APPENDIX B

Geological and Geotechnical

Drill Logs 1-44 - Volume 3 of 3

Noranda Minerals Wisconsin Corp.

LYNNE PROJECT
18

(p. 71 – 140)

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
300'	183.5	-63.1
600'	186.4	-61.1
900'	195.3	-61.8
1200'	201.4	-60.0
1574'	207.8	-56.9

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-22-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-94 (WDNR #265)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 3-3-91

BEARING: S180E INCLINATION: -64 T.D: 1574'
COORDINATES: L9800 E, 12725 N
ELEV: 1553' SEC: 15 TWP: 37N RANGE: 4E

DATE: 5-10-91

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
685.0 1140.0		R	** 685.0 1140.0 RHYOLITE	
1140.0 1156.0		*R,SL	** 1140.0 1156.0 INTERBEDDED SPHERULITIC RHYOLITE AND SILTSTONE	
1156.0 1168.6		SLm	** 1156.0 1168.6 SILTSTONE, With Magnetite	
1168.6 1205.0		CS	** 1168.6 1205.0 CALCAREOUS SEDIMENT	
1205.0 1242.0		SS	** 1205.0 1242.0 RHYOLITE TUFF OR SANDSTONE	
1242.0 1290.0		SL	** 1242.0 1290.0 SILTSTONE	
1242.0 1257.3		SLs	^^ 1242.0 1257.3 Siltstone, With Sulfides	1242.0 1257.3 7% Sp, 5% Po, Py
1290.0 1514.0		R	** 1290.0 1514.0 RHYOLITE	
1514.0 1574.0		QD	** 1514.0 1574.0 QUARTZ DIORITE	
1514.0 1518.0		gQD	^^ 1514.0 1518.0 Granophyric	
			E.O.H. 1574' (total depth)	

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
0.0 28.0											** 0.0 28.0 OVERBURDEN								
										R	** 28.0 322.0 RHYOLITE								
										IR	^^ 28.0 83.0 Intrusive Rhyolite, greyish matrix with epidote-altered crystals and clasts								
											Note: @ 50.0-61.0 Salmon-colored bleaching of matrix								
											Note: @ 55.5 Brecciation in epidote-filled fracture								
										gR	^^ 83.0 110.0 Granophyric Rhyolite, lt. grey glassy matrix, with tiny plag crystals, and patchy epidote alteration								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)

% A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	TotalX	Sp	Cp	Ga	Py	Po	As	T
										Rt	^^ 110.0 128.0 Rhyolite Tuff or Sandstone								
									-40C	pMd	^^ 128.0 146.0 Mafic Dike, plag-phyric								
									-40C	Rt	^^ 146.0 154.0 Rhyolite Tuff or Sandstone								
									-60	pR	^^ 154.0 157.0 Rhyolite Porphyry with distinct plag crystals								
										IR	^^ 157.0 165.0 Intrusive Rhyolite								
										gR	^^ 165.0 245.0 Granophyric Rhyolite or Sandstone, medium grey, tiny plag crystals, no apparent lithics, patchy epidote alteration @ 203.0-245.0								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	TotalX	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 189.0-193.4 Rhyolite, @ 189.0-192.0 epidote alteration of sandy top, @ 192.0-193.4 plag-phyric , @ 192.0-245.0 sandstone							
									-30	FZ	^^ 245.0 253.0 Fracture Zone, oxidized, minor brecciation, pink carb and chlorite							
										gR	^^ 253.0 277.0 Granophyric Rhyolite,							

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											grey matrix, tiny plag crystals, patchy epidote alteration, and silicification along fractures								
										IR	^^ 277.0 289.0 Intrusive Rhyolite								
										Rt	^^ 289.0 304.5 Rhyolite Tuff								
										gR	^^ 304.5 322.0 Granophyric Rhyolite, patchy epidote alteration, tiny plag crystals								
									-30F	SS	xx 322.0 363.0 DACITIC SANDSTONE, faintly laminated, carb veinlets								
									-40F		Note: @ 324.0, 331.0 Fractures								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)
A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol -40F	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										pR	^^ 335.0 343.0 Rhyolite Porphyry								
											Note: @ 343.0-363.0 Dacitic Sandstone								
										R	** 363.0 465.0 RHYOLITE								
									-30F	ChT	^^ 363.0 367.0 Cherty Tuff								
										Rcl	^^ 367.0 412.5 Rhyolite Crystal Lapilli Tuff								

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Wfl	^^ 412.0 465.0 Feldspathic Lapilli Wacke, with occasional fine-grained, laminated intervals								
									-40B	SL	** 465.0 497.5 SILTSTONE, scattered epidote-altered beds and patches								
									-40B										

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)

% A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
									-40B										
										SS	^^ 497.0 523.0 Dacite, Sandstone, fine-grained, medium grey, patchy epidote alteration, possibly laminated Note: @ 497.5-499.5 Sandy, epidote-bleached								
										pR	** 523.0 536.0 RHYOLITE PORPHYRY, plag-phyric, dark matrix, blue quartz eyes								
									-75C	SL	** 536.0 563.0 SILTSTONE, fine-grained, almost cherty, predominantly laminated								
										R	** 563.0 593.0 RHYOLITE								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)

A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										WFl	^^ 563.0 564.7 Feldspathic Lapilli Wacke								
										SL	^^ 564.7 583.0 Siltstone, with wacke intervals								
										WI	^^ 583.0 593.0 Predominantly Lapilli Wacke								
										SL/SS	** 593.0 685.0 INTERBEDDED SILTSTONE, SANDSTONE, alternating 1-5' beds of laminated sediments and more massive quartz lithic sandstones. Clastic size increases with depth.								

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 645.0-655.0 Breccia-sized porphyric rhyolite clasts								
										R	×× 685.0 1140.0 RHYOLITE								
									-40F	pR	^^ 685.0 706.0 Rhyolite Porphyry, dark matrix, plag-phyric, blue quartz eyes								
									-40F	SL	^^ 706.0 709.0 Siltstone								
										Wl	^^ 709.0 720.0 Lapilli Wacke, rhyolite crystal lapilli clasts, up to fist size								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)

% A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Rcl	^^ 720.0 734.0 Rhyolite Crystal Lapilli Tuff								
										Rt	^^ 734.0 738.0 Rhyolite Tuff								
										Rcl	^^ 738.0 777.5 Rhyolite Crystal Lapilli Tuff								
									-30	pR	^^ 777.5 813.0 Rhyolite Porphyry, dark, plag-phyric, blue quartz eyes, hi-angle contacts, chilled margins								

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Rcl	^^ 813.0 892.5 Rhyolite Crystal Lapilli Tuff								

DRILL HOLE: LYN91-94

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

SULFIDES: % (T) A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Wqf	^^ 892.5 901.0 Quartz Feldspathic Wacke								
										Rcl	^^ 901.0 925.3 Rhyolite Crystal Lapilli Tuff								
										IR	^^ 925.3 937.0 Intrusive Rhyolite								
										Rf	^^ 937.0 951.0 Rhyolite Flow								
										gR	^^ 951.0 976.0 Granophyric Rhyolite,								

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											plag-phyric, grey glassy matix								
										ChT	^^ 976.0 1010.5 Cherty Tuff								
										R1	^^ 1010.5 1016.5 Lapilli Tuff (?), grey porphyritic to aphanitic matrix								
											Note: @ 1016.5 Clay fault gouge								
									-50F	W1	^^ 1016.5 1021.0 Lapilli Wacke (?), sandy matrix with minor rhyolitic clasts								
										SS	^^ 1021.0 1060.0 Rhyolite Tuff or Sandstone, dark green to black, fine-grained, massive								

DRILL HOLE: LYN91-94

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	TotalX	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 1032.5-1045.0 Shear zone, rock very broken, numerous carbonate filled fractures, clay fault gouge @ 1037.0, and abundant calcite								
										gR	^^ 1060.0 1097.0 Cherty Tuff or Granophyric Rhyolite, tan to dark grey, aphanitic to weakly plag-phyric								
										IR	^^ 1097.0 1115.5 Intrusive Rhyolite, orange to beige								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-93

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				c															
1035.00										SS	** 1036.0 1057.0 SANDSTONE								
	100	95	R2	b	10	2													
1038.00				c	30														
	100	100	R2	b	10	2													
				b	50														
				c															
				c															
1048.00				c															
	100	100	R2	c	10	2													
				b	50														
				c															
				c								b	1	1	1	5		8
1058.00				c						Chp	** 1057.0 1067.3 CHERT, with pyrrhotite	b	1	1	1	5		8
	100	100	R3	c	10	2						b	1	1	1	5		8
				b	30							b	1	1	1	5		8
				c								b	1	1	1	5		8
				c						QD	** 1067.3 1240.0 QUARTZ DIORITE, minor	b	1	1	1	5		8
1068.00				b							rhyolite tuff xenoliths, sheared								
	100	100	R3	b	5	2													
				a	20					gQD	^^ 1067.3 1085.0 Granophyric Quartz Diorit								
				a															
				a															
1078.00				a															
	99	90	R2	a	10	2													
				a	30														
1083.00				a															
	99	90	R2	b	10	2				Rt	^^ 1085.0 1097.5 Rhyolite Tuff (?),								
				a	30						hornfelsed, black, fine-grained, minor								
				b							pyrite (possible andesite dike?)				1				1
				b															
1093.00				b															
	100	100	R2	b	10	2									1				1
				b	30					gQD	^^ 1097.5 1100.0 Granophyric Quartz								
				b							Diorite Dike (?)								
				b															
1101.00										Rt	^^ 1100.5 1108.7 Rhyolite Tuff,								
	100	100	R3	b	30	2					hornfelsed, black, fine-grained,								
				b	50						(possible andesite dike?)								
				b															

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-93

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				b															
1110.00				b															
									-20C -40C	SZ	^^ 1161.0 1164.0 Shear Zone or Fault (?), texture similar to quartz diorite								
									-30C	SZ	^^ 1170.0 1188.0 Same as above								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-93

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol -40C	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											E.O.H. 1240.0' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
300'	183.5	-63.1
600'	186.4	-61.1
900'	195.3	-61.8
1200'	201.4	-60.0
1574'	207.8	-56.9

PROJECT: LYNNE P.O. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-22-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-94 (WDNR #265)

DATE: 5-10-91
PAGE 1 OF 23

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 3-3-91

BEARING: S180E INCLINATION: -64 T.D: 1574'
COORDINATES: L9800 E, 12725 N
ELEV: 1553' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 28.0			** 0.0 28.0 OVERBURDEN	
28.0 322.0		R	** 28.0 322.0 RHYOLITE	
322.0 363.0		SS	** 322.0 363.0 SANDSTONE	
363.0 465.0		R	** 363.0 465.0 RHYOLITE	
465.0 497.5		SL	** 465.0 497.5 SILTSTONE	
497.5 523.0		SS	** 497.5 523.0 SANDSTONE	
523.0 536.0		pR	** 523.0 536.0 RHYOLITE PORPHYRY	
536.0 563.0		SL	** 536.0 563.0 SILTSTONE	
563.0 593.0		R	** 563.0 593.0 RHYOLITE	
593.0 685.0		SL,SS	** 593.0 685.0 INTERBEDDED SILTSTONE, SANDSTONE	

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)

% A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	TotalX	Sp	Cp	Ga	Py	Po	As	T	T> ...
											Rc	^^ 1115.5 1140.0 Rhyolite Crystal Tuff, minor blue quartz eyes, crude grading									
											*R,SL	** 1140.0 1156.0 INTERBEDDED SPHERULITIC RHYOLITE AND SILTSTONE									
1155.00											SL	** 1156.0 1168.6 SILTSTONE, well laminated, minor magnetite									
	100	95	R2	a	10	3				-51B											
				a	30																
				a	60																
				a																	
1165.00				b																	
	100	100	R3	b	15	3					CS,b	** 1168.6 1205.0 CALCAREOUS SEDIMENT, well bedded, bedded sulfides (Py & Po)	a	1		2	2		5
				b	30					-57B			a	1		2	2		5
				c	60								a	1		2	2		5
				c									a	1		2	2		5
1175.00				c							CS,c	^^ 1175.0 1205.0 Calcareous Sediment, contorted bedding, minor diopside alteration, trace galena	a	1		2	2		5
	100	100	R3	c	15	3							a	1			1		2
				b	30								a	1			1		2
				c	60								a	1			1		2
				b									a	1			1		2
1185.00				b									a	1			1		2
	100	100	R3	c	15	3							a	1			1		2

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T)

A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	RF	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				c	35								a	1				1		2
				c	50								a	1				1		2
				c									a	1				1		2
1195.00				c									a	1				1		2
	100	100	R3	c	10	3							a	1				1		2
				c	30								a	1				1		2
				c	60								a	1				1		2
				c									a	1				1		2
1205.00				c							SS	** 1205.0 1242.0 RHYOLITE TUFF OR SANDSTONE, black, very fine-grained, massive	a	1				1		2
	100	95	R3	b	10	3														
				b	30															
				a	60															
				b																
1215.00				b																
	100	100	R3	b	10	3														
				a	30															
				b	60															
				b																
1225.00				b																
	100	100	R2	b	10	3														
				b	30															
				b	60															
				b																
1235.00				b																
	100	95	R3	b	10	3														
				b	30															
				b	60						SL	** 1242.0 1290.0 SILTSTONE	c	7			4	1		12
				b									c	7			4	1		12
				b							SLs	^^ 1242.0 1257.3 Siltstone, with pyrite and sulfides, laminated, with cherty interbeds	c	7			4	1		12
										-71B			c	7			4	1		12
1245.00													c	7			4	1		12
	100	100	R2	b	10	3							c	7			4	1		12
				b	30								c	7			4	1		12
				c	60								c	7			4	1		12
				c									c	7			4	1		12
1255.00				c									c	7			4	1		12
	100	90	R2	b	5	3					SL	^^ 1257.3 1290.0 Siltstone, scattered pyrite, pyrrhotite, with cherty interbeds	c	7			4	1		12
				b	30					-37F			a				2	1		3
				b	60								a				2	1		3
				b									a				2	1		3

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
1265.00				a																
	100	95	R2	a	10	3							a				2	1		3
				a	30								a				2	1		3
				b	60								a				2	1		3
				b									a				2	1		3
1275.00				b									a				2	1		3
	100	85	R2	b	10	3							a				2	1		3
				b	30								a				2	1		3
				c	60								a				2	1		3
				c																
1285.00				c																
											R	** 1290.0 1514.0 RHYOLITE								
											Rc	^^ 1290.0 1304.0 Intrusive Rhyolite, or Rhyolite Crystal Tuff, bleached								
											SS	^^ 1304.0 1336.0 Sandstone, black, massive, subtle feldspar, many fractures, silicifaction along fractures, in places almost cherty								
											Rc	^^ 1336.0 1353.0 Intrusive Rhyolite or Rhyolite Crystal Tuff, bleached. Blue quartz eyes, flow banded, sericite ?								

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										SS	^^ 1353.0 1398.0 Sandstone or Dark Crystal Tuff, feldspars, massive ground mass, but could be phaneritic variety of plag-phyric dark rhyolite porphyry								
										Rt	^^ 1398.0 1514.0 Rhyolite Tuff, bleached or ashy, gradational upper contact, quartzy or cherty, blueish grey fragments (1-2") with possible pumice clasts and crude banding								

DRILL HOLE: LYN91-94

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

SULFIDES: (T)

% A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 1488.0-1514.0 Hornfelsed								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-94

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
									-30		Note: @ 1504.0-1507.5 Quartz Diorite Dike								
									-30										
										OO	** 1514.0 1574.0 QUARTZ DIORITE								
										gOO	^^ 1514.0 1518.0 Granophyric								
											E.O.H. 1574' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
200'	180.5	-61.0
400'	182.9	-61.4
600'	184.4	-61.5
800'	186.5	-61.2
917'	186.0	-59.8

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: J. Schaff/T. Harding
DATE COLLARED: 2-23-91
REMARKS: Log checked against assays
CORE SIZE: NQ

HOLE NO: LYN91-95 (WDNR #224)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-27-91

BEARING: S180E INCLINATION: -61.9 T.D: 917'
COORDINATES: L9800 E 11615 N
ELEV: 1560.5' SEC: 15 TWP: 37N RANGE: 4E

DATE: 11-5-91
PAGE 1 OF 14

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 66.0			** 0.0 66.0 OVERBURDEN	
66.0 69.0	(not recovered)			
66.0 239.0		Rt	** 66.0 239.0 RHYOLITE TUFF	
239.0 331.0		SS/SL	** 239.0 331.0 INTERBEDDED SANDSTONE AND SILTSTONE	
331.0 546.3		R	** 331.0 546.3 RHYOLITE	
546.3 552.7		Ch	** 546.3 552.7 CHERT	
552.7 560.0		Rc	** 552.7 560.0 RHYOLITE CRYSTAL TUFF	
560.0 573.4		SLch	** 560.0 573.4 SILTSTONE, Cherty	
573.4 588.0		gR	** 573.4 588.0 GRANOPHYRIC RHYOLITE	
588.0 596.0		sR	** 588.0 596.0 SPHERULITIC RHYOLITE	
596.0 614.5		SS	** 596.0 614.5 SANDSTONE	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
200'	180.5	-61.0
400'	182.9	-61.4
600'	184.4	-61.5
800'	186.5	-61.2
917'	186.0	-59.8

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: J. Schaff/T. Harding
DATE COLLARED: 2-23-91
REMARKS: Log checked against assays
CORE SIZE: NQ

HOLE NO: LYN91-95 (WDNR #224)

DATE: 11-5-91
PAGE 1 OF 14

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-27-91

BEARING: S180E INCLINATION: -61.9 T.D: 917'
COORDINATES: L9800 E 11615 N
ELEV: 1560.5' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
614.5 626.0		Rc	** 614.5 626.0 RHYOLITE CRYSTAL TUFF	
626.0 631.0		TS	** 626.0 631.0 TALC SEDIMENT	
631.0 649.5		CS,t	** 631.0 649.5 CALCAREOUS SEDIMENT, Talcose	
649.5 671.0		Rc	** 649.5 671.0 RHYOLITE CRYSTAL TUFF	
671.0 676.5		Ch	** 671.0 676.5 CHERT	
676.5 759.3		CS	** 676.5 759.3 CALCAREOUS SEDIMENT	
759.3 769.8		D	** 759.3 769.8 DACITE SILL	
		QD	** 769.8 917.0 QUARTZ DIORITE	
			E.O.H. 917' (total depth)	

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: (T)

A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
0.0 66.0											** 0.0 66.0 OVERBURDEN								
										Rt	** 66.0 239.0 RHYOLITE TUFF OR SANDSTONE, black, fine-grained, weakly cherty or silicic								
										Rb	^^ 78.0 127.5 Rhyolite Breccia Or Agglomerate, grey, fine-grained to porphyritic matrix, clasts similar composition to matrix								
											Note: @ 94.0-96.0 Strong epidote (?) alteration								
										Rt	^^ 127.5 154.0 Rhyolite Tuff Or Sandstone, black, fine-grained, massive, minor calcite filled fractures, subtle feldspars								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: (T)
A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	TotalX	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 154.0 Gradational contact								
										Rt	^^ 154.0 205.5 Rhyolite Tuff, siliceous, black to orangish-tan, fine-grained, numerous fractures with epidote, minor plag-phyric zones								
											Note: @ 201.0-205.5 Feldspathic wacke base to the rhyolite tuff								
										Rb	^^ 205.5 239.0 Rhyolite Breccia (?), minor agglomerate sized clasts of rhyolitic composition (clasts=matrix), grey-black, weakly porphyritic matrix								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										SS/SL,l	** 239.0 331.0 INTERBEDDED SANDSTONE AND LAMINATED SILTSTONE, massive								
										SS	^^ 239.0 247.0 Sandstone								
										SL	^^ 247.0 253.0 Siltstone								
										SS	^^ 253.0 258.5 Sandstone								
										SL	^^ 258.5 263.0 Siltstone								
										SS	^^ 263.0 285.0 Sandstone, crudely bedded to laminated siltstone or sandstone, (weakly contorted)								
										SL	^^ 285.0 309.0 Siltstone								

DRILL HOLE: LYN91-95

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										SS	^^ 309.0 331.0 Sandstone								
										R	** 331.0 546.3 RHYOLITE								
										W1	^^ 331.0 336.5 Lapilli Wacke, black, fine-grained matrix, large rounded chert clasts, (almost an agglomerate)								
									-50C	pR	^^ 336.5 364.0 Porphyritic Rhyolite, orangish-tan, porphyritic to plag-phyric								
											Note: @ 351.0-354.0 Rock very broken and fractured (shear zone ?)								
										R1	^^ 364.0 392.5 Lapilli Tuff or Rhyolite Flow, green to black, minor flow banding, cherty or more silicic zones								

DRILL HOLE: LYN91-95

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
									-55C	Dd	^^ 392.5 403.0 Dacite Dike, black, plag-phyric								
										Wl	^^ 403.0 405.4 Lapilli Wacke, green to black, cherty clasts, moderate ash or pumice in matrix								
										SS	^^ 405.4 446.0 Sandstone or Rhyolite Tuff, black to green, very fine-grained, minor patchy light green zones of epidote alteration								
											Note: @ 426.0-446.0 Minor to moderate plag-phyric zones (dacite ?)								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Rtch	^^ 446.0 475.0 Rhyolite Tuff, cherty or siliceous, grey-black, very fine-grained Note: @ 454.0-465.0 Rock very broken and fractured								
					TAH started logging @ 506.0					Rt	^^ 475.0 508.6 Rhyolite Tuff, grey black, very fine-grained, trace of crude bedding plag rich crystal tuff interbedded with granophyric rhyolite								
									-60B	Rc	^^ 508.6 535.7 Rhyolite Crystal Tuff, green to grey, crudely graded, minor cherty clasts and blocks, plag-rich with blue quartz eyes and brownish matrix								

ORIGINAL

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
									-40C	Ch	^^ 535.7 539.0 Chert, pinkish grey, highly fractured								
										Rc	^^ 539.0 546.3 Rhyolite Crystal Tuff								
									-30C	Ch	** 546.3 552.7 CHERT								
										Rc	** 552.7 560.0 RHYOLITE CRYSTAL TUFF								
									-70B -65B	SLch	** 560.0 573.4 SILTSTONE, Cherty								
									-90C	gR	** 573.4 588.0 GRANOPHYRIC RHYOLITE (?), plag-phyric, lt. grey								
											Note: @ 588.0 Sharp gradational contact								
									-70B	xR	** 588.0 596.0 SPHERULITIC RHYOLITE, bedded to laminated								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										SS	** 596.0 614.5 SANDSTONE, black, very fine-grained, no visible feldspar								
										Rc	** 614.5 626.0 RHYOLITE CRYSTAL TUFF, blue quartz eyes, brownish matrix								
625.0										TS	** 626.0 631.0 TALC SEDIMENT	a	1						1
	100	95	R2	b 5	3							a	1						1
				b 20								a	1						1
				b 60						CS	** 631.0 649.5 CALCAREOUS SEDIMENT, light to medium green, strong epidote alteration, talcose, lt. green round clasts or ooids	a	1						1
				b								a	1						1
635.0				b								a	1						1
	100	100	R2	c 5	3							a	1						1
				c 20					-60B			a	1						1
				b 40								a	1						1
				b								a	1						1
645.0				a					-60B										
	100	100	R2	a 5	3														
				a 20						Rc	** 649.5 671.0 RHYOLITE CRYSTAL TUFF, blue quartz eyes, brownish matrix								
				c 40															
				c															
655.0				c															
	100	100	R3	c 5	3														
				b 20															
				c 40															
				b															
664.5				b															
	100	90	R2	b 5	3														
				b 20					-85B										
				c 40						Ch	** 671.0 676.5 CHERT, laminated								
				b															

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				b									a	1				2		3
674.6													a	1				2		3
	100	100	R3	b	10	3							a	1				2		3
				b	30						CSc	** 676.5 759.3 CALCAREOUS SEDIMENT, con-	a	1				2		3
				c	60							torted to weakly bedded, stringery	a	1				2		3
				c								sulfides carbonate replacement of VCS.	a	1				1		2
				c								Talcose intervals, amber sphalerite.	a	1				1		2
685.0													a	1				1		2
	100	100	R2	c	10	3					CSs	^^ 687.0 697.0 Calcareous Sediment, with	a	1				1		2
				c	30							sulfides	a	2				2		4
				b	60								a	2				2		4
				b									a	2				2		4
695.0				b									a	2				2		4
	100	95	R2	b	10	3							a	2				2		4
				b	30								a	1				1		2
				b	60					-85B			a	1				1		2
				b									a	1				1		2
705.0				b									a	1				1		2
	100	100	R2	b	10	3					CSs	^^ 707.0 712.0 Calcareous Sediment, with	a	1				1		2
				a	30							sulfides	b	3				2		5
				b	60								b	3				2		5
				c							Xzca	^^ 712.0 717.0 Tuffite, calcareous,	b	3				2		5
715.0				c								stringery	b	3		6		1		10
	100	100	R2	b	10	3							b	3		6		1		10
				c	30								b	3		6		1		10
				c	60								b	3		6		1		10
				c									a	1				1		2
725.0				c						-75B			a	1				1		2
	100	95	R2	c	10	3							a	1				1		2
				b	30								a	1				1		2
				b	60								a	1				1		2
				b									a	1				1		2
735.0				c							Xzca	^^ 732.0 747.0 Tuffite, calcareous,	b	5		1		2		8
	100	100	R3	b	5	3						stringery	b	5		1		2		8
				b	30								b	5		1		2		8
				b	60								b	5		1		2		8
				b									b	5		1		2		8
745.0				b									b	5		1		2		8
	100	100	R2	b	5	3							b	5		1		2		8
													b	5		1		2		8

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				b	30						CSs	^^ 747.0 759.3 Calcareous Sediment, talcose, with sulfides	b	5		1		2		8
				b	60								b	3		2		3		8
				c						-50B			b	3		2		3		8
755.0				b									b	3		2		3		8
	100	100	R2	c	5	3							b	3		2		3		8
				c	30								b	3		2		3		8
				a	60								b	3		2		3		8
				a							D	>>< 759.3 769.8 DACITE SILL, (?) black, plag-phyric, note chalcopyrite at lower contact							
				a																
765.0																				
	100	95	R3	b	10	3														
				b							QD	>>< 769.8 917.0 QUARTZ DIORITE	b	1	1		1	5		8
				b									b	1	1		1	5		8
											gQD	^^ 769.8 774.0 Quartz Diorite, Granophyric								
775.0																				
										-35F	FZ	^^ 794.0 794.5 Fault Zone, strongly sheared and bleached, minor breccia, and clay gouge								
											SZ	^^ 802.0 817.5 Shear Zone, Quartz Diorite (?), strongly sheared, black matrix, possibly a granophyric rhyolite dike (?)								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-95

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											E.O.H. 917' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	181.3	-60.9
200'	181.9	-61.0
300'	183.5	-61.0
400'	183.8	-61.2
490'	183.4	-61.1

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-23-91
REMARKS: Relogged 4-26-91, log checked against assays.
CORE SIZE: NQ

HOLE NO: LYN91-96 (WDNR #256)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-27-91

BEARING: S180.6E INCLINATION: -60.5 T.D: 490'
COORDINATES: L10700 E, 10625 N
ELEV: 1560.2' SEC: 15 TWP: 37N RANGE: 4E

DATE: 11-12-91
PAGE 1 OF 7

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 51.5			** 0.0 51.5 OVERBURDEN	
51.5 54.5	(not recovered)			
51.5 87.0		R	** 51.5 87.0 RHYOLITE	
87.0 111.0		SL	** 87.0 111.0 SILTSTONE	
87.0 93.0		SLm	^^ 87.0 93.0 Siltstone, With Magnetite	
93.0 111.0		SLch	^^ 93.0 111.0 Siltstone, With Chert	
111.0 209.0		R	** 111.0 209.0 RHYOLITE	
132.0 152.3		Rc*	^^ 132.0 152.3 Rhyolite Crystal Tuff, Altered	
152.3 162.8		FZ/Md	^^ 152.3 162.8 Fracture Zone/Mafic Dike	
162.8 168.5		Rc*	^^ 162.8 168.5 Rhyolite Crystal Tuff, Altered	
209.0 303.0		SL	** 209.0 303.0 SILTSTONE	
220.0 238.2		SLm	^^ 220.0 238.2 Siltstone, With Magnetite	
238.2 254.0		SLp	^^ 238.2 254.0 Siltstone, With Pyrrhotite	
281.5 295.0		pMd	^^ 281.5 295.0 Plag-phyric Mafic Dike	
303.0 330.0		pR	** 303.0 330.0 RHYOLITE PORPHYRY	
330.0 340.0		TSp,l	** 330.0 340.0 TALC SEDIMENT, Laminated With Pyrrhotite	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	181.3	-60.9
200'	181.9	-61.0
300'	183.5	-61.0
400'	183.8	-61.2
490'	183.4	-61.1

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-23-91
REMARKS: Relogged 4-26-91, log checked against assays.
CORE SIZE: NQ

HOLE NO: LYN91-96 (WDNR #256)

DATE: 11-12-91
PAGE 1 OF 7

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-27-91

BEARING: S180.6E INCLINATION: -60.5 T.D: 490'
COORDINATES: L10700 E, 10625 N
ELEV: 1560.2' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
340.0 342.7		xR	** 340.0 342.7 SPHERULITIC RHYOLITE	
342.7 345.3		Wqf	** 342.7 345.3 QUARTZ FELDSPAR WACKE	
345.3 361.0		Chp	** 345.3 361.0 CHERT, With Pyrrhotite	
361.0 369.2		SL	** 361.0 369.2 SILTSTONE	
369.2 384.0		D	** 369.2 384.0 DACITE	
384.0 397.0		SS	** 384.0 397.0 SANDSTONE	
397.0 401.0		SL	** 397.0 401.0 SILTSTONE	
401.0 416.2		TS	** 401.0 416.2 TALC SEDIMENTS	
416.2 458.7		SS	** 416.2 458.7 SANDSTONE (OR RHYOLITE TUFF), Hornfelsed	
458.7 490.0		gQD	** 458.7 490.0 QUARTZ DIORITE, Granophyric	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	181.3	-60.9
200'	181.9	-61.0
300'	183.5	-61.0
400'	183.8	-61.2
490'	183.4	-61.1

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-23-91
REMARKS: Relogged 4-26-91, log checked against assays.
CORE SIZE: NQ

HOLE NO: LYN91-96 (WDNR #256)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-27-91

BEARING: S180.6E INCLINATION: -60.5 T.D: 490'
COORDINATES: L10700 E, 10625 N
ELEV: 1560.2' SEC: 15 TWP: 37N RANGE: 4E

DATE: 11-12-91
PAGE 1 OF 7

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
489.6 490.0		Md	^^ 489.6 490.0 Mafic Dike	
			E.O.H. 490' (total depth)	

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-96

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
0.0 51.5											** 0.0 51.5 OVERBURDEN								
											^^ 0.0 3.0 Muskeg								
											^^ 3.0 30.0 Sand								
											^^ 30.0 35.0 Silty sand								
											^^ 35.0 51.5 Sand, gravel, and cobbles								
										R	** 51.5 87.0 RHYOLITE								
										Rcl	^^ 51.5 78.7 Rhyolite Crystal Lapilli Tuff								
									-50B	Rf	^^ 78.7 87.0 Rhyolite Flow, lt. grey matix, with elongate dark clasts. Number of clasts increasing toward base.								
85.00	100	95	R3	c a a	5 60	2				SL	** 87.0 111.0 SILTSTONE								
									-85B	SLm	^^ 87.0 93.0 Siltstone, with magnetite, possible chert clasts (1-3") and epidote-								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-96

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
												altered interbeds								
92.00										-60B										
	98	80	R3	a	15	2					SLch	^^ 93.0 111.0 Siltstone, with cherty-ashy interbeds, increase in number of chert clasts, and rhyolite ash interbeds towards base							
				a	40															
												Note: @ 94.7 (0.5") quartz-calcite vein								
95.00																				
	99	90	R3	a	5	3				-28F										
				a	20					-50B										
				a	55					-50B		Note: @ 101.0-103.0 Talcose Zone, similar to 132 with bedded (?) ovoid clasts (0.25")								
				b																
105.00				b																
										-40B										
											R	** 111.0 209.0 RHYOLITE								
											Rc	^^ 111.0 132.0 Rhyolite Crystal Ash Tuff, well-bedded, blue quartz eyes, scattered lapilli-size fragments, brownish (sericitic) matrix, crenulated bedding								
										-50B										
										-50B										
125.00										-50B										
	100	100	R3	b	20	2														
				c	45															
				c							Rc*	^^ 132.0 152.3 Rhyolite Crystal Tuff, altered, yellow-green bleaching, bedding still apparent, scattered magnetite, scattered yellow mineral-jarosite ?								
				b																
135.00				b																
	100	100	R2	b	15	2				-50B										
				b	45								a				1			1
				b									a				1			1
				b									a				1			1
				b									a				1			1
145.00				b									a				1			1
	99	95	R3	b	5	3														
				b	35					-45B										
				c	50					-25C	FZ/Md	^^ 152.3 162.8 Fracture Zone, Mafic Dike,								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-96

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				c								@ 152.3-162.8, with reddish (iron)								
				a								alteration @ 156.0-162.8. Some								
155.00										-22F		brecciation in hanging wall.								
										-25C	Rc*	^^ 162.8 168.5 Rhyolite Crystal Tuff, altered epidote bleaching, possible diopside								
											Rc	^^ 168.5 175.2 Rhyolite Crystal Tuff								
										-60C	IR	^^ 175.2 181.0 Intrusive Rhyolite, pinkish-grey, undulating upper contact								
											Rc	^^ 181.0 209.0 Rhyolite Crystal Tuff								
185.00																				
	99	95	R3	c	35	3														
				b	60															
				a	75							Note: @ 191.0-209.0 Rhyolite crystal tuff with clast-rich interbeds, rounded cherty (?) clasts (0.5-3"), with reddish (jaspar) coloring. Blue quartz eyes. Sericitic alteration of matrix.								
				a																
195.00				b																
	99	90	R2	b	20	3														
				a	35															
				b	70															
				a																
204.00				a																
	100	100	R3	a	20	3														
				a	40															
				b	70						SL	** 209.0 303.0 SILTSTONE								
				a						-70B										
214.00				a																
	99	85	R3	a	10	3														
				a	30															
				b	60					-45B	SLm	^^ 220.0 238.2 Siltstone, alternating dark grey (magnetite) layers with greenish (epidote) ashy layers								
				a						-30B										
224.50				a																
	99	90	R2	a	10	2														

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-96

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				b	60															
				c						-30B										
				c																
				c																
235.00				c																
	98	80	R2	b	10	3				-25B	SLp	^^ 238.2 254.0 Siltstone, with	a			1	4			5
				b	30							pyrrhotite, grey brown, laminated,	a			1	4			5
				a	70							disseminated pyrrhotite, could be welded	a			1	4			5
244.00				a								spherulitic tuff	a			1	4			5
	99	95	R3	a	10	3							a			1	4			5
				b	30								a			1	4			5
				b	60					-50B			a			1	4			5
				c						-50B			a			1	4			5
254.00				b							SL	^^ 254.0 272.5.0 Siltstone, altered	a			1	4			5
	100	100	R2	b	10	3						siltstone, with fine-grained, almost								
				b	30					-40B		granophyric rhyolite-looking intervals.								
				b	50							Laminations visible, as well as quartz								
				b								eyes.								
264.00				b																
	100	100	R3	b	10	3				-30B		Note: @ 266.0-272.5 Bedding contorted,								
				b	30							diopside alteration								
				b	60															
				b							SL	^^ 272.5 281.0 Siltstone, disseminated	a				1	1		2
274.00				b						-45B		pyrrhotite and pyrite, ashy interbeds	a				1	1		2
	99	60	R2	b	10	3							a				1	1		2
275.00					30								a				1	1		2
					60								a				1	1		2
	100	90	R3	b	5	3							a				1	1		2
				b	20					-30C			a				1	1		2
				b	40						pMd	^^ 281.0 295.0 Plag-phyric Mafic Dike,	a				1	1		2
				b								medium grey, quartz eyes, subtle plag								
285.00				b								crystals								
	100	100	R3	b	10	3														
290.00				b	20															
					40															
	100	100	R3	b	10	3														
				b	30					-30C										
295.00				b	60						SL	^^ 295.0 303.0 Siltstone, greenish ashy	a					5		5
	100	100	R3	b	10	3						beds alternating with grey magnetite-	a					5		5
				c	30					-30B		rich beds, possible garnet-rich intervals	a					5		5

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-96

ROCK QUALITY:

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				b	60							as in LYN90-30 or LYN90-27 ?	a					5		5
				c									a					5		5
										-70C	pR	** 303.0 330.0 RHYOLITE PORPHYRY SILL,	a					5		5
305.00				b								lt. grey, granophyric to plag-phyric, no								
	100	95	R3	b	10	3						blue quartz eyes. Lower contact ground,								
				b	30							breccia in footwall.								
				b	60															
				a																
315.00				b																
	100	100	R4	b	10	3														
				b	30															
				b	60															
				b																
325.00				b																
	98	70	R4	b	5	3				-90C										
329.00				b	30						TSp,l	** 330.0 340.0 TALC SEDIMENT, with	c				3	12		15
					60					-87B		pyrrhotite, laminated	c				3	12		15
	100	85	R2	b	5	3							c				3	12		15
332.00				b	30					-65B			c				3	12		15
					50								c				3	12		15
	100	90	R2	b	5	3							c				3	12		15
335.00				b	30								c				3	12		15
					50								c				3	12		15
	100	90	R2	b	5	3				-65B	*R	** 340.0 342.7 SPHERULITIC RHYOLITE								
				b	30															
				b	60					-65B	Wqf	** 342.7 345.3 QUARTZ FELDSPAR WACKE								
				c																
345.00				c							Chp	** 345.3 361.0 CHERT, with pyrrhotite,	c				3	20		23
	100	95	R1	b	10	3						and chert interbeds. Bedding is wavy,	c				3	20		23
				c	30							@ 75-90 degrees to axis.	c				3	20		23
				b	60								c				3	20		23
				b									c				3	20		23
355.00				c									c				3	20		23
	100	95	R2	c	10	3							c				3	20		23
				b	30					-80B			c				3	20		23
				b	60					-75B	SL	** 361.0 369.2 SILTSTONE	c				3	20		23
				c																
365.00				b																
	100	100	R3	b	10	3														
				c	30					-50C	D	** 369.2 384.0 DACITE, dark, massive,								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-96

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
				c	60							minor phenocrysts, has patchy epidote								
				c								and calcite veinlets.								
375.00				b																
	99	90	R3	b	10	3														
				b	30															
				b	60															
384.00				b							SS	** 384.0 397.0 SANDSTONE, medium grey,								
	100	100	R3	b	10	3						subtley bedded, contains scattered quartz								
				b	30															
				c	60															
				b							Rc	^^ 391.0 394.0 Rhyolite Crystal Tuff ?								
393.60				b																
	100	100	R3	b	5	3														
395.00					30															
					60															
	100	100	R3	b	10	3					SL	** 397.0 401.0 SILTSTONE								
				b	30					-70B										
				b	60						TS	** 401.0 416.2 TALCOSE SEDIMENTS	a				2	2		4
				b									a				2	2		4
405.00				b									a				2	2		4
	100	100	R2	c	5	3							a				2	2		4
				c	30								a				2	2		4
				c	60								a				2	2		4
				b									a				2	2		4
415.00				c							Rt/SS	** 416.2 458.7 RHYOLITE TUFF, OR SANDSTONE,	a				2	2		4
	100	100	R2	c	10	3						hornfelsed from 430.0-458.7, very silicic,								
				b	30							medium grey, glassy matrix, many epidote								
				b	60							and calcite fractures								
				b																
425.00				b																

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-96

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	I
									-20C	QD	** 458.7 490.0 QUARTZ DIORITE, granophyric, massive to foliated, high angle contact with hornfels.								
									-25										
									-30F		Note: @ 481.0-483.0 Fracture zone @ 30 degrees to core axis								
									-22										
									-25C	Md	^^ 489.6 490.0 Mafic Dike @ 25 degrees to axis								
											E.O.H. 490' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	180.3	-58.4
200'	182.0	-58.4
300'	185.0	-57.9
445'	185.6	-57.7

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-25-91
REMARKS: Log checked against assays
CORE SIZE: NQ

HOLE NO: LYN91-97 (WDNR #257)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-28-91

BEARING: S180.6E INCLINATION: -58.2 T.D: 445'
COORDINATES: L10600 E, 10520 N
ELEV: 1560.2' SEC: 15 TWP: 37N RANGE: 4E

DATE: 10-10-
PAGE 1 OF 7

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 60.0			** 0.0 60.0 OVERBURDEN	
60.0 63.5	(not recovered)			
60.0 81.7		R	** 60.0 81.7 RHYOLITE	
81.7 100.7		D	** 81.7 100.7 DACITE	
100.7 138.3		R	** 100.7 138.3 RHYOLITE	
138.3 143.0		Ch	** 138.3 143.0 CHERT	
143.0 166.0		SL	** 143.0 166.0 SILTSTONE	
166.0 232.7		R	** 166.0 232.7 RHYOLITE	
232.7 283.5		Chp	** 232.7 283.5 CHERT, With Pyrite	232.7 283.5 5% Po, Py
283.5 296.0		D	** 283.5 296.0 DACITE	
296.0 319.5		Chp	** 296.0 319.5 CHERT, With Pyrrhotite	296.0 319.5 10% Po, Py

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	180.3	-58.4
200'	182.0	-58.4
300'	185.0	-57.9
445'	185.6	-57.7

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-25-91
REMARKS: Log checked against assays
CORE SIZE: NQ

HOLE NO: LYN91-97 (WDNR #257)

DATE: 10-10-91
PAGE 1 OF 7

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 2-28-91

BEARING: S180.6E INCLINATION: -58.2 T.D: 445'
COORDINATES: L10600 E, 10520 N
ELEV: 1560.2' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
319.5 377.8		SS,XR	** 319.5 377.8 SANDSTONE, SPHERULITIC RHYOLITE	
368.0 373.0		BP	^^ 368.0 373.0 Bedded Pyrrhotite And Pyrite	
377.8 445.0		gQD	** 377.8 445.0 QUARTZ DIORITE, Granophyric	
			E.O.H. 445' (total depth)	

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

LYN91-97

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
0.0 60.0											><< 0.0 60.0 OVERBURDEN								
											~~ 0.0 3.0 Muskeg								
											~~ 3.0 40.0 Sand								
											~~ 40.0 44.0 Silty sand								
											~~ 44.0 60.0 Sand, gravel, and boulders								
										pR	><< 60.0 81.7 PORPHYRIC RHYOLITE, dark matrix, plag-phyric, blue quartz eyes, Fe-staining, could be dike-high angle (20 degrees) features @ 73.0								
									-20F	FZ	~~ 73.0 81.7 Fault Zone, high-angle, Fe-staining, chloritic gouge-brecciation								
									-8F										
									-20F	D	><< 81.7 100.7 DACITE, fine-grained, black, shatter veinlet intervals with epidote & carbonate. Subtle laminations toward top. Bleached @ 89.5-95.0.								
									-18F										
									-29C	R	><< 100.7 138.3 RHYOLITE								
									-40C	pRd	~~ 100.7 107.5 Rhyolite Porphyry Dike								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

LYN91-97

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Rcl	^^ 107.5 122.5 Rhyolite Crystal Lapilli Tuff, dark grey, crystal-rich matrix, with porphyroblasts and cherty clasts							
										Rl	^^ 122.5 138.3 Rhyolite Lapilli Tuff, grey ashy matrix, with blue quartz eyes, shards, pumice							
									-65C -45B	Ch	** 138.3 143.0 CHERT, bedded, greyish, with green siltier beds							
										SL	** 143.0 166.0 SILTSTONE							
									-60B	SL	^^ 143.0 147.0 Siltstone, green, light colored, grainy-looking, with cherty beds. @ 146.5-147.0 distinctive ovoid, lt. grey patches in brown matrix.							
									-70C	Wl	^^ 147.0 155.5 Lapilli Wacke, dark grey matirx, with crystal tuff beds, angular chert clasts and chert beds.							
									-70C	D	^^ 155.5 157.0 Dacite, flat contacts, black, shattered fractures							
										SL	^^ 157.0 166.0 Siltstone, with 6" clasts of white to grey chert							
										R	** 166.0 232.7 RHYOLITE							
										Rc	^^ 166.0 170.6 Rhyolite Crystal Tuff, grey matrix, blue quartz eyes with 1%	a a			1 1			1 1

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

LYN91-97

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											Fe-sulfides	a				1			1
												a				1			1
										IR	^^ 170.6 213.3 Intrusive Rhyolite, grey	a				1			1
									-60C		beige, bleached, granophyric, brecciated	a				1			1
											lower contact	a				1			1
												a				1			1
										FZ	Note: @ 170.0 170.2 Fault Zone, pink carb	a				1			1
												a				1			1
												a				1			1
												a				1			1
												a				1			1
												a				1			1
												a				1			1
										FZ	Note: @ 190.0 198.0 Fault Zone, brick red								
									-25F		iron staining, carbonate-chlorite gouge								
											@ 192.0 @ 25 degrees								
										Rc	^^ 213.3 232.7 Rhyolite Crystal Tuff,								
											altered blue quartz eyes, spherulitic								
											ashy interbeds, epidote-sericite								
											alteration	a				3			3
												a				3			3
												a				3			3
									-55C	Chp	>< 232.7 283.5 CHERT, with pyrite, tan,	b				5			5
									-60B		pyrite laminae and patches, talcose	b				5			5
									-40B		toward top	b				5			5

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

LYN91-97

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
													b				5			5
													b				5			5
													b				5			5
245.0													b				5			5
	99	80	R2	b	10	3							b				5			5
				b	25								b				5			5
				b	60								b				5			5
				b									b				5			5
255.0				a							SLch	^^ 254.0 265.0 Siltstone, cherty intervals, minor sulfides	b				5			5
	99	75	R2	a	10	3														
				b	30															
				b	60					-55										
				b									c			5		10		15
265.0				b						-68B			c			5		10		15
	100	90	R2	b	10	3							c			5		10		15
				b	30								c			5		10		15
				c	60								c			5		10		15
				b																
275.0				b																
	100	95	R2	c	10	3				-60b										
				c	30															
				b	60															
				b							D	>< 283.5 296.0 DACITE								
										-60B	gQD	^^ 284.0 285.8 Granophyric Quartz Diorite dike								
285.0				b						-28C										
	100	100	R3	b	10	3														
				b	30															
				b	60															
				b						-80										
295.0				b							Chp	>< 296.0 319.5 CHERT-PYRRHOTITE, cherty, bedded to laminated, pyrite/pyrrhotite rich, minor sphalerite	c	3		6	4		13
	100	65	R2	b	10	3				-70B			c	3		6	4		13
				b	30								c	3		6	4		13
302.0				b	60								c	3		6	4		13
	100	100	R2	b	10	3							c	3		6	4		13
				b	25								c	3		6	4		13
				b	60								c	3		6	4		13
				b						-80B		Note: @ 310.0-319.5 Increasingly talcose	c	3		6	4		13
312.0				b									c	3		6	4		13

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

LYN91-97

SULFIDES: (T)

A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE		Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
	100	100	R2	b	10	3							c	3			6	4		13
				b	30								c							
				b	60						SS,xR	xx 319.5 377.8 VOLCANICLASTIC SEDIMENTS, sandstone, sperulitic Rhyolite	c	3			6	4		13
				b									c	3			6	4		13
322.0				a									c	3			6	4		13
	100	75	R2	b	5	3						Note: @ 320.0-379.0 Fault Zone, calcite filled fractures, brecciated wall rock, pink and white calcite filling, shatter fractures	c	3			6	4		13
				a	30								c	3			6	4		13
				a	60								c	3			6	4		13
				a									c	3			6	4		13
332.0				a									c	3			6	4		13
	99	100	R2	a	5	3							c	3			6	4		13
					30								a				5			5
335.0					60								a				5			5
	100	100	R3	a	10	3							a				5			5
				b	30								a				5			5
				b	60								a				5			5
				b									a				5			5
345.0				b									a				5			5
	100	100	R3	b	10	3							a				5			5
				b	30								a				5			5
				b	60								a				5			5
				a									a				5			5
355.0				a									a				5			5
	99	80	R2	a	10	3							a				5			5
				a	30								a				5			5
				a	60								a				5			5
				a									a				5			5
365.0				a									a				5			5
	98	crush		a	10	3							a				5			5
				a	30								a				5			5
368.5					60						BP	^^ 368.5 373.0 Bedded Pyrrhotite and Pyrite	a				5			5
	99	50	R2	a	5	3							e				22	27		49
				a	30								e				22	27		49
				a	60								e				22	27		49
375.0				a																
											QD	xx 377.8 445.0 QUARTZ DIORITE								
	99	65	R3	a	5	3														
				a	30						gQD	^^ 377.8 445.0 Granophyric Quartz Diorite, contact broken								
				a	60															
				a																

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

LYN91-97

SULFIDES: (T)

% A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
385.0				a															
											Note: @ 404.0-411.0 Sheared to foliated @ 45 degrees								
											E.O.H. 445' (total depth)								

ORIGINAL

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	179.8	-62.2
300'	181.3	-62.2
500'	182.7	-62.3
700'	184.0	-62.5
1100'	188.0	-62.4
1325'	188.6	-62.2

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-26-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-98 (WDNR #268)

DATE: 5-10-91
PAGE 1 OF 19

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 3-4-91

BEARING: S180E INCLINATION: -62 T.D: 1325'
COORDINATES: L10200 E, 12330 N
ELEV: 1553' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	TONNAGE FACTOR	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 42.0		15.00		** 0.0 42.0 OVERBURDEN	
42.0 71.3		11.60	R	** 42.0 71.3 RHYOLITE	
71.3 127.5		11.00	D	** 71.3 127.5 DACITE, SANDSTONE	
127.5 369.5		11.60	R	** 127.5 369.5 RHYOLITE	
369.5 390.0		11.00	SS	** 369.5 390.0 SANDSTONE	
390.0 606.0		11.00	SL	** 390.0 606.0 SILTSTONE	
606.0 873.7		11.60	R	** 606.0 873.7 RHYOLITE	
873.7 912.5		11.00	SL	** 873.7 912.5 SILTSTONE	
912.5 928.0		10.30	Rc,SL	** 912.5 928.0 INTERBEDDED RHYOLITE CRYSTAL TUFF AND SILTSTONE	
928.0 945.5		11.60	R	** 928.0 945.5 RHYOLITE	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	179.8	-62.2
300'	181.3	-62.2
500'	182.7	-62.3
700'	184.0	-62.5
1100'	188.0	-62.4
1325'	188.6	-62.2

PROJECT: LYNNE P.O. 1376
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 2-26-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN01-98 (WDNR #268)

DATE: 5-10-91
PAGE 1 OF 19

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 3-4-91

BEARING: S180E INCLINATION: -62 T.D: 1325'
COORDINATES: L10200 E, 12330 N
ELEV: 1553' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	TONNAGE FACTOR	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
945.5 962.4		11.00	SS	** 945.5 962.4 SANDSTONE	
962.4 969.0		11.00	SLch,p	** 962.4 969.0 SILTSTONE, Cherty, With Pyrrhotite	962.4 969.0 15% Po, Py
969.0 971.5		11.30	CS	** 969.0 971.5 CALCAREOUS SEDIMENT	
971.5 1068.3		11.00	SL	** 971.5 1068.3 SILTSTONE	
1068.3 1121.3		11.00	SS	** 1068.3 1121.3 SANDSTONE	
1121.3 1263.0		11.60	R	** 1121.3 1263.0 RHYOLITE	
1263.0 1325.0		11.85	QD	** 1263.0 1325.0 QUARTZ DIORITE	
1263.0 1270.0		11.85	gQD	^^ 1263.0 1270.0 Granophyric	

E.O.H. 1325' (total depth)

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T) A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
0.0 42.0											** 0.0 42.0 OVERBURDEN								
										R	** 42.0 71.3 RHYOLITE, rhyolite flow; grey granophyric matix with oxidized porphyryic rhyolite fragments Note: @ 48.0-56.0 Core broken & oxidized								
										SS	^^ 71.3 127.5 Sandstone, dacitic, patchy epidote alteration, grainy, but plag-phyric intervals. Possible flow tops at 96' and 115'-117' with epidote alteration and possible flow top breccia.								

ROCK QUALITY: FRACTURE FREQ. A:0-3,B:3-10 C:10-30,D:30-100 E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										R	** 127.5 369.5 RHYOLITE								
										Rcl	^^ 127.5 143.0 Rhyolite Crystal Lapilli Tuff, or Lapilli Wacke with porphyric rhyolite and intrusive rhyolite clasts								
										IR	^^ 143.0 158.0 Intrusive Rhyolite, oxidized along fractures								
											Note: @ 157.0-159.0 High-angle fractures								
									-20F	Wl	^^ 158.0 164.0 Lapilli Wacke, with porphyryic rhyolite clasts								
										pR	^^ 164.0 168.5 Rhyolite Porphyry, dark, plag-phyric, blue quartz eyes								
										ChT	^^ 168.5 170.0 Cherty Tuff								
										IR	^^ 170.0 178.5 Intrusive Rhyolite								
										Rt	^^ 178.5 189.7 Rhyolite Tuff, fine-grained, possibly laminated								
											Note: @ 188.0 Chlorite-carb filled								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											fracture								
									-40	IR	^^ 189.7 193.0 Intrusive Rhyolite								
									-20										
									-40	Wq	^^ 193.0 194.7 Quartz Wacke								
										pR	^^ 194.7 206.9 Rhyolite Porphyry, dark matrix, plag-phyric, blue quartz eyes								
									-70	Rt	^^ 206.9 214.0 Rhyolite Tuff								
										ChT	^^ 214.0 221.5 Cherty Tuff								
										Rl	^^ 221.5 224.0 Rhyolite Lapilli Tuff, red and white intrusive rhyolite clasts ~1/2"								
										IR	^^ 224.0 304.0 Intrusive Rhyolite								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: (T)

A:1-5,B:5-10
% C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	RF	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										R1	^^ 304.0 335.0 Rhyolite Lapilli Tuff, pumice and porphyritic rhyolite clasts, coarsens with depth							

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
									-35C	Md	^^ 335.0 338.0 Mafic Dike								
									-35C	Rf	^^ 338.0 365.0 Rhyolite Flow, pumice and porphyritic rhyolite clasts. Clast size coarsens with depth.								
										Wf	^^ 365.0 369.5 Feldspathic Wacke								
										SS	** 369.5 390.0 SANDSTONE								
										SS	^^ 369.5 385.3 Sandstone, moderately laminated at top								
										Wf	^^ 385.3 390.0 Feldspathic Wacke , or Rhyolite Crystal Lapilli Tuff								
									-40B	SL	** 390.0 606.0 SILTSTONE, laminated sandstone, black, very fine-grained, massive								
									-50B										

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
									-5		Note: @ 410.0-416.5 High-angle carb filled fractures								
									-20										
									-25										
									-10										
									-40B										
									--40B										

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 515.0-596.0 Weakly magnetic								

ROCK QUALITY: FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: (T) % A:1-5,B:5-10 C:10-25,D:25-40 E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Rb	** 606.0 873.7 RHYOLITE TUFF BRECCIA (?), grey-black porphyritic matrix; pink-orange rounded rhyolitic clasts, Rcl ?								
									-20C	pMd	^^ 618.5 620.7 Mafic Dike, plag-phyric, abundant large 2-3 mm feldspar phenocrysts								
									-15D		Note: @ 629.0 Small (.1") high-angle mafic dike, green, porphyritic (?)								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
											Note: @ 698.0-723.3 No pink clasts or pinkish alteration. Matrix is grey to black, while porphyroblasts/clasts are white.								
										RF	^^ 723.3 745.5 Rhyolite Flow ?, medium grey crystal tuff matrix with subrounded								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)

A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	TotalX	Sp	Cp	Ga	Py	Po	As	T
											cherty or quartzy clasts, flow-banded								
										SS	^^ 745.5 749.0 Sandstone								
										gR	^^ 749.0 767.5 Granophyric Rhyolite, grey matrix, very fine reddish alteration, plag crystals								
										Rc	^^ 767.5 787.0 Rhyolite Crystal Tuff, plag-rich crystal matrix, with scattered blue quartz eyes and clasts of granophyric rhyolite. Feldspars are occasionally reddish, could be feldspathic wacke.								
										SS	^^ 787.5 815.5 Sandstone, massive, dark grey, no obvious crystals								

ROCK QUALITY:

FRACTURE FREQ.
A:0-3,B:3-10
C:10-30,D:30-100
E:>100 cm.

DRILL HOLE: LYN91-98

SULFIDES: % (T)
A:1-5,B:5-10
C:10-25,D:25-40
E:40-60,F:>60

Run	%	RQD	Rf	ABCDE	Jn	Jrc	Ja	SpG	Fol	CODE	Lithology	Total%	Sp	Cp	Ga	Py	Po	As	T
										Rcl	^^ 815.5 864.0 Rhyolite Crystal Lapilli Tuff, with pinkish and whitish porphyritic clasts, increasing to breccia size by 850							
											Note: @ 830.0-850.0 Fracture Zone, @ 25 degrees with oxidation along fractures as well as pyrite, some possible brecciated zones							
866.00										Wlf	^^ 864.0 873.7 Lapilli Feldspathic Wacke, laminated intervals with rhyolitic amd siltstone clasts							
	99	95	R2	b	5	2													
				c	50														
				c															
				c					-52C	SL	** 873.7 912.5 SILTSTONE	a					2		2
				b								a					2		2
									-50B	SLm	^^ 873.3 878.0 Siltstone, with scattered pyrrhotite and magnetite	a					2		2
876.00									-70B			a					2		2
	100	100	R2	b	5	3						a					2		2
				b	30				-80B	W	^^ 878.0 882.0 Predominantly Wacke	a					2		2
				b	50														