APPENDIX B

Geological and Geotechnical

Drill Logs 1-44 - Volume 2 of 3

Noranda Minerals Wisconsin Corp.

LYNNE PROJECT

10

(P. 71 - 140)

Noranda Exploration Inc.
Eastern Divison

DATE: 7-18-91
PAGE 1 OF 8

HOLE SURVEY DATA

Footage	Bearing	Inclination
25'	179.4	-62.3
100'	178.6	-61.7
200'	179.3	-61.9
300'	180.6	-61.3
400'	182.4	-61.2
525'	183.2	-61.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-12-90
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-51 (WDNR #207)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-16-91

BEARING: S180.4E INCLINATION: -62.3 T.D: 525'
COORDINATES: L10200 E, 11030 N
ELEV: 1559.8' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
347.2 375.0		CS	** 347.2 375.0 CALCAREOUS SEDIMENT	
362.0 375.0		CSs	^^ 362.0 375.0 Calcareous Sediment, With Sulfides	362.0 375.0 5% Sp
375.0 395.0		Xz	** 375.0 395.0 TUFFITE, Stringery	375.0 395.0 10% Sp, 4% Ga
395.0 401.0		W	** 395.0 401.0 WACKE	
401.0 406.0		Xz	** 401.0 406.0 TUFFITE, Stringery	
406.0 424.3		TS	** 406.0 424.3 TALCOSE SEDIMENT	
424.3 469.0		MS	** 424.3 469.0 MASSIVE SULFIDE	424.3 469.0 30% Sp, 2% Ga
469.0 483.8		Xz	** 469.0 483.8 TUFFITE, Stringery	469.0 483.8 20% Sp, 3% Ga, 1% Cp
483.8 525.0		QD	** 483.8 525.0 QUARTZ DIORITE	
483.8 506.0		gQD	^^ 483.8 506.0 Quartz Diorite, Granophyric	
			E.O.H 525' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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 46.0											⋇⋇ 0.0 46.0 OVERBURDEN								
											^^ 0.0 3.0 Muskeg								
											^^ 3.0 27.0 Fine sand								
											^^ 27.0 38.0 Sand and gravel								
											^^ 38.0 41.0 Boulders								
											^^ 41.0 44.0 Sand and gravel								
											^^ 44.0 46.0 Boulders								
										R	⋇⋇ 46.0 117.0 RHYOLITE								
										gR	^^ 46.0 90.8 Granophyric Rhyolite								
											Note: @ 48.0-81.5 Pinkish grey, granophyric, with beige bleaching and epidote								
52.00																			
	50	55	R3	a	5	2													
56.60				a	20														
	crushed																		
57.00																			
	99	80	R3	a	15	3													
62.00				a	45														
					60														
	crushed																		
62.60																			
	99	85	R3	a	15	3													
				a	45														
67.00				a	60														
	99	85	R3	a	45	2													
67.80					70														
	99	95	R3	a	15	2													
				a	50														
				a															
				a															
77.00				a															
	100	100	R3	a	10	3													

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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
82.00				a	30							Note: @ 81.5-90.0 Rhyolitic Breccia,								
					60							dark grey porphyritic rhyolite matrix								
	99	100	R3	b	30	1						with porphyritic clasts ~ 6 mm in size								
84.70				b																
	100	100	R3	b	20	1														
87.00																				
	100	100	R3	c	5	3					Rt	^^ 90.8 117.0 Rhyolite Tuff, medium								
91.00				b	35							grey, fine-grained, silicified and								
					60							possibly hornfelsed rhyolite tuff,								
	100	95	R3	a	15	3						chert. Possible rhyolite porphyry								
				a	35							dikelets @ 94.0, 106.0.								
97.40				a	60															
	100	95	R3	a	10	2														
100.00				a	40															
	100	100	R3	a	5	2														
				b	45															
				a																
107.00				a																
	100	100	R3	b	30	2														
109.20					50															
	100	100	R3	a	5	3														
				a	20															
				a	40															
117.00				a							W	** 117.0 137.2 WACKE, quartz-lithic								
	99	85	R3	a	15	2						wacke, with blue quartz eyes but horn-								
				a	45							felsed by rhyolite prophyry dikelets								
				b																
				a																
127.00				a																
	99	95	R3	a	15	2														
132.40				a	45															
	99	95	R3	a	5	2														
				a	15															
137.00				a						-40L	ChT	** 137.2 175.0 INTERBEDDED CHERTY TUFF,								
	99	80	R3	a	15	2						RHYOLITE, cherty tuff is occasionally								
				a	35							laminated, with alternating cherty/								
144.00				a								tuffaceous beds								
	95	95	R3	a	10	2														
147.00				a	40															
	99	95	R3	a	5	2						Note: @ 149.0-157.3 Rhyolite Flow?								

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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
				a	35															
				a																
				a																
157.00				a						-40L										
	99	100	R3	a	10	3														
				a	30															
				a	60															
				a																
167.00				a						-40L		Note: @ 167.0-169.0 Rhyolite Crystal								
	100	100	R3	a	5	3						Lapilli Tuff								
				b	20															
				a	45							Note: @ 174.0-175.0 Rhyolite Crystal								
				a								Lapilli Tuff								
				a																
											SL	** 175.0 216.0 SILTSTONE, occasional								
177.00												laminations, and chert								
	100	100	R3	a	10	2														
				a	50															
				a																
				a																
187.00				a																
	100	100	R3	a	5	2						Note: @ 189.0 Laminated ashy or cherty								
192.00				a	50							bed								
	100	100	R2	b	10	2														
				b	45															
197.00																				
	100	95	R3	a	10	3														
				a	35															
203.00				a	50															
	99	85	R3	b	25	2														
207.00				a	50															
	99	90	R3	a	20	3														
				a	50															
				a	75															
				a							*R	** 216.0 227.0 SPHERULITIC RHYOLITE								
217.00				a																
	100	100	R3	c	10	3				-50B										
				a	30															
				c	50					-50B										
				c																

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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
227.00				c							D	** 227.0 257.8 DACITE ? OR CHERTY SILT-								
	100	100	R3	b	15	2						STONE ?, dark grey, fine-grained, dense,								
				c	50							but silicified with frosty quartz ?								
				c																
235.00				c																
	100	100	R3	d	5	2														
237.00					55															
	99	85	R3	d	5	3														
				d	15															
				b	75															
				c																
247.00				b																
	100	95	R3	b	30	3														
				a	50															
				a	70															
				a																
257.00				a							LR	** 257.8 325.0 LYNNE RHYOLITE COMPLEX								
	99	95	R3	a	30	3														
				b	50						Rcl	^^ 257.8 265.0 Rhyolite Crystal Lapilli								
				c	70							Tuff								
				c																
				a																
											pR/IR	^^ 265.0 310.0 Rhyolite Porphyry/								
267.00												Intrusive Rhyolite								
	99	100	R3	a	5	3														
				a	25							Note: @ 267.0-269.0 Fine-grained, lt.								
				a	70							grey, @ 269.0-295.0 pinkish, green,								
				a								granophyric intervals								
277.00				a																
	100	100	R3	a	5	3														
				a	50															
				c	80															
				d																
287.00				a																
	99	95	R3	a	15	3														
				c	40															
				b	80															
				b																
296.00				a								Note: @ 295.0-310.0 Grey, granophyric,								
	99	90	R3	a	5	3						unaltered								

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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
				a	20															
301.00					80															
	100	100	R3	b	5	3														
				a	20															
307.00				a	45															
	99	90	R3	b	10	2														
310.40				a	40							Note: @ 310.0-325.0 Rhyolite Crystal								
	99	90	R3	a	5	2						Lapilli Tuff								
				a	70															
315.20				a																
	99	75	R3	b	10	1														
318.50				a																
	100	100	R3	a	5	3														
				b	15															
232.20					50															
	100	90	R3	a	5	2														
326.00				a	35						D	** 325.0 347.2 DACITE ?, dark grey,								
	100	100	R3	a	5	3						plag-rich patches								
				a	30															
				a	50															
				a																
336.00				b																
	100	100	R3	a	10	3														
				a	25															
				a	60															
				a																
345.50				a																
	100	100	R3	a	10	3					CS	** 347.2 375.0 CALCAREOUS SEDIMENT								
347.00					35															
					60															
	100	100	R3	c	15	3														
				c	30															
				b	60								a					4		4
				b									a					4		4
357.00				b									a					4		4
	100	95	R3	b	10	3							a					4		4
				b	30								a					4		4
				b	60						CSs	^^ 362.0 375.0 Calcareous Sediment with	a					4		4
				b								sulfides	b	5			3	1		9
367.00				b									b	5			3	1		9

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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	
	99	95	R2	b	15	3							b	5			3	1		9	
				b	30								b	5			3	1		9	
				c	60								b	5			3	1		9	
375.70				c							Xz	** 375.0 395.0 TUFFITE, stringery, host	b	5			3	1		9	
	100	100	R3	b	40	2						rock is siltstone	c	10		4				14	
377.00				c	60								c	10		4				14	
	99	85	R3	c	20	3							c	10		4				14	
				b	40								c	10		4				14	
383.00				c	60								c	10		4				14	
	100	95	R2	c	30	2							c	10		4				14	
387.00				c	60								c	10		4				14	
	100	95	R2	c	5	3							c	10		4				14	
				c	55								c	10		4				14	
				c	70								c	10		4				14	
				c							W	** 395.0 401.0 WACKE ?, medium grey,	c	10		4				14	
397.00				b								reminant clasts with alteration halos ?									
	99	90	R2	b	15	3															
				b	30						Xz	** 401.0 406.0 TUFFITE, stringery	c	12	1	3	2	1		19	
				c	55								c	12	1	3	2	1		19	
				c							TS	** 406.0 424.3 TALCOSE SEDIMENT, with	c	12	1	3	2	1		19	
407.00				c								chlorite, some sulfides	a	2			2	1		5	x
	98	80	R2	b	20	2							a	2			2	1		5	x
				c	55								a	2			2	1		5	x
				c									a	2			2	1		5	x
416.00				b									a	2			2	1		5	x
	100	95	R2	b	10	3							a	2			2	1		5	x
				b	25								a	2			2	1		5	x
				c	60								a	2			2	1		5	x
				c							MS	** 424.3 469.0 MASSIVE SULFIDE	a	2			2	1		5	x
				c									a	2			2	1		5	x
											MSzp	^^ 424.3 450.0 Massive Sulfide, stringery	a	2			2	1		5	x
426.30													d	35			1	5		41	
	100	95	R2	c	35	2							d	35			1	5		41	
				c	70								d	35			1	5		41	
				c									d	35			1	5		41	
436.90				c									d	35			1	5		41	
	100	100	R2	c	40	2							d	35			1	5		41	
				b	60								d	35			1	5		41	
				b									d	35			1	5		41	
				c									e	40	1	5	1	1		48	

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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									e	40	1	5	1	1		48
447.00				c									e	40	1	5	1	1		48
	100	90	R2	c	20	3					MS#	^^ 450.0 456.0 Massive Sulfide, with diopside	e	40	1	5	1	1		48
				c	35								c	30						30
				b	60								c	30						30
				b							MSz	^^ 456.0 461.5 Massive Sulfide, stringery	c	30						30
457.00				b									c	30						30
	99	95	R2	b	25	3							c	30						30
				c	45						MSt	^^ 461.5 467.0 Massive Sulfide, with lapilli/clasts	c	30						30
				b	60								e	45						45
				b									e	45						45
467.00				c							MS#	^^ 467.0 469.0 Massive Sulfide, with diopside	e	45						45
	100	100	R2	b	35	2							c	30						30
				c	50															
				c							Xz	** 469.0 483.8 TUFFITE, stringery, with diopside	d	20	1	3	2	4		30
				b									d	20	1	3	2	4		30
				b									d	20	1	3	2	4		30
													d	20	1	3	2	4		30
477.00													d	20	1	3	2	4		30
	100	100	R3	b	15	2						Note: @ 483.0-483.8 Calcareous Sediment	d	20	1	3	2	4		30
				c	45								d	20	1	3	2	4		30
				b							QD	** 483.8 525.0 QUARTZ DIORITE	d	20	1	3	2	4		30
				b									d	20	1	3	2	4		30
				c							gQD	^^ 483.0 506.0 Quartz Diorite, granophyric	d	20	1	3	2	4		30
487.00																				
	99	85	R3	b	5	2														
				b	15															
				b																
				b																
497.00				b																
	99	90	R4	b	5	4														
				b	15															
				b	30															
				b	50															
507.00				b																
	99	100	R4	c	35	1														
				d																
				d																
				d																

ROCK QUALITY:

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

DRILL HOLE: LYN91-51

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
517.00				c																
	100	100	R4	b	20	3														
				b	35															
				b	60															
525.00				b								E.O.H. 525' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	177.8	-57.5
200'	178.4	-57.6
300'	178.6	-57.8
400'	178.3	-57.9
520'	179.4	-58.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: J. Schaff
DATE COLLARED: 1-14-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-52 (WDNR # 193)

DATE: 7-18-91
PAGE 1 OF 8

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-17-91

BEARING: S178.6E INCLINATION: -57.7 T.D: 520'
COORDINATES: L10100 E, 10945 N
ELEV: 1561.4' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
258.5 281.0		CSc	** 258.5 281.0 CALCAREOUS SEDIMENT	
281.0 397.0		MSca	** 281.0 397.0 MASSIVE SULFIDE	
358.0 397.0		MSb	^^ 358.0 397.0 Massive Sulfide, Bedded	
397.0 403.0		Xch,b	** 397.0 403.0 TUFFITE, Cherty	
403.0 440.0		ChC	** 403.0 440.0 DIOPSIDE-RICH ASH, Cherty	
417.0 420.0		Xch	^^ 417.0 420.0 Tuffite, Cherty	
440.0 446.5		MSch	** 440.0 446.5 MASSIVE SULFIDE, Cherty	
446.5 451.5		TS	** 446.5 451.5 TALCOSE SEDIMENT	
451.5 520.0		QD	** 451.5 520.0 MASSIVE QUARTZ DIORITE	
451.5 455.5		gQD	^^ 451.5 455.5 Quartz Diorite, Granophyric	
			E.O.H. 520' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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 53.5											** 0.0 53.5 OVERBURDEN								
											^^ 0.0 20.0 Fine sand								
											^^ 20.0 36.0 Sand								
											^^ 36.0 53.5 Sand, gravel, and cobbles								
										W	** 53.5 99.0 WACKE, (RHYOLITE), medium to dark green, coarse-grained, subhedral quartz and feldspar phenocrysts (possibly rhyolite flows with inter-bedded resedimented volcanic-volcaniclastic wackes)								
63.00																			
	99	75	R2	b	5	2													
67.00				c	20														
	99	95	R3	c	50	1													
				c															
				d															
				d															
77.00				d															
	99	95	R3	c	10	1													
				d															
83.50				b															
	100	95	R3	c	5	2													
				d	50														
				d															
				c															
93.50				c															
	100	100	R3	b	50	1													
97.00				b															
	100	100	R3	c	5	3				MSch	** 99.0 120.0 MASSIVE SULFIDE, cherty, weak diopside alteration	c	11		1				12
				b	30							c	11		1				12

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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
				a	60								c	11		1				12
				b								Note: @ 103.0-104.0 Visible native silver	c	11		1				12
				b									c	11		1				12
													c	11		1				12
											MSca	^^ 104.0 107.2 Massive Sulfide, calcareous, bedded, amber sphalerite	c	11		1				12
107.00													c	11		1				12
	100	90	R3	a	20	2							c	11		1				12
				b	50								c	11		1				12
				b									c	11		1		1		13
115.00				b									c	11		1				12
	crushed												c	11		1				12
116.00													c	11		1				12
	100	100	R3	b	5	2							c	11		1				12
				b	40								c	11		1				12
				b							Ch	** 120.0 142.5 CHERT	c	11		1				12
													c	11		1				12
											Xch	^^ 120.0 125.0 Tuffite, cherty	c	11		1				12
121.00																				
	99	100	R3	b	5	3														
				b	20															
127.00				a	40															
	99	95	R3	b	20	1														
128.00																				
	100	100	R3	b	15	3														
				a	30															
				c	60						Xch,Xca	^^ 133.5 142.5 Tuffite, cherty and calcareous	a	2						2
				c									a	2						2
137.00				b																
	100	95	R3	b	5	3							b		1					1
				a	15								b		1					1
				b	35						Xch	** 142.5 156.0 TUFFITE, Cherty	c	9		2				11
				c									c	9		2				11
146.60				c									c	9		2				11
	100	100	R3	b	10	2							c	9		2				11
				a	30								c	9		2				11
				a									c	9		2				11
				b									f	9		80				89
156.80				b									a	9		3				12
	100	100	R3	b	10	2					Ch	** 156.0 232.0 CHERT, strong diopside alteration								
				b	30															

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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
162.00				b																
	100	100	R3	a	5	2							a	2						2
165.80				a	30															
	100	100	R3	a	5	2							a	2						2
167.00					30															
	100	100	R3	a	15	2							a	2						2
				a	40															
				a																
				b																
177.00				b																
	100	100	R3	a	20	2														
				b	40															
				c																
				b																
187.00				c																
	100	100	R3	c	15	2														
				c	40															
192.50				b																
	100	100	R3	c	20	2														
				b	40						Xch	^^ 195.0 196.0 Tuffite, cherty	c	14	1					15
197.00				b									c	14	1					15
	100	100	R3	b	5	3							c	14	1					15
				b	20															
				b	30															
				b																
207.00				b																
	100	100	R3	b	5	4					Xch	^^ 207.0 215.5 Tuffite, cherty	c	10	1	1				12
				b	20								c	10	1	1				12
				c	55								c	10	1	1				12
				c	70								c	10	1	1				12
217.00				a									c	10	1	1				12
	100	95	R3	a	10	3					Xch	^^ 220.5 232.0 Tuffite, cherty	c	9	1			8		18
				a	40								c	9	1			8		18
				c	60								c	9	1			8		18
				c									c	9	1			8		18
227.00				c									c	9	1			8		18
	100	95	R3	b	5	3							c	9	1			8		18
				c	30						IR	** 232.0 247.0 INTRUSIVE RHYOLITE,	c	9	1			8		18
				b	50							black to greenish-tan, fine-grained,	c	9	1			8		18
				b								minor visible quartz								

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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
237.00				b																
	99	95	R3	a	5	3														
				a	25															
				b	40															
245.00				a																
	100	90	R3	b	5	2					ChC,c	** 247.0 258.5 INTERBEDDED CHERTY,	b	4			1	1		6
247.00					40							DIOPSIDE-RICH ASH, contorted bedding	b	4			1	1		6
	100	100	R3	c	50	2							b	4	1		1	1		7
				c	65								b	4	1		1	1		7
				c									b	4	1		1	1		7
				c									b	4	1		1	1		7
257.00				b							CSc	** 258.5 281.0 CALCAREOUS SEDIMENT,	b	4			1	1		6
	100	100	R3	c	5	4						contorted bedding	b	4			1	1		6
				c	15								b	4			1	1		6
				b	40								b	4			1	1		6
				c	60								b	4			1	1		6
267.00				a									a	4			1	1		6
	100	100	R2	b	45	2							b	4			1	1		6
				b	65								b	4			1	1		6
				b									b	4			1	1		6
				c									b	4			1	1		6
277.00				b									b	4			1	1		6
	99	90	R2	b	50	1							b	4			1	1		6
				b							MSca	** 281.0 397.0 MASSIVE SULFIDE, weak	b	4			1	1		6
				c								carbonate alteration, epidote on		f	75			3		78
				b								fractures		f	75			3		78
287.00				a										f	75			3		78
	99	75	R3	b	5	2						Note: @ 285.0-352.0 Rock is broken up		f	75			3		78
292.50				b	45							(fractured ?)		f	75			3		78
	98	crush	R3	b	30	2								f	75			3		78
				b	70									f	75			3		78
297.00				b										f	75			3		78
	98	crush	R3	b	45	1								f	75			3		78
299.00														f	75			3		78
	98	crush	R3	b	45	1								f	75			3		78
301.50														f	75			3		78
	99	crush	R3	a	35	2								f	75			3		78
				b	50									f	75			3		78
307.00				a										f	75			3		78
	98	crush	R3	a	5	1								f	75			3		78

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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
310.00													f	75				3		78
	98	crush	R3	b	10	2							f	75				3		78
				b	30								f	75				3		78
				a									f	75				3		78
317.00													f	75				3		78
	98	crush	R3	a	5	3							f	75				3		78
321.00				a	25								f	75				3		78
					40								f	75				3		78
	98	crush	R3	a	5	2							f	75				3		78
323.50					20								f	75				3		78
	99	65	R3	a	5	3							f	75				3		78
				a	25								f	75				3		78
329.50				a	50								f	75				3		78
	98	crush	R3	a	5	2							f	75				3		78
332.50					30								f	75				3		78
	99	65	R3	a	5	2							f	75				3		78
334.00				a	30								f	75				3		78
	99	crush	R3	a	25	2							f	75				3		78
				a	40								f	75				3		78
339.00				a									f	75				3		78
	99	crush	R2	a	5	3							f	75				3		78
				a	45								f	75				3		78
				a	60								f	75				3		78
347.00				a									f	75				3		78
	99	90	R3	a	5	3							f	75				3		78
				a	40								f	75				3		78
354.00				b	70								f	75				3		78
	100	100	R3	b	10	3							f	75				3		78
				b	45						MSb	^^ 358.0 397.0 Massive Sulfide, bedded,	f	75				3		78
360.00				b	65							carbonate altered	f	63				6		69
	100	100	R3	b	15	3							f	63				6		69
				b	45								f	63				6		69
				b	60								f	63				6		69
367.00				b									f	63				6		69
	100	100	R3	b	35	2							f	63				6		69
				b	55								f	63				6		69
				c									f	63				6		69
				c									f	63				6		69
377.00				c									f	63				6		69
	100	95	R3	d	30	3							f	63				6		69

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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	45									f	63				6		69
				c	60									f	63				6		69
				c								Note: @ 386.0-387.0 Intrusive Rhyolite		f	63				6		69
387.00				b								Dike, white to tan with a medium green		f	63				6		69
	100	100	R3	b	30	2						diopside alteration overprint		f	63				6		69
				c	60									f	63				6		69
				c										f	63				6		69
				b										f	63				6		69
397.00				c							Xch,b	** 397.0 403.0 TUFFITE, cherty, weakly		f	63				6		69
	100	100	R3	b	10	2						bedded	c		9	3			5		17
				b	25								c		9	3			5		17
				b							CHCz	** 403.0 440.0 CHERTY, DIOPSIDE-RICH ASH,	c		9	3			5		17
				b								with stringer sulfides	b		2	1			4		7
407.00				b									b		2	1			4		7
	100	100	R3	d	20	2							b		2	1			4		7
				d	35										2	1			4		7
				c											2	1			4		7
				c											2	1			4		7
417.00				c							Xch	^^ 417.0 420.0 Tuffite, cherty			2	1			4		7
	100	100	R4	d	20	2									2	1			4		7
				c	75								c		20	1			4		25
				c											2	1			4		7
				c											2				4		6
427.00				c											2				4		6
	100	100	R4	c	5	2									2				4		6
				d	45										2				4		6
				d											2				4		6
				d											2				4		6
437.00				c											2				4		6
	100	100	R3	d	50	1					MSch	** 440.0 446.5 MASSIVE SULFIDE, cherty,			2				4		6
				c								with amber sphalerite	d		35						35
				d									d		35						35
				d							TS	** 446.5 451.5 TALCOSE SEDIMENT,	d		35						35
447.00				d								green to black, fine-grained, weakly	a			1					1
	100	95	R3	c	25	3						bedded	a			1					1
				b	50								a			1					1
				b	75						QD	** 451.5 520.0 QUARTZ DIORITE	a			1					1
				b																	
											gQD	^^ 451.5 455.5 Quartz Diorite,									
												granophyric									

ROCK QUALITY:

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

DRILL HOLE: LYN91-52

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
455.60																				
	100	100	R4	b	15	2														
				b	45															
				b																
				b																
465.00				b																
	100	100	R4	c	25	1														
				d																
472.00				d																
490.00																				
500.00																				
510.00																				
520.00												E.O.H. 520' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	178.5	-60.8
200'	179.4	-61.0
300'	181.3	-61.2
400'	182.1	-61.3
487'	182.9	-61.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: A. Zielinski
DATE COLLARED: 1-15-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-53 (WDNR #210)

DATE: 7-18-91
PAGE 1 OF 8

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-17-91

BEARING: S178.9E INCLINATION: -61.3 T.D: 487'
COORDINATES: L10400 E. 10620 N
ELEV: 1560.4' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 55.0			** 0.0 55.0 OVERBURDEN	
55.0 58.0	(not recovered)			
58.0 62.5		D	** 55.0 62.5 DACITE	
62.5 90.0		pRd	** 62.5 90.0 PORPHYRITIC RHYOLITE DIKE	
90.0 96.0		pD	** 90.0 96.0 DACITE, Plag-Phyric	
96.0 104.0		pRd	** 96.0 104.0 RHYOLITE PORPHYRY	
104.0 118.5		D	** 104.0 118.5 DACITE	
118.0 226.5		R	** 118.5 226.5 RHYOLITE	
118.5 126.0		pR	^^ 118.5 126.0 Rhyolite Porphyry	
126.0 195.0		Rcl	^^ 126.0 195.0 Rhyolite Crystal Lapilli Tuff	
195.0 212.0		IR	^^ 195.0 212.0 Intrusive Rhyolite	
212.0 226.5		Rc	^^ 212.0 226.5 Rhyolite Crystal Tuff	
226.5 231.6		CS	** 226.5 231.6 CALCAREOUS SEDIMENT	
231.6 246.0		Xp	** 231.6 246.0 TUFFITE, Pyrrhotite Rich	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	178.5	-60.8
200'	179.4	-61.0
300'	181.3	-61.2
400'	182.1	-61.3
487'	182.9	-61.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: A. Zielinski
DATE COLLARED: 1-15-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-53 (WDNR #210)

DATE: 7-18-91
PAGE 1 OF 8

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-17-91

BEARING: S178.9E INCLINATION: -61.3 T.D: 487'
COORDINATES: L10400 E. 10620 N
ELEV: 1560.4' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
246.0 264.0		Xch	** 246.0 264.0 TUFFITE, Cherty	
264.0 284.2		MSp	** 264.0 284.2 MASSIVE SULFIDE, Pyrrhotite Rich	
267.0 269.5		Sks	^^ 267.0 269.5 Skarn, With Sphalerite	
271.0 274.5		Sk	^^ 271.0 274.5 Skarn	
284.2 298.0		CH	** 284.2 298.0 CHERT	
298.0 327.3		R	** 298.0 433.0 RHYOLITE TUFF	
327.3 346.5		Rt,t	^^ 327.3 346.5 Rhyolite Tuff, Talcose	
346.5 365.0		Rc,t	^^ 346.5 365.0 Rhyolite Crystal Tuff, Talcose	
365.0 373.0		Rt,s	^^ 365.0 373.0 Rhyolite Tuff, With Stringer Sulfides	
373.0 433.0		Rt,t	^^ 373.0 433.0 Rhyolite Tuff, Talcose	
433.0 487.0		QD	** 433.0 487.0 QUARTZ DIORITE	
			E.O.H. 487' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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 55.0												** 0.0 55.0 OVERBURDEN								
												^^ 0.0 2.0 Muskeg								
												^^ 2.0 30.0 Fine sand								
												^^ 30.0 38.0 Silty sand								
												^^ 38.0 55.0 Sand, gravel, and cobbles								
55.00											D	** 55.0 62.5 DACITE, fine-grained								
	99	95	R3	b	5	3														
				b	35															
				b	75						pRd	** 62.5 90.0 PORPHYRITIC RHYOLITE DIKES, (Lynne)								
64.00				b																
	99	85	R3	a	10	3														
				a	35															
				b	55							Note: @ 70.5-76.5 Quench zone- epidote rich								
				b																
74.00				b																
	100	100	R3	b	10	2														
				b	45															
				b																
				b																
84.00				b																
	100	100	R3	b	10	2														
87.00				c	40															
	100	95	R3	c	10	3														
				a	30						pD	** 90.0 96.0 PLAG-PHYRIC DACITE								
				b	60															
94.00				c																
	99	95	R3	b	15	3				-40C	pRd	** 96.0 104.5 PORPHYRITIC RHYOLITE, (Lynne), sharp upper contact, grada-								
				b	30															

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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							tional lower								
				a																
102.00				a																
	99	85	R3	a	10	3														
104.50					30						D	** 104.5 118.5 DACITE, very fine-grained, coarser feldspars in fractures at bottom								
					60															
	100	95	R3	b	10	2														
106.00					40															
	99	95	R3	b	20	3														
109.50				b	40															
					60															
	100	95	R3	b	10	3														
				b	40															
				b	60															
117.50				c							R	** 118.5 226.5 RHYOLITE								
											pR	^^ 118.5 126.0 Rhyolite Porphyry								
											Rcl	^^ 126.0 172.0 Rhyolite Crystal Lapilli Tuff, fining upwards, interbedded debris flows grading from rhyolite crystal tuff to siltstone. Presence of large rhyolite clasts and large blue quartz eyes, feldspathic								

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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
170.00											Rt	^^ 172.0 174.0 Rhyolitic Siltstone, fine-grained								
											Rc	^^ 174.0 195.0 Rhyolite Crystal Tuff								
180.00																				
190.00												@ 192.0 base of flow, contorted bedding, same as above								
194.70	100	95	R3	a	10	3					IR	^^ 195.0 212.0 Intrusive Rhyolite; sharp upper contact								
				a	40															
				a	70															
204.00				a																
	99	90	R3	a	5	3														
				a	30															
				a	60															
				a							Rc	^^ 212.0 226.5 Rhyolite Crystal Tuff								
214.00				b																
	100	80	R3	a	20	3														
				b	45															
				b	60															
				b																
224.00				b																
	99	100	R2	c	30	3					CTs	** 226.5 231.6 CALCAREOUS TUFF SEDIMENTS, grade up into tufa	a				1	3		4
				b	45								a				1	3		4
				b	70								a				1	3		4
				c							Xp	** 231.6 246.0 TUFFITE	a				1	3		4
234.00				b									c	9	8		2	6		19
	100	100	R3	b	10	3							c	9	8		2	6		19
				b	45								c	9	8		2	6		19
				b	60								c	9	8		2	6		19
				b									c	9	8		2	6		19
244.00				c									c	9	8		2	6		19
	100	100	R3	b	30	2					Xch	** 246.0 264.0 TUFFITE, cherty matrix,	c	9	8		2	6		19

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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							diopside alteration	d	9	2	1	14	6		32
				b									d	9	2	1	14	6		32
				b									d	9	2	1	14	6		32
254.00				b									d	9	2	1	14	6		32
	100	100	R3	b	45	2							d	9	2	1	14	6		32
				b	60								d	9	2	1	14	6		32
				c									d	9	2	1	14	6		32
				b									d	9	2	1	14	6		32
264.00				b							MSp	** 264.0 284.2 MASSIVE SULFIDE, with	d	9	2	1	14	6		32
	100	95	R2	c	30	2						calcsilicate interbeds	d	15	1	1	9	3		29
				b	60								b	4	2		2	1		9
				b							Sks	~~ 267.0 269.5 Calcsilicate with amber	d	25	2	1	1	3		32
				b								sphalerite	d	25	2	1	1	3		32
				b									b	4	1		1	1		7
274.00											Sks	~~ 271.0 274.5 Calcsilicate with amber	b	4	1		1	1		7
	100	95	R3	b	20	2						sphalerite	b	4	1		1	1		7
				b	40								d	21	3	4	2	4		34
				b								Note: @ 277.0-279.0 Bleached, fractured	d	21	3	4	2	4		34
				b								zone	d	21	3	4	2	4		34
284.00				a									d	21	3	4	2	4		34
	99	50	R3	a	20	2					Ch	** 284.2 298.0 CHERT, contorted bedding	d	21	3	4	2	4		34
285.00					40							fractured at base	b	2			6			8
	100	95	R3	b	15	2							b	2			6			8
				c	40								b	2			6			8
				b									b	2			6			8
				b									b	2			6			8
294.00				b									b	2			6			8
	99	90	R3	b	10	3							b	2			6			8
				b	30								b	2			6			8
				b	65						R	** 298.0 433.0 RHYOLITE TUFF	b	2			6			8
302.00				b							Rt	~~ 298.0 327.3 Rhyolite Tuff, uniform								
	99	90	R3	b	5	2						texture, stringer sulfides of								
				b	40							sphalerite, chalcopyrite								
				b																
				b																
312.00				a																
	99	70	R3	b	5	2														
				b	40							Note: @ 316.8-317.2 Massive Sulfide	f	80				10		90
317.00				b																

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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	95	R3	a	5	3														
				a	40															
				b	75															
324.00				b																
	99	90	R3	b	5	2														
326.60					30															
	100	95	R3	b	5	3					Rt,t	^^ 327.3 346.5 Rhyolite Tuff, talcose, epidote alteration								
				a	25															
				a	55															
				b																
336.60				b																
	100	100	R3	b	5	3														
				b	20															
				b	50															
344.00				b																
	100	95	R3	b	20	3					Rc	^^ 346.5 365.0 Rhyolite Crystal Tuff, stringer sulfides, fractured at top								
				b	50															
				b	75															
				b																
354.00				a																
	100	100	R3	a	15	2														
				b	40															
				c																
				b																
364.00				b																
	100	90	R3	b	20	3					Rtz	^^ 365.0 373.0 Rhyolite Tuff, stringer sphalerite, chalopyrite	c	4	2		1	5		12
				b	40								c	4	2		1	5		12
				b	65								c	4	2		1	5		12
				a									c	4	2		1	5		12
374.00			R1	a							Rt,t	^^ 373.0 433.0 Rhyolite Tuff, talcose, small veins of calcite, minor stringer sulfides of pyrrhotite, chalcopyrite and sphalerite	c	4	2		1	5		12
	99	75	R3	b	15	2														
				a	35															
				b																
				b																
384.00				b																
	100	95	R2	b	5	3														
				b	25															
				c	55															
				b																
394.00				b																

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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	95	R2	b	5	2														
				b	25															
				b																
				b																
404.00				b																
	100	95	R3	c	5	2														
				c	25															
				c																
				d																
414.00				c																
	100	90	R2	b	5	3														
				b	25															
				b	40															
				a																
424.00				a																
	99	80	R2	b	5	3														
				b	25															
				b	45															
				b							QD	** 433.0 487.0 QUARTZ DIORITE								
434.00				a																
	100	85	R3	b	5	4														
				b	25															
				a	45															
				a	75															
444.00				a																
	100	100	R3	a	5	4														
				a	20															
				a	40															
				b	70															
454.00				c																
	99	95	R3	b	10	4														
				b	25															
				a	40															
				b	75															
464.00				b																
	100	100	R3	a	5	3														
				b	20															
				b	50															
				b																
474.00				b																

ROCK QUALITY:

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

DRILL HOLE: LYN91-53

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	R3	b	5	3														
477.00				b	20															
					40															
	100	100	R3	b	5	3														
				a	20															
				a	55															
484.00				a																
	100	100	R3	a	10	3														
487.00				a	20															
					50							E.O.H. 487' (total depth)								

Noranda Exp. ation Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	183.6	-63.6
200'	184.9	-63.7
300'	186.5	-63.5
400'	187.3	-63.0
500'	188.3	-63.0
640'	189.4	-63.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-16-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-54 (WDNR #208)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-20-91

BEARING: S182.7E INCLINATION: -63.9 T.D: 640'
COORDINATES: L10200 E, 11115 N
ELEV: 1559.7' SEC: 15 TWP: 37N RANGE: 4E

DATE: 7-18-91
PAGE 1 OF 10

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 50.0			** 0.0 50.0 OVERBURDEN	
50.0 54.0	(not recovered)			
50.0 57.7		Rt*sp	** 50.0 57.7 RHYOLITE TUFF, Altered, With Sulfides and Pyrrhotite	50.0 57.7 5% Sp, 5% Po
57.7 119.5		R	** 57.7 119.5 RHYOLITE	
119.5 152.5		Rc	** 119.5 152.5 RHYOLITE CRYSTAL TUFF	
152.5 160.0		D	** 152.5 160.0 DACITE	
160.0 175.0		*Rch	** 160.0 175.0 SPHERULITIC RHYOLITE, Cherty	
175.0 190.5		WI	** 175.0 190.5 LAPILLI WACKE	
190.5 234.0		D	** 190.5 243.0 DACITE	
234.0 383.4		LR	** 234.0 383.4 LYNNE RHYOLITE	
383.4 399.0		CS	** 383.4 399.0 CALCAREOUS SEDIMENT, With Cherty Lenses	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	183.6	-63.6
200'	184.9	-63.7
300'	186.5	-63.5
400'	187.3	-63.0
500'	188.3	-63.0
640'	189.4	-63.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-16-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-54 (WDNR #208)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-20-91

BEARING: S182.7E INCLINATION: -63.9 T.D: 640'
COORDINATES: L10200 E, 11115 N
ELEV: 1559.7' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
399.0 402.5		MSch	399.0 402.5 MASSIVE SULFIDE, Cherty	399.0 402.5 50% Sp, 5% Ga
402.5 424.0		CHC#	402.5 424.0 DIOPSIDE-ALTERED CHERT	
424.0 444.0		XChc#p	424.0 444.0 TUFFITE, DIOPSIDE-ALTERED, With Pyrrhotite	424.0 444.0 15% Sp, 3% Ga, 5% Po
444.0 492.4		W	444.0 492.4 WACKE	
451.8 461.3		Ch	451.8 461.3 Chert	
470.0 480.5		Xt#	470.0 480.5 Tuffite, Talcose, With Diopside	470.0 480.5 10% Sp
492.4 495.6		Xt	492.4 495.6 TUFFITE, Talcose	492.4 495.6 15% Sp
495.6 500.2		TSs	495.6 500.2 TALCOSE SEDIMENTS, With Sulfides	495.6 500.2 5% Sp
500.2 506.0		BP	500.2 506.0 BEDDED PYRRHOTITE, Laminated	
506.0 526.5		MSt#	506.0 526.5 MASSIVE SULFIDE, Talcose, With Diopside	506.0 526.5 40% Sp
526.5 533.0		Rt#	526.5 533.0 RHYOLITE TUFF, Altered	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	183.6	-63.6
200'	184.9	-63.7
300'	186.5	-63.5
400'	187.3	-63.0
500'	188.3	-63.0
640'	189.4	-63.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-16-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-54 (WDNR #208)

DATE: 7-18-91
PAGE 1 OF 10

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-20-91

BEARING: S182.7E INCLINATION: -63.9 T.D: 640'
COORDINATES: L10200 E, 11115 N
ELEV: 1559.7' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
533.0 640.0		QD	⊠ 533.0 640.0 QUARTZ DIORITE	
568.7 572.0		MS	^^ 568.7 572.0 Massive Sulfide	568.7 572.0 30% Sp
572.0 585.5		W	^^ 572.0 585.5 Wacke	
			E.O.H. 640' (total depth)	

ORIGINAL

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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 50.0												** 0.0 50.0 OVERBURDEN	b	5				5		10
													b	5				5		10
												^^ 0.0 2.0 Muskeg	b	5				5		10
												^^ 2.0 35.0 Fine sand								
												^^ 35.0 50.0 Sand, gravel, and cobbles								
											Rt*sp	** 50.0 57.7 RHYOLITE TUFF, altered, with pyrrhotite and sulfides	b	5				5		10
													b	5				5		10
54.00													b	5				5		10
	100	100	R3	b	25	1							b	5				5		10
55.50													b	5				5		10
	100	100	R3	b	25	3					pR	** 57.7 119.5 RHYOLITE PORPHYRY, pinkish-grey, granophyric, probable sill	b	5				5		10
				b	50															
				b	75															
				b																
66.00				b																
	100	100	R3	b	5	3														
				a	20															
				b	50															
				b																
76.00				b																
	99	90	R3	b	15	3														
				b	30															
				b	60															
				a																
86.00				b																
	100	90	R3	a	5	4														
				a	20															
				a	50															
				a	70															
96.00				a																
	99	85	R3	a	5	4														
				a	20															

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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
				a	40															
				a	70															
105.5				a																
	100	95	R3	a	5	3														
108.50				a	25						Rc	^^ 108.0 114.0 Rhyolite Crystal Tuff								
					75															
116.00																				
											Rc	** 119.5 152.5 INTERBEDDED RHYOLITE CRYSTAL TUFF, coarse and fine-grained								
126.00																				
136.00																				
146.00												Note: @ 146.0-150.0 Pyrite along fractures								
											D	** 152.5 160.0 DACITE, dark grey, fine-grained, dense								
156.00																				
											*Rch	** 160.0 175.0 SPHERULITIC RHYOLITE, cherty, not laminated, contains cherty clasts 6-10mm and cherty beds which could be larger fragments, a breccia?								
166.00																				
176.00											1W	** 175.0 190.5 LAPILLI WACKE, debris-rich, with plag-quartz rich beds, and								

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

DRILL HOLE: LYN91-54

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
											large 4-6mm clasts. Clasts DNE matrix								
									-50B		^^ 183.0 189.0 Laminated Siltstone								
186.00																			
										D	** 190.5 234.0 DACITE, dark grey, fine-grained								
196.00																			
206.00																			
								2.80			Note: @ 211.0-213.0 Plag-phyric interval								
216.00																			
										D*	^^ 218.5 234.0 Altered Dacite, medium grey, fine-grained altered dacite, with anastamosing fractures with calcite and quartz fractures								
									-22F										
								2.73	-40V										
226.00									-43V										
									-30F										
										LR	** 234.0 382.5 LYNNE RHYOLITE								
											^^ 234.0 240.3 Cherty, ashy top								
236.00									-50B										
										Rc	^^ 240.3 248.0 Rhyolite Crystal Lapilli Tuff, black and white								
246.00																			
										gIR	^^ 248.0 256.7 Intrusive Rhyolite, Granophyric								

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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
256.00										Rcl	^^ 256.7 267.8 Rhyolite Crystal Lapilli Tuff								
266.00										Rb	^^ 267.8 276.4 Rhyolite Breccia								
276.00										Rc	^^ 276.4 286.9 Rhyolite Crystal Tuff, fine-grained, "ashy", appearing more silicified toward base								
282.00																			
	99	80																	
284.00																			
	99	90								Rc	^^ 286.9 383.4 Rhyolite Crystal Tuff, quartz-plag crystals, with occasional lapilli-sized rhyolite clasts, coarsens with depth								
288.50																			
	99	50																	
290.50																			
	99	75																	
294.50																			
	100	100																	
296.00																			
	99	80																	
301.00																			
	100	100																	
306.00																			
	100	75																	
313.50																			
	100	70																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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
324.00																				
	100	85																		
334.00																				
	99	75																		
341.00																				
	100	90																		
346.00																				
	99	75																		
356.00																				
	100	85																		
364.00																				
	99	90	R3	b	10	2						Note: @ 365.0-377.0 Increase in rounded blue quartz eyes							
				b	45															
				b																
				c																
374.00				c																
	99	95	R3	c	30	2														
				c	50							Note: @ 377.0-383.4 Interbedded Rhyolite Crystal Tuff, chemical sediment							
				c																
				c																
384.00				c																
	100	100	R3	c	30	2						** 383.4 399.0 CHEMICAL SEDIMENT, cherty and calcareous lenses with apparent clasts and sediment							
				a	50															
				b																
				b																
394.50				b																
	100	95	R3	b	30	2														
				b	50															
				a							MSch	** 399.0 402.5 MASSIVE SULFIDE, cherty	e	50	5	2			57

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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								c	8	1			2		13
				c						ChC*	** 402.5 424.0 DIOPSIDE-ALTERED CHERT	c	8	1			2		13
404.50												c	8	1			2		13
	100	95	R3	b	30	2						c	8	1			2		13
				b	50							c	8	1			2		13
				a								c	8	1			2		13
				c								c	8	1			2		13
414.00				b								c	8	1			2		13
	100	100	R3	a	30	2						c	8	1			2		13
416.00					50							c	8	1			2		13
	100	95	R3	a	10	2						c	8	1			2		13
				a	60							c	8	1			2		13
				a								c	8	1			2		13
				a						XChc*p	** 424.0 444.0 TUFFITE, Diopside-altered, with pyrrhotite	c	8	1			2		13
426.00				b								c	15	3			5		23
	100	100	R3	b	10	2						c	15	3			5		23
				b	60							c	15	3			5		23
				b								c	15	3			5		23
				b								c	15	3			5		23
436.00				b						MS	^^ 436.0 440.0 Massive Sulfide	c	15	3			5		23
	100	100	R3	c	30	2						f	60				5		65
				c	50							f	60				5		65
				c															
				c						W	** 444.0 470.0 WACKE?								
446.00				b															
	100	95	R3	b	10	2													
449.50				c	50														
	100	95	R3	c	20	1				Ch	^^ 451.8 461.3 Chert, black, fractured, with sulfides	b	4	1	3				8
				a								b	4	1	3				8
456.00				a								b	4	1	3				8
	100	90	R3	a	5	2						b	4	1	3				8
				a	20							b	4	1	3				8
				c						W	** 461.3 470.0 WACKE								
				b															
466.00				b															
	100	85	R3	b	5	2													
				c	60					Xt*	** 470.0 480.5 TUFFITE, talcose, with diopside	c	10				3		13
				c								c	10				3		13
				c								c	10				3		13
476.00				c								c	10				3		13

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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
	99	85	R2	c	10	2							c	10				3		13
				c	30						W	** 480.5 492.4 WACKE ?	c	10				3		13
				a																
484.00				a																
	99	85	R2	b	10	2														
486.00					30															
	99	90	R2	b	20	2														
				a	50															
				b							Xt	** 492.4 495.6 TUFFITE, talcose	c	15						15
				b									c	15						15
496.00				c							TSs	** 495.6 500.2 TALCOSE SEDIMENTS, with sulfide	c	15						15
	100	90	R2	c	20	2							b	5						5
				c	50								b	5						5
				c							BP,l	** 500.2 506.0 BEDDED PYRRHOTITE, laminated	b	5						5
				c																
				c																
506.00											MSt#	** 506.0 526.5 MASSIVE SULFIDE, talcose, with diopside								
	98	80	R2	b	10	2							d	40						40
				b	30								d	40						40
				b									d	40						40
				c									d	40						40
516.00				c									d	40						40
	99	95	R2	c	10	2							d	40						40
				c	30								d	40						40
				c									d	40						40
				c									d	40						40
				c									d	40						40
526.00				c							Rt#	** 526.5 533.0 RHYOLITE TUFF, altered	d	40						40
	100	95	R3	c	10	2														
				c	30															
				c																
534.00				c							QD	** 533.0 568.5 QUARTZ DIORITE								
	100	90	R3	b	10	2														
				b	30															
				a																
				a																
544.00				a																
	100	100																		

ROCK QUALITY:

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

DRILL HOLE: LYN91-54

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
554.00	100	100																	
564.00	100	100																	
										MS	** 568.7 572.0 MASSIVE SULFIDE								
										W	** 572.0 585.5 WACKE ?	d	30						
574.00	100	100																	
584.00	100	100								QD	** 585.5 640.0 QUARTZ DIORITE								
										gQD	^^ 585.5 588.0 Quart Diorite, Granophyric								
594.00	100	100																	
604.00	100	100																	
606.00	100	100																	
616.00	100	100																	
626.00	100	100																	

DRILL HOLE: LYN91-54

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
636.00																			
	100	100																	
640.00											E.O.H. 640' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	179.6	-60.8
200'	180.2	-61.3
300'	180.4	-61.6
400'	179.8	-61.9
516'	181.0	-61.9

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: J. Schaff
DATE COLLARED: 1-17-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-55 (WDNR #209)

DATE: 7-18-91
PAGE 1 OF 8

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-19-91

BEARING: S180.6E INCLINATION: -60.9 T.D: 520'
COORDINATES: L10100 E, 11060 N
ELEV: 1560.6' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 57.0			⋇⋇ 0.0 57.0 OVERBURDEN	
57.0 61.0	(not recovered)			
57.0 155.0		R	⋇⋇ 57.0 155.0 RHYOLITE	
88.0 91.0		IR	^^ 88.0 91.0 Rhyolite Intrusive Dike	
155.0 297.0		VCS	⋇⋇ 155.0 297.0 VOLCANICLASTIC SEDIMENTS	
155.0 160.5		SS	^^ 155.0 160.5 Sandstone	
160.5 170.0		SL	^^ 160.5 170.0 Siltstone	
170.0 195.0		⋇R	^^ 170.0 195.0 Spherulitic Rhyolite	
195.0 252.0		SS	^^ 195.0 252.0 Sandstone	
252.0 265.0		WL	^^ 252.0 265.0 Lapilli Wacke	
265.0 297.0		SS	^^ 265.0 297.0 Sandstone	
297.0 332.9		CSs,b	⋇⋇ 297.0 332.9 CALCAREOUS SEDIMENT	
332.9 345.0		MSb	⋇⋇ 332.9 345.0 MASSIVE SULFIDE	
345.0 358.5		TS	⋇⋇ 345.0 358.5 TALC SEDIMENT	
358.5 452.7		MSt	⋇⋇ 358.5 452.7 MASSIVE SULFIDE	
358.5 373.5		MSt	^^ 358.5 373.5 Massive Sulfide, Talcose	
360.5 362.5		Md	Note: @ 360.5 362.5 Basalt Dike	
373.5 393.4		Dd	^^ 373.5 393.4 Dacite Dike	
393.4 407.8		MSc	^^ 393.4 407.8 Massive Sulfide	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	179.6	-60.8
200'	180.2	-61.3
300'	180.4	-61.6
400'	179.8	-61.9
516'	181.0	-61.9

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: J. Schaff
DATE COLLARED: 1-17-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-55 (WDNR #209)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-19-91

BEARING: S180.6E INCLINATION: -60.9 T.D: 520
COORDINATES: L10100 E, 11060 N
ELEV: 1560.6' SEC: 15 TWP: 37N RANGE: 4

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
407.8 428.0		Dd	^^ 407.8 428.0 Dacite Dike	
421.0 422.4		IR	Note: @ 421.0 422.4 Rhyolite Intrusive Dike	
425.0 426.0		IR	Note: @ 425.0 426.0 Rhyolite Intrusive Dike	
428.0 452.7		MSb	^^ 428.0 452.7 Massive Sulfide	
452.7 520.0		QD	⊠ 452.7 520.0 QUARTZ DIORITE	
452.7 454.0		gQD	^^ 452.7 454.0 Quartz Diorite, Granophyric	
			E.O.H. 520' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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 57.0											** 0.0 57.0 OVERBURDEN								
											~~ 0.0 30.0 Fine sand								
											~~ 30.0 38.0 Silty sand								
											~~ 38.0 45.0 Sand and gravel								
											~~ 45.0 57.0 Gravel, with clay, and boulders								
										R	** 57.0 155.0 RHYOLITE, very fine-grained, black to reddish brown, numerous calcite filled fractures								
61.0																			
	99	60	R3	a	20	2													
64.0				a.	45														
	100	80	R3	a	20	2													
65.0					60														
	100	80	R3	a	10	2													
				a	60														
				a							Note: @ 69.0-72.0 Strong iron (?) staining								
				a															
73.5																			
	100	95	R3	a	15	2					Note: @ 61.0-155.0 Possible Rhyolitic to dacitic dike swarm, unspecified type alteration								
				a	60														
				a															
				a															
83.0				a															
	99	85	R3	a	15	2													
88.0				a	60														
	95	40	R3	a	20	2				IR	~~ 88.0 91.0 Rhyolite Intrusive Dike, fine-grained, pale green; orange (iron oxide?) wallrock alteration, strong brecciation, (possible fault zone)								
91.0				a	40														
	100	85	R3	a	10	3													
				a	30														
				a	60														
				a															
101.0				a															
	100	100	R3	a	20	2													

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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
105.0				a	40															
	100	95	R3	a	10	3														
				a	30															
				a	70															
				a																
115.0				a																
	100	100	R3	a	5	3														
				a	30															
				a	55															
				a																
125.0				a																
	100	100	R3	a	50	3														
				a	30															
				a	55															
				a																
135.0				a																
	100	95	R3	a	5	3														
				a	30															
				a	60															
				a																
145.0				a																
	100	100	R3	a	10	3														
				a	40															
150.5					60															
	100	100	R3	a	10	3														
				a	40															
155.0				a	60															
	99	95	R4	a	10	2					VCS	** 155.0 297.0 VOLCANICLASTIC SEDIMENTS								
				a	50						SS	^^ 155.0 160.5 Sandstone, very fine-grained, black, very silicic or cherty								
				a																
				b																
				b							SL	^^ 160.5 170.0 Laminated Siltstone or ash, with minor interbedded spherulites								
165.0																				
	100	95	R3	b	10	2														
				b	60						*R	^^ 170.0 195.0 Spherulitic Rhyolite, black, very fine-grained, silicic matrix								
				a																
				b																
175.0				b																

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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	R3	b	15	2						Note: @ 170.0-171.0 Possibly a small turbidity flow, contorted bedding, light grey in color								
				b	30															
				c																
				c																
185.0				c																
	99	70	R3	c	10	3														
				c	30															
				c	50															
				a																
195.0				c																
	99	60	R3	b	10	2					SS	^^ 195.0 252.0 Sandstone, very fine-grained, black, occasional 1-2" zones of laminated siltstones								
				a	30															
				a																
				a																
205.0				a																
	100	80	R4	a	10	3														
				b	30															
				a	60															
				b																
215.0				b																
	100	95	R4	b	10	3														
				b	30															
				b	60															
				a																
225.0				a																
	100	100	R4	b	10	2														
				c	50															
				c																
				c																
235.0				c																
	99	85	R4	c	10	3						Note: @ 236.0-252.0 Occasional zones of coarser-grained tuff, possibly zones of quartz lithic wackes(?)								
				c	30															
				c	70															
				c																
245.0				a																
	100	100	R4	b	10	3														
				a	30															
				b	60						WL	^^ 252.0 265.0 Lapilli Wacke, very fine-grained, minor rounded quartz clasts, silicic, (possibly an								
				a																
255.0				b																

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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	80	R3	b	10	3						agglomerate?)									
				a	30																
				a	60							Note: @ 263.0-265.0 Strongly sheared,									
				a																	
265.0				a																	
	100	95	R4	a	20	2					SS	^^ 265.0 297.5 Sandstone, very fine-grained (ash?), dark green to black, trace of disseminated pyrite									
				a	50																
				b																	
				b																	
275.0				b																	
	100	95	R3	b	5	3															
				b	25																
				b	60																
				b																	
285.0				b																	
	100	100	R3	b	5	3															
				b	20																
				b	50							Note: @ 290.0-291.5 Zone of diopside and carbonate alteration, (dike or fault?)									
				b																	
295.0				b																	
	100	90	R3	b	20	3					CSs,b	>< 297.5 332.9 CALCAREOUS SEDIMENT, contorted bedding, weak diopside alteration	b		7			1			8
				b	40								b		7			1			8
				c	60								b		7			1			8
				b									b		7			1			8
305.0				b									b		7			1			8
	100	95	R3	b	5	3							b		7			1			8
				b	40								b		7			1			8
				b	60								b		7			1			8
				b									b		7			1			8
315.0				b									b		7			1			8
	100	100	R3	a	5	3							b		7			1			8
				b	20								b		7			1			8
				c	40								b		7			1			8
				c									b		7			1			8
325.0				b									b		7			1			8
	100	100	R3	b	5	3							b		7			1			8
				b	20								b		7			1			8
				c	60						MSb	>< 332.9 345.0 MASSIVE SULFIDE, weakly bedded	b		7			1			8
				c									b		7			1			8
335.0				b										e	45		1				46
														e	45		1				46

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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
	99	95	R3	b	5	3							e	45		1				46
				b	25								e	45		1				46
				b	40								e	45		1				46
				c									e	45		1				46
345.0				c							TS	** 345.0 358.5 TALC SEDIMENT, strong talc and diopside alteration	e	45		1				46
	100	100	R2	b	45	2							b	7						7
				b	60								b	7						7
				b									b	7						7
				c									b	7						7
355.0				b									b	7						7
	99	85	R2	b	40	2					MS	** 358.5 452.7 MASSIVE SULFIDE	b	7						7
				b	60								b	7						7
				b							MSt	^^ 358.5 373.5 Massive Sulfide, talcose and minor diopside alteration	b	7						7
				a									b	7						7
				a										e	35					35
												Note: @ 360.5 362.5 Basalt Dike		e	35					35
365.0														e	35					35
	99	90	R2	b	20	2								e	35					35
				c	50									e	35					35
				b										e	35					35
				b										e	35					35
375.0				b							D	^^ 373.5 393.4 Dacite Dike, plag-phyric, black, fine-grained, chilled margins large 1-5mm plagioclase phenocrysts		e	35					35
	100	95	R3	b	5	3														
				b	50															
				b	70															
				b																
385.0				b																
	99	70	R1	a	30	2						Note: @ 388.2-390.0 Soft, fractured talc altered shear zone or dike (?)								
				a	50															
				b																
				b							MSc	^^ 393.4 407.8 Massive Sulfide, weak diopside alteration, contorted bedding, minor amber sphalerite, 1% disseminated cubic pyrite								
395.0				c									d	30		1				31
	100	95	R2	c	30	2							d	30		1				31
				d	50								d	30		1				31
				c									d	30		1				31
				c									d	30		1				31
405.0				c									d	30		1				31
	100	95	R3	c	10	2					D	^^ 407.8 428.0 Dacite Dike, plag-phyric, chilled margins, 1-5 mm plagioclase	d	30		1				31
				b	45								d	30		1				31

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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
												phenocrysts, unit same as 373.5-393.4								
				c																
				c																
415.0				b																
	100	95	R3	b	5	3														
				b	30															
				b	60															
				b								Note: @ 421.0 422.4 Intrusive Rhyolite Dike, light green diopside alteration								
				b																
425.0												Note: @ 425.0 426.0 Intrusive Rhyolite Dike, light green diopside alteration								
	100	100	R3	b	5	3					MSb	^^ 428.0 452.7 Massive Sulfide, bedded	d	35		1				36
				b	30								d	35		1				36
				b	70							Note: @ 431.0-433.3 Zone barren of sulfides, possibly fine-grained tuff or ash	d	35		1				36
				c									d	35		1				36
435.0				b									d	35		1				36
	100	90	R2	b	30	2							d	35		1				36
				b	55								d	35		1				36
				b									d	35		1				36
				c									d	35		1				36
				c									d	35		1				36
445.0																				
	100	95	R3	c	35	3							d	35	3	1				39
				c	50								d	35	3	1				39
				c	70						QD	** 452.7 520.0 QUARTZ DIORITE	d	35	3	1				39
				b									d	35	3	1				39
				b							gQD	^^ 452.7 454.0 Quartz Diorite, Granophyric								
455.0																				
	100	100	R4	b	10	3														
				b	55															
				b	70															
465.0				b																
	100	100	R4	b	10	3														
468.0				c	45															
					75															
	100	100	R4	c	30	3														
				b	45															
				b	65															
475.0				b																
	100	100																		

ROCK QUALITY:

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

DRILL HOLE: LYN91-55

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
485.0																			
	100	100																	
495.0																			
	100	100																	
500.5																			
	100	100																	
509.7																			
	100	100																	
520.0											E.O.H. 520' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
300'	180.6	-62.6
600'	182.7	-61.6
900'	186.2	-59.8
1200'	191.6	-59.8
1500'	196.8	-58.9
1879'	203.2	-57.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-17-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-56 (WDNR #237)

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

BEARING: S179.9E INCLINATION: -63 T.D: 1879'
COORDINATES: L10200 E, 12725 N
ELEV: 1557.7' SEC: 15 TWP: 37N RANGE: 4E

DATE: 7-18-91
PAGE 1 OF 27

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 25.0			>< 0.0 25.0 OVERBURDEN	
	(not recovered)			
25.0 393.0		D	>< 25.0 393.0 DACITE	
43.0 85.0		pR	^^ 43.0 85.0 Scattered Rhyolite Porphyry Sills or Flows	
193.0 207.0		SL	^^ 193.4 207.0 Siltstone	
['317.0 232.0		SL	^^ 317.0 323.0 Siltstone	
344.0 364.0		SL	^^ 344.0 364.0 Siltstone	
393.0 796.0		R	>< 393.0 796.0 RHYOLITE TUFF	
393.0 400.0		Rc	^^ 393.0 400.0 Crystal Tuff	
400.0 412.0		Rl	^^ 400.0 412.0 Lapilli Tuff	
412.0 480.0		Rch	^^ 412.0 480.0 Cherty Tuff	
480.0 499.0		Rl	^^ 480.0 499.0 Lapilli Tuff	
499.0 514.0		Rc	^^ 499.0 514.0 Crystal Tuff	
514.0 592.8		Rl	^^ 514.0 592.8 Lapilli Tuff	
592.8 597.5		D	^^ 592.8 597.5 Dacite	
597.5 615.0		pR	^^ 597.5 615.0 Porphyritic Rhyolite	
615.0 705.0		Rl	^^ 615.0 705.0 Lapilli Tuff	
705.0 721.5		Rlb	^^ 705.0 721.5 Lapilli Tuff Breccia	
721.5 736.8		pD	^^ 721.5 736.8 Plagrphyric Dacite Sill	
736.8 768.5		Rc	^^ 736.8 768.5 Crystal Tuff	
768.5 785.4		IR	^^ 768.5 785.4 Intrusive Rhyolite, Granophyric	
785.4 796.0		pR	^^ 758.4 796.0 Porphyritic Rhyolite	
796.0 850.6		SL	>< 796.0 850.6 SILTSTONE	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
300'	180.6	-62.6
600'	182.7	-61.6
900'	186.2	-59.8
1200'	191.6	-59.8
1500'	196.8	-58.9
1879'	203.2	-57.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-17-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-56 (WDNR #237)

DATE: 7-18-91
PAGE 1 OF 27

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

BEARING: S179.9E INCLINATION: -63 T.D: 1879'
COORDINATES: L10200 E, 12725 N
ELEV: 1557.7' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
850.6 882.0		R	>< 850.6 882.0 RHYOLITE	
882.0 914.5		SL,lm	>< 882.0 914.5 SILTSTONE, Laminated, With Magnetite	
914.5 957.0		R	>< 914.5 957.0 RHYOLITE	
914.5 922.0		pR	^^ 914.5 922.0 Porphyritic Rhyolite	
922.0 957.0		Rl,ch	^^ 922.0 957.0 Rhyolite Lapilli Cherty Tuff	
957.0 989.0		SL	>< 957.0 989.0 SILTSTONE	
973.0 980.0		BP	^^ 973.0 980.0 Bedded Pyrrhotite	
989.0 993.0		CS	>< 989.0 993.5 CALCAREOUS SEDIMENT, With Magnetite	
993.0 1036.5		D	>< 993.5 1036.5 DACITE	
1036.5 1053.5		BPM	>< 1036.5 1053.5 BEDDED TO MASSIVE PYRRHOTITE & MAGNETITE	
1053.5 1076.5		CS	>< 1053.5 1076.5 CALCAREOUS SEDIMENT	
1076.5 1093.5		TS	>< 1076.5 1093.5 TALCOSE SEDIMENT	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
300'	180.6	-62.6
600'	182.7	-61.6
900'	186.2	-59.8
1200'	191.6	-59.8
1500'	196.8	-58.9
1879'	203.2	-57.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-17-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-56 (WDNR #237)

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

BEARING: S179.9E INCLINATION: -63 T.D: 1879'
COORDINATES: L10200 E, 12725 N
ELEV: 1557.7' SEC: 15 TWP: 37N RANGE: 4E

DATE: 7-18-91
PAGE 1 OF 27

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
1093.5 1107.0		BP,l	>< 1093.5 1107.0 BEDDED PYRRHOTITE, Laminated	
1107.0 1147.0		Cht,l	>< 1107.0 1147.0 CHERTY TUFF, Laminated, With Pyrite & Pyrrhotite	
1147.0 1172.0		W	>< 1147.0 1172.0 WACKE	
1172.0 1203.0		Ra	>< 1172.0 1203.0 RHYOLITE TUFF (Ashy)	
1203.0 1240.0		D	>< 1203.0 1240.0 DACITE	
1240.0 1445.0		R	>< 1240.0 1445.0 RHYOLITE	
1240.0 1269.5		Rl	^^ 1240.0 1269.5 Lapilli Tuff	
1269.5 1372.0		Rc	^^ 1269.5 1372.0 Crystal Tuff	
1372.0 1399.0		Ra	^^ 1372.0 1399.0 Ash Tuff	
1399.0 1445.0		Rl	^^ 1399.0 1445.0 Lapilli Tuff	
1445.0 1461.5		D	>< 1445.0 1461.5 DACITE	
1461.5 1492.0		Ra	>< 1461.5 1492.0 RHYOLITE TUFF, (Ashy)	
1492.0 1525.6		D	>< 1492.0 1525.6 DACITE	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
300'	180.6	-62.6
600'	182.7	-61.6
900'	186.2	-59.8
1200'	191.6	-59.8
1500'	196.8	-58.9
1879'	203.2	-57.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-17-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-56 (WDNR #237)

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

BEARING: S179.9E INCLINATION: -63 T.D: 1879'
COORDINATES: L10200 E, 12725 N
ELEV: 1557.7' SEC: 15 TWP: 37N RANGE: 4E

DATE: 7-18-91
PAGE 1 OF 27

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
1525.6 1535.4		Rc	>< 1525.6 1535.4 RHYOLITE CRYSTAL TUFF	
1535.4 1564.0		D	>< 1535.4 1564.0 DACITE	
1564.0 1600.0		Rc	>< 1564.0 1600.0 RHYOLITE CRYSTAL TUFF	
1600.0 1738.7 1600.0 1645.0		gQD	>< 1600.0 1738.7 RHYOLITE OR QUARTZ DIORITE, Granophyric ^^ 1600.0 1645.0 Quartz Diorite, Granophyric	
1738.7 1757.1		QD	>< 1738.7 1757.1 QUARTZ DIORITE	
1757.1 1841.0			>< 1757.1 1841.0 PREDOMINANTLY HORNFELSED TUFF	
1841.0 1878.5		QD	>< 1841.0 1878.5 QUARTZ DIORITE	
			E.O.H. 1878.5 (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
0.0 25.0											** 0.0 25.0 OVERBURDEN								
25.00										D	** 25.0 393.0 DACITE								
	99	95																	
27.00																			
	99	95																	
34.50																			
	100	100																	
37.00																			
	100	100																	
44.00																			
	99	95								pR	^^ 43.0 46.5 Rhyolite Sill or Flow, epidote altered top, greyish, granophyric								
47.00																			
	100	95																	
57.00																			
	99	95							-50B	pR	^^ 59.4 65.7 Rhyolite Sill or Flow, pinkish-grey, granophyric, possibly banded								
62.50																			
	100	100																	
66.00																			
	100	100																	
76.50																			
	98	80																	
										pR	^^ 80.5 85.0 Rhyolite Flow or Sill, epidote altered top, pinkish-grey, granophyric								
84.50																			
	100	100																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
92.50																				
	100	90										Note: Dacite is alternately fine-grained, and massive, and plag-phyric								
97.50																				
	99	90	R3	a	30	2														
				a	60															
				c																
106.00				c																
	100	100	R3	c	30	2														
				c	60															
				b					2.78											
				b																
116.00				b																
	100	95																		
122.00																				
	100	100																		
127.00																				
	100	95																		
									2.83											
137.00																				
	100	95																		
									2.73											
144.00																				
	100	100																		
												Note: @ 150.5-154.6 Breccia crystal-rich matrix, bleached rhyolite porphyry fragments 6mm and greater								
154.00																				
	100	100																		
157.00																				
	100	100																		
									2.9											

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
167.00																			
	100	90																	
177.00																			
	100	100																	
181.50																			
	100	100																	
187.00																			
	100	100																	
190.50																			
	100	95																	
										SL,l	^^ 193.4 207.0 Siltstone, occasionally laminated with crystal-rich beds								
197.00									-40B										
	100	100							-40B										
199.00																			
	100	100																	
207.00																			
	100	100																	
208.00																			
	100	90																	
217.00																			
	100	95																	
226.40								2.85											
	100	100																	
227.00																			
	99	85									Note: @ 227.0-232.0 Fracturing parallel to core axis								
236.00																			
	100	95																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
237.00																			
	100	95						2.77											
244.50																			
	100	75																	
247.00																			
	100	95																	
253.00								2.77											
	99	75																	
257.00																			
	100	100																	
262.50																			
	100	100						2.78											
267.00																			
	99	85																	
270.00																			
	100	100																	
273.00																			
	100	85																	
277.00																			
	99	95																	
283.00																			
	100	100																	
291.00																			
	100	100																	
297.00																			
	99	90																	
299.50																			
	100	100																	
307.00																			
	100	90																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
317.00																			
	100	100								SL,1	^^ 317.0 323.0 Siltstone, laminated beds								
327.00																			
	100	100																	
337.00										SL,1	^^ 334.0 364.0 Siltstone ?, laminated, with clastic intervals and epidote alteration								
	100	100																	
347.00																			
	100	95																	
357.00																			
	100	100																	
367.00																			
	100	100																	
373.00																			
	100	100																	
377.00																			
	100	100																	
380.50																			
	100	100																	
387.00																			
	100	100																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
										SR	** 393.0 785.4 SWAMP RHYOLITE								
										gR	^^ 393.0 394.0 Granophyric, possible flow top								
395.50										Rc	^^ 394.0 400.0 Crystal Tuff, lt. grey								
	99	90																	
										Rl	^^ 400.0 412.0 Lapilli Tuff, lt. grey, granophyric matrix, with pink clasts 6-10 mm								
405.50																			
	100	100																	
407.00																			
	100	100																	
										Rch	** 412.0 480.0 CHERTY TUFF, lt. grey, silicious, laminated intervals and crystal-rich zones								
415.60																			
	100	100																	
417.00																			
	100	100																	
424.60																			
	100	100																	
427.00																			
	100	100																	
433.60																			
	100	100																	
437.00																			
	100	100																	
442.60																			
	100	100																	
447.00																			
	100	100																	
451.60																			
	100	100																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
457.00																			
	100	95																	
460.60																			
	100	100																	
467.00																			
	100	85																	
470.00																			
	100	100																	
477.00																			
	100	100																	
479.60										R1	^^ 480.0 499.0 Rhyolite Lapilli Tuff								
	100	100																	
487.00																			
	100	100																	
489.00																			
	100	100																	
497.00																			
	99	90								Rc	^^ 499.0 514.0 Rhyolite Crystal Tuff								
507.00																			
	100	100																	
515.50										R1	^^ 514.0 592.8 Rhyolite Lapilli Tuff								
	100	95																	
523.00																			
	100	100																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-56

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
533.00																			
	100	100																	
537.00																			
	100	100																	
544.50																			
	100	100																	
554.50																			
	100	100																	
564.50																			
	100	100																	
574.50																			
	100	100									Note: @ 574.0-592.8 Altered								
576.00																			
	100	100																	
577.00																			
	100	100																	
581.50																			
	100	100																	
587.00																			
	100	100																	
590.50																			
	100	100							-40C	Md	^^ 592.6 597.5 Mafic Flow/Dike ?, fine-grained, dark, upper contact looks depositional, embayed								
597.00																			
	100	100							-40C	pR	^^ 597.5 615.0 Porphyritic Rhyolite Sill ?, later than above mafic dike,								

Noranda Exploration Inc.
Eastern Divison

DATE: 10-10-91
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HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	180.0	-60.1
200'	179.9	-60.0
300'	181.2	-59.9
400'	181.4	-59.7
510'	181.6	-59.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: T. Harding
DATE COLLARED: 1-22-91
REMARKS: Log checked against assays
CORE SIZE: NQ

HOLE NO: LYN91-62 (WDNR #225)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 1-25-91

BEARING: S181.06E INCLINATION: -60.4 T.D: 510'
COORDINATES: L10500 E, 10625 N
ELEV: 1560.4' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
295.0 329.0		SS	** 295.0 329.0 SANDSTONE	
329.0 333.7		TS	** 329.0 333.7 TALC SEDIMENT	
333.7 334.5		gQD	** 333.7 334.5 GRANOPHYRIC QUARTZ DIORITE SILL	
334.5 432.0		D,SS	** 334.5 432.0 DACITE AND SANDSTONE	
432.0 451.5		TS	** 432.0 451.5 TALC SEDIMENT	
438.0 443.0		Xz,t	^^ 438.0 443.0 Tuffite, Talcose	438.0 443.0 11% Sp, Cp
451.5 458.0		Chp	** 451.5 458.0 CHERT, With Pyrrhotite	
458.0 462.6		SS	** 458.0 462.6 SANDSTONE, Hornfelsed	
462.6 510.0		QD	** 462.6 510.0 QUARTZ DIORITE	
462.6 465.0		gQD	^^ 462.6 465.0 Quartz Diorite, Granophyric	
			E.O.H. 510' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN91-62

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 58.0											** 0.0 58.0 OVERBURDEN								
											^^ 0.0 3.0 Muskeg								
											^^ 3.0 35.0 Fine sand								
											^^ 35.0 40.0 Silty sand								
											^^ 40.0 58.0 Sand, gravel, and boulders								
										R	** 58.0 164.9 RHYOLITE, subhedral quartz and feldspar phenocrysts, black to grey, weak graded appearance								
										Rc	^^ 58.0 104.5 Rhyolite Crystal Tuff, lt. to medium grey, crystal rich, with ashy beds toward base. Flat lower contact (80 degrees).								
63.50																			
	100	100																	
65.00																			
	100	90																	
75.00																			
	100	100																	
82.40																			
	100	100																	
85.00																			
	100	100																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-62

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
95.00																			
	100	95																	
105.00										IR	^^ 104.5 147.9 Intrusive Rhyolite, aphanitic to granophyric, tan to pink-orange, chlorite altered along fractures								
	100	100																	
115.00																			
	100	95																	
120.00																			
	100	95									Note: Epidote or chlorite alteration along fractures								
125.00																			
	100	90																	
135.00											Note: @ 131.0 141.0 More porphyritic than granophyric, red-pink								
	100	85																	
145.00																			
	100	90								Rc	^^ 148.0 164.9 Rhyolite Crystal Tuff, occasional "accidental" clast (2-6 mm), lt. grey, glassy matrix, possibly a flow.								
155.40																			
	100	70																	
164.90																			
	99	50								Sk	** 164.9 181.0 SEDIMENT, with skarn alteration and sulfides. Ep-Gt-Mt with sphalerite.	b	3			1	2		6
												b	3			1	2		6
												b	3			1	2		6
												b	3			1	2		6
										FZ	^^ 164.9 171.0 Fault Zone, Ep-chlorite	b	3			1	2		6

ROCK QUALITY:

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

DRILL HOLE: LYN91-62

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
											alteration, quartz vein, both contacts broken	b b b	3 3 3			1 1 1	2 2 2		6 6 6
168.00	99	90																	
175.00	100	95																	
									-15F	Rc	** 181.0 198.0 RHYOLITE CRYSTAL TUFF, moderately bedded, sericite alteration, blue quartz eyes								
									-5F	gRd	^^ 182.3 193.0 Granophyric Rhyolite Dike, Ep-altered along high angle fractures								
185.00	100	90																	
									-10C										
195.00	100	85								SS	** 198.0 200.5 SANDSTONE, black, very fine-grained								
										Rca	** 200.5 212.6 RHYOLITE CRYSTAL TUFF, carbonate alteration, tufa beds alternating with crystal beds, with tufa clasts								
203.00	100	100	R3	c	10	2													
204.00	100	100	R3	b	10	2													
				a	30														
				a															
				b						CS	** 212.6 251.2 CALCAREOUS SEDIMENT, contorted bedding, strong to moderate diopside & serpentine alteration, trace disseminated sulfides (Py, Po, Sp), "oolitic-like" beds.	b	2			1	2		5
213.00				b								b	2			1	2		5
	99	95	R3	a	10	2						b	2			1	2		5
214.00					30							b	2			1	2		5
	98	90	R2	a	10	2						b	2			1	2		5
				a	40							b	2			1	2		5
				b								b	2			1	2		5
				c								b	2			1	2		5

DRILL HOLE: LYN91-62

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
				c									b	2			1	2		5
34.00				c									b	2			1	2		5
	100	85	R2	c	10	2						Note: @ 225.0- 251.2 Weird brick red	b	2			1	2		5
				c	30							mineral	b	2			1	2		5
				b									b	2			1	2		5
				a									b	2			1	2		5
34.00				b									b	2			1	2		5
	100	95	R2	c	10	2							b	2			1	2		5
				a	40								b	2			1	2		5
				b									b	2			1	2		5
				c									b	2			1	2		5
44.00				c									b	2			1	2		5
	100	100	R2	b	10	2							b	2			1	2		5
45.00					40								b	2			1	2		5
	100	95	R2	b	10	3							b	2			1	2		5
				b	40						CSs	^^ 249.0 251.2 Calcareous Sediment, with	b	2			1	2		5
				b	60							sulfides	b	2			1	2		5
				b									b	2			1	2		5
				b							VCSsp	** 251.2 276.0 SEDIMENT, with disseminated	c	8			1	2		11
												to stringery Sp, Py, Po, not bedded, not	c	8				5		13
												obviously talcose or cherty. Patchy	c	8				5		13
												diopside and green	c	8				5		13
													c	8				5		13
											VCSs	^^ 251.2 253.5 Vocaniclastic Sediment,	c	8				5		13
												with sulfides	b	2				5		7
													b	2				5		7
											Xz	^^ 253.5 258.0 Tuffite	b	2				5		7
55.00													b	2				5		7
	99	85	R3	c	10	3							b	2				5		7
				b	30								b	2				5		7
				b	60								b	2				5		7
				a							FZ	^^ 263.0 274.0 Fault Zone, core broken,	b	2				5		7
65.00				a								fractured	b	2				5		7
	100	85	R2	a	10	3							b	2				5		7
				a	30								b	2				5		7
				a	60								b	2				5		7
				a									b	2				5		7
75.00											TS	** 276.0 295.0 TALC SEDIMENT	c	8				3		11
	100	95	R2	a	10	3							c	8				3		11
				b	30						TSs	^^ 276.0 283.0 Talc Sediment, with	c	8				3		11

ROCK QUALITY:

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

DRILL HOLE: LYN91-62

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
				a	60							sulfides	c	8				3		11
				a									c	8				3		11
				b									c	8				3		11
285.00													b	2				3		5
	100	100	R2	a	5	3							b	2				3		5
				c	20								b	2				3		5
				c	40															
				b																
293.00																				
	99	95	R2	b	15	3					SS	** 295.0 329.0 SANDSTONE, lt. grey-black, fine to almost medium-grained, very homogeneous, no blue quartz eyes but looks clastic in some places. Some places are altered, almost spherulitic looking. Possibly talcose. 2-3% Fe-sulfides on fractures.							
				b	35															
299.00				b	60															
	100	100																		
305.00																				
	100	95																		
315.00																				
	100	95																		
322.00																				
	100	95																		
332.00											TS	** 329.0 333.7 TALC SEDIMENT	a					3		3
	100	100											a					3		3
334.00										-40C	gQD	** 333.7 334.5 GRANOPHYRIC QUARTZ DIORITE SILL	a					3		3
	100	100								-60C			a					3		3
											D	** 334.5 432.0 DACITE AND SANDSTONE, fine to very fine-grained								
										-50C	gQDd	^^ 336.0 338.0 Granophyric Quartz Diorite Dike								
										-36C										
342.00																				

DRILL HOLE: LYN91-62

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
	100	100																	
345.00	100	100																	
355.00	100	100																	
362.70	100	100																	
365.00	100	100																	
375.00	100	100																	
385.00	100	100																	
395.00	100	100																	
405.00	100	100																	
415.00	100	100																	

DRILL HOLE: LYN91-62

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	I
25.00																			
	100	95																	
										TS	** 432.0 451.5 TALC SEDIMENT, stringery Po, Py	a					2		2
35.00												a					2		2
												a					2		2
	100	100	R2	b 5	4					Xt	~~ 438.0 443.0 Tuffite, talcose	b	10	1			2		13
				b 20								b	10	1			2		13
				b 40								b	10	1			2		13
				b 65								a					2		2
45.00				b								a					2		2
	100	100	R2	a 10	2							a					2		2
46.00				30							Note: @ 451.0-451.5 Massive sphalerite	a					2		2
	100	100	R2	b 5	3						bed (70%)	a					2		2
				b 20								a					2		2
				a 40						Chp	** 451.5 458.0 CHERT, with pyrrhotite,	c	20				3		25
				a							cherty intervals with sulfides (Po, Cp)	a		1			2		3
55.00				a							along fractures	a		1			2		3
	100	100	R2	b 10	2					SS	** 458.0 462.6 SANDSTONE, hornfelsed								
				b 40															
				c						QD	** 462.6 510.0 QUARTZ DIORITE								
				c															
				c						gQD	~~ 462.6 465.0 Quartz Diorite, Granophyric								
65.00																			
	100	90	R3	b 10	2														
				b 50															
				b															
74.00				b															
	100	75	R3	a 10	2														
75.00				30															
	100	100	R3	a 10	2														
				b 40															
				a															
84.00				a															
	100	100																	
85.00																			
	100	90																	

ROCK QUALITY:

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

DRILL HOLE: LYN91-62

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
495.00																			
	100	90																	
502.00																			
											E.O.H. 510' (total depth)								

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
100'	180.0	-57.1
225'	180.8	-57.1
425'	182.8	-56.8
550'	184.4	-56.5
710'	185.2	-56.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Midwest Drilling Co.
LOGGED BY: J. Schaff
DATE COLLARED: 5-31-91
REMARKS:
CORE SIZE: NQ

HOLE NO: LYN91-63 (WDNR #194)

DATE: 7-18-91
PAGE 1 OF 11

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 6-3-91

BEARING: S181.7E INCLINATION: -59.2 T.D: 1100'
COORDINATES: L10100 E, 11285 N
ELEV: 1563.6' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 63.0			** 0.0 63.0 OVERBURDEN	
63.0 70.0	(not recovered)			
63.0 100.0		R	** 63.0 100.0 RHYOLITE	
100.0 126.5		WL	** 100.0 126.5 LAPILLI WACKE	
126.5 175.0		SS	** 126.5 175.0 SANDSTONE	
175.0 191.5		WL	** 175.0 191.5 LAPILLI WACKE	
191.5 198.2		D	** 191.5 198.2 DACITE	
198.2 215.5		SS	** 198.2 215.5 SANDSTONE	
215.5 235.5		W	** 215.5 235.5 WACKE	
235.5 239.5		SS	** 235.5 239.5 SANDSTONE	
239.5 248.3		Wch	** 239.5 248.3 WACKE, Cherty	