum;Cody P.

License #: 1951

Signature:

Precautions Taken:

use spotter when moving equipment

Weather
Comments:

clear

No. of Crew Members 4

Crew Members Names :

Josh Yates	Britt Gilliten	Jason guilmette	Dean Butler
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 28 east Shot Time (24hrs) 2:22 Shot VideoTaped: Y**Weather**Notes: N/AWeather Conditions: ClearTemp (°F): 25-35Wind Direction: South-EastWind Spd: 5-15 MPH**Preblast**Blast Direction: North-East Max Holes/Delay: 3.00 Predicted K Factor: 160Blast Location: tower #4 Scale Dist.: 222.72Location of Structure: tower #2 Max Weight/Delay: 126.00 Lbs Predicted PPV: 0.03Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Running Length 390.00 Feet

N/A N/A N/A

N/A N/A N/A

86 trench hoed = 390 of feet of trench plus 16,200 sqft 10 by 12 pattern x 135 holes = 16,200 sqft

Shot Info**Configuration****1 - Trench**

Total Drill Depth(Ft)	<u>2210.00</u>	Total SqFt	<u>26520.00</u>	Powder	<u>0.69</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>6777</u>
Total Tons	<u>N/A</u>	Total Yards	<u>9822.22</u>	Factor	<u>1.45</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>30.67</u>

Cal Method	Pattern								
# Holes	<u>221</u>	Cover Used/No	<u>N/A</u>						
	AVG	Min	Max						
Drill Depth	<u>10.00</u>		<u>9.00</u> <u>15.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>3.00</u> Min	<u>6.00</u> Max	
Burden(Feet)	<u>10.00</u> Feet		<u>10.00</u> <u>10.00</u>	Type of Terrian	<u>Sloped</u>	Charges/Hole	<u>1</u> Min	<u>1</u> Max	
Spacing (Feet)	<u>12.00</u> Feet		<u>12.00</u> <u>12.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max	
Hole Diameter	<u>4.00</u>		<u>4.00</u> <u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>42.00</u> Min	<u>126.00</u> Max	
OverBurden (Ft)	<u>2.00</u>		<u>0.00</u> <u>4.00</u>	Height of Face	<u>10.00</u>	Depth of Water	<u>0.00</u> Min	<u>8.00</u> Max	
Control Row Taped	<u>N</u>			Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>		

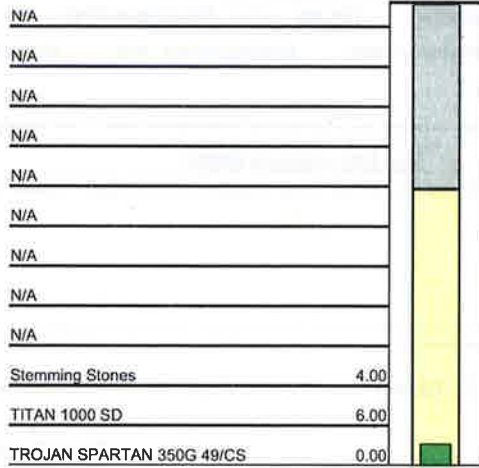
Total Pounds 6777.17 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		<u>6607.00</u> Lbs
BA BULK Totals:		<u>N/A</u>	<u>6607.00</u> Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>221.00</u>	<u>170.17</u> Lbs
BOOSTERS Totals:		<u>221.00</u>	<u>170.17</u> Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	<u>181.00</u>	
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	<u>40.00</u>	
DETS DHOLE Totals:		<u>221.00</u>	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>2500.00</u>	
LINES Totals:		<u>2500.00</u>	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>17.00</u>	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	<u>6.00</u>	
SURF DELAY Totals:		<u>23.00</u>	

Description: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	3.00
Total Depth (ft)	10.00

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #2	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/18/2017	Cust. Supt. Name	Pat Clifford	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49514	N/A
Job Address	Route 8 J.A. McDonald Inc. Various	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs): 12:00:00 AM Slippery condions blowing out holes with compressor
 Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Butler;Dean T Precautions Taken:
 License #: 1937 use safety glasses take caution where you point the blow hose to reduce flying objects
 Signature: _____

DB

Weather
 Comments:
freezing rain and snow 28*

No. of Crew Members	<u>4</u>		
Crew Members Names :			
Cody barnum	Joe Taber	Jason Guilmette	Don Stone
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 29 east Shot Time (24hrs) 14:22 Shot VideoTaped: Y Weather

Notes: tower 7 east roadway misfire clean up

Weather Conditions: Snow
Temp (°F): 28-35
Wind Direction: South-West
Wind Spd: 0-5 MPH

Preblast

Blast Direction: South-East Max Holes/Delay: 1.00 Predicted K Factor: 160
Blast Location: tower 7 roadway Scale Dist.: 377.96
Location of Structure: tower 5 Max Weight/Delay: 28.00 Lbs Predicted PPV: 0.01
Measurement Other (See Notes) Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
See Notes 0.00 N/A
N/A N/A N/A
N/A N/A N/A

Pay Calculations Notes

Cleaned up 13 hole misfire at tower 7 road east

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>117.00</u>	Total SqFt	<u>1560.00</u>	Powder Factor	<u>0.03</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>13</u>
Total Tons	<u>N/A</u>	Total Yards	<u>520.00</u>		<u>40.00</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>1.00</u>

Cal Method	Pattern								
# Holes	<u>13</u>	Cover Used/No	<u>N/A</u>						
	AVG	Min	Max						
Drill Depth	<u>9.00</u>	<u>9.00</u>	<u>9.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>3.00</u> Min	<u>5.00</u> Max	
Burden(Feet)	<u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>2</u> Min	<u>2</u> Max	
Spacing (Feet)	<u>12.00</u> Feet	<u>12.00</u>	<u>12.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min	<u>0.00</u> Max	
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>1.65</u> Min	<u>28.00</u> Max	
OverBurden (Ft)	<u>0.00</u>	<u>0.00</u>	<u>3.00</u>	Height of Face	<u>0.00</u>	Depth of Water	<u>0.00</u> Min	<u>0.00</u> Max	
Control Row Taped	<u>N</u>			Angled Holes /Face Bermed	<u>N/N</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 13.00 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Qty	Wgt
DN231312508	UNIMAX 1 1/4 X 8 TT EC 44LB 88/CS	26	13.00 Lbs
HI-EX Totals:		26	13.00 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	26	
DETS DHOLE Totals:		26	

Product #	Desc	Qty	Length
DJ01000	NONEL STARTER 1000FT/305M 4/CS 1.4B	2	2000
LINES Totals:		2	

Product #	Desc	Qty	Length
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	3	
SURF DELAY Totals:		3	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	4.00
Total Depth (ft)	4.20

Stemming Stones	3	
UNIMAX 1 1/4 X 8 TT EC 44LB 88/CS	1.2	
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		
N/A		

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Butler;Dean T	tower 5	2288	Threshold Not Met	N/A	N/A	N/A	2000	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/19/2017	Cust. Supt. Name	Derek	
Customer Name	J.A. McDonald Inc.	Pick Tks#	49516	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM [show n ice](#)

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Barnum;Cody P.

License #: 1951

Signature:

Precautions Taken:

[whatch your footing](#)

Weather
Comments:

[foggy](#)

No. of Crew Members 4

Crew Members Names :

Britt Gilliten Jason Guilmette

N/A N/A

N/A N/A

Josh Yates

N/A

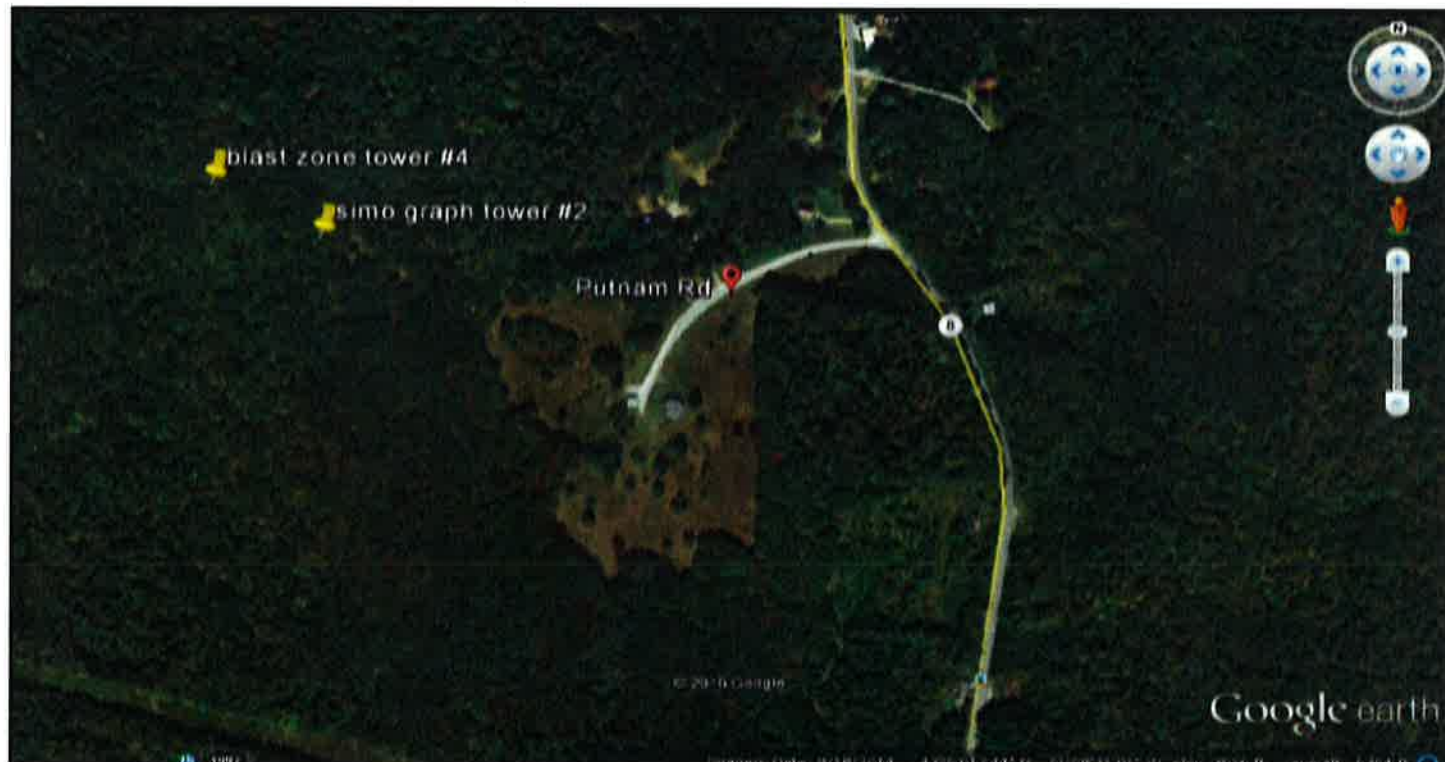
N/A

Dean Butler

N/A

N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 34 west Shot Time (24hrs) 0:00 Shot VideoTaped: Y**Weather**

Notes:

N/A

Weather Conditions: SnowTemp (°F): 30-35Wind Direction: South-EastWind Spd: 5-10 MPH**Preblast**Blast Direction: North Max Holes/Delay: 4.00 Predicted K Factor: 160Blast Location: tower #4 Scale Dist.: 149.40Location of Structure: Tower #2 Max Weight/Delay: 280.00 Lbs Predicted PPV: 0.05Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/APay Square Area 12120.00 Feet

N/A N/A N/A

N/A N/A N/A

Pay Calculations Notes

10 by 12 pattern by 101 holes = 12,120 sqft

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 1414.00 Total SqFt 12120.00 Powder Factor 1.07 Lbs/Cyd Total Product Weight (Lbs) : 6738Total Tons N/A Total Yards 6284.44 Factor 0.93 Cyd/Lbs Avg Weight / Hole (Lbs): 66.71

Cal Method

Pattern

Holes

101

Cover Used/No N/A

AVG

Min

Max

Drill Depth 14.00 FeetBurden(Feet) 10.00 FeetSpacing (Feet) 12.00 FeetHole Diameter 4.00OverBurden (Ft) 2.00

Control Row Taped

N

Min	Max
12.00	16.00
10.00	10.00
12.00	12.00
4.00	4.00
0.00	3.00

Stone Weight	N/A /Cyd
Type of Terrian	Flat
Type of Rock	Mica/Schist
Stemming Type	3/8" Crushed Stone
Height of Face	12.00

Angled Holes /Face Bermed

N/Y

Top Stemming	4.00	Min	6.00	Max
Charges/Hole	1	Min	1	Max
Deck Stemming	0.00	Min	0.00	Max
Charge Wgt/Deck	140.00	Min	280.00	Max
Depth of Water	0.00	Min	5.00	Max

Laser/BoreTracking

N

Total Pounds 6737.77 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		6660.00 Lbs
BA BULK Totals:		N/A	6660.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	101.00	77.77 Lbs
BOOSTERS Totals:		101.00	77.77 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	101.00	
DETS DHOLE Totals:		101.00	

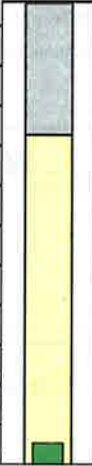
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500.00	
LINES Totals:		2500.00	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	6.00	
SURF DELAY Totals:		6.00	

Descripton: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A.
Overburden (ft)	2.00
Sub Drilling(ft)	3.00
Total Depth (ft)	14.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	4.00
TITAN 1000 SD	10.00
TROJAN SPARTAN 350G 49/CS	0.00

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	Tower #2	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/20/2017	Cust. Supt. Name	Buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49433	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind		N/A	N/A
			N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	<u>sloped shot covered in snow</u>	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		<u>load accordingly and what your step and be careful laying out caps and booster</u>	
Signature:				

Cody P Barnum

Weather
Comments:

foggy

No. of Crew Members	4		
Crew Members Names :			
Josh Yates	Britt Gillitten	Jason Guilmette	Dean Butler
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 29 east Shot Time (24hrs) 2:43 Shot VideoTaped: Y **Weather**
 Notes: N/A Weather Conditions: Fog
 Temp (°F): 35-40
 Wind Direction: South
 Wind Spd: 5-10 MPH

Preblast

Blast Direction: North-East Max Holes/Delay: 3 Predicted K Factor: 160
 Blast Location: liedar station Scale Dist.: 192.88
 Location of Structure: tower #1 Max Weight/Delay: 168 Lbs Predicted PPV: 0.04
 Measurement Physical Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A
 Measurement

Pay Quantities

Fire Detail # of Hrs: N/A Pay Calculations Notes
 Pay Square Area 5160 Feet
 N/A N/A N/A
 N/A N/A N/A

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>602.00</u>	Total SqFt	<u>5160.00</u>	Powder	<u>0.84 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>2250</u>
Total Tons	<u>N/A</u>	Total Yards	<u>2675.56</u>	Factor	<u>1.19 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>52.33</u>

Cal Method	Pattern								
# Holes	<u>43</u>	Cover Used/No	<u>N/A</u>						
	AVG	Min	Max						
Drill Depth	<u>14</u>	<u>9</u>	<u>18</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>5</u> Min	<u>8</u> Max	
Burden(Feet)	<u>10</u> Feet	<u>10</u>	<u>10</u>	Type of Terrian	<u>Sloped</u>	Charges/Hole	<u>1</u> Min	<u>2</u> Max	
Spacing (Feet)	<u>12</u> Feet	<u>12</u>	<u>12</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0</u> Min	<u>0</u> Max	
Hole Diameter	<u>4</u>	<u>4</u>	<u>4</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>56</u> Min	<u>168</u> Max	
OverBurden (Ft)	<u>0</u>	<u>0</u>	<u>2</u>	Height of Face	<u>14</u>	Depth of Water	<u>0</u> Min	<u>11</u> Max	
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>				

Total Pounds 2249.52 Lbs

Type Of Initiation: Non-Electric

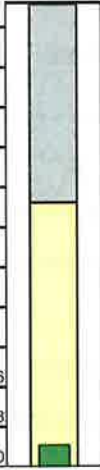
Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend		<u>2191.00 Lbs</u>
BA BULK Totals:		<u>N/A</u>	<u>2191.00 Lbs</u>
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>76</u>	<u>58.52 Lbs</u>
BOOSTERS Totals:		<u>76</u>	<u>58.52 Lbs</u>

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	<u>76</u>	
DETS DHOLE Totals:		<u>76</u>	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>2500</u>	
LINES Totals:		<u>2500</u>	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>20</u>	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	<u>15</u>	
SURF DELAY Totals:		<u>35</u>	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0
Sub Drilling(ft)	3
Total Depth (ft)	14.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	6
1966 Emulsion Blend	8
TROJAN SPARTAN 350G 49/CS	0

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #1	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A

Blast Report



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/23/2017	Cust. Supt. Name	Buddy	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49578	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM frozen uneven ground

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Barnum;Cody P.

License #: 1951

Signature:

Precautions Taken:

whatch your footing and pick your walking path

Weather
Comments:

cloudy

No. of Crew Members 2

Crew Members Names :

Jason Guilette	Britt giltieen	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 31 east Shot Time (24hrs) 11:20 Shot VideoTaped: Y**Weather**

Notes:

N/A

Weather Conditions: CloudyTemp (°F): 30-35Wind Direction: SouthWind Spd: 10-15 MPH**Preblast**

Blast Direction: North Max Holes/Delay: 3.00 Predicted K Factor: 160
 Blast Location: tower #4 Scale Dist.: 272.77
 Location of Structure: tower #2 Max Weight/Delay: 84.00 Lbs Predicted PPV: 0.02
 Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay QuantitiesFire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 9240.00 Feet

N/A N/A N/A

N/A N/A N/A

10x12 pattern x 77 holes = 9240 SQFT

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft)	693.00	Total SqFt	9240.00	Powder Factor	0.73 Lbs/Cyd	Total Product Weight (Lbs) :	2259
Total Tons	N/A	Total Yards	3080.00		1.36 Cyd/Lbs	Avg Weight / Hole (Lbs):	29.34

Cal Method	Pattern						
# Holes	77	Cover Used/No	N/A				
	AVG	Min	Max				
Drill Depth	9.00	8.00	9.00	Stone Weight	N/A /Cyd	Top Stemming	4.00 Min 5.00 Max
Burden(Feet)	10.00	10.00	10.00	Type of Terrian	Flat	Charges/Hole	1 Min 1 Max
Spacing (Feet)	12.00	12.00	12.00	Type of Rock	Mica/Schist	Deck Stemming	0.00 Min 0.00 Max
Hole Diameter	4.00	4.00	4.00	Stemming Type	3/8" Crushed Stone	Charge Wgt/Deck	28.00 Min 84.00 Max
OverBurden (Ft)	0.00	0.00	1.00	Height of Face	9.00	Depth of Water	4.00 Min 8.00 Max
Control Row Taped	N	Angled Holes /Face Bermed	N/Y			Laser/BoreTracking	N

Total Pounds 2259.27 Lbs

Type Of Initiation: Non-Electric

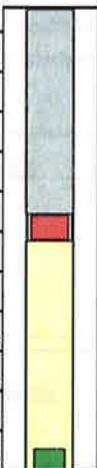
Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		2180.00 Lbs
BA BULK Totals:		N/A	2180.00 Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	6.00	19.98 Lbs
BAPACKAGED Totals:		6.00	19.98 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	77.00	59.29 Lbs
BOOSTERS Totals:		77.00	59.29 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	77.00	
DETS DHOLE Totals:		77.00	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500.00	
LINES Totals:		2500.00	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	14.00	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	5.00	
SURF DELAY Totals:		19.00	

Description: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	3.00
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	4.00
Blastex 2 1/2 X 16 40LBS/CS 12/STKS	0.50
TITAN 1000 SD	4.50
TROJAN SPARTAN 350G 49/CS	0.00

**Seismographs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #2	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A

Shot # 35 west Shot Time (24hrs) 2:11 Shot VideoTaped: Y Weather Cloudy
 Notes: N/A Weather Conditions: Cloudy
 Temp (°F): 30-40
 Wind Direction: South
 Wind Spd: 5-10 MPH

Preblast

Blast Direction: North-East Max Holes/Delay: 3.00 Predicted K Factor: 160
 Blast Location: tower #4 road Scale Dist.: 172.52
 Location of Structure: tower #2 Max Weight/Delay: 210.00 Lbs Predicted PPV: 0.04
 Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 7080.00 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

10x12 pattern x 59 holes = 7080 SQFT

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>885.00</u>	Total SqFt	<u>7080.00</u>	Powder Factor	<u>1.06</u> Lbs/Cyd	Total Product Weight (Lbs) :	<u>4188</u>
Total Tons	<u>N/A</u>	Total Yards	<u>3933.33</u>		<u>0.94</u> Cyd/Lbs	Avg Weight / Hole (Lbs):	<u>70.98</u>

Cal Method	Pattern						
# Holes	<u>59</u>	Cover Used/No	<u>N/A</u>				
	AVG	Min	Max				
Drill Depth	<u>15.00</u>	<u>14.00</u>	<u>16.00</u>	Stone Weight	<u>N/A</u> /Cyd	Top Stemming	<u>4.00</u> Min <u>5.00</u> Max
Burden(Feet)	<u>10.00</u> Feet	<u>10.00</u>	<u>10.00</u>	Type of Terrian	<u>Flat</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>12.00</u> Feet	<u>12.00</u>	<u>12.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min <u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>70.00</u> Min <u>210.00</u> Max
OverBurden (Ft)	<u>0.00</u>	<u>0.00</u>	<u>2.00</u>	Height of Face	<u>15.00</u>	Depth of Water	<u>4.00</u> Min <u>12.00</u> Max
Control Row Taped	<u>N</u>			Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>

Total Pounds 4188.41 Lbs

Type Of Initiation: Non-Electric

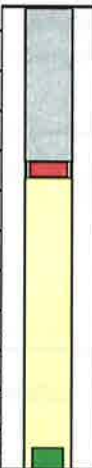
Product #	Desc	Density	Wgt
QR744	TITAN 1000 SD		<u>4123.00</u> Lbs
BA BULK Totals:		<u>N/A</u>	<u>4123.00</u> Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	<u>6.00</u>	<u>19.98</u> Lbs
BAPACKAGED Totals:		<u>6.00</u>	<u>19.98</u> Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	<u>59.00</u>	<u>45.43</u> Lbs
BOOSTERS Totals:		<u>59.00</u>	<u>45.43</u> Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	<u>59.00</u>	
DETS DHOLE Totals:		<u>59.00</u>	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	<u>2500.00</u>	
LINES Totals:		<u>2500.00</u>	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	<u>5.00</u>	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	<u>0.00</u>	
SURF DELAY Totals:		<u>5.00</u>	

Description: typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	0.00
Sub Drilling(ft)	3.00
Total Depth (ft)	15.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	5.00
Blastex 2 1/2 X 16 40LBS/CS 12/STKS	0.50
TITAN 1000 SD	9.50
TROJAN SPARTAN 350G 49/CS	0.00


Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #2	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/25/2017	Cust. Supt. Name	Shelby	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49666	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield	N/A	N/A	N/A
	Wind	N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards _____

Pre Shift Insp.Time (24hrs) : 12:00:00 PM Icey

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Barnum;Cody P. Precautions Taken: _____
License #: 1951 Watch Footing

Signature:

Weather
Comments:

Cloudy

No. of Crew Members 4

Crew Members Names :

Britt Gilteen	Jason Guilmette	Josh Yates	Dean Butler
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):

Shapes Legend		Blast Area
Rounded Rectangle	Blank Area	
Rectangle	Structure	
Lines	Street/Roads, Distance Lines, Or Utilities	
Four Point Star	Indicating North	
Arrows	Alternates for Indicating North	
Seismograph		

Shot # 36 West Shot Time (24hrs) 12:30 Shot VideoTaped: Y **Weather**
 Notes: N/A Weather Conditions: Cloudy
 Temp (°F): 30-35
 Wind Direction: West
 Wind Spd: 0-5 MPH

Preblast

Blast Direction: North-West Max Holes/Delay: 3 Predicted K Factor: 160
 Blast Location: Roadway 4 to 5 Scale Dist.: 164.49
 Location of Structure: Tower 2 Max Weight/Delay: 231 Lbs Predicted PPV: 0.05
 Measurement Physical Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A
 Measurement

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 9480 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

10x12 Pattern x 79 holes = 9480 Square Feet

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>1264.00</u>	Total SqFt	<u>9480.00</u>	Powder	<u>1.19 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>6675</u>
Total Tons	<u>N/A</u>	Total Yards	<u>5617.78</u>	Factor	<u>0.84 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>84.49</u>

Cal Method	<u>Pattern</u>	Cover Used/No	<u>N/A</u>
# Holes	<u>79</u>	Min	<u>Max</u>
Drill Depth	<u>16</u>	<u>14</u>	<u>19</u>
Burden(Feet)	<u>10</u> Feet	<u>10</u>	<u>10</u>
Spacing (Feet)	<u>12</u> Feet	<u>12</u>	<u>12</u>
Hole Diameter	<u>4</u>	<u>4</u>	<u>4</u>
OverBurden (Ft)	<u>2</u>	<u>0</u>	<u>3</u>
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>

Stone Weight	<u>N/A /Cyd</u>	Top Stemming	<u>4</u> Min <u>6</u> Max
Type of Terrian	<u>Hilly</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0</u> Min <u>0</u> Max
Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>154</u> Min <u>231</u> Max
Height of Face	<u>16</u>	Depth of Water	<u>0</u> Min <u>12</u> Max
Laser/BoreTracking	<u>N</u>		

Total Pounds 6674.83 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	6614.00 Lbs
BA BULK Totals:		N/A	6614.00 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	79	60.83 Lbs
BOOSTERS Totals:		79	60.83 Lbs

Product #	Desc	Qty	Length
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	79	
DETS DHOLE Totals:		79	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500	
LINES Totals:		2500	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	5	
DY25Z812ME	NONEL EZTL CPZ 25 MS 12FT 90/180/CS	2	
SURF DELAY Totals:		7	

Descripton: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2
Sub Drilling(ft)	3
Total Depth (ft)	16.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	5
1966 Emulsion Blend	11
TROJAN SPARTAN 350G 49/CS	0

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	Tower 2	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A

Blast Report



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/26/2017	Cust. Supt. Name	Shelby	
Customer Name	J.A. McDonald Inc.	Pick Tks#	49695	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	icy & frozen uneven ground	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		what your footing and pick your walking path	
Signature:				

Cody P. Barnum

Weather
Comments:

rain

No. of Crew Members	4		
Crew Members Names :			
Britt Gilteen	Jason guilmette	Josh Yates	Dean Butler
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 37 west Shot Time (24hrs) 2:11 Shot VideoTaped: YWeather

Notes: N/A

Weather Conditions: RainTemp (°F): 30-35Wind Direction: WestWind Spd: 0-10 MPHPreblast

Blast Direction: South-East Max Holes/Delay: 4 Predicted K Factor: 160
 Blast Location: Liedar station Scale Dist.: 188.98
 Location of Structure: substation Max Weight/Delay: 175 Lbs Predicted PPV: 0.04
 Measurement Physical Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A
 Pay Square Area 13140 Feet
 N/A N/A N/A
 N/A N/A N/A

Pay Calculations Notes

9x10x146 holes= 13,140 square feet

Shot InfoConfiguration1 - Open

Total Drill Depth(Ft)	1314.00	Total SqFt	13140.00	Powder	1.22 Lbs/Cyd	Total Product Weight (Lbs) :	5337
Total Tons	N/A	Total Yards	4380.00	Factor	0.82 Cyd/Lbs	Avg Weight / Hole (Lbs):	36.55

Cal Method Pattern
 # Holes 146 Cover Used/No N/A

	AVG	Min	Max						
Drill Depth	9.00	9.00	16	Stone Weight	N/A /Cyd	Top Stemming	4.00	Min	5.00
Burden(Feet)	9	9	9	Type of Terrian	Flat	Charges/Hole	1	Min	1
Spacing (Feet)	10	10	10	Type of Rock	Mica/Schist	Deck Stemming	0.00	Min	0.00
Hole Diameter	4.00	4.00	4.00	Stemming Type	3/8" Crushed Stone	Charge Wgt/Deck	140	Min	175
OverBurden (Ft)	1.00	0.00	2.00	Height of Face	9.00	Depth of Water	0.00	Min	8.00

Control Row Taped N Angled Holes /Face Bermed N/Y Laser/BoreTracking N

Total Pounds 5337.38 LbsType Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	5185.00 Lbs
BA BULK Totals:		N/A	5185.00 Lbs

Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	12	39.96 Lbs
BAPACKAGED Totals:		12	39.96 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	146	112.42 Lbs
BOOSTERS Totals:		146	112.42 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	116	
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	30	
DETS DHOLE Totals:		146	

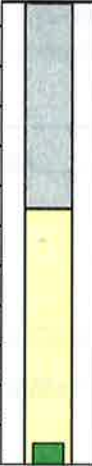
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	5000	
LINES Totals:		5000	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	9	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	2	
SURF DELAY Totals:		11	

Descripton: Typical

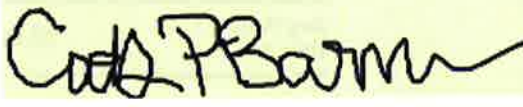
Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	1.00
Sub Drilling(ft)	3.00
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	4.00
1966 Emulsion Blend	5.00
TROJAN SPARTAN 350G 49/CS	0.00

**Seismograhs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	substation	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/30/2017	Cust. Supt. Name	Shelby	
Customer Name	J.A. McDonald Inc.	Pick Tkts#	49756	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A
State	VT	Permit No.		
Pre Shift Insp.Time (24hrs) :	12:00:00 AM	Identify Hazards	snow and ice	
Post Shift Insp.Time (24hrs):	12:00:00 AM			
Blaster :	Barnum;Cody P.	Precautions Taken:		
License #:	1951		when lying out caps and booster be sure none disapper in the snow and whatch your footing	
Signature:		Weather Comments:	clear	
No. of Crew Members	2			
Crew Members Names :				
Dean Butler	Jason Guilmette	N/A	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	

Seismograph Monitoring Plan (Not to Scale):



Shot # 37 west Shot Time (24hrs) 0:00 Shot VideoTaped: Y Weather

Notes: N/A Weather Conditions: Snow

Temp (°F): 20-25

Wind Direction: North-East

Wind Spd: 10-15 MPH

Preblast

Blast Direction: North-East Max Holes/Delay: 4 Predicted K Factor: 160

Blast Location: tower #5 Scale Dist.: 334.08

Location of Structure: Tower #3 Max Weight/Delay: 56 Lbs Predicted PPV: 0.01

Measurement Physical Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A

Pay Quantities

Fire Detail # of Hrs: N/A Pay Calculations Notes

Pay Square Area 9009 Feet 9x11 pattern x 91 holes = 9009 sqft

N/A N/A N/A

N/A N/A N/A

Shot Info

Configuration

1 - Open

Total Drill Depth(Ft)	<u>819.00</u>	Total SqFt	<u>9009.00</u>	Powder	<u>0.81 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>2421</u>
Total Tons	<u>N/A</u>	Total Yards	<u>3003.00</u>	Factor	<u>1.24 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>26.60</u>

Cal Method	Pattern						
# Holes	<u>91</u>	Cover Used/No	<u>N/A</u>				
	AVG	Min	Max				
Drill Depth	<u>9.00</u>	<u>9.00</u>	<u>17.00</u>	Stone Weight	<u>N/A /Cyd</u>	Top Stemming	<u>4.00</u> Min <u>10</u> Max
Burden(Feet)	<u>9.00</u> Feet	<u>9.00</u>	<u>9.00</u>	Type of Terrian	<u>Flat/Sloped</u>	Charges/Hole	<u>1</u> Min <u>1</u> Max
Spacing (Feet)	<u>11.00</u> Feet	<u>11.00</u>	<u>11.00</u>	Type of Rock	<u>Mica/Schist</u>	Deck Stemming	<u>0.00</u> Min <u>0.00</u> Max
Hole Diameter	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	Stemming Type	<u>3/8" Crushed Stone</u>	Charge Wgt/Deck	<u>42</u> Min <u>56</u> Max
OverBurden (Ft)	<u>6</u>	<u>6</u>	<u>11</u>	Height of Face	<u>9.00</u>	Depth of Water	<u>0.00</u> Min <u>7.00</u> Max
Control Row Taped	<u>N</u>	Angled Holes /Face Bermed	<u>N/Y</u>	Laser/BoreTracking	<u>N</u>		

Total Pounds 2420.91 Lbs

Type Of Initiation: Non-Electric

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	2191.00 Lbs
BA BULK Totals:		N/A	2191.00 Lbs
Product #	Desc	Qty	Wgt
QD51425016	Blastex 2 1/2 X 16 40LBS/CS 12/STKS	48	159.84 Lbs
BAPACKAGED Totals:		48	159.84 Lbs
Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	91	70.07 Lbs
BOOSTERS Totals:		91	70.07 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	44	
DXABZ629	NONEL EZDET 25/350 30FT ZCOMP 40/CS	47	
DETS DHOLE Totals:		91	
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500	
LINES Totals:		2500	
Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	13	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	4	
SURF DELAY Totals:		17	

Descripton: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2.00
Sub Drilling(ft)	3.00
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	6
Blastex 2 1/2 X 16 40LBS/CS 12/STKS	1.00
1966 Emulsion Blend	2
TROJAN SPARTAN 350G 49/CS	0.00

Seismograhs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	Tower #3	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A



Job#	104-04-02718	Cust. PO#	N/A	
Date	1/31/2017	Cust. Supt. Name	Shelby	
Customer Name	J.A. McDonald Inc.	Pick Tks#	49806	N/A
Job Address	Route 8 J.A. McDonald Inc. Deerfield Wind	N/A	N/A	N/A
		N/A	N/A	N/A

State VT Permit No. _____ Identify Hazards

Pre Shift Insp.Time (24hrs) : 12:00:00 AM icy sloped shot

Post Shift Insp.Time (24hrs): 12:00:00 AM

Blaster : Barnum;Cody P. Precautions Taken:

License #: 1951 pick your walking path

Signature:

Cody P. Barnum

Weather
Comments:

clear and chilly

No. of Crew Members 3

Crew Members Names :

Josh Yates	Jason Guilmette	Dean Butler	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Seismograph Monitoring Plan (Not to Scale):



Shot # 39 Shot Time (24hrs) 9:42 Shot VideoTaped: Y**Weather****Notes:**

N/A

Weather Conditions: ClearTemp (°F): 5-15Wind Direction: EastWind Spd: 5-10 **MPH****Preblast**Blast Direction: North-East Max Holes/Delay: 2 Predicted K Factor: 160Blast Location: road between tower #5 & #6 Scale Dist.: 218.22Location of Structure: tower #4 Max Weight/Delay: 84 Lbs Predicted PPV: 0.03Measurement Physical Measurement Dist. to Closest (Ft) Structure 2000 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 2700 Feet

N/A N/A N/A

N/A N/A N/A

9x10 pattern x 30 holes = 2700 sqft

Shot Info**Configuration****1 - Open**Total Drill Depth(Ft) 270.00 Total SqFt 2700.00 Powder 2.18 Lbs/Cyd Total Product Weight (Lbs) : 1963Total Tons N/A Total Yards 900.00 Factor 0.46 Cyd/Lbs Avg Weight / Hole (Lbs): 65.43**Cal Method**

Pattern

Holes30Cover Used/No N/A**AVG****Min****Max**Drill Depth 9 9 11 Stone Weight N/A /Cyd Top Stemming 4 Min 5 MaxBurden(Feet) 9 Feet 9 9 Type of Terrian Flat Charges/Hole 1 Min 1 MaxSpacing (Feet) 10 Feet 10 10 Type of Rock Mica/Schist Deck Stemming 0 Min 0 MaxHole Diameter 4 4 4 Stemming Type 3/8" Crushed Stone Charge Wgt/Deck 35 Min 84 MaxOverBurden (Ft) 2 0 3 Height of Face 9 Depth of Water 0 Min 6 Max

Control Row Taped

NAngled Holes
/Face BermedN/Y

Laser/BoreTracking

NTotal Pounds 1963.10 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	1940.00 Lbs
BA BULK Totals:		N/A	1940.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	30	23.10 Lbs
BOOSTERS Totals:		30	23.10 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	30	
DETS DHOLE Totals:		30	

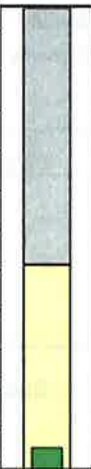
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	1000	
LINES Totals:		1000	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	5	
SURF DELAY Totals:		5	

Description: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2
Sub Drilling(ft)	3
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	5
1966 Emulsion Blend	4
TROJAN SPARTAN 350G 49/CS	0


Seismographs

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq.	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	tower #4	2288	Threshold Not Met	N/A	N/A	N/A	2000	N/A

Shot # 40 Shot Time (24hrs) 12:38 Shot VideoTaped: y**Weather**

Notes:

N/A

Weather Conditions: ClearTemp (°F): 5-15Wind Direction: North-EastWind Spd: 10-15 MPH**Preblast**Blast Direction: North-East Max Holes/Delay: 3 Predicted K Factor: 160Blast Location: road between tower #2 & #3 Scale Dist.: 229.17Location of Structure: substation Max Weight/Delay: 119 Lbs Predicted PPV: 0.03Measurement Physical Measurement Dist. to Closest (Ft) Structure 2500 Railroad/Highway N/A Overhead Util N/A Underground Util N/A**Pay Quantities**Fire Detail # of Hrs: N/A**Pay Calculations Notes**Pay Square Area 7470 FeetN/A N/A N/AN/A N/A N/A

9x10 altern x 83 holes = 7,470 SQFT

Shot Info**Configuration****1 - Open**

Total Drill Depth(Ft)	<u>747.00</u>	Total SqFt	<u>7470.00</u>	Powder	<u>0.94 Lbs/Cyd</u>	Total Product Weight (Lbs) :	<u>2334</u>
Total Tons	<u>N/A</u>	Total Yards	<u>2490.00</u>	Factor	<u>1.07 Cyd/Lbs</u>	Avg Weight / Hole (Lbs):	<u>28.12</u>

Cal Method

Pattern

Holes 83Cover Used/No N/A**AVG****Min****Max**Drill Depth 9 Feet8 12Stone Weight N/A /CydTop Stemming 4 Min 6 MaxBurden(Feet) 9 Feet9 9Type of Terrian FlatCharges/Hole 1 Min 1 MaxSpacing (Feet) 10 Feet10 10Type of Rock Mica/SchistDeck Stemming 0 Min 0 MaxHole Diameter 44 4Stemming Type 3/8" Crushed StoneCharge Wgt/Deck 91 Min 119 MaxOverBurden (Ft) 20 4Height of Face 9Depth of Water 0 Min 6 MaxControl Row Taped NAngled Holes /Face Bermed N/YLaser/BoreTracking NTotal Pounds 2333.91 LbsType Of Initiation: **Non-Electric**

Product #	Desc	Density	Wgt
1966	1966 Emulsion Blend	1.26	2270.00 Lbs
BA BULK Totals:		N/A	2270.00 Lbs

Product #	Desc	Qty	Wgt
SP0350	TROJAN SPARTAN 350G 49/CS	83	63.91 Lbs
BOOSTERS Totals:		83	63.91 Lbs

Product #	Desc	Qty	Length
DXABZ623	NONEL EZDET 25/350 24FT ZCOMP 60/CS	83	
DETS DHOLE Totals:		83	

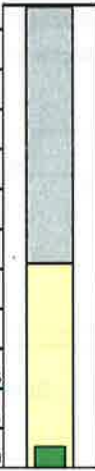
Product #	Desc	Qty	Length
DJ25025	NONEL LEADLINE 2500FT/762M 2/CS	2500	
LINES Totals:		2500	

Product #	Desc	Qty	Length
DY17Z820ME	NONEL EZTL CPZ 17 MS 20/FT 60/120/CS	5	
DY25Z820ME	NONEL EZTL CPZ 25MS 20/FT 60/120/CS	6	
SURF DELAY Totals:		11	

Descripton: Typical

Elevation	Feet
Brench (ft)	N/A
Floor (ft)	N/A
Overburden (ft)	2
Sub Drilling(ft)	3
Total Depth (ft)	9.00

N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
Stemming Stones	5
1966 Emulsion Blend	4
TROJAN SPARTAN 350G 49/CS	0

**Seismograhs**

Operator Name	Location of Seis	Seis #	Monitor Log Status	Actual PPV	Actual PPV Freq,	Actual db	Actual Dist. (ft)	Actual K Factor
Barnum;Cody P.	substation	2288	Threshold Not Met	N/A	N/A	N/A	2500	N/A