APPENDIX B

Geological and Geotechnical

Drill Logs 1-44 - Volume 1 of 3

Noranda Minerals Wisconsin Corp.

LYNNE PROJECT

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(pg 71-140)

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	177.2	-63.1
100'	177.2	-62.7
250'	176.6	-63.0
400'	176.2	-63.5
515'	175.6	-63.3

PROJECT: LYNNE 1874
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 7-12-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-9 (WDNR #146)

DATE: 10-20-90
PAGE 1 OF 8

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 7-18-90

BEARING: S180E INCLINATION: -63 T.D: 515'
COORDINATES: L10200 E, 10925 N
ELEV: 1564' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
289.6 310.0		Xca	** 289.6 310.0 TUFFITE, Calcareous	289.6 340.6 ~20-25% Sulfide, 10-15% Sp
310.0 337.0		CT,g	** 310.0 337.0 TUFA, Minor Graphite	
320.0 325.0		CTg,s	^^ 320.0 325.0 Minor Sulfides	
329.4 332.2		Md	^^ 329.4 332.2 Basalt Dike	
337.0 340.6		Xca	** 337.0 340.6 TUFFITE, Calcareous	
340.6 358.0		Rzch,p	** 340.6 358.0 RHYOLITE TUFF, Stringer Sulfides	340.6 363.0 ~15% Sulfide, 5-8% Sp
358.0 363.0		Xz,p	** 358.0 363.0 TUFFITE, Stringer Sulfides	
363.0 384.4		pRd	** 363.0 384.4 RHYOLITE DIKE, Feldspar Phyric	
375.0 376.8		Xt,p	^^ 375.0 376.8 Talcose Tuffite	
381.7 384.4		Xz,mp	^^ 381.7 384.4 Stringer Sulfides	
384.4 401.0		Rc	** 384.4 401.0 RHYOLITE CRYSTAL TUFF	
393.5 395.5		pOD	^^ 393.5 395.5 Quartz Diorite, Porphyritic	
401.0 409.4		Xsk,p	** 401.0 409.4 TUFFITE, Talc, Calcsilicate	401.0 429.4 ~15-25% Sulfide, 5-15% Sp,

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	177.2	-63.1
100'	177.2	-62.7
250'	176.6	-63.0
400'	176.2	-63.5
515'	175.6	-63.3

PROJECT: LYNNE 1874
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 7-12-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-9 (WDNR #146)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 7-18-90

BEARING: S180E INCLINATION: -63 T.D: 515'
COORDINATES: L10200 E, 10925 N
ELEV: 1564' SEC: 15 TWP: 37N RANGE: 4E

DATE: 10-20-90
PAGE 1 OF 8

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
409.4 410.4		pOO	** 409.4 410.4 QUARTZ DIORITE, Porphyritic	with 15% Ep, 5% Mt
410.4 426.0		Skp,s	** 410.4 426.0 CALCSILICATE	
426.0 429.5		Xsk	SULFIDE UNIT A, 426.0-453.3 ** 426.0 429.5 TUFFITE	
429.5 436.3		MSb,p	** 429.5 436.3 MASSIVE SULFIDE	429.4 453.3 ~56% Sulfide, 42% Sp, 3% Cp, 8% Ga
436.3 443.8		Xb,p	** 436.3 443.8 TUFFITE	
443.8 453.3		MSb,p	** 443.8 453.3 MASSIVE SULFIDE	
453.3 515.0		OO	** 453.3 515.0 QUARTZ DIORITE	
453.3 492.6		gOO	^^ 453.3 492.6 Granophyre	
			E.O.H. 515' (total depth)	

DRILL HOLE: LYN90-9

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

SULFIDES: % 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
0.0 50.0												** 0.0 50.0 Overburden						
0.0 20.0												^^ 0.0 20.0 Fine Sand						
20.0 41.0												^^ 20.0 41.0 Sand, Gravel with Boulders						
											Rc	** 50.0 105.0 Rhyolite Crystal Tuff						
55.0																		
	99	0		a														
56.0																		
	99	0		a														
57.0																		
	99	0		a														
59.0																		
60.0	99	0		a														
	50	0		a														
63.0				a														
	99	0		a														
64.0																		
	99	0	R2	b	10	2												
68.0				b	35													
	99	20	R2	b	30	2												
70.0					65													
	100	50	R2	b	5	2												
74.0				a	40						Rt#	^^ 73.7 83.6 Altered Tuff						
	50	0	R2	a	30	2				-45								
75.0					60													
	90	45	R2	a	25	2												
				a	40													
80.0				a														
	99	0	R3	a	15	2												
82.0					50													
	90	0	R3	a	10	2												
83.0					25													
	95	50	R3	a	5	2												
84.0					30													

ROCK QUALITY:

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

DRILL HOLE: LYN90-9

SULFIDES: % 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
	99	0	R3	a	25	2													
85.0					50														
	99	50	R2	b	30	1													
89.0				c															
	50	0	R2	b	5	2													
91.0					40														
	99	10	R2	b	20	1													
94.0				b															
	100	80	R3	c	10	2													
				c	60														
				c						-60									
				c						-70									
104.0				c								SULFIDE UNIT C: 105.0-256.0							
	100	70	R3	b	20	2				-45	X	** 105.0 133.0 Tuffite		d	20		5	10	5
				a	40						Xsk,p	^^ 105.0 123.0 Po CalcSilicate Tuffite		d	20		5	10	5
				a						-80				d	20		5	10	5
				b										d	20		5	10	5
114.0				b						-15				d	20		5	10	5
	99	50	R3	a	15	3								d	20		5	10	5
				b	40									d	20		5	10	5
														d	20		5	10	5
				a	60									c	5	2	5	3	1
				a										c	5	2	5	3	1
124.0				a										c	5	2	5	3	1
	50	20	R3	a	20	2					Xch	^^ 123.0 133.0 Cherty Tuffite		c	5	2	5	3	1
126.0					40									c	5	2	5	3	1
	99	50	R3	a	3	3								c	5	2	5	3	1
				a	20					-50				c	5	2	5	3	1
132.0				a	40									c	5	2	5	3	1
	99	65	R3	a	15	2					Rch	^^ 133.0 184.0 Cherty Rhyolite Tuff		c	5	2	5	3	1
				a	30					-80				c	5	2	5	3	1
				a										c	5	2	5	3	1
140.0				a										c	5	2	5	3	1
										-65	MS	** 142.8 199.4 Massive Sulfide		c	5	2	5	3	1
	100	90	R3	a	20	2					MS	^^ 142.8 148.0 Massive Sulfide		c	5	2	5	3	1
				b	40									c	5	2	5	3	1
				b										c	5	2	5	3	1
				a										f	70			8	
														f	70			8	

ROCK QUALITY:

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

DRILL HOLE: LYN90-9

SULFIDES: % 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
				b									f	70			8	
											MSch	^^ 148.0 184.0 Bedded Sulfide With	e	40		10	2	
150.0										-70		cherty tuff	e	40		10	2	
	100	100	R3	b	10	2				-65			e	40		10	2	
154.0				a	40								e	40		10	2	
	100	85	R3	b	10	2				-54			e	40		10	2	
				a	20								e	40		10	2	
				b						-58			e	40		10	2	
				a									e	40		10	2	
164.0				c						-80			e	40		10	2	
	100	90	R3	a	15	2							e	40		10	2	
				a	40								e	40		10	2	
				a									e	40		10	2	
171.0				a									e	40		10	2	
	100	100	R3	a	20	1						Note: Fault @ 25 degrees	e	40		10	2	
174.0				a									e	40		10	2	
	99	70	R3	a	30	2							e	40		10	2	
				a	50					-80			e	40		10	2	
				a									e	40		10	2	
182.0				a									e	40		10	2	
	100	100	R3	b	40	2							e	40		10	2	
184.0					60					-35	MSca	^^ 184.0 199.4 Calcareous Massive	e	40		10	2	
												Sulfide	d	20		5	5	
	100	45	R3	a	30	2							d	20		5	5	
				b	50					-60			d	20		5	5	
				b						-55			d	20		5	5	
				a									d	20		5	5	
193.0				a						-25		193.0 193.5 Fault gouge	d	20		5	5	
	100	20	R3	a	10	2				-30			d	15		5	5	
				b	50								d	15		5	5	
198.0				b									d	15		5	5	
	100	70	R3	b	10	2					Xch	^^ 199.4 256.0 Tuffite, Cherty Tuff	d	15		5	5	
				a	30								d	15		5	5	
204.0				a						-25			d	15		5	5	
	100	55	R4	a	10	3				-20			d	15		5	5	
				a	20								d	15		5	5	
				a	50					-18	pMd	^^ 209.7 227.8 Porphyritic Basalt Dike	d	15		5	5	
212.0				a														
	100	70	R4	a	5	2												
214.0					40													

DRILL HOLE: LYN90-9

ROCK QUALITY:

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

SULFIDES: % 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
	100	100	R5	b	30	2												
216.0					45													
	100	80	R5	b	45	2												
				b	60													
				b														
223.0				b														
	100	70	R5	b	10	3				-25								
				b	25													
229.0				a	60					-45								
	100	100	R3	a	15	2				-48								
				c	40					-35								
234.0				c						-60								
	100	95	R3	c	10	1												
				c														
				b						-45								
				c						-55								
243.0				b														
	100	70	R3	b	5	1												
				b														
				c						-45								
251.0				b						-55								
	80	100	R3	b	5	2												
252.0					20													
	100	75	R3	b	10	2						SULFIDE UNIT B: 256.0-409.4						
				a	40					-40	Rch,s	** 256.0 289.6 Rhyolite Tuff with chert, sulfide						
				a														
260.0				a														
	99	40	R3	a	20	2												
261.5					45													
	100	75	R3	a	20	2												
266.0				a	60						Md	^^ 266.9 282.7 Basalt Dike						
	100	80	R4	a	25	2				-30								
270.0				a	70													
	100	50	R4	a	20	1												
272.5																		
	100	40	R4	a	15	1												
				a														
				a														
279.0																		
	80	5	R3	a	10	3				-55								

ROCK QUALITY:

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

DRILL HOLE: LYN90-9

SULFIDES: % 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
281.5					30													
					70													
	99	50	R3	a	10	2												
284.0					70													
	99	10	R3	a	5	3												
				a	20													
289.0				a	60						Xca	^^ 289.6 310.0 Calcareous Tuffite	d	15		5		5
	100	70	R3	a	10	2				-72		with scattered graphite	d	15		5		5
				b	25								d	15		5		5
294.0				c									d	15		5		5
	100	40	R2	c	20	1							d	15		5		5
				c									d	15		5		5
				c						0			d	15		5		5
301.0				b									d	15		5		5
	99	30	R2	c	5	2				-12			d	15		5		5
				a	40					-75			d	15		5		5
307.0				a						-75			d	15		5		5
	99	0	R2	a	40	1							d	15		5		5
310.0				a						-30	CT,g	** 310.0 337.0 Tufa, Minor Graphite	d	15		5		5
										-40			c	10		5		5
	100	70	R2	b	55	1							c	10		5		5
				c									c	10		5		5
				c									c	10		5		5
317.0				c									c	10		5		5
	100	50	R2	c	45	1							c	10		5		5
321.0				c						-20			c	10		5		5
	100	95	R2	d	30	3				-45			c	10		5		5
				d	45					-20			c	10		5		5
				d	60					-40			c	10		5		5
330.0				a							Md	^^ 329.4 332.2 Basalt Dike	c	10		5		5
	100	40	R2	a	10	3				-10			d	15		5		5
334.0				b	45								d	15		5		5
					70								d	15		5		5
	100	40	R3	c	25	2				-40	Xca	** 337.0 340.6 Calcareous Tuffite	d	15		5		5
				b	50					-40			d	15		5		5
				a							Rzch,p	** 340.6 358.0 Rhyolite Tuff with	d	15		5		5
342.0				a								stringer alteration and Py-Po,	d	15		5		5
												siliceous	c	8		5		5
	100	45	R4	b	25	2							c	8		5		5
346.0				a	60								c	8		5		5

ROCK QUALITY:

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

DRILL HOLE: LYN90-9

SULFIDES: % 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
	100	100	R3	b	40	1							c	8		5		5
				c									c	4		2		5
				d									c	4		2		5
354.0				d							Rz,p	^^ 354.5 358.0 Stringer sulfides in tuff	c	3		2		5
	100	75	R3	b	20	3						disseminated pyrrhotite-pyrite	c	4		2		5
357.0				a	50								c	2		2		5
					70								c	2		2		5
	99	0	R3	a	20	3							c	2		8		5
358.0					40						Xz,p	** 358.0 363.0 Tuffite, Stringer Sulfide	c	2		10		5
					70								c	6		8		5
	100	75	R3	b	10	3							c	6		10		5
362.0				a	40								c	6		10		5
					70								c	2		10		5
	100	80	R3	a	20	2				-73	pRd	** 363.0 384.4 Rhyolite Dike, feldspar-	c	2		1		5
365.0				a	60							phyric						
	99	30	R3	a	5	3												
				a	25													
371.0				a	75													
	100	10	R3	a	15	2												
				a	50						Xt,p	^^ 375.0 376.8 Talcose Tuffite						
378.0				a														
	100	0	R3	a	20	2												
382.0				a	60						Xz,mp	^^ 381.7 384.1 Bedded to stringer						
	100	20	R3	b	20	2						sulfides in tuff						
				a	35													
											Rc	** 384.4 401.0 Rhyolite Crystal Tuff						
386.0																		
	99	35	R3	b	20	2				-65								
389.0				b	40													
	99	20	R3	a	20	2												
391.0					65													
	100	40	R3	b	10	2												
393.0					45						pQD	^^ 393.5 395.5 Quartz Diorite,						
	100	65	R3	a	20	1						porphyritic						
396.0				b														
	100	50	R3	b	15	2												
400.0				b	40													
	100	100	R3	c	15	2					Xsk,p	** 401.0 409.4 Tuffite with Calc-	d	15		5	2	8
				c	30							silicates, talc	d	15		5	2	8
				b						-90			d	15		5	2	8
													d	15		5	2	8

ROCK QUALITY:

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

DRILL HOLE: LYN90-9

SULFIDES: % 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
				c								d	15		5	2	8
410.0				b						pQD	** 409.4 410.4 Quartz Diorite, porphyritic	d	15		5	2	8
												d	15		5	2	8
												d	15		5	2	8
	100	100	R3	b	50	1			-60	Skp,s	** 410.4 426.0 Calcsilicate with Po, sulfides	c	5			5	5
				c					-90			c	5			5	5
				c					-75			c	5			5	5
				d								c	5			5	5
420.0				d								c	5			5	5
	100	100	R3	d	30	2			-55			c	5			5	5
				c	50							c	5			5	5
				c					-60	Xsk	SULFIDE UNIT A: 426.0 453.3 ** 426.0 429.5 Tuffite with Calcsilicate	c	5			5	5
				c					-90			c	5			5	5
430.0				d								c	5			5	5
	100	100	R3	d	20	2			-30	MSb,p	** 429.5 436.3 Massive Sulfide, bedded sulfides host rhyolite lapilli & blocks	f	60	3	7	3	
				d	60							f	60	3	7	3	
				d								f	60	3	7	3	
				b						Xb,p	^^ 436.3 443.8 Tuffite	c	22	1	10	3	
				b								c	22	1	10	3	
440.0									-65			c	22	1	10	3	
	100	100	R3	c	30	1			-85			c	22	1	10	3	
				d						MSb,p	^^ 443.8 453.3 Massive Sulfide, 40% lapilli and blocks	c	22	1	10	3	
				d					-85			e	45	5	8	2	
				d								e	45	5	8	2	
450.0				c								e	45	5	8	2	
	100	90	R3	b	20	2			-50			e	45	5	8	2	
				a	50							e	45	5	8	2	
									-50	QD	** 453.3 515.0 Quartz Diorite	e	45	5	8	2	5
												e	45	5	8	2	5
456.0				b						gQD	^^ 453.3 492.6 Granophyre	e	45	5	8	2	5
	99	35	R3	b	10	2											
459.0				a	30						Note: High angle fracture @ 17-18 degrees from core axis						
	99	0	R3	b	10	2											
460.0					30												
	99	20	R3	b	20	2											
462.5					55												
	100	90	R3	c	15	2											
				c	30												

ROCK QUALITY:

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

DRILL HOLE: LYN90-9

SULFIDES: % 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
				c													
				b													
474.0																	
	99	85	R3	b	20	2											
				a	40												
479.0				a													
	100	50	R3	a	30	2											
483.0				b	50												
	100	80	R3	a	30	2											
				a	50												
488.0				a													
	100	100	R3	a	10	1											
				a													
493.0				b													
	100	100	R3	d	10	1											
497.0				d													
	100	100	R3	d	15	1											
499.0																	
	100	100	R3	e	15	1											
				e													
504.0				e													
	100	100	R3	e	10	1											
				e													
				e													
511.0				e													
	100	100	R3	e	15	1											
515.0				e													

E.O.H. 515' (total depth)

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	175.5	-56.1
100'	179.6	-54.6
200'	179.5	-54.9
300'	180.0	-54.9
400'	180.0	-55.1
488'	179.9	-55.3

PROJECT: LYNNE 1874
CONTRACTOR: Longyear
LOGGED BY: L. Kennedy/ T.Harding
DATE COLLARED: 7-18-90
REMARKS: M of drill proposal
CORE SIZE: HQ/NQ

HOLE NO: LYN90-10 (WDNR #150)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 7-24-90

BEARING: S180E INCLINATION: -58 T.D: 488'
COORDINATES: 9600 E, 11170 N
ELEV: 1577' SEC: 15 TWP: 37N RANGE: 4E

DATE: 10-20-90
PAGE 1 OF 8

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 59.0			** 0.0 59.0 OVERBURDEN	
59.0 63.0	(not recovered)			
63.0 69.0	(HQ core)			
59.0 224.2		Rc	** 59.0 224.2 RHYOLITE CRYSTAL TUFF	73.5 111.0 Fracture zone: veinlets, bleached alteration
			SULFIDE UNIT D: 224.2-233.0	181.7 194.0 5% Py + Asp disseminated in altered tuff or as shatter veinlet filling
224.2 236.5		MSp,Xp	** 224.2 236.5 MASSIVE SULFIDE	224.2 240.6 ~40-45% Po, 25% Sp, 15% Py, <3% Cp+Ga
236.5 260.2		Rch	** 236.5 260.2 RHYOLITE TUFF, Cherty, With Scattered Sulfide Laminae	
			SULFIDE UNIT C: 260.2-370.3	
260.2 325.0		CT	** 260.2 325.0 TUFA, Calcareous Tuff	
273.0 278.0		CTs	^^ 273.0 278.0 Minor Sphalerite	260.2 285.6 ~20% Sulfides: Po-Py
293.0 298.5		CTs	^^ 293.0 298.5 Minor Sphalerite	
298.5 302.0		Xp/BP	^^ 298.5 302.0 Tuffite, Massive Pyrite-Pyrrhotite	298.4 323.6 ~25% Sulfide: Po-Py, 10% Sp
320.0 325.0		CTs	^^ 320.0 325.0 Minor Sphalerite	323.6 340.0 ~75-80% sulfide, Po-Py, 4-5% Sp
325.0 340.0		Xca	** 325.0 340.0 TUFFITE, Calcareous Tufa	
340.0 370.3		MSca	** 340.0 370.3 MASSIVE SULFIDE, Calcareous	340.0 370.3 ~75-80% Sulfide: 45% Po, 25-30% Sp, 1% Cp
360.0 368.0		MSca,t	^^ 360.0 368.0 Talcose	

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	175.5	-56.1
100'	179.6	-54.6
200'	179.5	-54.9
300'	180.0	-54.9
400'	180.0	-55.1
488'	179.9	-55.3

PROJECT: LYNNE 1874
CONTRACTOR: Longyear
LOGGED BY: L. Kennedy/ T.Harding
DATE COLLARED: 7-18-90
REMARKS: M of drill proposal
CORE SIZE: HQ/NQ

HOLE NO: LYN90-10 (WDNR #150)

DATE: 10-20-90
PAGE 1 OF 8

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 7-24-90

BEARING: S180E INCLINATION: -58 T.D: 488'
COORDINATES: 9600 E, 11170 N
ELEV: 1577' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
			SULFIDE UNIT B: 370.3-425.0	
370.3 425.0		Rz,tp	** 370.3 425.0 RHYOLITE TUFF, Talcose, Stringer Pyrrhotite	378.0 383.5 ~40% Sulfide: Po, Py
404.0 409.0		Rz,ts	^^ 404.0 409.0 Minor Sphalerite	403.0 415.5 ~40% Sulfide: 15% Sp, 20% Po
425.0 435.0		Rt,t	** 425.0 435.0 RHYOLITE TUFF, Talcose	
435.0 488.0		QD	** 435.0 488.0 QUARTZ DIORITE	
435.0 445.0		gQD	^^ 435.0 445.0 Granophyre	
			E.O.H. 488' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN90-10

SULFIDES: % 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
0.0 59.0												** 0.0 59.0 Overburden						
											Rc	** 59.0 224.2 Rhyolite Crystal Tuff						
63.00																		
	99	0	R2	a	5	2												
64.00					15													
	99	0	R2	-	-	-												
65.00																		
	100	30	R3	a	10	3												
68.00				a	30													
					40													
	100	100	R3	a	30	2												
69.00					40													
	100	100	R3	a	10	3												
73.00				a	20													
					50							Note: 73.5 111.0 patchy bleached alter-						
	100	70	R3	a	30	2						ation associated with veinlets and						
				b	60							fractures 5-30' to core axis						
				a						-18								
80.00				a														
	100	100	R3	a	5	3				-5								
83.00				a	15													
					30													
	100	45	R3	a	30	2												
87.00				a	40													
	90	0	R3	a	10	2				-30								
89.00					30													
	100	100	R3	a	20	2												
91.00					45					-20								
	100	100	R3	b	15	1												
93.00																		
	100	85	R3	a	5	3												
				b	15													
				a	25					-30								
				a														
102.00				a						-10								
	100	90	R3	a	20	2				-15								
				b	40													

DRILL HOLE: LYN90-10

ROCK QUALITY:

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

SULFIDES: % 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
				a														
109.00				b														
	100	90	R3	b	15	2												
113.00				b	50													
	100	85	R3	b	15	2				-45								
117.00				a	40													
	100	70	R3	a	20	2												
				a	40													
123.00				a														
	100	50	R3	a	10	2				-25								
				a	50													
129.00				a														
	100	30	R3	a	10	2												
131.00					20													
	100	80	R3	a	10	2												
133.00					25													
	100	90	R3	a	10	2						Note: Bleached alteration 133.0 139.0 associated with fractures 10-20' to core axis						
				a	25					-9								
139.00				a						-18								
	100	100	R3	b	20	2												
141.00					40													
	100	100	R3	a	40	2				-35								
143.00					60													
	100	90	R3	b	10	2												
				b	30													
148.00				a						-45								
	100	90	R3	b	10	2				-35								
151.00				a	50													
	99	0	R3	a	10	2												
153.00					40													
	100	60	R3	a	5	2												
				a	30													
				a														
160.00				a														
	100	90	R3	a	5	2												
				a	20													
				b														
167.00				a						-40								
	100	80	R3	b	20	2												
171.00				b	40													

ROCK QUALITY:

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

DRILL HOLE: LYN90-10

SULFIDES: % 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
	100	100	R3	b	10	3				-80								
				a	30													
				a	55					-80								
				a														
181.00				a						-28		181.7 194.0 Carbonate-Epidote altered						
	100	100	R2	a	25	2						tuff with diss. sulfides and as filling	a				1	4
				b	40							in shatter veinlets	a				1	4
				a								Note: 187.5 194.0 Arsenopyrite patches	a				1	4
				b						-60			a				1	4
192.00				b						-85			a				1	4
	100	90	R3	b	15	3				-75			a				1	4
				b	50													
				a	65													
				a														
201.00				a								Note: Very broken 201.0-210.0						
	99	10	R2	a	10	2												
205.00				a	70							Note: 205.0 224.2 Fractures/joints						
	99	45	R2	a	20	2				-60		@0-10' to core axis that are offset						
209.00				a	65					-10		by fractures 60-70 degrees to core axis						
										-65								
	100	50	R3	a	10	3				-78								
213.00				a	30					-3								
					60					-70								
	100	80	R3	a	5	3				-5								
				a	30					-10								
				a	70					-75		218.9 223.0 Bleaching alteration and						
				a						-77		possible growth faults associated with						
				b								vein @ 15' to core axis						
222.00										-10		SULFIDE UNIT D: 224.2 236.5						
	100	80	R3	a	10	2				-65	MSp	** 224.2 233.0 Massive Sulfide,	f	30	2	1	15	40
				c	55					-40		with massive pyrrhotite	f	30	2	1	15	40
				c						-60			f	30	2	1	15	40
230.00				b									f	30	2	1	15	40
	100	100	R3	c	45	1							f	30	2	1	15	40
				c							Xp	** 233.0 236.5 Tuffite, with massive	f	30	2	1	15	40
				b								pyrrhotite	f	30	2	1	15	40
				c									f	10	2	1	15	40
				b							Rch	** 236.5 260.2 Rhyolite Tuff	f	10	2	1	15	40
												Scattered sulfide laminae, cherty beds	f	5	2	1	15	40

ROCK QUALITY:

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

DRILL HOLE: LYN90-10

SULFIDES: % 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
240.00										-20		Chert beds or filled joints @45 degrees	f	5	2	1	15	40
	100	70	R3	b	5	3				-45		are offset by 70 degree fractures						
244.00				a	45					-70								
					80													
	100	50	R3	a	10	3												
246.00					30					-45								
					80													
	100	80	R3	a	5	3				-70								
				a	20													
252.00				a	55													
	99	30	R4	b	10	2												
				a	40													
257.00				a														
	100	80	R3	b	25	1												
259.00										-38		SULFIDE UNIT C: 260.2-370.3	c				2	18
	100	65	R2	a	25	2				-40			c				2	18
				b	40						CT	** 260.2 325.0 Tufa, Calcareous Tuff	c				2	18
				c						-35			c				2	18
				c									c				2	18
													c				2	18
267.00										-60			c				2	18
	100	90	R2	b	20	1							c	5			2	18
				c									c	3			2	18
273.00				b						-33	CTs	^^ 273.0 278.0 Sulfides	c	5			2	18
	100	90	R2	b	20	2				-40			c	5			2	18
										-35			b	5			2	18
				b	40					-40			b				2	18
				b						-30			b				2	18
				c									b				2	18
283.00				c						-30			b				2	18
	100	90	R2	b	20	2							b				1	8
				c	40								b				1	8
				c									b				1	8
				c									b	5			1	8
293.00				b							CTs	^^ 293.0 298.5 Sulfides	b	5			1	8
	100	60	R2	b	20	2							b	5			1	8
				b	45								b				1	8
				c									b				1	8
				b						-55	Xp/BP	^^ 298.5 302.0 Tuffite: Massive Py, Po	b				1	8
				a								Note: Fault/fractured zone @ 300.0	f				60	20

ROCK QUALITY:

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

DRILL HOLE: LYN90-10

SULFIDES: % 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
302.00												328.0	f				60	20
										-39		Note: Slickensides @ 302.5 322.0 and	b				7	
	100	60	R2	b	50	1				-35		ground core 300.0 302.0, 317.5	b				7	
				c									b				7	
				c						-70			b				7	
309.00				b						-50			b				7	
										-50								
	99	30	R2	c	50	1				-40			c	5		1	1	15
				b									c	5		1	1	15
				b						-40			c	5		1	1	15
				a									c	5		1	1	15
318.00				a									c	5		1	1	15
	99	60	R2	b	45	1				-40			c	5		1	1	15
				c						-35			c	5		1	1	15
				b						-35	CTs	^^ 320.0 325.0 Sulfides	c	5		1	1	15
326.00													c	5		1	1	15
				b						-25	Xca	** 325.0 340.0 Tuffite, Calcareous	d	8		2	5	20
	99	20	R2	b	45	1							d	8		2	5	20
330.00				b						-40			d	8		2	5	20
	99	50	R2	b	50	2							d	8		2	5	20
				b	65					-40		Note: Bluish tint to carbonate beds and	d	8		2	5	20
				b								on exposed bedding surfaces-oxidation	d	8		2	5	20
336.00												of copper or zinc?, @ 323.0-340.0	e	8		2	5	35
	90	40	R3	b	40	1							e	8		2	5	35
337.50													e	8		2	5	35
										-50								
	100	45	R3	b	30	1					MSca	** 340.0-370.3 Massive Sulfide,	f	20		5	5	60
342.00				c						-40		Calcareous	f	20		5	5	60
	90	20	R2	c	20	2							f	20		5	5	60
				b	55					-30			f	20		5	5	60
				a									f	20		5	5	60
350.00				a						-50			f	80		5	5	10
										-50			f	80		5	5	10
	99	0	R2	a	30	2							ef	40		5	5	10
353.50				b	50								ef	40		5	5	10
	100	80	R2	c	30	1							ef	40		5	5	10
				c									ef	40		5	5	10
360.00				c									ef	40		5	5	10
	100	0	R2	crushed	-	-					MSca,t	^^ 360.0 368.0 Talcose	ef	40		5	5	10
361.00													ef	40		5	5	10
	99	25	R2	b	50	1							ef	40		5	5	10
													ef	40		5	5	10

ROCK QUALITY:

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

DRILL HOLE: LYN90-10

SULFIDES: % 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
365.00				b										ef	40		5	5	10
	99	25	R2	b	30	2								ef	40		5	5	10
368.50				a	70							368.0 369.0 Rhyolite Porphyry(?) Dike		ef	40		5	5	10
												SULFIDE UNIT B: 370.3-425.0		ef	40		5	5	10
	100	85	R2	b	30	2					Rz,tp	** 370.3 425.0 Rhyolite Tuff, Talcose		ef	40		5	5	10
				b	50									ef	40		5	5	10
374.00				b										ef	40		5	5	10
	100	100	R2	c	30	1				-70									
				c								Intervals with scattered sulfides,	c						
				c						-55		378.0-383.5, 403.5-415.5	c			1		5	15
				c						-45			c						
383.00				c						-65			c						
	100	95	R2	d	20	1							a						5
				d						-50			a						5
				c									a						5
				c									a						5
393.00				c						-55			a						5
	99	55	R2	c	10	2							a						5
				c	30					-70			a						5
				b									a						5
				b						-38			a						5
401.50				b						-40			a						5
	100	80	R2	c	10	1					Rz,ts	^^ 404.0 409.0 Stringery Sulfides	a						5
				c									a						5
				c						-62				d	5	2		2	20
				c										d	5	2		2	20
411.50				c										d	5	2		2	20
	100	75	R2	c	30	2								d	5	2		2	20
				d	50					-55				d	1	2		2	20
				c										d	1	2		2	20
														d	1	2		2	20
				b						-40			c		2	1		2	12
421.00				c						-50			c		2	1		2	12
	99	55	R2	c	20					-50			c		1	1		2	12
				c	40	2				-45	Rt,t	** 425.0 435.0 Rhyolite Tuff, Talcose	c		1	1		2	12
				b									c		1	1		2	12
				b						-50									
431.00				b								Note: Bedding contorted, very irregular							

ROCK QUALITY:

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

DRILL HOLE: LYN90-10

SULFIDES: % 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
433.00	100	75	R2	b	10	1						@ 431.0-435.0						
	100	100	R2	b	10	2												
				a	50						QD	** 435.0 488.0 Quartz Diorite						
438.00				b							gQD	^^ 435.0 445.0 Granophyre						
	100	100	R3	b	10	2												
				b	40													
444.00				c														
	100	85	R3	c	10	2												
				c	50													
450.00				c														
	100	90	R3	c	10	2												
				c	45													
				b														
				a														
460.00				b														
	100	100	R3	c	2	3												
				c	20													
				c	60													
470.00				c														
				d														
	100	95	R3	c	2	3												
474.00				c	10													
					60													
	100	100	R3	c	10	2												
				c	50													
				c														
				d														
483.00				d														
	100	100	R3	e	10	1												
				e														
488.00				e														
												E.O.H. 488' (total depth)						

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	176.8	-60.8
100'	180.1	-61.6
250'	180.5	-61.7
400'	180.0	-62.4
550'	180.5	-61.6
591'	181.1	-61.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: L. Kennedy/ T. Harding
DATE COLLARED: 7-24-90
REMARKS:
CORE SIZE: NQ/HQ

HOLE NO: LYN90-11 (WDNR #151)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 7-31-90

BEARING: S176.8E INCLINATION: -60.8 T.D: 591'
COORDINATES: L10200 E, 10715N
ELEV: 1563.1' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 49.5			** 0.0 49.5 OVERBURDEN	
49.5 52.0	(not recovered)			
52.0 55.0	(HQ core)			
49.5 112.0		Sk	** 49.5 112.0 GT-PO-MT-EP CALCSILICATE	52.0 112.0 5-10% Po
112.0 252.0			SULFIDE UNIT B: 112.0-252.0	
112.0 164.0		Rts*	** 112.0 164.0 RHYOLITE TUFF, Altered with Bedded Sulfides	
112.0 125.0		BP	^^ 112.0 125.0 Bedded Pyrrhotite	
125.0 129.0		Sk	^^ 125.0 129.0 Po-Ep Calcsilicate	112.0 125.0 35% Sulfide, 11% Sp, 20% Po
137.5 149.5		Rt	^^ 137.5 149.5 Rhyolite Tuff	129.0 133.5 20% Sulfide, 8% Sp, 3% Ga, 8% Po
149.5 164.0		BP	^^ 149.5 164.0 Bedded Pyrrhotite	149.5 164.0 45% Sulfide, 5% Sp, 40% Po, 15% Mt
164.0 193.1		Rts*	** 164.0 193.1 RHYOLITE TUFF, Minor Sulfides and Alteration	164.0 193.1 12% Sulfide, 5% Sp, 7% Po
193.1 252.0		Rlb	** 193.1 252.0 RHYOLITE LAPILLI BRECCIA	
252.0 340.0			SULFIDE UNIT A: 252.0-340.0	
252.0 318.0		MSca	** 252.0 318.0 MASSIVE SULFIDE, Calcareous	252.0 318.0 65% Sulfide, 32% Sp, 8% Ga, 5% Cp, 20% Po, Py

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	176.8	-60.8
100'	180.1	-61.6
250'	180.5	-61.7
400'	180.0	-62.4
550'	180.5	-61.6
591'	181.1	-61.3

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: L. Kennedy/ T. Harding
DATE COLLARED: 7-24-90
REMARKS:
CORE SIZE: NQ/HQ

HOLE NO: LYN90-11 (WDNR #151)

DATE: 7-18-91
PAGE 1 OF 9

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 7-31-90

BEARING: S176.8E INCLINATION: -60.8 T.D: 591'
COORDINATES: L10200 E, 10715N
ELEV: 1563.1' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
318.0 334.7		X,t	>< 318.0 334.7 TUFFITE, Talcose	318.0 334.7 15% Sulfide, 10% Sp, 5% Po, Py, Cp
334.7 340.0		MS	>< 334.7 340.0 MASSIVE SULFIDE	334.7 340.0 60% Sulfide, 40% Sp, 5% Ga, 15% Po, Py
340.0 591.0		QD	>< 340.0 591.0 QUARTZ DIORITE	
340.0 353.7		gQD	^^ 340.0 353.7 Granophyre	
353.7 366.5		Rt,ts	^^ 353.7 366.5 Rhyolite Tuff, Talcose, with Sphalerite	353.7 366.0 7% Sp, Cp, minor Po, Py
386.3 419.5		Md	^^ 386.3 419.5 Basalt Dike	
452.5 468.0		Md	^^ 452.5 468.0 Basalt Dike	
498.0 502.6		Md	^^ 498.0 502.6 Basalt Dike	572.5 573.2 Chloritic, talcose, calcareous shear

E.O.H. 591' (total depth)

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
0.0 49.5												** 0.0 49.5 Overburden						
												^^ 0.0 20.0 Sand						
												^^ 20.0 35.0 Sand, Silt						
												^^ 35.0 49.5 Sand, Gravel and Boulders						
52.00											Sk	** 49.5 112.0 Gt-Po-Mt-Ep CalcSilicate						
54.00	100	100	R3	b	40	1												
55.00	60	0	R3	a	40	1												
56.00	90	20	R3	a	25	1												
58.00	100	25	R3	b	60	1												
60.00	100	100	R3	c	25	1												
63.00	100	100	R3	c c	30	1				-40 -60		Note: Tuff with pervasive garnet pyrrhotite, magnetite and epidote alteration						
66.00	100	95	R3	c c	30	1												
72.00	100	70	R3	c c c	40 70	2												x
73.00	100	0	R3	b	40 50	2												
76.00	100	35	R3	b a	30 60	2												
79.00	100	60	R3	a a	10 40	2												
80.00	100	100	R3	c	35	1												
83.50	100	95	R3	c c	20	1												
86.00	100	50	R3	c c	10 30	2												
	100	100	R3	b	50	1												

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
88.00																		
	100	80	R3	b	2	2												
92.00				c	55								b					7
	100	100	R3	c	55	1							b					7
94.00													b					7
	100	100	R3	c	15	2							b					7
				d	40					-30			b					7
				c									b					7
				b									b					7
104.00				c									b					7
	100	95	R3	c	30	1							b					7
				c									b					7
109.00				c									b					7
	100	95	R3	c	35	1						SULFIDE UNIT B: 112.0-252.0	b					7
				c						-60	Rts#	** 112.0 164.0 Rhyolite Tuff	b					7
				c								with alteration and bedded sulfides	d	10				20
													d	10				20
											BP	^^ 112.0 125.0 Bedded Pyrrhotite	d	10				20
114.00										-65			d	10				20
	100	98	R3	c	20	1				-45			d	10				20
				b									d	10				20
120.00				c									d	10				20
	100	95	R4	b	50	1				-70			d	10		2		20
				c									d	10				20
				c							Sk	^^ 125.0 129.0 Po-Ep-Gt-Mt CalcSilicate	d	10				20
127.00				c														
	100	100	R4	c	30	1							c	8		3		8
130.00				d							Rts	^^ 129.0 137.5 Sulfide Tuff	c	8		3		8
	100	100	R3	c	15	2						With patchy pale-green carbonate or	c	8		3		8
134.00				d	40					-85		epidote alteration	c	8		3		8
										-70			c	8		3		8
	100	50	R3	c	10	2				-70			b	5		2		
				b	30						Rt	^^ 137.5 149.5 Rhyolite Tuff	b	5		2		
				a								With minor sulfides @top and talcose	b	5		2		
				b								alteration	a	2				
141.00													a	2				
	100	100	R3	b	10	2							a	2				
144.00				a	30													
	100	70	R4	b	10	2				-40								
				b	50					-30								

DRILL HOLE: LYN90-11

ROCK QUALITY:

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

SULFIDES: % 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
				a						-45	BP	^^ 149.5 164.0 Bedded Pyrrhotite	e	5				40
				b									e	5				40
154.00				b									e	5				40
	100	85	R3	b	20	2							e	5				40
				c	60								e	5				40
				b									e	5				40
				d									e	5				40
163.50				c						0	Rt#	** 164.0 193.1 Rhyolite Tuff with disseminated sulfides and patchy white epidote or carbonate bleaching	e	5				40
	100	65	R2	b	30	3							c					15
				b	45					-45			c					15
				b	60								c					15
				a						-50			c					15
				b						-60			c					15
													c					15
										-64			b	2	1			7
173.50												Note: Scattered chert interbeds @169.5-173.0 @182.0	b	2	1			7
	100	80	R3	c	40	2				-75			b	2	1			7
				b	60					-90			b	2	1			7
				b									b	2	1			7
				a						-60			b	2	1			7
184.00				a									b	2	1			7
	99	40	R3	b	20	2				-65			b	2	1			7
				a	65								b	2	1			7
				a									c	5				10
190.00													c	5				10
	99	25	R3	a	10	2							c	5				10
				a	35							Note: 192.5 193.1 Massive Sulfide	c	5				10
193.50										-65	Rlx	** 193.1 252.0 Rhyolite Lapilli Tuff Breccia, with talcose, Sp-rich intervals	e	15				40
	100	60	R2	a	10	2							a	1				1
				a	50								a	1				1
				b									a	1				1
				c									a	1				1
				c									a	1				1
203.50													b	4				2
	99	50	R2	c	20	2							b	4				2
				b	50								b	4				2
				b						-90			b	4				2
				c									b	4				2
214.00				c									b	4				2
													b	4				2

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
	100	80	R3	c	20	2							b	4				2
				c	50								b	4				2
				c									b	4				2
				b														
224.00				c														
	100	90	R3	b	30	2												
				c	50													
				b														
				b														
234.00				b														
	100	95	R2	c	20	1							b	5		1	2	
				c									b	5		1	2	
				c									b	5		1	2	
				d									b	5		1	2	
244.00				c									b	5		1	2	
	100	85	R2	c	20	1				-45			b	5		1	2	
248.00				c									b	5		1	2	
	100	80	R3	c	30	1				-50		Note: 249.3 252.0 Tuff becomes more calcareous @base of unit	b	5		1	2	
				c									b	5		1	2	
				c									b	5		1	2	
				b									b	5		1	2	
										-55		SULFIDE UNIT A: 252.0 340.0	b	5		1	2	
													b	5		1	2	
											MSca	** 252.0 318.0 Massive sulfide, Calcareous	b	5		1	2	
256.00													f	32	5	8	5	15
	100	60	R2	c	5	3							f	32	5	8	5	15
				b	30								f	32	5	8	5	15
				c	70								f	32	5	8	5	15
264.00				c						-55			f	32	5	8	5	15
	100	90	R2	c	45	1				-35			f	32	5	8	5	15
				c						-52			f	32	5	8	5	15
				c						-40			f	32	5	8	5	15
				c						-40			f	32	5	8	5	15
273.00				c						-40			f	32	5	8	5	15
	100	85	R2	c	50	1				-35			f	32	5	8	5	15
				c									f	32	5	8	5	15
				d						-50		Note: 280.0 318.0 bedding/foliation angles range from <10 degrees to 55 degrees to core axis	f	32	5	8	5	15
				d									f	32	5	8	5	15
283.00				d						-55			f	32	5	8	5	15
													f	32	5	8	5	15

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
	100	90	R2	c	70	1				-12			f	32	5	8	5	15
				c									f	32	5	8	5	15
				c									f	32	5	8	5	15
				c						-12			f	32	5	8	5	15
293.00				c									e	25	2	8	5	15
	100	100	R2	c	5	2				-10			e	25	2	8	5	15
				c	70					-25			e	25	2	8	5	15
				c						-40			e	25	2	8	5	15
				c									e	25	2	8	5	15
303.00				c						-7			e	25	2	8	5	15
				c						-30			e	25	2	8	5	15
	100	90	R3	c	60	1				-19			e	25	2	5	5	15
				d									e	25	2	5	5	15
				d									e	25	2	5	5	15
				d									e	25	2	5	5	15
313.00				c									e	25	2	5	5	15
	100	50	R3	c	60	1				-50			e	25	2	8	5	15
				b						-50			e	25	2	8	5	15
				c						-20	X,t	^^ 318.0 334.7 Tuffite, with disseminated talc, sphalerite	e	25	2	8	5	15
319.00										-40			e	25	2	8	5	15
	100	100	R3	b	10	2							c	8	1		1	5
				c	65								c	8	1		1	5
				c								Note: Mineralization increases near base of unit	c	8	1		1	5
				d									c	8	1		1	5
329.00				d									c	8	1		1	5
	100	100	R2	d	50	1							c	8	1		1	5
334.00				c						-25			c	8	1		1	5
											MS	** 334.7 340.0 Massive Sulfide	c	10	2	1	1	5
	100	85	R3	c	20	2							c	10	2	1	1	5
				c	70								f	40		5	5	10
				b									f	40		5	5	10
				a									f	40		5	5	10
				a						-70	OO	** 340.0 591.0 Quartz Diorite	f	40		5	5	10
													f	40		5	5	10
342.50											gOO	^^ 340.0 353.7 Granophyre						
	100	70	R3	b	20	3												
				a	40													
				a	60													
				a														

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
352.50	100	80	R2	a b c c c c c c c c c	40	1			-45 -50	Rt,ts	^^ 353.7 366.5 Rhyolite Tuff Talcose, with Sphalerite	b b b b b b b b b b b	6 6 6 6 6 6 6 6 6 6 6	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	
363.00	100	85	R2	c c c c	30 65	2											
371.00	99	80	R3	b b	30	1				gOO	^^ 366.5 367.5 Granophyre						
374.00	100	70	R3	c b b	10 60	2											
380.00	100	70	R3	b a	20 50	2											
384.00	100	90	R3	b a a a a a a a a b d	20 50	2			-18	Md	^^ 386.3 419.5 Basalt Dike Fine-grained, massive Note: 18 degree contact						
389.00	100	100	R3	a a a a a a	20 65	2											
394.00	100	90	R3	a a a a	15 30	2											
404.00	100	100	R4	c b b c b b a c c	20 50	2											
414.00	100	95	R4	c c	20 50	2			-30								

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
424.00				c														
	100	95	R3	c	10	1						n.b. high-angle, sheared contact, ~30 degrees						
				c														
				c														
432.00				c														
	100	95	R3	c	10	2												
				d	40													
				c														
				b														
442.00				c														
	100	100	R3	b	10	2												
				c	40													
				c														
450.00				b														
	100	90	R2	b	10	2				-12	Md	^^ 452.5 468.0 Basalt Dike						
454.00				b	30							n.b. high angle (12-20) degree contacts						
	100	95	R5	a	10	2												
				c	40													
				d														
464.00				c														
				b														
	100	80	R3	b	10	2												
				b	30					-20								
				c														
474.00				c														
	100	100	R3	c														
				d	20	2												
				d	40													
				b														
484.00				b														
				c														
	100	100	R3	b	20	2												
				c	55													
				b														
494.00				b														
				c														
	99	90	R2	b	25	2												
				a	50													
500.00				a							MD	^^ 498.0 502.6 Basalt Dike Sheared basalt dike, high angle shear, ~25-30 degrees, foliated to massive						

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
	99	95	R2	a	5	2												
503.00				a	20													
	100	95	R3	b	5	3												
				a	55													
509.00				b	80													
	100	100	R3	b	30	2												
				a	65													
				a														
517.00				a														
	100	90	R3	a	5	2												
				c	25													
				a														
524.00				a														
	100	100	R3	b	5	3						524.5 536.5 Orange cast-alteration?						
				b	20													
				c	60													
				b														
534.00				b														
	100	100	R3	c														
				a														
				a														
541.00				a														
	100	90	R3	a	5	3												
				a	25													
				b	45													
				b														
551.00				a														
	100	90	R3	a	20	3												
				a	40													
				a	55													
				a														
561.00				a														
	99	70	R3	a	10	3												
				a	30													
				a	50						FZ	^^ 568.0 581.5 Fault Zone						
				a														
				a														
574.00				a														
	100	100	R3	a	10	3						Note: 572.4 573.5 Intensely sheared, ~41 degrees						

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
				a	20													
				a	40													
				a														
584.00				a														
	100	90	R3	a	40	2												
				a	80													
				a														
591.00				b														
											OD	^^ 581.5 591.0 Altered Quartz Diorite With sulfide veinlets						
												Note: 588.0 589.0 Ga-Po veinlet	a			3		2
												E.O.H. 591.0' (total depth)						

Noranda Explora. Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	179.2	-46.6
100'	178.5	-44.3
200'	179.4	-44.7
300'	179.9	-44.8
354'	179.0	-44.7

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding, L. Kennedy
DATE COLLARED: 7-31-90
REMARKS:
SIZE CORE: HQ/NQ

HOLE NO: LYN90-12 (WDNR #152)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-3-90

BEARING: S180E INCLINATION: -47 T.D: 354'
COORDINATES: 10000 E, 10750 N
ELEV: 1578.5' SEC: 15 TWP: 37N RANGE: 4E

DATE: 10-20-90
PAGE 1 OF 6

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 70.0			** 0.0 70.0 OVERBURDEN	
70.0 72.0	(not recovered)			
70.0 80.5		BPM,t	** 70.0 80.5 BEDDED MAGNETITE-PYRRHOTITE TUFF	72.0 80.5 8% Sp
80.5 91.0		MS,p	** 80.5 91.0 MASSIVE SULFIDE, Pyrrhotite-rich	80.5 91.0 45% Sp, 5% Ga
91.0 104.8		Sk	** 91.0 104.8 CALCSILICATE-ALTERED TUFF	
104.8 146.0		BPM	** 104.8 146.0 BEDDED MAGNETITE-PYRRHOTITE	
116.0 116.5		Rp	^^ 116.0 116.5 Rhyolite Porphyry	
146.0 154.2		Sk	** 146.0 154.2 CALCSILICATE-ALTERED TUFF	
154.2 156.3		BPM	** 154.2 156.3 BEDDED MAGNETITE-PYRRHOTITE	
156.3 171.0		Rca#	** 156.3 171.0 CALCAREOUS, ALTERED TUFF	
164.4 165.8		MS,p	^^ 164.4 165.8 Massive Sulfide, Pyrrhotite-rich	164.4 165.8 30% Sp
171.0 195.1		Xp,t	** 171.0 195.1 TUFFITE, TALCOSE, Pyrrhotite	171.0 195.1 20% Sp, 3% Ga
175.1 176.3		MS	^^ 175.1 176.3 Massive Sulfide	175.1 176.3 40% Sp, 5% Ga

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	179.2	-46.6
100'	178.5	-44.3
200'	179.4	-44.7
300'	179.9	-44.8
354'	179.0	-44.7

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding, L. Kennedy
DATE COLLARED: 7-31-90
REMARKS:
SIZE CORE: HQ/NQ

HOLE NO: LYN90-12 (WDNR #152)

DATE: 7-18-91
PAGE 1 OF 6

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-3-90

BEARING: S179.2E INCLINATION: -46.6 T.D: 354'
COORDINATES: 10000 E, 10750 N
ELEV: 1574.7' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
		Md	^^ 180.5 180.7 Basalt Dike	
		Md	^^ 185.2 186.2 Basalt Dike	
		Md	^^ 191.7 192.8 Basalt Dike	
195.1 209.8		Rt*,t	** 195.1 209.8 TUFF, TALCOSE, ALTERED	200.5 207.5 10% Sp, 3% Ga
209.8 303.0		Rc	** 209.8 303.0 RHYOLITE CRYSTAL TUFF	
217.0 233.0		FZ/DS	^^ 217.0 233.0 Fault Zone/Dike Swarm	
303.0 354.0		QD	** 303.0 354.0 QUARTZ DIORITE	
304.5 311.0		sRt	^^ 304.5 311.0 Rhyolite Tuff, Sheared	
311.0 322.5		gQD	^^ 311.0 322.5 Granophyre	
322.5 354.0				
			E.O.H. 354' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN90-12

SULFIDES: % 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
0.0 70.0											** 0.0 70.0 Overburden	d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
72.00										BPM,t	** 70.0 80.5 Bedded Magnetite-Pyrrhotite Tuff	d	5		2	8	25
												d	5		2	8	25
	99	75	R3	a	30	2						d	5		2	8	25
				b	50				-40			d	5		2	8	25
78.00				a							Note: Sp increases toward base, Mt greater at top	d	5		2	8	25
	100	100	R3	c	50	1						d	5		2	8	25
												d	5		2	8	25
80.00									-40	NS,p	** 80.5 91.0 Massive Sulfide	d	5		2	8	25
	100	95	R3	a	30	1			-38		Note: Pyrrhotite-rich, fluctuations in bedding angles	f	45		5	5	30
82.00									-25			f	45		5	5	30
												f	45		5	5	30
	100	50	R3	b	30	2			-20			f	45		5	5	30
86.00				b	50				-25			f	45		5	5	30
	100	70	R3	b	30	2			-70			f	45		5	5	30
				c	50				-60			f	45		5	5	30
92.00									-70	Sk	** 91.0 104.8 CalcSilicate-altered Tuff	f	45		5	5	30
									-35		Po, Py>Mt @top, Mt>Po, Py @ base	a			1	1	3
	100	100	R3	c	20	3					from 91.0 104.8	a			1	1	3
				c	40							a			1	1	3
				a	60							a			1	1	3
100.00				c								a			1	1	3
	100	100	R4	c	20	2						a			1	1	3
103.00				c	40					BPM	^^ 104.8 146.0 Bedded Pyrrhotite-Magnetite, Po, Py>Mt @top, Mt>Po, Py @base; Cp with Mt	a			1	1	3
	100	100	R3	a	20	2						a			1	1	3
105.00					40							a			1	1	3
												c					25
	100	100	R3	b	10	3						a		1			
				c	20							a		1			
				c	40						^^ 112.0 122.5 Bleached/altered tuff	a		1			
113.00				a													
	100	60	R3	b	15	3				Rp	^^ 116.0 116.5 Rhyolite Porphyry						
				a	40												
				b	60												

ROCK QUALITY:

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

DRILL HOLE: LYN90-12

SULFIDES: % 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
				a														
122.00				a						-58	BPM	^^ 122.5 146.0 Disseminated to bedded	c					15
												Magnetite-pyrrhotite	c					15
													c					15
											Rtp#	^^ 122.5 133.0 Altered tuff with	c					15
												disseminated Po and Mt	c					15
	99	80	R3	a	10	3						Note: 125.5 126.4 Possible high angle	c					15
				a	20							fracture	c					15
128.00				a	70								c					15
	99	80	R3	a	30	2							c					15
131.00				b	70								c					15
	99	25	R3	b	20	2							c					15
134.00				b	40						BPM	^^ 133.0 140.3 Bedded Pyrrhotite-	c					15
	100	65	R3	c	5	2						Magnetite	d					30
				c	30								d					30
140.00				a									d					30
	100	0	R3	a	40	2							c					15
141.50					60						Sk	^^ 146.0 154.2 Calcsilicate Altered Tuff	c					15
	100	80	R4	b	50	2						with Po & Mt	c					15
				b	65								c					15
				a								Note: 148.0 154.0 Numerous sulfide-	a				1	2
				a								filled veinlets b/40-55 degrees to	a				1	2
150.00										-70		core axis	a				1	2
	100	100	R3	b	30	1							a				1	2
153.00				a							BPM	** 154.2 156.3 Bedded Magnetite-	a				1	2
												Pyrrhotite	a				1	2
	100	90	R3	b	20	2					Rca#	** 156.3 171.0 Calcareous, altered tuff	d	5				30
				b	40					-85		carbonate-epidote bleaching	a	1				3
159.00				c									a	1				3
	100	100	R2	c	30	2				-60			a	1				3
163.00				b	50					-70	MS,p	^^ 164.4 165.8 Massive Sulfide	a	1				3
	100	85	R3	a	20	3						Pyrrhotite-rich	e	40				5
				c	40					-70			b	1	1		1	5
				c	70						Xp,t	** 171.0 195.1 Tuffite, Talcose,	b	1	1		1	5
				b								with Sp	b	1	1		1	5
				c						-80			c	2			1	10
173.00													c	2			1	10
	100	65	R3	b	30	2					MS	^^ 175.1 176.3 Massive Sulfide	c	2			1	10

ROCK QUALITY:

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

DRILL HOLE: LYN90-12

SULFIDES: % 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
				c	50							25% Sp & bleaching of tuff b/andesites	c	2			1	10
				b									d	25				
				c									d	25				
				b									c	15				5
											Md	^^ 180.5 180.7 Basalt Dike						
183.00													c	15				8
	100	90	R2	b	10	2							c	15				8
				c	45					-40	Md	^^ 185.2 186.2 Basalt Dike	c					
				c						-80			c	15				12
				c						-27			c	15				12
193.00				c						-90	Md	^^ 191.7 192.8 Basalt Dike						
	100	85	R2	d	45	1							c	15				10
				d							Rt*,t	** 195.1 209.8 Tuff, Talcose, Bleached						
				b														
				b									d	30				
203.00				a														
	100	70	R2	a	40	1						^^ 204.3 207.4 Finely Laminated, contorted chloritic-talcose tuff sheared from 208.0-209.8						
				b														
208.00				b						-60								
											Rc	** 209.8 303.0 Rhyolite Crystal Tuff Sheared intervals/fault zones from 207.8-210.8, 217.0-233.0						
	100	0	R2	a	30	2												
210.00					60													
	100	70	R3	a	60	1												
				a														
215.00				a														
	100	80	R3	a	50	1						Note: 216.5 226.3 Granophyric Dike Swarm						
217.00										-60	FZ/DS	^^ 217.0 233.0 Fault Zone/Dike Swarm						
	100	50	R3	a	40	2												
219.00					60													
	99	30	R3	a	20	3												
223.00				a	40													
					60													
	99	20	R3	a	10	2												
225.00					40													
	99	65	R2	a	20	2												
229.00				a	40													
	99	15	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: LYN90-12

SULFIDES: 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
233.00				a	30													
	100	80	R3	a	20	2				-40		Note: Two sets of fractures/joints in sheared intervals 15-20 degrees to core axis, 40-50 degrees to core axis						
238.00				a	50													
	100	45	R3	a	20	2												
240.00					50													
	100	90	R3	a	20	2												
243.00				a	50													
	100	60	R3	a	20	2												
247.00				a	50					-35								
	99	50	R3	b	10	2												
				a	40													
252.00				b														
	100	70	R3	a	30	2												
255.00				a	50													
	100	60	R3	a	30	2				-30								
259.00				a	50													
	100	100	R3	a	30	2												
				a	40													
				a														
266.00				a						-40								
	100	95	R3	a	10	3												
				a	40													
				a	70													
273.00				a														
	100	80	R3	a	30	2												
				a	50													
279.00				a														
	99	30	R3	a	15	2												
281.00					40													
	99	50	R3	a	15	2												
285.00				a	60													
	99	10	R3	a	10	2												
288.00				a	50													
	99	30	R3	a	20	2												
291.00				a	40													
	99	0	R3	a	20	2												
292.00					40													
	100	30	R3	a	40	2				-70								
296.00				a	60													
	99	0	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: LYN90-12

SULFIDES: % 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
298.00					40													
	99	10	R3	a	20	2												
301.00				a	50													
	99	30	R3	a	10	2					QD	** 303.0 354.0 Quartz Diorite						
				a	40													
											Rt,s	^^ 304.5 311.0 Rhyolite Tuff, sheared						
305.00																		
	100	95	R3	a	30	2												
				a	50													
311.00				a						-40	gQD	^^ 311.0 322.5 Granophyre						
	100	35	R3	a	25	2												
314.00				a	40													
	100	100	R3	a	30	2												
316.00					50													
	100	100	R3	a	10	3												
320.00				a	30													
					45													
	100	85	R3	a	30	3												
				a	50													
				a	70													
				b														
329.00				b														
	100	100	R3	b	40	2												
				b	60													
				a														
				b														
339.00				b														
	100	100	R3	c	20	2												
				b	40													
				b														
				b														
349.00				c														
	100	100	R3	c	35	1												
				c														
354.00				c														
												E.O.H. 354' (total depth)						

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	180.1	-53.3
100'	178.0	-53.5
250'	179.2	-53.4
400'	179.5	-53.3
562'	179.6	-53.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-6-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-13 (WDNR #154)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-9-90

DATE: 1-10-92
PAGE 1 OF 9

BEARING: S180.1E INCLINATION: -53.3 T.D: 562'
COORDINATES: 9800 E, 11194 N
ELEV: 1565.0' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 58.0			0.0 58.0 OVERBURDEN	
58.0 63.0	(not recovered)			
63.0 229.0		Rc	63.0 229.0 RHYOLITE TUFF, CRYSTAL TUFF	81.3 81.6 Po, Py in tuff @ b/tuff & overlying crystal tuff
229.0 237.7		CT	229.0 237.7 TUFA, with Pyrrhotite and Magnetite	
232.0 237.7		BP,l,ca	232.0 237.7 Bedded Pyrrhotite, with Lapilli, calcareous	229.0 237.7 20% sulfide, 15% Po, Py, 5% Sp
237.7 261.8		Rt	237.7 261.8 RHYOLITE TUFF	
237.7 242.6		Rt#	237.7 242.6 Rhyolite Tuff, bleached	
242.6 251.1		Rts	242.6 251.1 Rhyolite Tuff, with sulfides	
251.1 259.0		gRd	251.1 259.0 Granophyric Rhyolite Dike	242.6 261.8 20% sulfide, 12% Sp, 8% Po
261.8 269.3		Rt	261.8 269.3 RHYOLITE TUFF	
269.3 278.5		Xz	269.3 278.5 TUFFITE, Tuffaceous	269.3 278.5 50% sulfide, 40% Sp, 5% Po, 5% Ga
278.5 292.8		Xlca	278.5 292.8 TUFFITE, LAPILLI, CALCAREOUS	278.5 292.8 30% Sulfide, 20% Sp, 5% Ga, 5% Po
292.8 303.5		MSca	292.8 303.5 MASSIVE SULFIDE, CALCAREOUS	292.8 302.8 30% Sulfide, 18% Sp, 3% Ga, 5% Po.
303.5 306.0		CT	303.5 306.0 TUFA	303.5 306.0 3% Sulfide, 3% Sp

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	180.1	-53.3
100'	178.0	-53.5
250'	179.2	-53.4
400'	179.5	-53.3
562'	179.6	-53.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-6-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-13 (WDNR #154)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-9-90

BEARING: S180.1E INCLINATION: -53.3 T.D: 562'
COORDINATES: 9800 E, 11194 N
ELEV: 1565.0' SEC: 15 TWP: 37N RANGE: 4E

DATE: 1-10-92
PAGE 1 OF 9

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
306.0 318.4		Rt	><< 306.0 318.4 RHYOLITE TUFF	
318.4 339.0		Rca,s	><< 318.4 339.0 TUFF, WITH SULFIDE, CALCAREOUS 330.9 331.5 Massive Sulfide	318.4 339.0 15% Sulfide, 10% Sp, 4% Po, 1% Ga
339.0 344.2		MSp	><< 339.0 344.2 MASSIVE SULFIDE, WITH PYRRHOTITE	339.0 344.2 90% Sulfide, 63% Sp, 13% Ga, 15% Po, 4% Py, 1% Cp
344.2 356.0 346.7 356.0		Rc gRd	><< 344.2 356.0 RHYOLITE TUFF, Crystal Tuff ^^ 346.7 356.0 Granophyric Dike Swarm	
356.0 375.7		Md(?)	><< 356.0 375.7 BASALT DIKE(?), Plag-phyric	
375.7 394.8 381.5 390.5		CT,m BPM,ca	><< 375.7 394.8 CALCAREOUS TUFF AND TUFA, with bedded Mt/Po ^^ 381.5-390.5 Bedded Magnetite-Pyrrhotite	
394.8 415.0		Rc	><< 394.8-415.0 Rhyolite Crystal Tuff	
415.0 465.5 440.5 446.0		CT Rt,ca	><< 415.0-465.5 TUFA, CALCAREOUS TUFF ^^ 440.5 446.0 Rhyolite Tuff, Calcareous	
465.5 477.0 468.2 472.7		Xca MSp	><< 465.5 477.0 TUFFITE, with Carbonate ^^ 468.2 472.7 Massive Sulfide	465.5 470.0 30% sulfide, 20% Sp, 10% Po 468.2 472.7 60% sulfide, 40% Sp, 20% Po

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	180.1	-53.3
100'	178.0	-53.5
250'	179.2	-53.4
400'	179.5	-53.3
562'	179.6	-53.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-6-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-13 (WDNR #154)

DATE: 1-10-92
PAGE 1 OF 9

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-9-90

BEARING: S180.1E INCLINATION: -53.3 T.D: 562'
COORDINATES: 9800 E, 11194 N
ELEV: 1565.0' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
477.0 486.4		Rts*	><< 477.0 486.4 RHYOLITE TUFF, ALTERED	472.7 477.0 35% sulfide, 18% Sp, 15% Po, 2% Cp
				477.0 486.4 15% Sulfide, 8% Po, 5% Sp, 2% Cp
486.4 491.6		Rt	><< 486.4 491.6 RHYOLITE TUFF	
487.0 498.5		Md	^^ 487.0 489.5 Basalt Dike	
491.6 562.0		QD	><< 491.6 562.0 QUARTZ DIORITE	
491.6 495.4		gQD	^^ 491.6 495.4 Granophyre	
			506.0 508.5 Shear/Fault	
			537.0 551.0	
			517.0 521.0	
			522.5 531.0	
			E.O.H. 562' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
0.0 58.0												** 0.0 58.0 Overburden						
											Rc	** 58.0 229.0 Rhyolite Crystal Tuff, @ 58.0-79.6 medium to coarse-grained crystal tuff with greenish epidote bleaching and oxidation staining						
63.00																		
	100	100	R3	a	10	2												
64.00					40													
	100	80	R3	b	20	2												
66.00					30													
	100	90	R3	a	40	1												
69.00				a														
	100	90	R3	b	2	2												
73.00				a	45													
	99	95	R3	a	2	2												
75.00					20													
	100	90	R3	a	30	2												
				a	15													
80.00				a						-40		Note: @ 79.6 82.0 Banded chert						
	100	100	R3	a	20	2				-55		Note: @ 82.0-101.3 fine-grained, dark grey rhyolite tuff, coarsens downward						
83.00				a	50													
	100	85	R3	b	15	2												
				a	30													
				a														
				b														
93.00				a														
	100	85	R3	a	10	2												
				a	50													
99.00				a														
	100	40	R3	a	10	2												
102.00				a	40													
	99	70	R3	a	15	2						Note: @ 101.3-132.3 Medium-grained, unaltered crystal tuff, coarsening downward, and high-angle fractures increasing downward						
				b	60													
				a														
109.00				a						-40								
	100	55	R3	a	20	2												
113.00				a	60					-20		Note: @ 114.0-128.5 Sheared interval in tuff, chlorite-carbonate alteration, and reddish staining associated with fractures @ 40 degrees to core axis						
	99	75	R4	a	20	2												
				a	50													
119.00				a						-40								

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
	99	60	R3	a	10	3												
				a	20													
126.00				a	45					-35								
	99	0	R3	a	10	2												
129.00				a	45													
	100	60	R4	a	30	1												
132.00				a														
	100	50	R4	a	10	3						Note: @ 132.3-163.4 Fine to medium-grained crystal tuff, gradational contacts						
				a	30													
138.00				a	45													
	100	65	R4	a	10	1												
				b														
143.00				b														
	100	80	R4	a	10	2				-42								
147.00				a	30													
	100	100	R3	a	20	2						Note: @ 147.3-162.9, 162.9-163.4, Plag-phyric tuff						
				a	40							Note: @ 152.0-162.9 Lt. grey bleaching, with sulfides in veinlets and bleached patches, increasing toward base	a				2	1
153.00				b									a				2	1
	100	100	R3	b	10	3							a				2	1
				b	30								a				2	1
				a	55								a				2	1
				b									a				2	1
163.00				b						-75			a				2	1
	99	25	R3	a	20	2						Note: @ 163.4 213.3 Fine to medium-grained dark grey crystal tuff, gradational lower contact						
167.00				a	40													
	100	75	R3	a	20	2												
171.00				b	40													
	100	55	R3	b	20	2												
173.00					50													
	100	55	R3	a	10	2												
174.00					50													
	100	70	R3	a	10	2												
				a	30													
179.00				a														
	99	35	R3	a	10	2												
182.00				a	30													
	100	80	R3	a	10	3												
				a	30													
187.00				a	60													
	100	70	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: LYN90-13

SULFIDES: % 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
190.00				a	40													
	100	80	R3	a	2	3												
193.00				a	30													
					50													
	99	0	R3	a	20	3												
194.00					30													
					50													
	100	75	R3	a	20	2												
198.00				a	40							Note: @ 197.0-208.0 Plag-phyric interval						
	100	75	R3	a	20	2												
				a	60													
203.00				a														
	100	20	R3	a	2	2												
208.00				a	70													
	100	80	R3	a	2	3												
				a	20													
213.00				a	70							Note: @ 213.3-229.0 Medium to coarse-grained crystal tuff, grey-green, with blue quartz eyes & lithic (chert) clasts						
	100	100	R2	a	30	2												
				a	50													
				b														
220.00				c														
	100	100	R2	c	30	1												
224.00				c														
	100	50	R2	c	30	1												
225.00																		
	100	80	R2	c	30	1												
227.00																		
	99	50	R2	b	20	1					CT,f	** 229.0 237.7 Tufa, with pyrrhotite and magnetite	a				4	
				b									a				4	
													a				4	
231.00										-65	BP,l,ca	^^ 232.0 237.7 Bedded Pyrrhotite, calcareous with lapilli	a				4	
	100	100	R2	c	40	1							c	2		1	2	10
				d									c	2		1	2	10
				d									c	2		1	2	10
				d									c	2		1	2	10
				b							Rt	** 237.7 261.8 Rhyolite Tuff, with sulfides	a				1	1
													a				1	1
													a				1	1
												^^ 237.7 251.1 Bleached, ashy, rhyolite tuff with sulfides	a				1	1
													a				1	1

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
241.00													a				1	1
	100	65	R2	b	30	2							a				1	1
				a	50								c	12			2	8
				b									c	12			2	8
247.00													c	12			2	8
	100	85	R3	a	25	3							c	12			2	8
				a	40						gRd	^^ 251.1 259.0 Granophyric Rhyolite Dike	c	12			2	8
253.00				a	60													
	100	80	R3	a	20	3												
257.00				a	45													
					60													
	100	70	R3	a	20	2												
				b	40						Rt	^^ 259.0 261.8 Rhyolite Tuff, ashy, with sulfides	c				3	10
				b									c				3	10
262.00													c				3	10
											Rt	** 261.8 269.3 Rhyolite Tuff, with sulfides increasing toward base	c				3	10
	100	90	R3	b	40	1							a					2
				c									a					2
				c									a					2
				c									b	4		1	1	4
269.00													b	4		1	1	4
	100	85	R3	b	30	1					Xz	** 269.3 278.5 Tuffite, tuffaceous	e	40		5		5
				a									e	40		5		5
275.00				a						-55			e	40		5		5
	99	85	R2	b	25	2					Xlca	** 278.5 292.8 Tuffite, calcareous with lapilli	e	40		5		5
				b	40								e	40		5		5
279.00													d	30		5		5
	100	65	R2	b	30	2							d	30		5		5
				b	50								d	30		5		5
				a									d	30		5		5
287.00				b						-50			d	30		5		5
	100	100	R3	b	30	2							d	30		5		5
				b	50								d	30		5		5
293.00				b							MSca	** 292.8 303.0 Massive Sulfide, calcareous	d	30		5		5
										-60			d	30		5		5
	100	40	R3	b	55	1							f	45		8	2	5
				a									f	45		8	2	5
				b									f	45		8	2	5
300.00				b									f	45		8	2	5
													f	45		8	2	5

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
	100	80	R3	c	40	1								f	45		8	2	5
				c							CT	** 303.0 306.0 Tufa		f	45		8	2	5
				b						-55									
306.00										-60	Rt	** 306.0 318.4 Rhyolite Tuff							
	100	90	R3	a	5	3						Note: @ 306.0-314.0 numerous anasta-							
				a	40							masing quartz-sulfide filled fractures							
311.00				a	60														
	100	75	R3	a	30	2													
				a	50														
317.00				a							Rts,ca	** 318.4 339.0 Tuffite, calcareous	c		10		1		4
	100	95	R3	b	15	1							c		10		1		4
				c								Note: Bedding more contorted than	c		10		1		4
				c								planar-foliation/bedding angles	c		10		1		4
				c						-45		fluctuate between 15-70 degrees to	c		10		1		4
326.00				b						-15		core axis	c		10		1		4
	100	90	R2	b	35	1				-50			c		10		1		4
				b									c		10		1		4
				b									c		10		1		4
333.00				b									c		10		1		4
	100	80	R2	b	45	1							c		10		1		4
				b						-65			c		10		1		4
				b							MSp	** 339.0 344.5 Massive Sulfide, with		f	55	1	15	4	15
				b								pyrrhotite		f	55	1	15	4	15
				b										f	55	1	15	4	15
343.00											Rt	** 344.5 356.0 Rhyolite Tuff		f	55	1	15	4	15
														f	55	1	15	4	15
	100	80	R3	b	10	3					gRd	^^ 346.7 356.0 Granophyric Dike Swarm		f	55	1	15	4	15
				a	30														
349.00				a	50														
	100	45	R3	a	20	2													
352.00				a	60														
	100	50	R3	a	5	3													
354.00					50					-60									
					60														
	100	50	R3	a	10	3				-40	Md(?)	** 356.0 375.7 Basalt Dike							
357.00				a	20							Note: @ 356.0-358.0, Crystal-poor							
					60							@ 374.0-375.7							
	100	100	R3	a	10	3						@ 361.5-374.0 Bleaching/alteration							
359.00					30							associated with fractures/bedding							
					50														

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
	100	95	R3	a	10	3												
362.00				a	40													
					60													
	100	55	R3	a	30	2				-55								
366.00				a	70													
	100	80	R3	a	20	2				-55								
				a	50													
372.00				a														
	99	45	R3	a	40	2												
376.00				a	70					-65	CT,m	>< 375.7 394.8 Calcareous Tuff & Tufa,	c	4				7
	100	80	R3	b	40	2						with bedded pyrrhotite and magnetite	c	4				7
				b	60							6" intervals of bedded pyrrhotite	c	4				7
				b								and magnetite separated by calcareous	c	4				7
383.00				b								tuff and tufa	c	4				7
	99	60	R2	b	30	2							c	4				7
				c	50					-40		Note: @ 389.0-391.5 Tufa	c	4				7
				b						-45			c	4				7
391.00				a									c	4				7
	99	5	R3	a	20	2							c	4				7
394.00				a	40						Rc	>< 394.8 415.0 Rhyolite Crystal Tuff	c	4				7
	99	60	R3	a	30	2												
				a	50													
				a														
401.00				a														
	99	40	R3	a	10	2												
403.00					30													
	99	35	R3	a	15	2												
406.00				a	50													
	99	0	R3	b	30	1												
407.00																		
	99	10	R3	b	50	1												
410.00				b														
	99	15	R3	a	30	2												
413.00				a	50													
	99	25	R2	a	30	2					CT	>< 415.0 465.5 Tufa, tufa and/or	b					5
417.00				a	50					-60		calcareous tuff, more laminated than	b					5
	100	90	R2	a	30	2						contorted bedding, lapilli increase	b					5
				b	55							from 450' to 465.5, as does galena	b					5
423.00				b								content	b					5
	100	95	R2	b	20	2							b					5

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
				a	40					-75			b					5
				c									b					5
				c									b					5
433.00				c						-60			b					5
	100	85	R2	c	15	2				-62			b					5
				c	50								b					5
				b									b					5
				b									b					5
443.00				b									b					5
	100	90	R2	b	30	1				-60			b					5
				b									b					5
				b						-60			b			1		5
				b						-52			b			1		5
453.00				b									b			1		5
	100	100	R3	a	25	2				-58			b			1		5
				b	50								b			1		5
				c									b			1		5
				a									b			1		5
462.00				b						-63			b			1		5
	100	70	R3	b	40	2				-65			b			1		5
				b	60						Xca	** 465.5 477.0 Tuffite	b			1		5
				a									c	20				10
				a									c	20				10
				a							MSp	^^ 468.2 472.7 Massive Sulfide	f	40				20
													f	40				20
472.00										-55			f	40				20
													c	20				10
	100	90	R3	b	15	2							c	20				10
				a	30								c	20				10
				b							Rts*	** 477.0 491.6 Rhyolite Crystal Tuff	c	3	2	1		10
				a									c	3	2	1		10
				a							Rts*	^^ 477.0 486.4 Ashy Tuff, with sulfides	c	3	2	1		10
												and pale green (diopside-epidote)	c	3	2	1		10
482.00												alteration	c	3	2	1		10
	100	90	R4	a	30	2							c	3	2	1		10
				b	40								c	3	2	1		10
				a									c	3	2	1		10
				a														
492.00				a						-45	QD	** 491.6 562.0 Quartz Diorite						

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
											gQD	^^ 491.6 495.4 Granophyre						
	99	55	R3	a	20	2												
496.00				b	40													
	100	100	R3	b	30	2												
				b	50													
502.00				c														
	100	100	R3	c	30	1												
				c								Note: @ 506.0-508.5 Sheared interval					
				c						-27								
				c														
511.00				c														
	100	85	R3	c	30	1												
515.00				c														
	100	100	R3	c	30	1						Note: @ 517.0-521.0 Sheared intervals						
				c														
				c								Note: @ 522.5-531.0 Sheared intervals						
523.00				c						-20								
	100	90	R3	c	15	2												
				b	30													
				b														
				c														
533.00				c														
	100	70	R3	c	3	2												
				c	20					-27		Note: @ 537.0-551.0 Sheared intervals,						
539.00				c								with high angle fractures to core axis						
	100	80	R3	c	15	1												
				c														
				b														
				b														
548.00				b														
	80	0	R3	a	5	2												
551.00				a	20													
	100	100	R3	b	30	1												
552.00																		
	100	80	R3	b	20	1												
				b														
				c														
				c														
562.00				b														

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
											E.O.H. 562' (total depth)						

Noranda Exploratio[illegible] [illegible]c.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	176.9	-56.2
100'	178.7	-56.2
250'	178.4	-56.7
400'	179.6	-56.3
550'	180.1	-55.4
661'	180.7	-54.6

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-9-90
REMARKS:
CORE SIZE: NQ/HQ

HOLE NO: LYN90-14 (WDNR #155)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-16-90

BEARING: S180E INCLINATION: -55 T.D: 661'
COORDINATES: 9800 E, 11310 N
ELEV: 1566.5' SEC: 15 TWP: 37N RANGE: 4E

DATE: 10-22-90
PAGE 1 OF 10

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 55.0			** 0.0 55.0 OVERBURDEN	
55.0 60.0	(not recovered)			
55.0 214.5		Ml,Rc	** 55.0 214.5 BASALT, RHYOLITE CRYSTAL TUFFS & LAPILLI TUFFS	
60.0 68.0	(HQ core)			
214.5 243.0		IR	** 214.5 243.0 INTRUSIVE RHYOLITE(?), Pervasively Altered	
243.0 264.5		Ml	** 243.0 264.5 BASALT	
264.5 317.5		FZ/DS	** 264.5 317.5 FAULT ZONE/DIKE SWARM	
264.5 269.0			^^ 264.5 269.0 Basalt Sill?, Plag-phyric	
317.5 330.0		Md(?)	** 317.5 329.0 BASALT (Dike?)	
330.0 332.0		Rtp*	** 329.0 332.0 RHYOLITE SULFIDE TUFF	330.0 332.0 10% sulfide, 7% Po, 3% Sp
332.0 337.7		Xp/MS	** 332.0 337.7 BEDDED TO MASSIVE SULFIDE	332.0 352.5 45% sulfide, 25% Sp, 5% Ga, 15% Po
337.7 341.5		Xp/MS	** 337.7 341.5 TUFFITE, with Po	
341.5 352.2		Xp/MS	** 341.5 352.5 MASSIVE SULFIDE	

Noranda Exploration, Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	176.9	-56.2
100'	178.7	-56.2
250'	178.4	-56.7
400'	179.6	-56.3
550'	180.1	-55.4
661'	180.7	-54.6

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-9-90
REMARKS:
CORE SIZE: NQ/HQ

HOLE NO: LYN90-14 (WDNR #155)

DATE: 10-22-90
PAGE 1 OF 10

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-16-90

BEARING: S180E INCLINATION: -55 T.D: 661'
COORDINATES: 9800 E, 11310 N
ELEV: 1566.5' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
352.5 358.0		Rt	** 352.5 358.0 RHYOLITE TUFF	
358.0 364.5		Xp,t	** 358.0 364.5 TUFFITE	
364.5 392.7		Rt,Rch	** 364.5 392.7 TUFF, Interbedded Chert	
391.0 392.7		OD	^^ 391.0 392.7 Quartz Diorite Dikes	
392.7 403.1		Rch,p	** 392.7 403.1 TUFF, Interbedded Chert, with Sulfides	392.7 403.1 6% sulfide, 4% Po, 2% Cp
397.5 403.1		OD	^^ 397.5 403.1 Quartz Diorite Dikes	
403.1 420.0		Xch,p	** 403.1 420.0 TUFFITE, Interbedded Chert	403.1 420.0 35% sulfide, 20% Po, 12% Cp, 3% Sp
420.0 426.0		Rch	** 420.0 426.0 CHERTY TUFF	
426.0 661.0		OD	** 426.0 661.0 QUARTZ DIORITE	
426.0 451.2		gOD	^^ 426.0 451.2 Granophyre	
478.0 485.0		Rt	^^ 478.0 485.0 Rhyolite Tuff	
533.1 536.5		Md	^^ 533.1 536.5 Basalt Dike	

E.O.H. 661' (total depth)

ROCK QUALITY:

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

DRILL HOLE: LYN90-14

SULFIDES: % 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
0.0 55.0											** 0.0 55.0 Overburden						
										M1,Rc	** 55.0 214.5 Basalt; Rhyolite Crystal Tuffs & Lapilli Tuffs						
										Md	^^ 55.0 134.2 Basalt Grey-black, with epidote alteration associated with quartz-filled fractures from 20-40 degrees to core axis						
60.00									-22								
	100	90	R3	a	20	1			-20								
				a													
65.00				a													
	100	95	R3	a	20	1											
68.00				a					-40								
	100	90	R5	b	30	1											
				a													
73.00				b					-35								
	100	100	R4	a	5	2											
76.00				a	40												
	100	25	R3	b	5	2											
79.00				b	40												
	100	95	R3	b	20	2			-35								
83.00				a	40												
	100	70	R3	a	25	1											
				b					-25								
				a													
91.00				c													
	100	100	R4	c	20	2											
93.00					40												
	99	65	R4	c	20	1											
				b													
				c													
100.00				b													
	100	85	R3	a	10	2			-25								
				a	20												
				a													
				b													
111.00				b													
	100	70	R3	b	10	2											
				b	50				-20								
117.00				b					-50								

ROCK QUALITY:

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

DRILL HOLE: LYN90-11

SULFIDES: % 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
				a	20													
				a	40													
				a														
584.00				a														
	100	90	R3	a	40	2												
				a	80													
				a														
591.00				b														
											00	^^ 581.5 591.0 Altered Quartz Diorite With sulfide veinlets						
												Note: 588.0 589.0 Ga-Po veinlet	a			3		2
												E.O.H. 591.0' (total depth)						

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	179.2	-46.6
100'	178.5	-44.3
200'	179.4	-44.7
300'	179.9	-44.8
354'	179.0	-44.7

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding, L. Kennedy
DATE COLLARED: 7-31-90
REMARKS:
SIZE CORE: HQ/NQ

HOLE NO: LYN90-12 (WDNR #152)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-3-90

BEARING: S180E INCLINATION: -47 T.D: 354'
COORDINATES: 10000 E, 10750 N
ELEV: 1578.5' SEC: 15 TWP: 37N RANGE: 4E

DATE: 10-20-90
PAGE 1 OF 6

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 70.0			** 0.0 70.0 OVERBURDEN	
70.0 72.0	(not recovered)			
70.0 80.5		BPM,t	** 70.0 80.5 BEDDED MAGNETITE-PYRRHOTITE TUFF	72.0 80.5 8% Sp
80.5 91.0		MS,p	** 80.5 91.0 MASSIVE SULFIDE, Pyrrhotite-rich	80.5 91.0 45% Sp, 5% Ga
91.0 104.8		Sk	** 91.0 104.8 CALCSILICATE-ALTERED TUFF	
104.8 146.0		BPM	** 104.8 146.0 BEDDED MAGNETITE-PYRRHOTITE	
116.0 116.5		Rp	^^ 116.0 116.5 Rhyolite Porphyry	
146.0 154.2		Sk	** 146.0 154.2 CALCSILICATE-ALTERED TUFF	
154.2 156.3		BPM	** 154.2 156.3 BEDDED MAGNETITE-PYRRHOTITE	
156.3 171.0		Rca*	** 156.3 171.0 CALCAREOUS, ALTERED TUFF	
164.4 165.8		MS,p	^^ 164.4 165.8 Massive Sulfide, Pyrrhotite-rich	164.4 165.8 30% Sp
171.0 195.1		Xp,t	** 171.0 195.1 TUFFITE, TALCOSE, Pyrrhotite	171.0 195.1 20% Sp, 3% Ga
175.1 176.3		MS	^^ 175.1 176.3 Massive Sulfide	175.1 176.3 40% Sp, 5% Ga

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	179.2	-46.6
100'	178.5	-44.3
200'	179.4	-44.7
300'	179.9	-44.8
354'	179.0	-44.7

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding, L. Kennedy
DATE COLLARED: 7-31-90
REMARKS:
SIZE CORE: HQ/NQ

HOLE NO: LYN90-12 (WDNR #152)

DATE: 7-18-91
PAGE 1 OF 6

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-3-90

BEARING: S179.2E INCLINATION: -46.6 T.D: 354'
COORDINATES: 10000 E, 10750 N
ELEV: 1574.7' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
		Md	^^ 180.5 180.7 Basalt Dike	
		Md	^^ 185.2 186.2 Basalt Dike	
		Md	^^ 191.7 192.8 Basalt Dike	
195.1 209.8		Rt*,t	** 195.1 209.8 TUFF, TALCOSE, ALTERED	200.5 207.5 10% Sp, 3% Ga
209.8 303.0		Rc	** 209.8 303.0 RHYOLITE CRYSTAL TUFF	
217.0 233.0		FZ/DS	^^ 217.0 233.0 Fault Zone/Dike Swarm	
303.0 354.0		QD	** 303.0 354.0 QUARTZ DIORITE	
304.5 311.0		sRt	^^ 304.5 311.0 Rhyolite Tuff, Sheared	
311.0 322.5		gQD	^^ 311.0 322.5 Granophyre	
322.5 354.0				

E.O.H. 354' (total depth)

ORIGINAL

ROCK QUALITY:

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

DRILL HOLE: LYN90-12

SULFIDES: % 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
0.0 70.0											** 0.0 70.0 Overburden	d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
												d	5		2	8	25
72.00										BPM,t	** 70.0 80.5 Bedded Magnetite-Pyrrhotite Tuff	d	5		2	8	25
	99	75	R3	a	30	2						d	5		2	8	25
				b	50				-40			d	5		2	8	25
78.00				a							Note: Sp increases toward base, Mt greater at top	d	5		2	8	25
	100	100	R3	c	50	1						d	5		2	8	25
80.00												d	5		2	8	25
									-40	MS,p	** 80.5 91.0 Massive Sulfide	d	5		2	8	25
	100	95	R3	a	30	1			-38		Note: Pyrrhotite-rich, fluctuations in bedding angles	f	45		5	5	30
82.00									-25			f	45		5	5	30
	100	50	R3	b	30	2			-20			f	45		5	5	30
86.00				b	50				-25			f	45		5	5	30
	100	70	R3	b	30	2			-70			f	45		5	5	30
				c	50				-60			f	45		5	5	30
92.00									-70	Sk	** 91.0 104.8 CalcSilicate-altered Tuff	f	45		5	5	30
									-35		Po, Py>Mt @top, Mt>Po, Py @ base from 91.0 104.8	a			1	1	3
	100	100	R3	c	20	3						a			1	1	3
				c	40							a			1	1	3
				a	60							a			1	1	3
100.00				c								a			1	1	3
	100	100	R4	c	20	2						a			1	1	3
103.00				c	40					BPM	^^ 104.8 146.0 Bedded Pyrrhotite-Magnetite, Po, Py>Mt @top, Mt>Po, Py @base; Cp with Mt	a			1	1	3
	100	100	R3	a	20	2						a			1	1	3
105.00					40							a			1	1	3
												a			1	1	3
	100	100	R3	b	10	3						c					25
				c	20							a		1			
				c	40							a		1			
113.00				a							^^ 112.0 122.5 Bleached/altered tuff	a		1			
	100	60	R3	b	15	3				Rp	^^ 116.0 116.5 Rhyolite Porphyry						
				a	40												
				b	60												

ROCK QUALITY:

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

DRILL HOLE: LYN90-12

SULFIDES: % 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
				a														
122.00				a						-58	BPM	^^ 122.5 146.0 Disseminated to bedded	c					15
												Magnetite-pyrrhotite	c					15
													c					15
											Rtp*	^^ 122.5 133.0 Altered tuff with	c					15
	99	80	R3	a	10	3						disseminated Po and Mt	c					15
				a	20							Note: 125.5 126.4 Possible high angle	c					15
128.00				a	70							fracture	c					15
	99	80	R3	a	30	2							c					15
131.00				b	70								c					15
	99	25	R3	b	20	2							c					15
134.00				b	40						BPM	^^ 133.0 140.3 Bedded Pyrrhotite-	c					15
	100	65	R3	c	5	2						Magnetite	d					30
				c	30								d					30
140.00				a									d					30
	100	0	R3	a	40	2							c					15
141.50					60						Sk	^^ 146.0 154.2 Calcsilicate Altered Tuff	c					15
	100	80	R4	b	50	2						with Po & Mt	c					15
				b	65								c					15
				a									a				1	2
				a								Note: 148.0 154.0 Numerous sulfide-	a				1	2
150.00												filled veinlets b/40-55 degrees to	a				1	2
										-70		core axis	a				1	2
	100	100	R3	b	30	1							a				1	2
153.00				a							BPM	** 154.2 156.3 Bedded Magnetite-	a				1	2
												Pyrrhotite	a				1	2
	100	90	R3	b	20	2							d	5				30
				b	40						Rca*	** 156.3 171.0 Calcareous, altered tuff	a	1				3
159.00				c						-85		carbonate-epidote bleaching	a	1				3
	100	100	R2	c	30	2							a	1				3
163.00				b	50					-60			a	1				3
	100	85	R3	a	20	3				-70	MS,p	^^ 164.4 165.8 Massive Sulfide	a	1				3
				c	40							Pyrrhotite-rich	e	40				5
				c	70					-70			b	1	1		1	5
				b							Xp,t	** 171.0 195.1 Tuffite, Talcose,	b	1	1		1	5
				c								with Sp	b	1	1		1	5
173.00										-80			c	2			1	10
													c	2			1	10
	100	65	R3	b	30	2					MS	^^ 175.1 176.3 Massive Sulfide	c	2			1	10

ROCK QUALITY:

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

DRILL HOLE: LYN90-12

SULFIDES: % 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
				c	50							25% Sp & bleaching of tuff b/andesites	c	2			1	10
				b									d	25				
				c									d	25				
				b									c	15				5
											Md	^^ 180.5 180.7 Basalt Dike						
183.00													c	15				8
	100	90	R2	b	10	2					Md	^^ 185.2 186.2 Basalt Dike	c	15				8
				c	45					-40			c					
				c						-80			c	15				12
				c						-27	Md	^^ 191.7 192.8 Basalt Dike	c	15				12
193.00				c						-90								
	100	85	R2	d	45	1					Rt#,t	** 195.1 209.8 Tuff, Talcose, Bleached	c	15				10
				d														
				b									d	30				
				b														
203.00				a														
	100	70	R2	a	40	1						^^ 204.3 207.4 Finely Laminated, contorted chloritic-talcose tuff sheared from 208.0-209.8						
				b														
208.00				b						-60								
											Rc	** 209.8 303.0 Rhyolite Crystal Tuff Sheared intervals/fault zones from 207.8-210.8, 217.0-233.0						
	100	0	R2	a	30	2												
210.00					60													
	100	70	R3	a	60	1												
				a														
215.00				a														
	100	80	R3	a	50	1						Note: 216.5 226.3 Granophyric Dike Swarm						
217.00										-60	FZ/DS	^^ 217.0 233.0 Fault Zone/Dike Swarm						
	100	50	R3	a	40	2												
219.00					60													
	99	30	R3	a	20	3												
223.00				a	40													
					60													
	99	20	R3	a	10	2												
225.00					40													
	99	65	R2	a	20	2												
229.00				a	40													
	99	15	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: LYN90-12

SULFIDES: % 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
233.00				a	30													
	100	80	R3	a	20	2				-40		Note: Two sets of fractures/joints						
238.00				a	50							in sheared intervals 15-20						
	100	45	R3	a	20	2						degrees to core axis, 40-50						
240.00					50							degrees to core axis						
	100	90	R3	a	20	2												
243.00				a	50													
	100	60	R3	a	20	2												
247.00				a	50					-35								
	99	50	R3	b	10	2												
				a	40													
252.00				b														
	100	70	R3	a	30	2												
255.00				a	50													
	100	60	R3	a	30	2				-30								
259.00				a	50													
	100	100	R3	a	30	2												
				a	40													
				a														
266.00				a						-40								
	100	95	R3	a	10	3												
				a	40													
				a	70													
273.00				a														
	100	80	R3	a	30	2												
				a	50													
279.00				a														
	99	30	R3	a	15	2												
281.00					40													
	99	50	R3	a	15	2												
285.00				a	60													
	99	10	R3	a	10	2												
288.00				a	50													
	99	30	R3	a	20	2												
291.00				a	40													
	99	0	R3	a	20	2												
292.00					40													
	100	30	R3	a	40	2				-70								
296.00				a	60													
	99	0	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: LYN90-12

SULFIDES: % 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
298.00					40													
	99	10	R3	a	20	2												
301.00				a	50													
	99	30	R3	a	10	2					QD	×× 303.0 354.0 Quartz Diorite						
				a	40													
											Rt,s	^^ 304.5 311.0 Rhyolite Tuff, sheared						
305.00																		
	100	95	R3	a	30	2												
				a	50													
311.00				a						-40	gQD	^^ 311.0 322.5 Granophyre						
	100	35	R3	a	25	2												
314.00				a	40													
	100	100	R3	a	30	2												
316.00					50													
	100	100	R3	a	10	3												
320.00				a	30													
					45													
	100	85	R3	a	30	3												
				a	50													
				a	70													
				b														
329.00				b														
	100	100	R3	b	40	2												
				b	60													
				a														
				b														
339.00				b														
	100	100	R3	c	20	2												
				b	40													
				b														
				b														
349.00				c														
	100	100	R3	c	35	1												
				c														
354.00				c														
												E.O.H. 354' (total depth)						

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	180.1	-53.3
100'	178.0	-53.5
250'	179.2	-53.4
400'	179.5	-53.3
562'	179.6	-53.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-6-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-13 (WDNR #154)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-9-90

BEARING: S180.1E INCLINATION: -53.3 T.D: 562'
COORDINATES: 9800 E, 11194 N
ELEV: 1565.0' SEC: 15 TWP: 37N RANGE: 4E

DATE: 1-10-92
PAGE 1 OF 9

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
0.0 58.0			0.0 58.0 OVERBURDEN	
58.0 63.0	(not recovered)			
63.0 229.0		Rc	63.0 229.0 RHYOLITE TUFF, CRYSTAL TUFF	81.3 81.6 Po, Py in tuff @ b/tuff & overlying crystal tuff
229.0 237.7		CT	229.0 237.7 TUFA, with Pyrrhotite and Magnetite	229.0 237.7 20% sulfide, 15% Po, Py, 5% Sp
232.0 237.7		BP,l,ca	232.0 237.7 Bedded Pyrrhotite, with Lapilli, calcareous	
237.7 261.8		Rt	237.7 261.8 RHYOLITE TUFF	
237.7 242.6		Rt#	237.7 242.6 Rhyolite Tuff, bleached	
242.6 251.1		Rts	242.6 251.1 Rhyolite Tuff, with sulfides	242.6 261.8 20% sulfide, 12% Sp, 8% Po
251.1 259.0		gRd	251.1 259.0 Granophyric Rhyolite Dike	
261.8 269.3		Rt	261.8 269.3 RHYOLITE TUFF	
269.3 278.5		Xz	269.3 278.5 TUFFITE, Tuffaceous	269.3 278.5 50% sulfide, 40% Sp, 5% Po, 5% Ga
278.5 292.8		Xlca	278.5 292.8 TUFFITE, LAPILLI, CALCAREOUS	278.5 292.8 30% Sulfide, 20% Sp, 5% Ga, 5% Po
292.8 303.5		MSca	292.8 303.5 MASSIVE SULFIDE, CALCAREOUS	292.8 302.8 30% Sulfide, 18% Sp, 3% Ga, 5% Po,
303.5 306.0		CT	303.5 306.0 TUFA	303.5 306.0 3% Sulfide, 3% Sp

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	180.1	-53.3
100'	178.0	-53.5
250'	179.2	-53.4
400'	179.5	-53.3
562'	179.6	-53.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-6-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-13 (WDNR #154)

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-9-90

BEARING: S180.1E INCLINATION: -53.3 T.D: 562'
COORDINATES: 9800 E, 11194 N
ELEV: 1565.0' SEC: 15 TWP: 37N RANGE: 4E

DATE: 1-10-92
PAGE 1 OF 9

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
306.0 318.4		Rt	306.0 318.4 RHYOLITE TUFF	
318.4 339.0		Rca,s	318.4 339.0 TUFF, WITH SULFIDE, CALCAREOUS 330.9 331.5 Massive Sulfide	318.4 339.0 15% Sulfide, 10% Sp, 4% Po, 1% Ga
339.0 344.2		MSp	339.0 344.2 MASSIVE SULFIDE, WITH PYRRHOTITE	339.0 344.2 90% Sulfide, 63% Sp, 13% Ga, 15% Po, 4% Py, 1% Cp
344.2 356.0 346.7 356.0		Rc gRd	344.2 356.0 RHYOLITE TUFF, Crystal Tuff 346.7 356.0 Granophyric Dike Swarm	
356.0 375.7		Md(?)	356.0 375.7 BASALT DIKE(?), Plagphyric	
375.7 394.8 381.5 390.5		CT,m BPM,ca	375.7 394.8 CALCAREOUS TUFF AND TUFA, with bedded Mt/Po 381.5-390.5 Bedded Magnetite-Pyrrhotite	
394.8 415.0		Rc	394.8-415.0 Rhyolite Crystal Tuff	
415.0 465.5 440.5 446.0		CT Rt,ca	415.0-465.5 TUFA, CALCAREOUS TUFF 440.5 446.0 Rhyolite Tuff, Calcareous	
465.5 477.0 468.2 472.7		Xca MSp	465.5 477.0 TUFFITE, with Carbonate 468.2 472.7 Massive Sulfide	465.5 470.0 30% sulfide, 20% Sp, 10% Po 468.2 472.7 60% sulfide, 40% Sp, 20% Po

Noranda Exploration Inc.
Eastern Divison

HOLE SURVEY DATA

Footage	Bearing	Inclination
0'	180.1	-53.3
100'	178.0	-53.5
250'	179.2	-53.4
400'	179.5	-53.3
562'	179.6	-53.0

PROJECT: LYNNE P.D. 1876
CONTRACTOR: Longyear
LOGGED BY: T. Harding/ L. Kennedy
DATE COLLARED: 8-6-90
REMARKS:
CORE SIZE: HQ/NQ

HOLE NO: LYN90-13 (WDNR #154)

DATE: 1-10-92
PAGE 1 OF 9

CO./STATE: Oneida, WI
SCALE: 1"=10'
DATE COMPLETED: 8-9-90

BEARING: S180.1E INCLINATION: -53.3 T.D: 562'
COORDINATES: 9800 E, 11194 N
ELEV: 1565.0' SEC: 15 TWP: 37N RANGE: 4E

DRILL HOLE SUMMARY

FOOTAGE	ROCK QUALITY	CODE	GEOLOGIC UNITS	MINERALIZATION & ALTERATION
				472.7 477.0 35% sulfide, 18% Sp, 15% Po, 2% Cp
477.0 486.4		Rts*	⋙ 477.0 486.4 RHYOLITE TUFF, ALTERED	477.0 486.4 15% Sulfide, 8% Po, 5% Sp, 2% Cp
486.4 491.6		Rt	⋙ 486.4 491.6 RHYOLITE TUFF	
487.0 498.5		Md	^^ 487.0 489.5 Basalt Dike	
491.6 562.0		QD	⋙ 491.6 562.0 QUARTZ DIORITE	
491.6 495.4		gQD	^^ 491.6 495.4 Granophyre	
			506.0 508.5 Shear/Fault	
			537.0 551.0	
			517.0 521.0	
			522.5 531.0	
			E.O.H. 562' (total depth)	

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
0.0 58.0												** 0.0 58.0 Overburden						
											Rc	** 58.0 229.0 Rhyolite Crystal Tuff, @ 58.0-79.6 medium to coarse-grained crystal tuff with greenish epidote bleaching and oxidation staining						
63.00																		
	100	100	R3	a	10	2												
64.00					40													
	100	80	R3	b	20	2												
66.00					30													
	100	90	R3	a	40	1												
69.00				a														
	100	90	R3	b	2	2												
73.00				a	45													
	99	95	R3	a	2	2												
75.00					20													
	100	90	R3	a	30	2												
				a	15													
80.00				a						-40		Note: @ 79.6 82.0 Banded chert						
	100	100	R3	a	20	2				-55		Note: @ 82.0-101.3 fine-grained, dark grey rhyolite tuff, coarsens downward						
83.00				a	50													
	100	85	R3	b	15	2												
				a	30													
				a														
				b														
93.00				a														
	100	85	R3	a	10	2												
				a	50													
99.00				a														
	100	40	R3	a	10	2												
102.00				a	40													
	99	70	R3	a	15	2						Note: @ 101.3-132.3 Medium-grained, unaltered crystal tuff, coarsening downward, and high-angle fractures increasing downward						
				b	60													
				a														
109.00				a						-40								
	100	55	R3	a	20	2												
113.00				a	60					-20		Note: @ 114.0-128.5 Sheared interval in tuff, chlorite-carbonate alteration, and reddish staining associated with fractures @ 40 degrees to core axis						
	99	75	R4	a	20	2												
				a	50													
119.00				a						-40								

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
	99	60	R3	a	10	3												
				a	20													
126.00				a	45					-35								
	99	0	R3	a	10	2												
129.00				a	45													
	100	60	R4	a	30	1												
132.00				a								Note: @ 132.3-163.4 Fine to medium-						
	100	50	R4	a	10	3						grained crystal tuff, gradational						
				a	30							contacts						
138.00				a	45													
	100	65	R4	a	10	1												
				b														
143.00				b														
	100	80	R4	a	10	2				-42								
147.00				a	30							Note: @ 147.3-162.9, 162.9-163.4, Plag-						
	100	100	R3	a	20	2						phyric tuff						
				a	40							Note: @ 152.0-162.9 Lt. grey bleaching,	a			2	1
153.00				b								with sulfides in veinlets and bleached	a			2	1
	100	100	R3	b	10	3						patches, increasing toward base	a			2	1
				b	30								a			2	1
				a	55								a			2	1
				b									a			2	1
163.00				b						-75		Note: @ 163.4 213.3 Fine to medium-	a			2	1
	99	25	R3	a	20	2						grained dark grey crystal tuff,						
167.00				a	40							gradational lower contact						
	100	75	R3	a	20	2												
171.00				b	40													
	100	55	R3	b	20	2												
173.00					50													
	100	55	R3	a	10	2												
174.00					50													
	100	70	R3	a	10	2												
				a	30													
179.00				a														
	99	35	R3	a	10	2												
182.00				a	30													
	100	80	R3	a	10	3												
				a	30													
187.00				a	60													
	100	70	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: LYN90-13

SULFIDES: % 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
190.00				a	40													
	100	80	R3	a	2	3												
193.00				a	30													
					50													
	99	0	R3	a	20	3												
194.00					30													
					50													
	100	75	R3	a	20	2												
198.00				a	40							Note: @ 197.0-208.0 Plag-phyric						
	100	75	R3	a	20	2						interval						
				a	60													
203.00				a														
	100	20	R3	a	2	2												
208.00				a	70													
	100	80	R3	a	2	3												
				a	20													
213.00				a	70							Note: @ 213.3-229.0 Medium to coarse-						
	100	100	R2	a	30	2						grained crystal tuff, grey-green, with						
				a	50							blue quartz eyes & lithic (chert) clasts						
				b														
220.00				c														
	100	100	R2	c	30	1												
224.00				c														
	100	50	R2	c	30	1												
225.00																		
	100	80	R2	c	30	1												
227.00																		
	99	50	R2	b	20	1					CT,f	** 229.0 237.7 Tufa, with	a				4	
				b								pyrrhotite and magnetite	a				4	
													a				4	
231.00										-65	BP,l,ca	^^ 232.0 237.7 Bedded Pyrrhotite,	a				4	
	100	100	R2	c	40	1						calcareous with lapilli	c	2		1	2	10
				d									c	2		1	2	10
				d									c	2		1	2	10
				d									c	2		1	2	10
				b							Rt	** 237.7 261.8 Rhyolite Tuff,	a				1	1
												with sulfides	a				1	1
													a				1	1
												^^ 237.7 251.1 Bleached, ashy, rhyolite	a				1	1
												tuff with sulfides	a				1	1

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
241.00													a				1	1
	100	65	R2	b	30	2							a				1	1
				a	50								c	12			2	8
				b									c	12			2	8
247.00													c	12			2	8
	100	85	R3	a	25	3							c	12			2	8
				a	40						gRd	^^ 251.1 259.0 Granophyric Rhyolite Dike	c	12			2	8
253.00				a	60													
	100	80	R3	a	20	3												
257.00				a	45													
					60													
	100	70	R3	a	20	2												
				b	40						Rt	^^ 259.0 261.8 Rhyolite Tuff, ashy, with sulfides	c				3	10
				b									c				3	10
262.00													c				3	10
											Rt	** 261.8 269.3 Rhyolite Tuff, with sulfides increasing toward base	c				3	10
	100	90	R3	b	40	1							a					2
				c									a					2
				c									a					2
				c									b	4		1	1	4
269.00													b	4		1	1	4
											Xz	** 269.3 278.5 Tuffite, tuffaceous	e	40		5		5
	100	85	R3	b	30	1							e	40		5		5
				a									e	40		5		5
275.00				a						-55			e	40		5		5
	99	85	R2	b	25	2					Xlca	** 278.5 292.8 Tuffite, calcareous with lapilli	e	40		5		5
				b	40								d	30		5		5
279.00													d	30		5		5
	100	65	R2	b	30	2							d	30		5		5
				b	50								d	30		5		5
				a									d	30		5		5
287.00				b						-50			d	30		5		5
	100	100	R3	b	30	2							d	30		5		5
				b	50						MSca	** 292.8 303.0 Massive Sulfide, calcareous	d	30		5		5
293.00				b									d	30		5		5
										-60			f	45		8	2	5
	100	40	R3	b	55	1							f	45		8	2	5
				a									f	45		8	2	5
				b									f	45		8	2	5
300.00				b									f	45		8	2	5

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
	100	80	R3	c	40	1								f	45		8	2	5
				c							CT	** 303.0 306.0 Tufa		f	45		8	2	5
				b						-55									
306.00										-60	Rt	** 306.0 318.4 Rhyolite Tuff							
	100	90	R3	a	5	3						Note: @ 306.0-314.0 numerous anasta-							
				a	40							masing quartz-sulfide filled fractures							
311.00				a	60														
	100	75	R3	a	30	2													
				a	50														
317.00				a							Rts,ca	** 318.4 339.0 Tuffite, calcareous	c		10		1		4
	100	95	R3	b	15	1							c		10		1		4
				c								Note: Bedding more contorted than	c		10		1		4
				c								planar-foliation/bedding angles	c		10		1		4
				c						-45		fluctuate between 15-70 degrees to	c		10		1		4
326.00				b						-15		core axis	c		10		1		4
	100	90	R2	b	35	1				-50			c		10		1		4
				b									c		10		1		4
				b									c		10		1		4
333.00				b									c		10		1		4
	100	80	R2	b	45	1							c		10		1		4
				b						-65			c		10		1		4
				b							MSp	** 339.0 344.5 Massive Sulfide, with		f	55	1	15	4	15
				b								pyrrhotite		f	55	1	15	4	15
				b										f	55	1	15	4	15
343.00											Rt	** 344.5 356.0 Rhyolite Tuff		f	55	1	15	4	15
														f	55	1	15	4	15
	100	80	R3	b	10	3					gRd	^^ 346.7 356.0 Granophyric Dike Swarm		f	55	1	15	4	15
				a	30														
349.00				a	50														
	100	45	R3	a	20	2													
352.00				a	60														
	100	50	R3	a	5	3													
354.00					50					-60									
					60														
	100	50	R3	a	10	3				-40	Md(?)	** 356.0 375.7 Basalt Dike							
357.00				a	20							Note: @ 356.0-358.0, Crystal-poor							
					60							@ 374.0-375.7							
	100	100	R3	a	10	3						@ 361.5-374.0 Bleaching/alteration							
359.00					30							associated with fractures/bedding							
					50														

ROCK QUALITY:

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

DRILL HOLE: LYN90-13

SULFIDES: % 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
	100	95	R3	a	10	3												
362.00				a	40													
					60													
	100	55	R3	a	30	2				-55								
366.00				a	70													
	100	80	R3	a	20	2				-55								
				a	50													
372.00				a														
	99	45	R3	a	40	2												
376.00				a	70					-65	CT,m	>< 375.7 394.8 Calcareous Tuff & Tufa,	c	4				7
	100	80	R3	b	40	2						with bedded pyrrhotite and magnetite	c	4				7
				b	60							6" intervals of bedded pyrrhotite	c	4				7
				b								and magnetite separated by calcareous	c	4				7
383.00				b								tuff and tufa	c	4				7
	99	60	R2	b	30	2							c	4				7
				c	50					-40		Note: @ 389.0-391.5 Tufa	c	4				7
				b						-45			c	4				7
391.00				a									c	4				7
	99	5	R3	a	20	2							c	4				7
394.00				a	40						Rc	>< 394.8 415.0 Rhyolite Crystal Tuff	c	4				7
	99	60	R3	a	30	2												
				a	50													
				a														
401.00				a														
	99	40	R3	a	10	2												
403.00					30													
	99	35	R3	a	15	2												
406.00				a	50													
	99	0	R3	b	30	1												
407.00																		
	99	10	R3	b	50	1												
410.00				b														
	99	15	R3	a	30	2												
413.00				a	50													
	99	25	R2	a	30	2					CT	>< 415.0 465.5 Tufa, tufa and/or	b					5
417.00				a	50					-60		calcareous tuff, more laminated than	b					5
	100	90	R2	a	30	2						contorted bedding, lapilli increase	b					5
				b	55							from 450' to 465.5, as does galena	b					5
423.00				b								content	b					5
	100	95	R2	b	20	2							b					5