

We are committed to providing [accessible customer service](#).  
If you need accessible formats or communications supports, please [contact us](#).

Nous tenons à améliorer [l'accessibilité des services à la clientèle](#).  
Si vous avez besoin de formats accessibles ou d'aide à la communication, veuillez [nous contacter](#).

**ASSESSMENT REPORT**

ON

**Mapping**

**MMI Geochemical Sampling**

**Stripping and Channel Sampling**

**Grid Rehabilitation**

**Castle #3 Rehabilitation &**

**Castle #1 Voluntary Rehabilitation**

(August 2015)

**Castle Silver Property**

North-eastern Ontario Haultain (G3972) and Nicol (G3692) Townships

Larder Lake Mining Division

NTS 41P10

UTM

Grid Zone 17

Nad 83

0519415.42 mE 5280432.91 mN

For

**Castle Silver Mines Inc**

MNDM Client Number 411737

by

Douglas Robinson P. Eng.

Doug Robinson Consulting

P.O. Box 218, Swastika, Ontario

P0K 1T0

Telephone: 705 642-9153

# Table of Contents

1	APPENDICES .....	6
2	SUMMARY .....	9
3	LOCATION AND ACCESS .....	10
4	THE PROPERTY .....	13
5	PHYSIOGRAPHY AND VEGETATION .....	20
6	REGIONAL AND PROPERTY GEOLOGY .....	22
7	EXPLORATION HISTORY .....	23
8	MMI GEOCHEMISTRY PROGRAM .....	29
8.1	MMI Exploration Rational .....	29
8.2	MMI Pathfinder Elements and Analytical Selection .....	35
8.3	MMI Analytical Suite Selection .....	36
8.4	The MMI Geochemical Program .....	39
8.5	The MMI Anomalies .....	42
8.6	MMI Recommendations .....	45
8.7	MMI Implications: Carbon, Metal and Nutrient Cycles .....	46
8.8	Carbon Cycle: Carbon Sink .....	46
8.9	Mineral Nutrient – Organic Nutrient Cycle .....	47
8.10	Alkaline Flooding .....	49
9	2014 LINE CUTTING, GRID REHABILITATION, VOLUNTARY MINE REHABILITATION, TRENCHING/STRIPPING, CHANNEL SAMPLING AND TRENCH REHABILITATION .....	50
9.1	Castle #1 Voluntary Rehabilitation .....	50
9.2	Castle #3 Voluntary Rehabilitation .....	55
9.3	Trenching/Stripping and Channel Sampling .....	56
9.3.1	Trench C1 .....	60
9.3.2	Trench D1 .....	61
9.3.3	Trench D2 .....	61
9.3.4	Trench D3 .....	61
9.4	Trench Rehabilitation .....	62
10	GLACIAL FLOAT TRACING AND PROSPECTING ALONG OLS SURVEY LINES .....	62
A.	BOULDER TRACING - THE PROGRAM .....	62
10.1	Background Information .....	63

10.2	Forestry Discussions & Proceedings .....	64
10.3	OLS Lines Determination & Legislated Protection .....	66
11	Mapping Required to Maintain Work within the Property .....	74
11.1	Background .....	74
11.2	2012 Larose Surveying and Geotechnical Grid Layout .....	74
11.2.1	Grid C Base Line Notes from file “Larose Survey 2012 UTM.xls” .....	75
11.2.2	Grid D Base Line Notes from file “Larose Survey 2012 UTM.xls” .....	76
11.3	2013 Float Tracing Prospecting Program.....	77
11.4	OLS Monument Locations Identified & Compared to MNM OLS data .....	79
11.5	MNDM Evidence Based Policy Decision Re: OLS Survey Encumbered Cell Claims .....	82
11.6	OLS Survey Closure Error Calculations and CHART .....	84
11.7	Survey Fabric Divided in East and West Sectors.....	89
11.7.1	OLS West Part.....	89
11.7.2	OLS East Part .....	90
11.8	Grid Rehabilitation OLS Preservation Summary .....	92
11.9	OCTOBER 10-11, 2013 INSPECTION REPORT – GRIDS – OLS LINES & MONUMENTS .....	97
11.9.1	Email October 16, 2013 to MNR, MNM, GP Re: October 10-11 Inspection Report....	97
11.10	Slash Snowdown and Work Hazards on Public Lands – C195W & C780W Typical .....	111
11.10.1	Email March 27, 2015 to MNR, GP .....	112
11.11	Definitions Grid & Grid Rehabilitation.....	121
11.11.1	Georgia Pacific & First Resources Management Group Position .....	121
11.11.2	Castle Silver Position .....	121
11.11.3	NMR MNM Position .....	122
11.11.4	Ministry of Labor Position .....	122
11.12	Castle Silver Objections – No Consent -Status December 2013 .....	123
11.12.1	Email December 10, 2013 to MNR, MNM, MOL, GP, SG .....	123
11.13	MNR’s Forest Management Directives and Procedure “FOR.05.03.17.pdf” .....	149
11.13.1	OLS Survey Lines Covered by Protection under “FOR.05.03.17.pdf” .....	149
11.13.2	Other Survey Lines Covered by Protection under “FOR.05.03.17.pdf” .....	150
11.14	2014 Slash Burn with 50% Efficiency Notations .....	152
11.14.1	Email March 27, 2015 to MNR GP .....	153
11.14.2	Cumulative Effect of Six Forestry Business Decisions .....	158
11.15	Cogeneration.....	160

11.15.1	Emails: February 05, 2015 to MNR, MNDM, FRMG GP Re: Cogeneration .....	161
11.15.2	Wood Ash Analysis .....	165
11.16	Grid Rehabilitation by Glenn McBride for Georgia Pacific (2013).....	165
11.17	Grid Rehabilitation by Demarell Forestry & Mining Consulting (2014) .....	169
11.18	Balsam Fir Question .....	170
12	FIRST NATIONS RELATIONSHIPS .....	172
13	DISCLAIMER .....	173
14	RECOMMENDATIONS.....	174
14.1	Recommendations to the Premier of Ontario .....	174
14.1.1	RECOMMENDATIONS TO MNR-MNDM-MOL- SURVEYOR GENERAL & OTHER MINISTRIES.....	174
14.1.2	Recommendations Background Regarding Ministry Leadership Responsibility .....	175
14.2	Recommendations to Georgia Pacific and public .....	175
14.2.1	Georgia Pacific Level (1a) Comment: Code of Conduct Contact Information .....	176
14.2.2	Georgia Pacific Level (1c) Recommendations: Sustainable Practice Certification .....	176
14.2.3	Georgia Pacific Level (1d) Comment: Canadian Forest Certification .....	177
14.2.4	Georgia Pacific Level (1e) Recommendations: Loggers Training for Social Values .....	177
14.2.5	Georgia Pacific Level (1f) Recommendations: Independent Forestry Analysis .....	177
14.2.6	Georgia Pacific Level (1g) Recommendations: Public Values, Woody Biomass Fuels, Self-Audits, Third-party Audits .....	178
14.2.7	Georgia Pacific Level (1h) Recommendations: Social License, Public and Workplace Safety	178
14.2.8	Georgia Pacific Recommendations: EHS Commitment (Environment-Health-Safety)	179
14.3	MNDM Standards Re: Evidence Based Policy Development .....	180
14.3.1	MNDM Engagement in Evidence Based Policy Development.....	180
14.3.2	MNDM Recommendation: Evidence Based Accounting of Encumbered Cell Claims .....	180
14.4	MNDM Leadership Role in Policy Conversions to Fractional Claims .....	181
14.4.1	MNDM Obligation to Certify Existence of Conversion and Map Staked Cell Claims....	181
14.5	MNDM Policy MNDM Fractional Claims & Assessment Credits .....	181
14.5.1	Preferred Recommendation: Merging Assessment Requirements of Fractional Cell Claims	181
14.5.2	Alternate; Pro-Rated Assessment Requirements of Fractional Claims .....	183
15	OLS Considerations .....	183
15.1	MNDM assessment credits for OLS Identification .....	183

15.2	MNDM: Quality Assurance OLS UTM locations and Closure Errors.....	183
15.3	OLS Forestry Considerations .....	184
15.3.1	Foresters’ Obligation to Identify OLS Trees and Monuments.....	184
15.3.2	MNR Foresters Reporting OLS Fabric .....	184
15.3.3	Increase OLS Buffer Zone to 160X160m Until OLS Report Completed .....	185
15.4	MNR Update FOR.05.03.17.pdf.....	185
15.4.1	MNR Grid Protection under ‘FOR.05.03.17 .....	185
15.4.2	MNR Recommendation of 2x2 Commercial Pickets Standard in Forestry Cuts .....	185
15.4.3	MNR Geotechnical survey Line Definition .....	185
15.4.4	MNR Close Cut N132 Until Workplace Foot Based Work & Access at MOL Standards 186	
15.4.5	MNR Cogeneration of Cut N132.....	186
15.4.6	MNR and Foresters Cut H133, H134, H141, H142, H144 and H145 Imminently .....	186
15.5	MNR to Check Forest Inventories.....	187
15.6	Ministry of Labour Considerations .....	187
15.6.1	Recommendations to MOL.....	187
16	Castle Silver Recommendations.....	188
16.1	Castle Silver Reporting/Tracking Claim Corner Positions .....	190
17	REFERENCES.....	193
	CERTIFICATE OF QUALIFICATIONS.....	195
18	APPENDICES.....	196

# 1 APPENDICES

---

## Various Maps

2012-Proposal-Map2349-Historical-1cm=200m-IP-Larose.pdf (The 2012 Exploration Proposal Map)

## MMI Survey 2013-2014

### Map

MMI Sample Plan & Compilation of MMI Anomalies Scale 1 cm = 10 m

### Line Profiles

MMI 2014 Stats Profiles Line C 682 16 pgs.

MMI 2014 Stats Profiles Line C 585 17 pgs

MMI 2014 Stats Profiles Line C 487 16 pgs

**MMI 2014 Stats Profiles Line C 438 17 pgs.**

MMI 2014 Stats Profiles Line C 390 16 pgs.

MMI 2013 Stats Profiles Line IPLB 000W

MMI 2013 Stats Profiles Line IPLB 000W

MMI 2013 Stats Profiles Line IPLB 025W

### MMI Statistics Cumulative Frequency Plots

Percentile Rank of All Metals (345 Samples) 12 pages

MMI Stats 2014 Data Percentile Ag

MMI Stats 2014 Data Percentile Au

MMI Stats 2014 Data Percentile Ce

MMI Stats 2014 Data Percentile Co

MMI Stats 2014 Data Percentile Cr

MMI Stats 2014 Data Percentile Cu

MMI Stats 2014 Data Percentile Mo

MMI Stats 2014 Data Percentile Nd

MMI Stats 2014 Data Percentile Ni

MMI Stats 2014 Data Percentile Pb

MMI Stats 2014 Data Percentile Rb

MMI Stats 2014 Data Percentile Ti

MMI Stats 2014 Data Percentile U

MMI Stats 2014 Data Percentile W

MMI Stats 2014 Data Percentile Zn

### MI Sample Logs

MMI Sample Log 2014-09 – Notes Sept 01, 2013 8 pgs.

MMI Sample Log 2014-11 – Notes Nov 15, 2013 8 pgs.

MMI Sample Log 2014-10 – Notes Nov 15, 2014 40 pgs.

### MMI Certificates

SGS Certificate Work Order LD130600 Dated September 19, 2013 15 pgs

SGS Certificate Work Order LK1301084 Dated December 23, 2014 15 pgs

SGS Certificate Work Order VC150260 Dated February 13, 2015 10 pgs

SGS Certificate Work Order VC150261 Dated February 13, 2015 10 pgs

SGS Certificate Work Order VC150262 Dated February 19, 2015 10 pgs

SGS Certificate Work Order VC150263 Dated February 19, 2015 10 pgs

SGS Certificate Work Order VC150264 Dated February 20, 2015 4 pgs

### Strip–Trenching Work, Channel Sampling & Assays

Map: Castle Silver Mines Block C Trench C1 with Assays 1cm = 1 m

Map: Castle Silver Mines Block C Trench D1 with Assays 1cm = 0.5 m

Map: Castle Silver Mines Block C Trench D2 with Assays 1cm = 0.5 m

Map: Castle Silver Mines Block C Trench D3 with Assays 1cm = 0.5m

2014 Castle Rock Sample Log 19 pgs

2014 Castle Reference Point log 4 pg

### Assay Certificates Float, rock and Channel Samples

Swastika Laboratories Ltd. Certificate 14-1400 dated November 13, 2014 1 pg

Swastika Laboratories Ltd. Certificate 14-1424 dated November 19, 2014 1 pg

Swastika Laboratories Ltd. Certificate 14-1494 dated December 01, 2014 1 pg

Swastika Laboratories Ltd. Certificate 14-1525 dated December 01, 2014 1 pg

Swastika Laboratories Ltd. Certificate 14-1547 dated December 01, 2014 1 pg

Swastika Laboratories Ltd. Certificate 14-1574 dated December 08, 2014 1 pg

Swastika Laboratories Ltd. Certificate 14-1719 dated January 09, 2015 2 pgs

### Ontario Land Survey Monumentation

Castle Silver OLS Plots 1-A LM109 RSC102 West Outlier.pdf

Castle Silver OLS Plots 1-B LM105 HS350 Everett Lake SW .pdf

Castle Silver OLS Plots 1-C HS365 HS531 Capitol N.pdf

Castle Silver OLS Plots 1-D HS352 HS357 Babs Lake West.pdf

Castle Silver OLS Plots 2-C HS351 HS359 Miller Lake NE .pdf



Castle Silver OLS Plots **3-B** LM111 RSC105 Miller Lake SW.pdf  
 Castle Silver OLS Plots **3-C** HS360 TC458 Miller Lake SE.pdf  
 Castle Silver OLS Plots **3-D** HS359 HS360 Extreme SE.pdf  
 Map: Castle Property 2015 Lease-Surveys with Closure Errors.pdf  
 Haultain Claim Map with Proposed Cell Grid From MNDM.pdf  
 (OLS) Closure Error Compilation 2015-07 3 pg  
 Haultain Nicol MNDM Lease Coordinates Sort by Error 4 pg  
 2015-05-01 Patrick Brown UTM File Haultain Nicol as received (from MNDM) 5 pgs.  
 Haultain Nicol MNDM OLS Lease Coordinates (discrepancies) 4 pgs  
 UTM OSL Monuments Claims Hazards Shafts 2015-07 Assessment Report 23 pgs

Voluntary Rehabilitation:

Mine Data & Mine History

Mineral Resources Circular No.10 pg 376 Capitol Mine (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 377 Capitol Mine (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 378 Castle #3 Mine (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 379 Castle #3 Mine (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 380 Everett Mine (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 400 Castle 1 Shaft (Capitol Mine) (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 402 Miller Lake O'Brien (Siscoe) (O.J. Segiades)  
 Mineral Resources Circular No.10 pg 403 Miller Lake O'Brien (Siscoe) (O.J. Segiades)  
 OGS Report 175 Gowganda Lake...Silver Area pg 3 Record of Total Production  
 OGS Report 175 Gowganda Lake...Silver Area pg 7 Table of Lithologies  
 OGS Report 175 Gowganda Lake...Silver Area pg 48 Table of Production  
 OGS Report 175 Gowganda Lake...Silver Area pg 98 Capitol Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 99 Capitol Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 100 Capitol Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 101 Capitol Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 101 Castle #3 Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 102 Castle #3 Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 103 Castle #3 Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 104 Castle #3 Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 104 Everett Mine  
 OGS Report 175 Gowganda Lake...Silver Area pg 112 Miler Lake O'Brien (Bonsall)  
 OGS Report 175 Gowganda Lake...Silver Area pg 113 Miler Lake O'Brien (Bonsall)  
 OGS Report 175 Gowganda Lake...Silver Area pg 114 Miler Lake O'Brien (Bonsall)  
 OGS Report 175 Gowganda Lake...Silver Area pg 115 Miler Lake O'Brien (Millerett)

OGS Report 175 Gowganda Lake...Silver Area pg 116 Miler Lake O'Brien (Millerett)  
 OGS Report 175 Gowganda Lake...Silver Area pg 139 Miler Lake O'Brien  
 OGS Report 175 Gowganda Lake...Silver Area pg 140 Miler Lake O'Brien  
 OGS Report 175 Gowganda Lake...Silver Area pg 141 Miler Lake O'Brien  
 OGS Report 175 Gowganda Lake...Silver Area pg 142 Miler Lake O'Brien (Production)  
 OGS Report 175 Gowganda Lake...Silver Area pg 143 Miler Lake O'Brien  
 OGS Report 175 Gowganda Lake...Silver Area pg 144 Miler Lake O'Brien  
 OGS Report 175 Gowganda Lake...Silver Area pg  
 OGS Report 175 Gowganda Lake...Silver Area pg  
 OGS Report 175 Gowganda Lake...Silver Area pg  
 OGS Report 175 Gowganda Lake...Silver Area pg  
 OGS Report 175 Gowganda Lake...Silver Area pg

MNDM - Ministry Policy

Engineering Dimensions 2015 pg 17-19 Moving Towards Evidence-Based Policy Development 3 pgs

Forestry

Life Cycle Sustainability Analysis Sub-project of the Woody Biomass Innovative Project: A Preliminary Assessment (Technical Report 0767 date 2013) 40 pgs

## 2 SUMMARY

---

The property is located in Haultain Tp (plan G3972) and Nicol Tp (Plan G3692) approximately 4 kilometers north-east of the village of Gowganda Ontario. The property is within a mineralized volcanic band extending from IMGOLD' s Cote Lake Project to Shining Tree, to Gowganda and into the Englehart area.

The exploration program included:

- Grid Rehabilitation correcting re-cutting and re-establishing
  - o Geotechnical Survey Grid IPLA base line performed in 2013
  - o Geotechnical Survey Grid IPLB base line performed in 2013
  - o Geotechnical Survey Line IPLB-025W performed in 2014
  - o Geotechnical Survey Grid C performed in 2013 and 2014
  - o Geotechnical Survey Grid D performed in 2013
- Cutting infill Geotechnical Survey Lines to Grid C in 2014
- Cut Geotechnical Survey Line IPLB-025W performed in 2014
- Conducting MMI soil geochemistry
  - o Orientation MMI Soil Geochemistry Survey in September 2013

- o MMI Soil Geochemistry November 2013
- o MMI Soil Geochemistry Survey 2013.
- Conducting Field Mapping in conjunction with float tracing with emphasis on mapping/establishing the perimeter features performed in 2013.
- D2 and Rehabilitation of the Castle 3 Property on Mining Lease RSC101 in 2013-2014
- Voluntary Rehabilitation of the Castle #1 Shaft and the associated muck pile on the staked Legacy Claim 4263352 performed in 2014.
- Stripping Trenches named C1, D1 and D3 was performed in 2014
- Channel Sampling Trenches C1, D1, D2 was and D3 performed in 2014
- Rehabilitation of Trenches C1, D1, D2 was and D3 performed in 2014

The MMI sampling, stripping-channel sampling program were performed to identify and test the source(s) of a mineralized float train tracked up-ice from the north-shore of Miller Lake. Sub vertical mineralized quartz pyrite veins and fault structures and their associated mineralized alteration were identified and channel sampled. Encouraging gold analysis and sub-crop mapping are consistent with typical Archean age gold deposit geology in North-eastern Ontario.

The trenches were rehabilitated by leveling the dirt to gentle contours down to the outcrop exposure.

The MMI geochemistry program established 21 significant anomalies including

- Gold style metal anomalies having a distinctive Au, W, Mo association,
- Co-Ag vein style anomalies having a distinctive Ag, Au, Co, Ce U association and
- Base metal style anomalies with Cu Zn Pb (+/- other metal) association.

The Castle #1 voluntary rehabilitation, cutting Grid C, trenching, channel sampling and trench rehabilitation were performed as a single program by Tom O'Connor and his helper Dave Stiltz during the 2014 fall-winter field season.

Legacy Claims 4263351 & 4263352 consist of Miller Lake and extremely rugged topography. The part of the exploration target; silver veins, is hundreds of meters below surface. Excluding diamond drilling from the lake; conventional exploration was impractical for meaningful assessment work. Voluntary rehabilitation was selected as the preferred assessment work to maintain these two claims.

### 3 LOCATION AND ACCESS

---

The locations in this report and appendices are referenced to Nad 83 UTM coordinates. The reported property location; 0519415.42 mE, 5280432.91 mN is a surveyed mag nail in the center of the Castle #3. This shaft is located on the Mining Lease RSC101 as shown on MNDM claim maps. All the voluntary rehabilitation work documented in this report was performed on staked claim 4263352. The stripping and channel sampling were performed on mining leases referenced as LM111, HS358 and HS355. The MMI sampling was performed on leases HS355, Hs356, HS358 and LM111.

The property is located in Haultain and Nicol Townships of the Larder Lake Mining Division:

- 4 km northeast of Gowganda
- Approximately 36 km west of Elk Lake.



Figure 1: Location Map above

The Castle stripping-channel sampling area is also assessable from Highway 560 (0519515mE 5277459mN). Proceed north on the Everett Lake forest access road approximately 2½ kilometres. At the fork in the road turn right (0519279mE, 5280140mN). Travel east an additional 2.7 km east to the Georgia Pacific's (NE) access road (0520675mE, 5779800mN). At this intersection turn right and proceed approximately 400mS to 0520950mE, 5279515mN. Turn right and travel west approximately 220 meters to 0520765mE, 5279380mN and park. This location is accessible by 2 wheel drive, street vehicle.

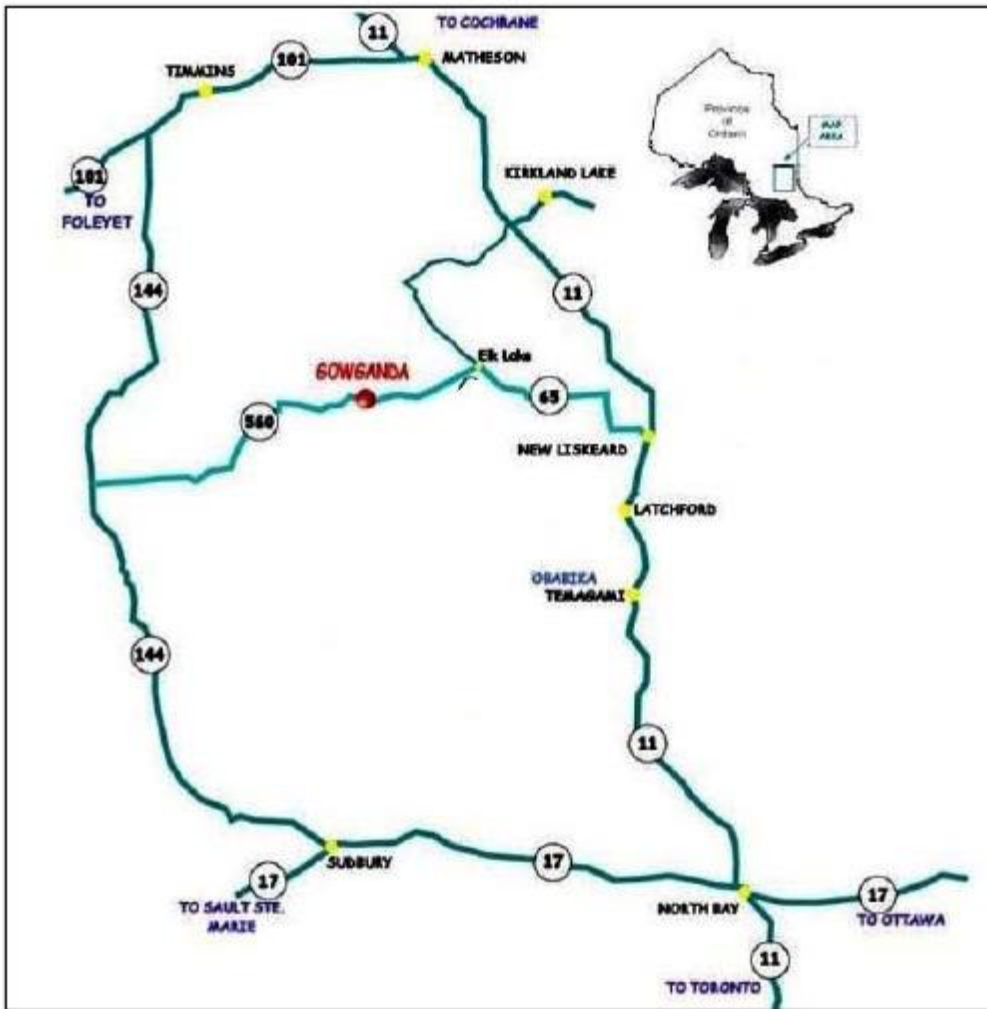


Figure 2: Access Roads - Gowganda and Castle Silver Property above

The Castle#1 voluntary rehabilitation work site is accessible from Highway 560 (0519515mE 5277459mN) at kilometer mark 104, approximately 36 kilometers west of Elk Lake or 4 kilometers east of Gowganda. Proceed north on the Everett Lake forest access for road approximately 2 kilometers to the cross road located at 0519290mE, 5279530mN. Turn right and proceed approximately 300 meters east across Temex’s Miller Lake O’Brien property and cross through the recent (2014) rehabilitation. At this location, turn right and proceed south approximately 300 meters along the refurbished, hard bottom, historic (4 wheel accessible) road to the Castle #1 Mine. This road ends at the Castle #1 shaft. The last 300m is recommended truck access. Pre-walking the road could be beneficial.

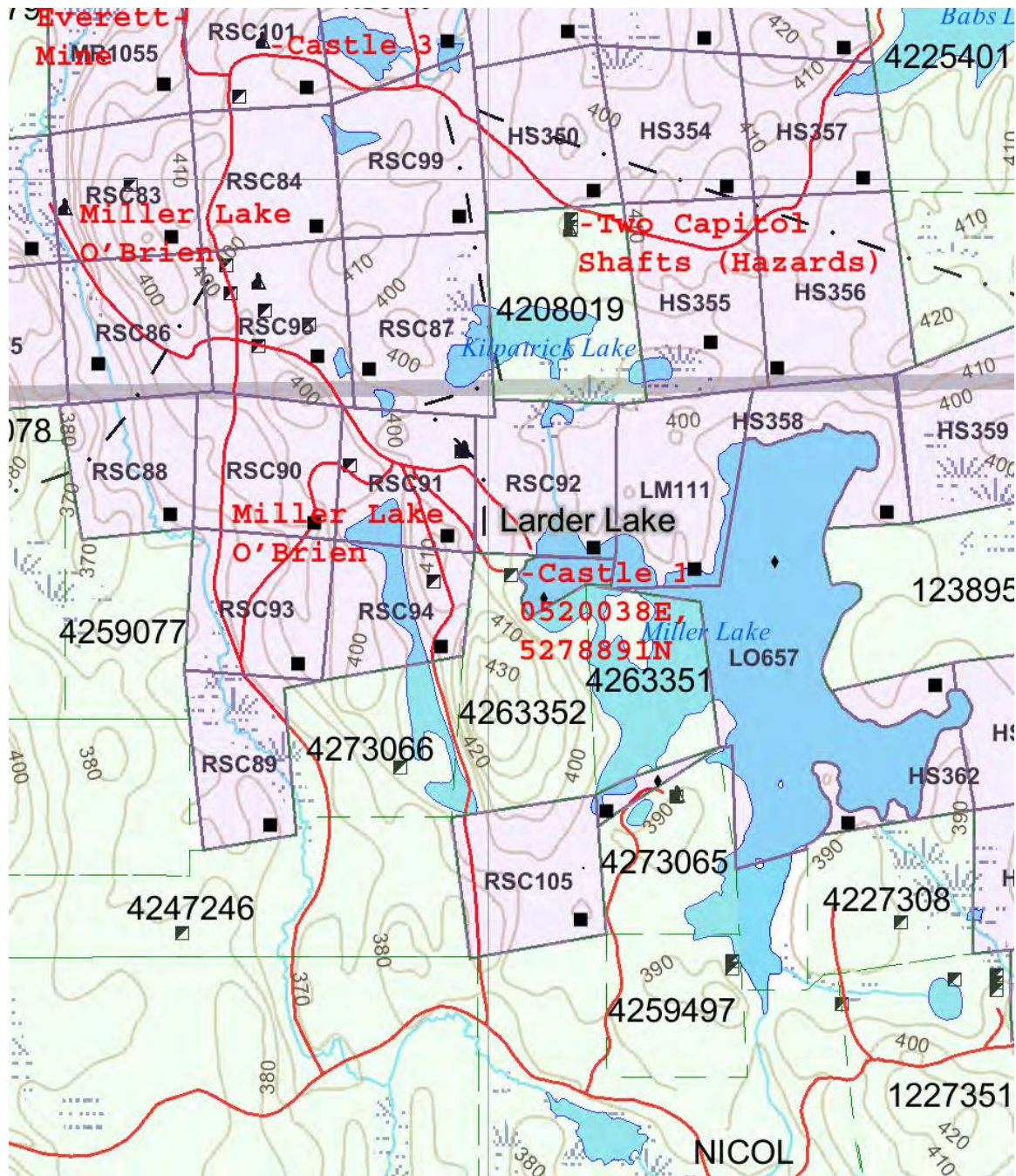


Figure 3: Castle#1 voluntary rehabilitation map (4263351 & 4263352) from Notification Report to MNMD Mine Hazards above

## 4 THE PROPERTY

The property is 34 leased claims in Haultain (plan G3972) and Nicol (plan G3692) Townships and two Licenses of Occupation in Nicol Township, 13 Legacy Claims in Haultain Township and 3 Legacy Claims in Nicol Township.

Table 1: Staked (Legacy) Claims Status below

LARDER LAKE Mining Division - 411737 - CASTLE SILVER MINES INC./ MINES D'ARGENT CASTLE INC.								
Units	Township/Area	Claim Number	Claim Due Date	Percent Option	Work Required	Total Applied	Total Reserve	Claim Bank
2	HAULTAIN	<a href="#">4263360</a>	2015-Apr-25	100%	\$800	\$0	\$0	\$0
14	HAULTAIN	<a href="#">4263444</a>	2015-Mar-25	100%	\$5,600	\$0	\$0	\$0
4	HAULTAIN	<a href="#">4263445</a>	2015-Mar-25	100%	\$400	\$0	\$0	\$0
16	HAULTAIN	<a href="#">4263446</a>	2015-Mar-25	100%	\$6,400	\$0	\$0	\$0
12	HAULTAIN	<a href="#">4263447</a>	2015-Mar-25	100%	\$4,800	\$0	\$0	\$0
12	HAULTAIN	<a href="#">4263448</a>	2015-Mar-25	100%	\$4,800	\$0	\$0	\$0
15	HAULTAIN	<a href="#">4263449</a>	2015-Mar-25	100%	\$6,000	\$0	\$0	\$0
16	HAULTAIN	<a href="#">4263580</a>	2015-Mar-25	100%	\$6,400	\$0	\$0	\$0
16	HAULTAIN	<a href="#">4263581</a>	2015-Mar-25	100%	\$6,400	\$0	\$0	\$0
16	HAULTAIN	<a href="#">4263583</a>	2015-Mar-25	100%	\$6,400	\$0	\$0	\$0
14	HAULTAIN	<a href="#">4263584</a>	2015-Mar-25	100%	\$5,600	\$0	\$0	\$0
16	HAULTAIN	<a href="#">4263585</a>	2015-Mar-25	100%	\$6,400	\$0	\$0	\$0
15	HAULTAIN	<a href="#">4263586</a>	2015-Mar-25	100%	\$6,000	\$0	\$0	\$0
1	NICOL	<a href="#">4263351</a>	2015-Apr-11	100%	\$400	\$0	\$0	\$0
2	NICOL	<a href="#">4263352</a>	2015-Apr-11	100%	\$800	\$0	\$0	\$0
1	NICOL	<a href="#">4263587</a>	2015-Dec -04	100%	\$400	\$0	\$0	\$0

\$67,000

Table 1: Staked (Legacy) Claims status above

The above table lists the status of the staked Legacy Claims as downloaded from MNDM Mining lands Web Site [http://www.mci.mndm.gov.on.ca/claims/clm\\_mmen.cfm](http://www.mci.mndm.gov.on.ca/claims/clm_mmen.cfm) February 23, 2015. These staked Legacy Claims are under extension of time. All the Legacy Claims, mining leases and licenses of occupation listed in the table above and below are one contiguous group.

Table 2: Leased Claims below

*LEASED CLAIMS STATUS*

Claim Number		Township	Lease #	Parcel #	Surface (ha)	Expiry Date	Status	Type
LM106 (MR1117)		HAULTAIN	19149	3657LT	15.54	2011-Mar-31	Active	Lease
RSC102 (MR1055)		HAULTAIN	19148	3658LT	16.778	2011-Mar-31	Active	Lease
TC458 (GG3652)		NICOL	19572	4298LT	8.66	2017-Jun-30	Active	Lease
LM105 (GG6196)		HAULTAIN	19573	4297LT	15.985	2017-Mar-31	Active	Lease
GG3879 (GG3875?) part		NICOL	19676	3492LT	0.554	2020-Mar-31	Active	Lease
HS350		HAULTAIN	19683	3404LT	15.864	2020-Mar-31	Active	Lease
HS352		HAULTAIN	19684	3405LT	13.152	2020-Mar-31	Active	Lease
HS353		HAULTAIN	19685	3406LT	15.054	2020-Mar-31	Active	Lease
HS354		HAULTAIN	19681	3407LT	17.037	2020-Mar-31	Active	Lease
HS355		HAULTAIN	19680	3408LT	20.679	2020-Mar-31	Active	Lease
HS357		HAULTAIN	19679	3410LT	15.297	2020-Mar-31	Active	Lease
HS363		NICOL	19677	3416LT	15.702	2020-Mar-31	Active	Lease
HS364		HAULTAIN	19673	3417LT	15.864	2020-Mar-31	Active	Lease
HS365		HAULTAIN	19682	3418LT	17.321	2020-Mar-31	Active	Lease
HS366		HAULTAIN	19674	3419LT	8.62	2020-Mar-31	Active	Lease
HS367		HAULTAIN	19675	3420LT	16.268	2020-Mar-31	Active	Lease
HS368		HAULTAIN	19678	3421LT	15.661	2020-Mar-31	Active	Lease



HS369		HAULTAIN	19672	3422LT	20.113	2020- Mar-31	Active	Lease
HS356		NICOL	19701	3409LT	21.732	2020- Sep-30	Active	Lease
HS358		NICOL	19702	3411LT	10.603	2020- Sep-30	Active	Lease
HS359		NICOL	19703	3412LT	19.627	2020- Sep-30	Active	Lease
HS360		NICOL	19704	3413LT	17.199	2020- Sep-30	Active	Lease
HS361		NICOL	19705	3414LT	15.378	2020- Sep-3	Active	Lease
HS362		NICOL	19694	3415LT	6.556	2020- Sep-30	Active	Lease
LM107		HAULTAIN	19696	3399LT	15.054	2020- Sep-30	Active	Lease
LM108		HAULTAIN	19697	3400LT	16.268	2020- Sep-30	Active	Lease
LM109		HAULTAIN	19698	3401LT	12.909	2020- Sep-30	Active	Lease
LM110		HAULTAIN	19699	3402LT	15.459	2020- Sep-30	Active	Lease
LM111		NICOL	19709	3403LT	18.98	2020- Sep-30	Active	Lease
RSC100		HAULTAIN	19707	3394LT	17.928	2020- Sep-30	Active	Lease
RSC101		HAULTAIN	19708	4082LT	16.556	2020- Sep-30	Active	Lease
RSC104		HAULTAIN	19706	3396LT	16.794	2020- Sep-30	Active	Lease
RSC105		NICOL	19695	3397LT	15.054	2020- Sep-30	Active	Lease
RSC99		HAULTAIN	19700	4325LT	18.64	2020- Sep-30	Active	Lease
MLO657		NICOL			45.325	no expiry	Active	Lic. of Occupation
MLO1379		NICOL			0.202	no expiry	Active	Lic. of Occupation
<b>TOTAL</b>					<b>564.413</b>			

Table 2: Leased Claims above

## Castle Silver Mines Inc. Lease Location Map. Gowganda Area

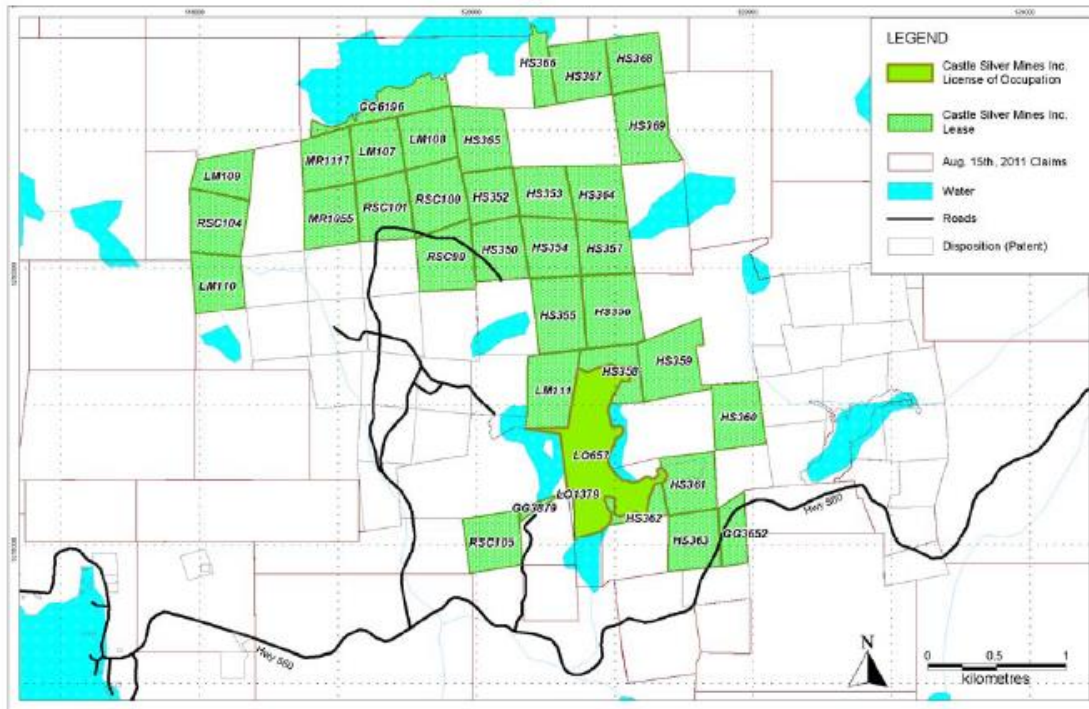


Figure 4: Location of Lease Boundaries above

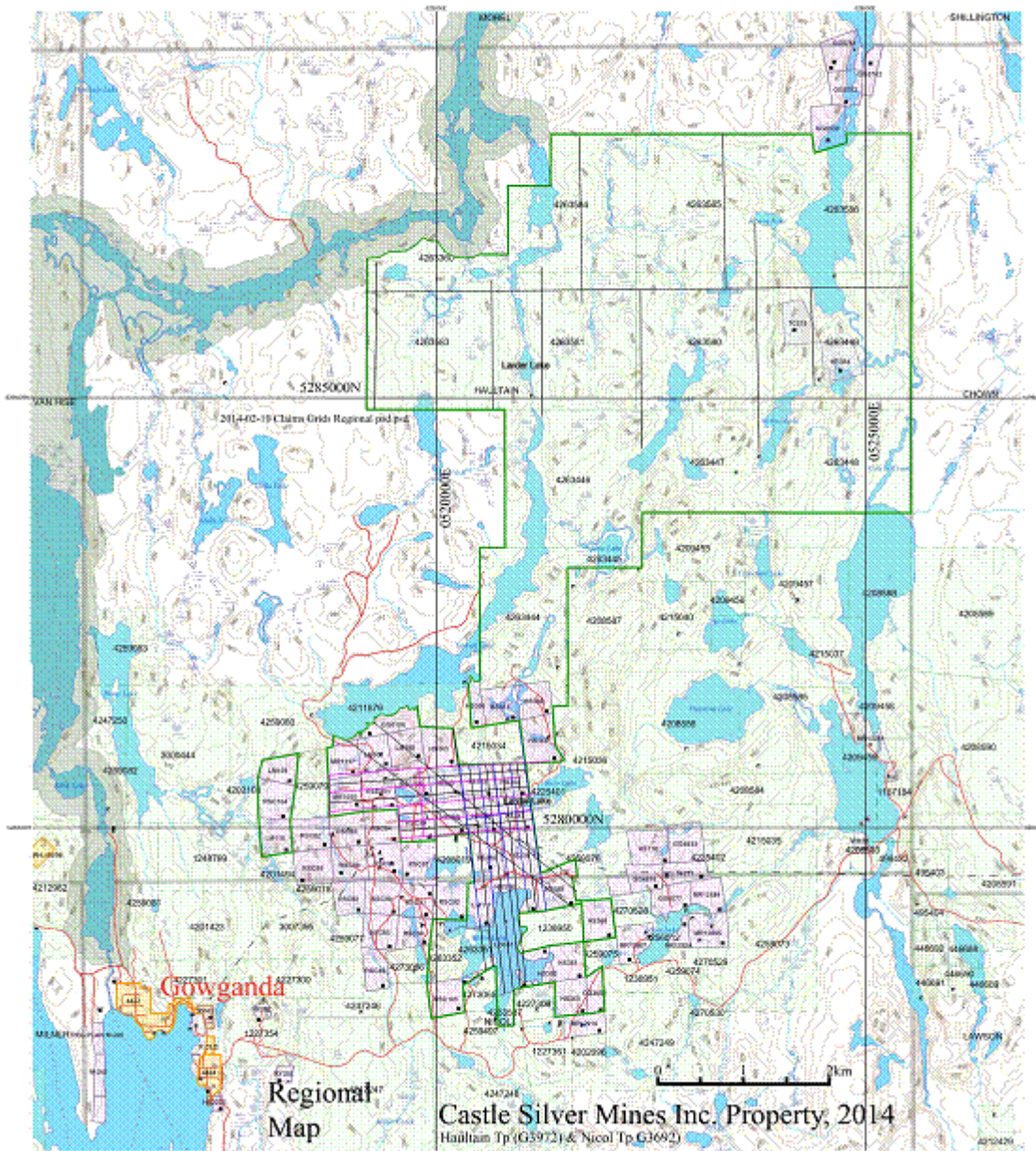


Figure 5: Property Map Leases and Staked Claims From Plans Application above

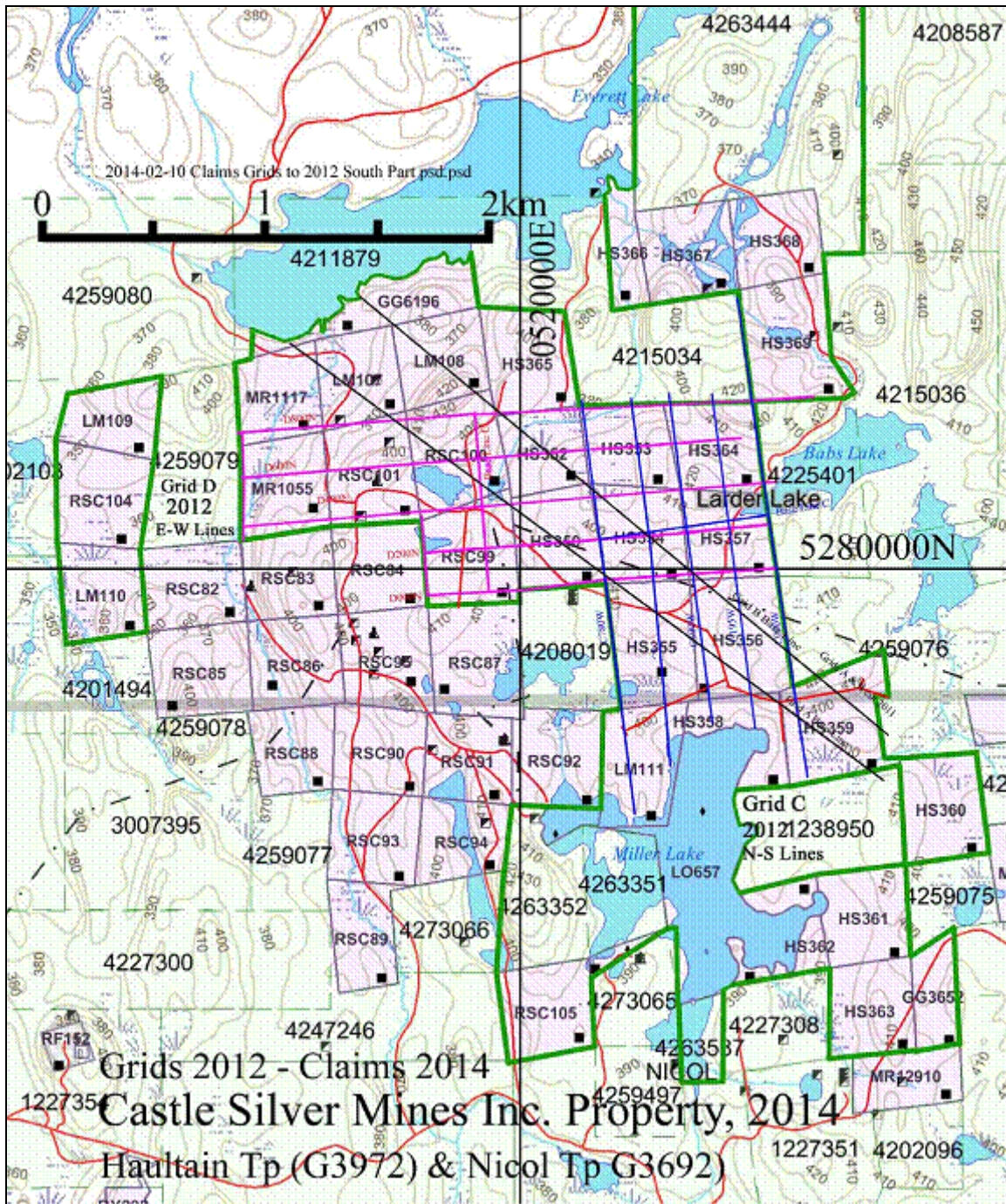


Figure 6: Geotechnical Survey Grid Configuration: IPLA (southern diagonal line, IPLB Northern diagonal line, Grid C as N-S lines extending north from Miller Lake, Grid D as E-W lines west of Babs Lake above



The property has moderate topography comprised of rocky knolls covered with apparent boulder till consisting primarily of sandy soil dominated by cobbles to boulders. The boulders are commonly tightly packed in interstitial pebbly, sandy soil. The area is covered by clear cuts and stands of boreal forest consisting of balsam fir, Jack pine, black spruce, poplar, maple, white cedar and alders. Georgia Pacific's representative was quite candid concerning the unfavorable distribution of tree species/quality in the cut license. By extension; it appears lack of quantity/quality of prime timber may be a factor in the foresters not performing a high quality cameo cut similar to some cuts along Highway 560.

The trees under 10 cm diameter appear to be dominated by balsam fir. It appears the balsam fir will have a major head in natural rejuvenation at the expense of more desirable commercial species and the future economy of the district. Much compromised balsam fir remained after clear cutting NicolN132. These compromised trees fell under the snow load early in the winter November-December 2013, blocking access along the rehabilitated Geotechnical Survey lines of Grid C and Grid A.

Significant clear cutting northwest of Babs Lake now appears to be a well-established, 10-20 years old Jack pine plantation. This cut appears to have harvested the surveyor trees along the east edge of the property. Cut N131 at the extreme southern western part of the property is approximately 3-4 years old at this time. The slash piles were burned in 2013 with an estimate 75% success rate. The survey monument in this cut remain to be identified.

Cut H135 (2011) is located along the eastern boundary of the property south of the Babs Lake Road. Abundant Surveyor trees exist leading into this cut. It appears a significant number of surveyor trees were cut along the property line leaving no evidence of the survey within the cut. This cut was scheduled for slash pile burning in 2013, but the burner could not find the cut and slash remains unburnt. We reviewed his maps at the north end of the access road established into cutN132. The reason the slash was not burned is unknown. Burning condition may have changed or it may have been too late in the day to commence burning.

Cut N132 activities commenced shortly after September 9, 2013. The area of this survey was cut after the September 2013 MMI sampling program. The pickets along IPLB 025 west were buried in slash and this author had to rehabilitate this line. All trees scheduled for harvest in the active grid areas were cut by Friday October 11, 2013. The forestry operator refused to deal with moving slash piles of the grid lines until approximately 36 hours before the official end of the field season (November 18, 2013) when he removed the equipment according to a long established schedule. Approximately 50% of the roadside slash was burned and many deep slash piles remain along the roadside and dangerous roadside slash remains on the grid lines. Parts of this slash were buried by Castle Silver to access the grid. This work was performed under the foresters' permits/licenses to meet Occupational Health and safety Standards.

Cut H133 has been scheduled for some years and will involve the north-western part of the property southwest of Everett Lake.

Cut H134 has been scheduled for some years and will involve the north-eastern part of the property directly south of Everett Lake.

Cut H141 appears to have been scheduled for the Legacy Claims north of the leases.

Cut H142 appears to have been scheduled for the Legacy Claims north of the leases.

Cut H143 appears to have been scheduled for the Legacy Claims north of the leases.

Cut H144 appears to have been scheduled for the Legacy Claims north of the leases.

Cut H145 appears to have been scheduled for the Legacy Claims north of the leases.

## 6 REGIONAL AND PROPERTY GEOLOGY

---

The Gowganda area is near the north edge of the Cobalt Embayment. The Cobalt Embayment consists of Proterozoic sediments. The basement rocks are Archean metavolcanics, associated intrusives, and sediments. The sediments include Iron Formation.

Both the Proterozoic and Archean rocks are cut by a shallow dipping late gabbroic (Nipissing Diabase) cone dikes (commonly called sills).

### Deposit Types and Mineralization

In the Cobalt, Gowganda, South Lorain, North Cobalt, Casey Township mining camps; Ag-Co-Ni vein deposits were mined within Nipissing diabase and the Archean and Proterozoic rocks crosscut by Nipissing diabase.

In the Gowganda mining camp: the ore was mined from sub-vertical to vertical carbonate veins in the Miller Lake and Milner Lake Nipissing diabase cone dikes. The economic deposits were dominantly within the upper half of the Nipissing diabase intrusives with minor expressions of ore minerals in the Archean and Proterozoic rocks.

Regionally the deposits contain mineral assemblages including:

- The Ag-Co-Ni-As assemblage, which is commonly ore grade.
- A native silver assemblage in the wall rock as specks, and fracture fillings (commonly called leaf and plate silver).
- A base metal vein assemblage including chalcopryrite, sphalerite and galena beyond (outside) the arsenide assemblage or in veins lacking the arsenide assemblage.
- A base metal sulphide assemblage, which is confined to the wall rock of Archean metasedimentary and metavolcanic rocks and Cobalt Group sediments.
- A base metal, sulphide assemblage, which is confined to the wall rock of Archean metasedimentary and metavolcanic rocks and Cobalt Group sediments.
- A late stage sulphide and sulphosalt assemblage, which is in part distributed along the margins of Ag-Co-Ni arsenide veins, where these veins appear to have been reopened.
- A hematite chalcopryrite vein assemblage within carbonate veins.

The metallic minerals occur within the veins as arsenides, sulpharsenides and antimonides of nickel, cobalt, and iron and large amounts of native silver. Carbonates (calcite, dolomite), quartz, and chlorite are typical gangue minerals. The ore minerals occur in distinct mineral assemblages, such as nickel arsenide, nickel-cobalt-arsenides, cobalt-arsenides, cobalt-iron-arsenides, iron-arsenides, sulphides, and oxide assemblages.

## 7 EXPLORATION HISTORY

Historic silver and cobalt production from Haultain and Nicol townships is tabulated below. This production data is contained in ODM "Mineral Resources Circular No. 10" by A. S. Sergiades (1968) and "Geology of the Gowganda Lake - Miller Lake Silver Area" by W. H. McIlwaine (1978).

*Chart Below: Production from Miller Lake Basin as Reported in Ont. Department of Mines MRC#10 by Sergiades (1968)*

**The Reference #'s 1-9 refer to Sergiades Numbering system.**

MRC#10 Reference	Township	Mine Name	Troy Oz Ag	Lbs. Co	
#5 pg. 370 & 374-375	Haultain	Bonsall (Siscoe)	141,856	-	
<b>#4 pg. 370 &amp; 376-377</b>	<b>Haultain</b>	<b>Capitol (McIntyre Porcupine) (Castle-Trethewey)</b>	<b>10,837,181</b>	<b>209,474</b>	<b>1951-1964</b>
#3 pg. 370 & 378-379	Haultain	Castle (#2 & 3) - Trethewey (McIntyre Porcupine)	6,461,021	229,847	
#2 pg. 370 & 380-381	Haultain	(Miller Lake) Everett (McIntyre Porcupine)	3,461	-	
#6 pg. 370 & 382-383	Haultain	Millerett (Siscoe)	611,822	5,000	
#10 pg. 370 & 384-385	Haultain	Wigwam Silver Mine	896	-	
#1 pg. 370 & 402-403	Nicol	Miller Lake O'Brien (Siscoe)	36,834,404	785,760	1910-1965
#3 pg. 370 & 404-405	Nicol	Morrison	719,201	22,018	1930-1954
#2 pg. 370 & 408-409	Nicol	Tonopah (Walsh)	453,424	3,555	1925-1927 & 1940
#9 pg. 370 & 400-401	Nicol	Castle #1 (McIntyre Porcupine)	Included in other totals		
			56,063,266	1,255,654	



Six mines in Milner Township (West of Gowganda) produced 234,923 oz of Silver from the Milner Lake Nipissing diabase cone dike (McIlwaine 1978 OGS Report 175 pg 3).

Mine	Production Oz Ag
Bartlett	20,219
Boyd-Gordon	4,678
Mann	118,942
Reeve-Dobie	88,584
South Bay	1,500
Welch	1,000
Total	234,923

*Chart Above: Silver production Milner Township (McIlwaine 1978 OGS Report 175 pg 3).*

It appears the Everett shaft was renamed the Castle #2 shaft. This author, Don Freeman and Betty Robinson spent several days searching the entire Everett lease looking for a second shaft. No second shaft was found. The only identified shaft on this lease is locally known as the Everett Shaft. The best measurements by this author place both the Everett Shaft and the Castle #2 shaft at the same location. The shaft identified; appears to be joined to the Castle #3 shaft by one of Castle #3 levels. The Everett shaft collar is located at a lower elevation than the Castle #3 first level. The Castle #3 Adit level is the First Level of the Castle #3 Mine. The Castle #3 first level is completely dry between the Adit and the Castle #3 first level shaft station. Water drains continuously from the Everett Shaft and flows west under the Everett Lake road. This flow appears to be consistent with flow expected from the Castle #3 mine workings.

The Castle #1 shaft is not spatially associated with the Castle #3 and Castle #2 workings.

The Castle#1 Mine appears to be connected to both the Capitol Mine and the Miller Lake O'Brien Mine. It is uncertain to which mine Castle #1 production is reported. It is assumed the Capitol mine appears to include part or all of any silver mined from the Castle #1 claim.

The shaft claim (HS351) of Capitol Mine has forfeited to the crown and is staked as Legacy Claim 4208019. It is not possible to differentiate the Capitol Mine production from claim 4208019 (the shaft claim) and production from the surviving Castle Silver Mines property.

The surface muck piles around the Capitol shaft are located in Legacy Claim 4208019 and mining lease HS350 which is located north of the shaft. The muck piles on Mining Lease HS350 were not derived from that lease. In the decisions of MNM concerning the Coniagas tailings in Cobalt, MNM decided the crown owned the Coniagas tailings that were dumped on the neighboring leases. MNM optioned those tailings to the highest bidder. This author assisted Robert Nicols to stake these tailings for Canadaka Silver. MNM Mining Lands rejected the tailings claim MNM put up for auction. Canadaka Mines was the highest bidder and acquired the rights to mine these tailings and recovered the contained silver. Based on this past MNM decision, the Crown owns the Capitol muck pile located on 4208019 and HS350 and MNM is responsible for any contemplated rehabilitation of these potentially apparent hazards.

The Capitol mine surface muck pile is further complicated because this rock was mined from Mining Leases HS351 (now 4208019), HS355 and LM111 and License of Occupation 657, and recently staked Legacy Claims 4263351 and 4263552.

Also the Capitol mine has two shafts. The Capitol mine had two shafts and only one was identified in the Castle Silver field work.

It is a high probability both Capitol Mine shafts are located within OLS survey HS351. However there is no apparent compelling reason for the developer to select these two shaft collar locations based on OLS survey fabric. Based on the fact the mine workings were based on geology, not property lines It appears the mine developers probably held all four mining leases. The uncertainty of the lease locations is greater than the certainty required to identify the location of the hazards relative to the OLS fabric.

Prompted by Castle Silver submissions to MNM, this author, and possibly the foresters have examined these hazards. The foresters were concerned because the unknown shaft location was within their prescribed cut and abandoned that part of the cut near the unidentified shaft hazard.

Following the MNM inspection of the Capitol hazard; MNM has (orange) snow fenced the main Capitol shaft. Since the Capitol shaft was fenced, the shaft cap has cracked, partially caved and the muck around the shaft has started caving into the shaft. MNM also snow fenced other hazards Castle Silver identified in close proximity to OLS survey lines. It appears dealing with these hazards has been pending since the 2013 MNM inspection of these hazards.

The OLS monument marking the east north east corner of the forfeited Capitol shaft claim HS351 (which also marks Castle Silver Leases HS350 and HS355) appears to have been destroyed by the forest access road located directly north of the Capitol shaft. It appears the road construction persons may have avoided the location where MNM placed that corner on the claim maps. If the construction people were avoiding OLS monuments; it appears they inadvertently destroyed the key monument that identifies which lease the two Capitol shafts hazards are located.

Large, systematic closure errors in the Nicol tp. and Haultain - Nicol Tp. leases have made it impossible to accurately reconstruct the OLS survey fabric. The Castle Silver property is divided into two sectors dominated by two OLS series, the western "RSC###" series and the "HS###" Series.

OLS measurements of the "HS series of leases" and the "RSC series of leases" have major discrepancies along their common boundaries. This problem is amplified by significant to large closure errors within individual surveys. This author has spent much time searching for the common OLS monuments. No OLS trees were found. Also the key OLS corner monuments were not found.

MNM cannot be faulted for being unable to record the true OLS fabric on their claim maps. However, MNM cannot deal with some of these mine hazards until these OLS errors are resolved and MNM must become active in the preservation of OLS fabric.

MNM must deal with OLS fabric errors before rehabilitating the various shafts including the Capitol shafts and the other shafts Castle Silver identified near OLS corner monumentation and OLS survey trees. The OLS corner monumentation and OLS survey trees that mark survey lines that are protected by the Mining Act, Criminal Code of Canada and MNR's "Forest Management Directives and Procedure" document "FOR.05.03.17.pdf", but are not protected in practice.

Any rehabilitation of these properties with mine hazards requires that MNDM, and the various title holders come to an agreement identifying the exact location of that boundary. At this time there appears to be major discrepancies on the perceived location of the Legacy Claims and Mining Leases to the north, east south and west of claim 4208019. The apparent errors in MNDM OLS lease locations relative to Legacy Claims appears to be significant to other OLS lines in Nicol and Haultain townships that are far from the hazards.

The Capitol mine developer appears to have owned HS351, HS350, HS354 and HS355. MNDM and the title holders cannot be certain of the relationship of the Capital mine hazards relative to the OLS survey fabric. This problem exists in the other shaft hazards Castle Silver identified near related OLS survey boundaries. These mine developers appear to have owned the various surveyed leases and developed the properties based on geology, not the internal OLS survey fabric. The workings ignore the internal OLS survey lines. The problem is: The leases have changed ownership fabric and the tenure of the hazards is tenuous within the envelope of uncertainty relating to actual locations of OLS lines.

The location of the two Capitol shafts and the muck piles relative to the OLS boundaries is tenuous within the envelope of uncertainty of the locations for OLS survey lines. The second Capitol shaft was not identified by Castle Silver field work, the foresters or MNDM mine rehabilitation people that examined these shaft hazards.

Quantec Geoscience Limited carried out a Titan-24 DC-IP and MT surveys over the Castle Silver property during 7 days in early March 2011. The surveys were conducted along the base lines of Grid A and Grid B. These grids each consisted of a long Geotechnical Survey base lines with 50 m cross lines. The cross lines were used for additional electrode positioning. These two surveys successfully identified at least 8 geophysical anomalies in the DC/IP and MT inversion models with potential of silver mineralization. The anomalous zones were resolved from near surface to more than a 500 m depth (Quantec Geoscience 2011).

Twelve diamond drill holes totaling 6,842.38 m were drilled between February and July, 2011. The program successfully identified multiple new vein structures. The most significant intersection is from hole CA1108. This intersection has a weighted average of 6,476 g/t Ag over 3.09m. The bulk of the silver is in a 7cm (true width) calcite-Co-Ag vein at 28° to the core axis.



Recent Drill Intersections on and near the Castle property (Quote below)

***“Castle Silver Property***

***6476 g Ag/tonne over 3.09 meters in a drill hole on Castle Silver property***

**Temex Intersections in Drill Holes.**

**4,560 g Ag /t over 0.75 metres and**

**6,066 g Ag/t over 0.70 metres and**

**5,510 g Ag/t over 0.73 metres and**

**4,658 g Ag/t over 0.40 metres.**

**Transition Metals in drill hole**

**82.5 g Au/t over 0.4 m in a drill hole within 200 meters of Castle Silver Property.**

*The Transition Metals intersections and Castle Silver intersections are particularly critical as they are in areas considered moose pasture removed from the historic mines that produced silver. The Temex intersections appear to be extensions of the previously mined Siscoe (Temex) Property. These deposits are in early exploration and the survey fabric is critical to the property. The survey monuments including the surveyor's 3-Sided Blazes ultimately define the value of the properties with deposits having the high probability of crossing the boundaries. This is part of the reason Castle Silver is claiming survey monuments including the surveyor's 3-Sided Blazes critically. If any one of these three early exploration projects proves to be a mine the Mine is very valuable, out of proportion to other values over the same land."*

*Above quote from 2013-04-12 email from DRR to GP, FRMG, MNDM and NMR.*

This email was directed to the recipients to demonstrate the serious consequences of not identifying and protecting OLS Survey fabric consisting of OLS trees marking survey lines and the OLS survey monuments marking the corners of OLS surveys. These consequences impact both the title holder and the MNDM mining lands. This is particularly critical to the planned forced conversion of Legacy Claims to cell claims.

Transition Metals and the Temex Intersections listed above appear to have been drilled within 150 m and of the Castle Silver Property. The close proximity of these intersections to the Castle Silver property placed urgency on mapping property boundaries.

**Real Life Examples of Boundary Issues**

The following two diamond drilling events involving this author may help to put property boundary mapping into perspective.

The last hole drilled at the Bailey Mine in Coleman Tp, Cobalt Ontario was designed to test a vein that was near parallel to the property boundary with the neighboring active mine. The vein crossed the boundary twice with the middle section on our side. The neighbor mined the west end of the vein. We, (Canadaka Mines) were mining the central section of the vein from eight box holes servicing our stope. The vein turned slightly and was striking back towards the neighbor's property at the west end of the stope. This author designed the last diamond drill hole to stop at the boundary.

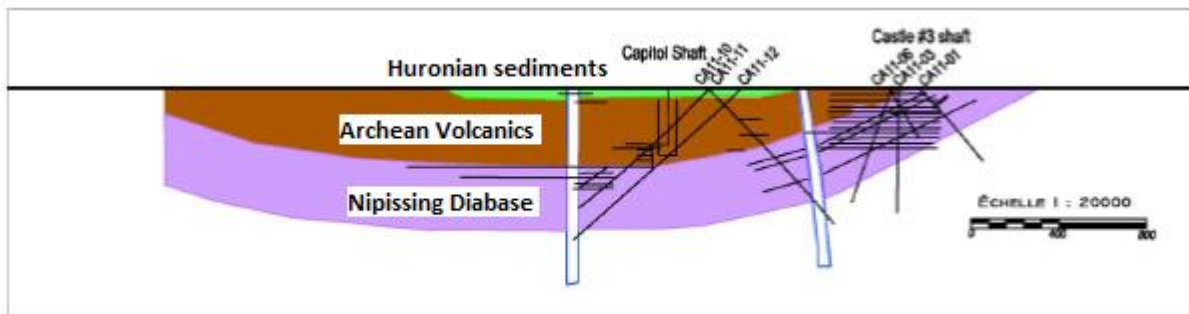
At approximately 70 feet with good air, it took an experienced driller twenty minutes to drill the last 4 inches of core. The core was a crooked as a dog's hind leg. Why? The core was 4 inches of massive silver (>90% by volume) which is almost impossible to drill. The vein continued as a barren calcite vein to the west.

Why do ore deposits occur at the corner of four map sheets and at property boundaries? I do not know. If the Bailey property boundary were 10 meters feet to the north or the south the entire vein would have been on one or the other property.

On another occasion a client refused resources to determine the location of his property boundary. This author designed and spotted a hole to test near the assumed boundary location. The hole proceeded to be the discovery hole for a new vein. My recollection was it graded 0.451% Co, 1.77% Cu and 0.42% Zn. Great hole; nice ore; one problem. The neighbor did the homework and determined the hole was a foot or two across the boundary. He was one happy neighbor, with one free hole, an excellent ore grade intersection in a new vein and lots of free assessment work.

These experiences have made this author excessively diligent concerning mapping boundary areas with extra diligence. This is particularly true when the boundary area has known ore grade drill holes like the Transition Metal and Temex holes.

This is why Castle Silver wrote a lengthy email to Georgia Pacific, First Resources Management Group, MNM and NMR after the apparent destruction of OLS survey evidence during Cuts 131 and Cut 135 and the refusal of these ministries and foresters to protect the survey evidence during the imminent cutting of CutN132.



Section 1: Schematic Geological Cross Section along IP line OE (looking SW)

The lithology shown as green on the above section consists of Proterozoic sediments. The lithology shown in brown is Archean volcanics, intrusives and sediments. The lithology shown as purple is Nipissing diabase. The mine workings are generally within the Nipissing diabase and projected to the section line. The horizontal working shown in the brown are generally in diabase, not Archean volcanics and sediments. The Nipissing diabase hosted all the significant silver mineralization in Haultain and Nicol townships.

Silver production from the Castle Silver property was from Castle #2 (Everett) Mine, the Castle #3 Mine and the Capitol Mine (includes Castle #1 production). Part of the Capitol production was from the shaft claim (formerly HS351) which is not controlled by Castle Silver.

**Historic silver production** in the Miller Lake Basin known as the Gowganda Silver Camp was from: the Castle #2 (Everett) Mine, the Castle #3 Mine, the Capitol Mine (includes Castle #1 production)

and Temex's adjoining Miller Lake O'Brien mine. This production was almost **exclusively from the Nipissing diabase**. The majority of the ore was from the upper half of the Nipissing diabase cone intrusives. The other camps including Cobalt, South Lorain, North Cobalt, and Casey Township had major silver production from below, and from above and throughout the Nipissing diabase cone intrusives.

Ag-Co veins are located where you find them and the project geologist has to be open minded. At the Capitol mine, it appears the discovery vein was hundreds of meters above the Nipissing diabase at the Proterozoic-Archean unconformity. Theoretically, the Proterozoic unconformity is a logical location to look for unconformity controlled Ag or U veins and/or replacement deposits.

Major Ag vein deposits were mined at near the upper contact of the Nipissing diabase at the Beaver Mine, the Temiskaming mine, the Christopher Mine, the Brady Lake mine, and the Cobalt Lode Mine. Agnico Eagle consolidated these properties and developed and explored the lower contact of the Nipissing diabase intrusive. Agnico was searching for similar deposits below the upper contact ore zones. Minor Ag veins were encountered over a few years. The miners were given notice the mine was closing, laid off.

A desperate moose pasture drill hole was drilled and intersected very high grade intersection. This intersection was approximately half a foot of highgrade Ag. A raise was put up to the intersection and the entire deposit was removed in a single raise round. A drill station was cut at the top of this raise and a radial fan of drill holes. Four ore veins were intersected in four different directions. A new mine was developed on three levels and production exceeded 3,000,000 oz Ag. The ore in the new mine was totally independent of the five historic mines at the upper contact of the Nipissing diabase.

New mines, and new ore veins in producing mines have been found contrary to locally held exploration principles. The spatial and genetic model of local silver ore has a history of modifications due to ore being found in unexpected locations.

## 8 MMI GEOCHEMISTRY PROGRAM

---

### 8.1 MMI EXPLORATION RATIONAL

The most critical aspects of MMI sample collection are **accurate and reproducible** sample locations, **consistent** sample depth in the soil profile and **avoidance** of contamination. SGS literature is consistent and emphatic that all samples be collected at a consistent depth below the organic soil. This literature also emphasises avoiding contamination from the equipment used to collect the sample.

The SGS case studies and literature reviewed by this author indicates Mobile Metal Ions are transported vertically to the surface resulting in anomalies directly above the associated mineralization. This author works on the assumption MMI responses can also be partly controlled by bedrock breaks/structures, depth

to bedrock, proximity to bedrock exposures, soil type and groundwater discharge/recharge flows. This assumption does not appear to be supported by the literature this author has reviewed.

The author previously performed an MMI study over a uniform Nipissing diabase intrusive in Hudson Township Northwest of New Liskeard Ontario. The MMI mafic element suite response appeared to have a strong and direct relationship to overburden depth. MMI responses appeared to be significantly higher in shallow overburden in close proximity to outcrop.

In Ogden Township near Timmins Ontario, MMI appeared to work very well at mapping steeply dipping diabase dikes and mapping felsic rocks. This association supports using MMI literature that recommends MMI to map favorable lithologies associated with mineral deposits.

SGS (Mineral Services) research and the experience of this author and others has demonstrated MMI concentrations are significantly impacted by the sample depth in the soil profile. Sample depth is typically measured down from the interface of organic soils and the underlying mineral soils. A sample interval 10 to 25 cm below the organic soil is commonly accepted as an optimal sample horizon.

This research and experience has also demonstrated that MMI anomalies tend to be very narrow, probably/possibly measuring the surface trace of the source mineralization. This author assumes deposit depth may attenuate or eliminate the MMI response associated with mineral deposits.

SGS research and the experience of this author have demonstrated that MMI anomalies are commonly multi-metal responses. The relationship of the metals within an anomaly, commonly appear inconsistent or offset relative to the other metals. This apparent inconsistency appears to be related in part to natural metal zoning within a deposit and in part to varying surficial environments that appear to control metal movement and deposition. The cause of these inconsistencies does not appear to be fully explained in the literature reviewed by the author. Geological mapping and MMI field notes are important to validate and interpret MMI responses.

Some papers deal with the apparent inconsistency of MMI responses by presenting the appropriate metals in cumulative bar graphs. Each metal is represented by a separate, distinctive colour, one above the other. This may work if a single target type using a definite metal association/signature. The Castle Silver property has multiple, known targets types including Archean age gold deposits, Nipissing age Co-Ag vein targets within and near the property, and potential of ultramafic affinity Archean targets and primary volcanogenic sulphide deposits. Mining camps such Rouyn-Noranda camp and the Porcupine mining camps frequently host multiple deposit types. This author; by personal preference, tracks each metal separately as profiles, the same as he utilizes profiled magnetic data. Profile data plots dedicated to each metal separately gives an excellent signature for the MMI response.

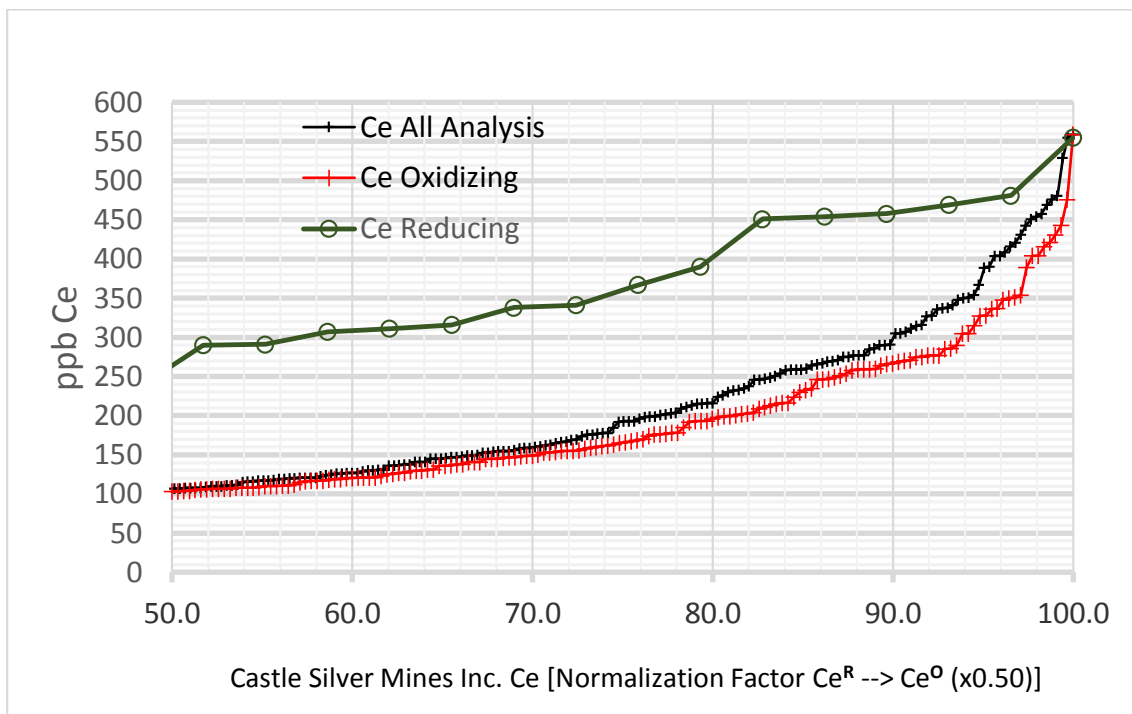
This author reasons that various environmental factors impact the transport and deposition of Mobile Metal Ions. It appears oxidizing and reducing environments in the soil profile have a significant, possibly dramatic impact on MMI values independent of the metal source. This author has not identified literature dealing with exploration in mixed oxidizing environments and reducing environments and transitional environments and seasonally alternating environments within a single survey area.

In previous work; this author has observed apparent cumulative frequency data shifts for Cu, Cr, Mo, Ti, W, Ce and Nd populations of analysis reduced samples relative to oxidized samples. This author established normalization factors for sample analysis from reduce environment for seamless data appraisal.

This author logs all MMI samples emphasizing, oxidized or reduced sample classification, water table, and drainage/slope directions. This author also monitors metals that appear to be most strongly impacted by oxidizing and reduction environments as a validation of his logging and to assists in classifying questionable environments, problematic samples in transitional environments and along edges of wet ground. Some samples are difficult to classify as oxidized or reduced. Tracking oxidization/reduction impacted metals contributes to a valid evaluation of these problematic samples.

This author plots cumulative frequency plots for raw MMI analysis. The cumulative total frequency analysis of the analysis from oxidized environments and the analysis from reduced environments are also plotted separately on the same chart (see Ce chart below). A conversion factor is determined to normalize the reduced analysis cumulative frequency graph to the approximately equivalent in the 75-90<sup>th</sup> percentile range of the oxidized analysis. The 80<sup>th</sup> percentile of Ce<sup>r</sup> (reduced) is approximately 400 ppb. The 80<sup>th</sup> percentile of Ce<sup>o</sup> (oxidized) is approximately 200 ppb. In this study all Ce<sup>r</sup> analysis (reduced samples) are multiplied by 0.50 resulting in a normalized Ce<sup>n</sup> which is equivalent to Ce<sup>o</sup>

This normalizing factor appears to effectively deal with the high and anomalous analysis. The values below the 75<sup>th</sup> percentile are of less interest and any errors in that sector of the data are unlikely to impact an MMI survey. Samples from reducing environments are commonly a minority and that data set is too small to be statistically valid. For this reason normalized data must be considered a useful tool that is used with caution.



Above Chart cut and passed from file MMI Stats 2014 Data Percentile Ce



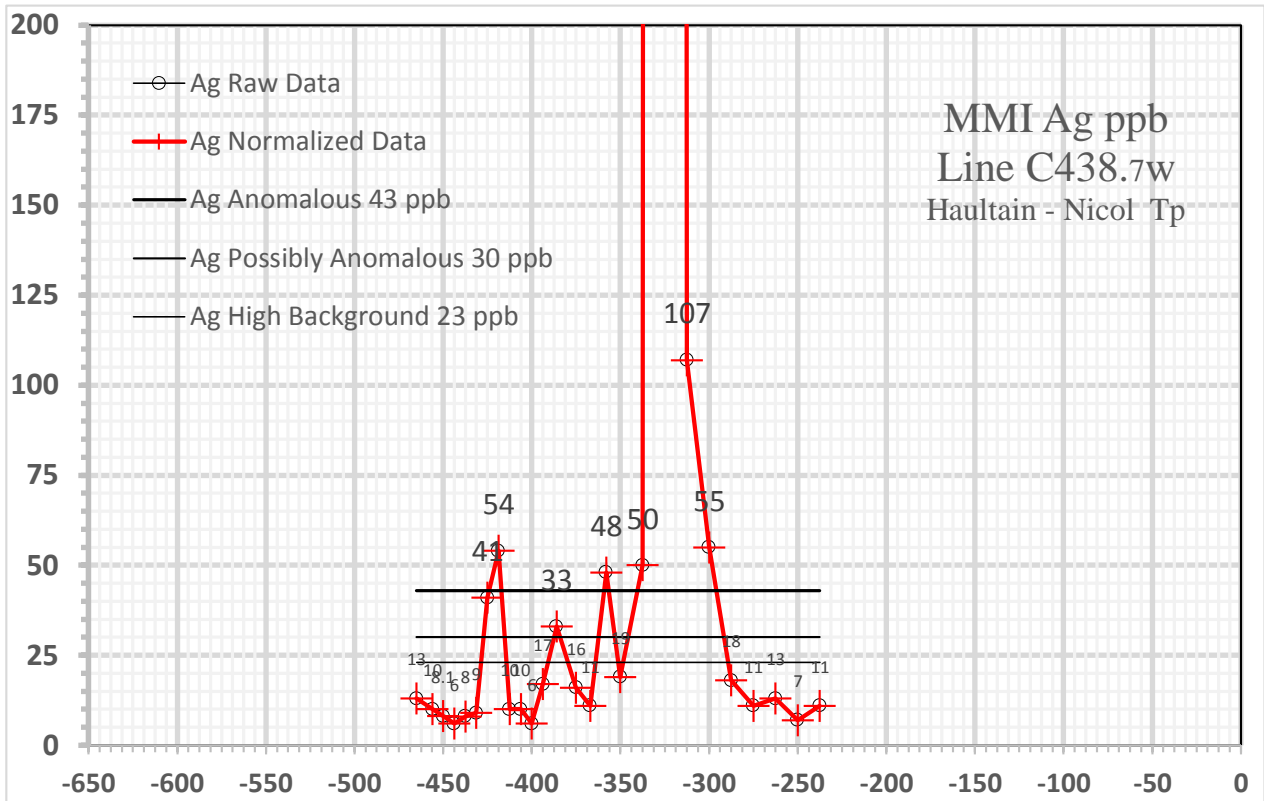


**to the true equivalent MMI values.** Major anomalies may overwhelm the profile. It is the subtle anomalies that require care.

In this author's experience organic soils appear to have lower MMI values than the mineral soils below. If this is true; small amounts of organic soil contamination are insignificant. This is not a proven fact and is not a reason for carelessness. Organic matter including rooted roots, does commonly occur in the ideal sample interval and this author does not disqualify a sample due to an organic component. He only avoids organic matter as much as practical.

A sample distribution of 25 meters will miss many anomalies. Also interpretation of MMI results depends on the profile signature to validate subtle anomalies. A 6.25 meter spacing is optimal to assure anomalies are not missed and to create an effective profile signature to validate subtle anomalies. A spacing shorter than 6.25 meters is prohibitively expensive and too time consuming. Lower priority areas can be sampled at 12.5 meters. A 25 meter sample interval is useful for define background values and regional trends.

*Chart Below: Profile Chart Showing High Background, Possibly Anomalous and Anomalous threshold as horizontal bars*



Castle Silver Mines Inc. - Grid C  
 Raw Data (Black Circles) - Normalized to Oxidized Equivalent (Red Markers)  
 325 South 20,600 ppb Ag  
 Samples Z046528 - 607

Chart Above: Profile Chart Showing High Background, Possibly Anomalous and Anomalous threshold as horizontal bars  
 Some original formatting lost in cut and paste procedure

MMI anomalies considered as follow-up exploration sites should be re-sampled to verify the anomaly. If the original sample interval was 12.5 or 25 meters, verification sampling should be 6.5 meters. Also anomaly definition lines left and right of the anomaly are recommended. Verification/infill sampling and offset definition lines are recommended to determine the trend of the anomaly and the focus of the anomaly defined by the configuration of metal concentrations and distributions. This follow-up sampling also acts as an orientation study to strengthen the MMI model used in future MMI work. This follow-up sampling will demonstrate the strengths and problems of MMI technique.

Follow-up exploration tends to be invasive and commonly alters the soil profile preventing later MMI sampling.

Even large open pit targets can benefit from tight spacing because some large targets are dependent on small high grade patches or narrow veins to carry the bulk of economic mineralization.

In 2013 this author prepared an orientation proposal to test selected areas to determine the optimal MMI sample program to eventually sample Grid A, Grid B, Grid C and Grid D. The intention then was and remains to incrementally expand the MMI sampling of the property, emphasizing a dense 6.5 m sample interval and progressively proving and improving the MMI technique.

The MMI program is intended to aggressively sample selected priority areas, then expand the search area and eventually test the entire property.

## 8.2 MMI PATHFINDER ELEMENTS AND ANALYTICAL SELECTION

Finding silver deposits is the primary objective of the study. It is also recognized the property has significant potential to host:

- Kirkland Lake-Porcupine style deformation zone hosted gold deposits in Archean rocks,
- Iron Formation hosted gold deposits in Archean rocks
- IOCG gold deposits Archean, Proterozoic rocks and Nipissing Diabase and
- Ni-Pt-Pd deposits in Archean rocks.

Mining in the Gowganda mining camp has been restricted to Ag-Co-Ni vein deposits and most of the silver was produced in the upper half of a 300 meter thick Nipissing diabase cone dike (locally called a sill). In this study area that horizon is 325-475 meters below surface. In other Ag-Co-Ni mining camps in North-eastern Ontario, major silver production was been mined from Archean and Proterozoic rocks above and below the Nipissing diabase (cone) dikes. Also base metals mineralization consisting of Cu, Pb and Zn within Archean and Proterozoic rocks are spatially associated with productive silver veins in traditional Ag-Co-Ni deposits. In the Archean rocks, this base mineral mineralization is commonly in volcanic exhalites, locally called interflow sediments. MMI responses to Ag-Co-Ni veins can reasonably be expected to have both a base metal Cu, Pb, Zn response and an Ag, Co, Ni response dependent on the location of the mineralized system that causes an MMI response. Ce and Nd are also expected to be path finder metal for exhalite deposits associated with silver veins.

There is potential for Cu, Pb Zn volcanogenic base metal deposits.

A second non-traditional target for Ag-Co-Ni vein deposits is the Archean–Proterozoic unconformity which is at or near surface in much of the study area. In this environment; ore veins if they exist, could be hosted in both Archean and Proterozoic rocks. A cobalt vein that appears to be the discovery vein at the Capitol mine is located at this unconformity. A major portion of the silver production at Cobalt was from Ag-Co-Ni veins that crossed the Proterozoic-Archean unconformity where Nipissing diabase is within 50 meters of the underlying Archean rocks.

The Castle Mines property also has potential of Kirkland Lake-Larder Lake style Archean gold deposits hosted in or near deformation zones. Favorable deformation zones have been observed in the 2011 drill program. The property is on a regional gold trend extending from the IMGOLD deposit to the Shining Tree gold deposits to the Transition Metals gold zone within 100-200 west of the property to the Englehart area which also has gold potential. Feldspathic diking dominated by feldspar porphyry is common in gold camps hosted in deformation zones. Much feldspar porphyry diking of various textures is common in drill core and in surface exposures in the MMI test area. Ce and Nd are also expected to be path finder metal for emphasizing favorable concentrations of felsic rocks including syenite porphyries associated with gold mineralization.

The property also has potential of Iron Formation hosted gold deposits hosted in Archean rocks. Numerous Fe-Iron formation zones and small graphitic sulphide rich interflow sediments were encountered in the 2011 drill program. Much strongly magnetic rock was also found in the boundary mapping/prospecting program

The property also has potential of IOCG gold deposits Archean, Proterozoic rocks and Nipissing Diabase. This is evidenced by a widespread Au-Cu-Hematite overprint of all of these rock units. The values are low but persistent over much of the property. Any major penetrative structures are logical targets for an IOCG deposit.

The property has potential of Ni-Pt-Pd deposits in Archean rocks. Much of the property is ultramafic-mafic rocks with interflow graphitic, sulphide Fe-Formation and Magnetite Oxide Fe-Formation. The presence of transition metals within ultramafic units is considered a favorable indicator for Ni-Pt-Pd deposits.

The ultramafic melts and the rock they form are very low in Rare Earth Metals. Nickel naturally crystalizes in the crystal structure of mafic silicate minerals and the resulting rocks are not ore.

These ultramafic melts are very hot and melt and assimilate the rocks they intrude into or flow over. The rocks assimilated during this thermo erosion are commonly rich in Rare Earth Metals and sometime sulphides. The sulphides form immiscible melts that scavenge the nickel and Platinum Group Metals from the silicate melt and crystalize separate from the silicates. The sulfides commonly collect at the bottom of the ultramafic body as ore grade sulphides containing nickel, copper, platinum group metals and gold.

High Rare Earth Metal concentration including Ce and Nd and low Ni contents in ultramafic intrusive and extrusive rocks are the signature indicating that these rocks have undergone ore forming processes. Within these rocks, the nickel, platinum group ore is expected near the location of the sulfide assimilation event. The resulting barren melt of the same signature could have moved a long distance from the mineral deposits.

The author considers Ce and Nd valuable MMI pathfinder because the presence of transition metals Ce and Nd can also be indicative:

- Of felsic or Feldspar porphyry dikes that are also part of the Archean gold association.
- Of Archean age sulphide exhalites that are part of the Ag-Co-Ni vein association.
- Of ultramafic rocks with Nickel-Platinum Group potential
- Of porphyry Au systems
- IOCG gold deposits

The author's literature review of MMI procedures established the following pathfinder suite: Ag, Au, Ce, Co, Cr, Cu, Mo, Nb, Nd, Ni, Pd, Rb, Ti and W. This review included SGS MMI case studies and technical bulletins and other sources. This review determined that many of the pathfinder metals are common to the various potential mineralized geological environments of the property.

No MMI literature for Ag-Co-Ni deposits was found.

### 8.3 MMI ANALYTICAL SUITE SELECTION

The table below lists the MMI suite documented in SGS and other literature. Following the table is a list of the documents reviewed.

#### MMI Metal Suites

Metal	Atom No.	SGS <sup>TB18</sup> SGB <sup>TB19</sup> Vein Gold	SGB <sup>TB19</sup> Porphyry System	SGS <sup>TB17</sup> SGS <sup>TB18</sup> SGB <sup>TB19</sup> Ni-Pt-Pd Deposits	SGS <sup>TB19</sup> SGS <sup>TB18</sup> SGS <sup>CS39</sup> Kimberlite	Robinson <sup>Int</sup> A4 Kimberlite	SGS <sup>CS39</sup> C14 Kimberlite	SGS <sup>TB19</sup> I O C G
Ag	47	Ag	Ag					Ag
<b>Au</b>	<b>79</b>	<b>Au</b>	<b>Au</b>					<b>Au</b>
<b>Ce</b>	<b>58</b>	<b>Ce</b>	<b>Ce</b>	<b>Ce</b>	<b>Ce</b>		<b>Ce</b>	<b>Ce</b>
<b>Co</b>	<b>27</b>	<b>Co</b>	<b>Co</b>	<b>Co</b>	<b>Co</b>	<b>Co</b>	<b>Co</b>	<b>Co</b>
Cr	24	Cr		Cr	Cr		<b>Cr</b>	
Cu	29		Cu					Cu
Mo	42	Mo	Mo					
Nb	41				Nb	Nb		
<b>Nd</b>	<b>60</b>	<b>Nd</b>	<b>Nd</b>	<b>Nd</b>	<b>Nd</b>		<b>Nd</b>	<b>Nd</b>
Ni	27	Ni		Ni	Ni			
Pd	46			Pd	Pd			
<b>Rb</b>	<b>37</b>	<b>Rb</b>	<b>Rb</b>	<b>Rb</b>	<b>Rb</b>	<b>Rb</b>		
<b>Ti</b>	<b>22</b>			<b>Ti</b>	<b>Ti</b>			
W	74	W	W					

SGS<sup>908</sup> SGS “**MMI Sampling Guide**”: Emphasized a consistent sample depth 10-25cm below the organic mineral soil interface.

SGS<sup>TB17</sup> SGS “**Technical Bulletin MMI TB17: MMI Geochemistry for Nickel Exploration**”:

Identifies Ce (Nd) as metals associated with felsics, black shales and plumes of felsic rock (and sediments) incorporated into the base of the Ni sulphides during the **thermo erosion** process.

Identifies MMI criteria for nickel deposits as moderate to high Ni and Ce, high values of Co and Pd [and low values of Cr (i.e. high Ni/Cr ratios)].

SGS<sup>TB18</sup> SGS “**Technical Bulletin MMI-TB18: Rare Earths and MMI Geochemistry. Ni Deposits**”:

Identifies Ce, Nd, La and Yb as pathfinders for vein type gold deposits.

Identifies Cs, Rb, U, K, Ti, Li and Be as incompatible metals which do not readily enter into the early rock building minerals.

Identifies **Ce anomalies expected peripheral to Ni deposits.**

Identifies that the Rare Earth elements including Ce and Nd have excellent vertical mobility and special discrimination.

Identifies that the Rare Earth elements, including Ce and Nd discriminate rock types (felsic) and certain alterations including porphyry alteration zones.

SGS<sup>TB19</sup> SGS “**Technical Bulletin MMI-TB19: MMI Orientation in temperate to Tropical (Non-Boreal) Environments**” identified the following metal associations:

**Gold:** Au, Ag, Ni, Co, Cr, Ce (Nd).

**Nickel:** Au, Ag, Ni, Co, Cr, Ce (Nd).

**Porphyry systems:** Cu, Mo, Zn, Cd, Au, Ag, Pb, Co, As, Ce Nd, Rb, La, Se, W, Fe, Mg.

Porphyry system Core: Cu/Mo/Zn ratios

Porphyry system outer halo: Ag, Pb, As Co

Porphyry system Core distal zones: Au, Ag

**Kimberlite :** Cr, Ni, Pd, Mg, Co, Nb, Y, La, Ce, Nd.

**IOCG :** Cu, Au, Ag, U, Th, Co, Ce, La, Mg, Fe.

This bulletin emphasizes that mineral deposits tend to be **zoned**. The appraisal of the report infers metal zoning can occur on the property creating complex anomalies with metal responses offset from the other associated pathfinder metals. It is recognized that some metals that respond in a non-boreal environment may not respond in northern Ontario.

SGS<sup>TB20</sup> SGS “**Technical Bulletin MMI-TB20: Inferred Geology Using MMI Ni and Ce**”:

Identifies Ni, Cr, Mg, Co, V, Fe, Mn, Ca, Sr, P, Ba and Eu as compatible metals that enter early rock forming minerals (in a melt) such as olivine, pyroxene and titanomagnetite.

Identifies Cs, Rb, Ce (Nd) as incompatible metals that remain in the liquid (fractionated) and end up in increased concentrations in felsics, granites, syenites, pegmatites etc. and also in sediments.

Identifies Ce/Ni ratios as pathfinders to differentiate lithologies.

SGS<sup>CS39</sup> SGS “**Case Study 39: C14 Kimberlite, Clifford Township, Kirkland Lake, Ontario, Canada**”:

This document appears to have significant problems in accurately connecting the text to the figures. This case study was abandoned as a source document, except to identify pathfinders Y, La, Ce, Pr, Nd, Sm, Gd, Tb, Er, and Y.

Robinson: Internal document MMI Orientation Study over A4 pipe.

Other bulletins and case studies were examined and considered less significant to the project and are omitted from the above list.

An MMI orientation study (by this author ) over the large A4 kimberlite pipe showed the kimberlite pathfinder metals responded over some parts of the A4 kimberlite pipe but not others. This inconsistent response illustrates the importance of collecting multiple samples directly over the targeted mineralization/alteration and monitoring a suite of metals.

In that orientation study a 12.5m sample spacing was selected over the kimberlite. Outside of the expected responses, the sample spacing was opened up to 25m to give background values over a wider area.

The author recommends a 6.25 meter default sample spacing. Should future economic situations require a compromise between sample density or reducing the area sampled, the preservation of the default 6.25m sample density is essential. The compromise should be dealt with by reducing line density or selecting highest priority target areas.

## 8.4 THE MMI GEOCHEMICAL PROGRAM

The MMI sampling program was conducted in three stages as follows:

- 33 samples numbered Z046351 - Z046394 were collected on August 31 and September 1, 2013 by Douglas Robinson and Betty Robinson. This MMI program is called the “**September 2013 MMI program**”. These analysis are reported in SGS work order LD130600 dated September 19, 2013.
- 51 samples numbered E5278210 - E5278260 were collected on November 14 and 15, 2013 by Douglas Robinson and Betty Robinson This MMI program is called the “**November, 2013 MMI program**”. These analysis are reported in SGS work order LK1301084 dated December 23, 2013.
- 350 samples numbered E5278262 - E5278509 and Z046510 - Z046610 collected on October 22, 23, 24, 27, 29, 30, 31 and November 1, 2, 3, 6, 7, and 14 2014. This MMI program is called the **November 2014 MMI program**. These analysis are reported in SGS work orders VC150260, 261, 262, 263 and 264 dated February 13 (x3), Feb 19 and February 29, 2015. .

The **September 2013 program** of 33 samples was designed to determine the signature of the various available metals in the soils over Archean and Proterozoic lithologies. The SGS Canada Inc. Mineral Services branch, 53 metal Mobile Metal Ions analytical package “**MMI-M**” chosen and used. This process analysed **Ag, Al, As, Au, Ba, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Hg, In, K, La, Li, Mg, Mn, Mo, Nb, Nd, Ni, P, Pb, Pd, Pr, Pt, Rb, Sb, Sc, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, U, W, Y, Yb, Zn** and Zr. Of the elements **Ag, As, Au, Bi, Ce, Co, Cr, Cu, La, Mn, Mo, Nd, Ni, Pb, Pd, Pt, Rb, Sb, Ti, U, W and Zn** were initially considered probable metals of interest based on a literature review and past MMI experience.

Closely spaced Geotechnical Survey lines: C000W 000-550s, IPLB (1450-1700N) and IPLB-025W (1375-1600N) were chosen. The trace of diamond drill hole CS1108 was cut and picketed with 2x2 commercial pickets. The cut line along the trace of CA1108 is approximately 25 m southwest of line IPLB. These three lines we deemed appropriate for this test of procedure to generate a tight area expected to be anomalous. An apparent strong to moderate two line U, Ce, La, Nd response with a weaker Cu, Ag, Au, Cr response was encountered. The expected base metal response was not observed. The U, Ce, La, Nd responses are considered potential responses to favorable host rock lithologies with the weaker Cu, Ag Au response being possibly significant association. The sample population was too limited to assure the anomaly is a valid anomaly exceeding background values. Also the anomaly on both lines was associated with reducing sample sites in an otherwise oxidized soil environment. Previous experience of this author indicated some metals are significantly impacted by the chemistry of oxidizing verses reducing soil environments. The results were deemed encouraging but inconclusive.



In **November of 2013** the sampling program was extended south along line C000W. Some infill samples and a few repeat sample were also taken. The full 53 metal “**MMI-M**” package analysis was repeated. Five repeated samples produced a moderate reproducibility of high and low values consistent with the noisy response envelope common to MMI sampling.

The September 2013 and **November 2013 sample program** produced three apparent anomalies consistent with potential Co-Ag style vein mineralization. Three anomalies on line C000W. The northern anomaly reproduced on line IPLB-025W. These anomalies are reported in the MMI anomaly list for the combined 2013-2014 MMI program.

The MMI results were sufficiently encouraging to expand the October-November **2014 program** to 350 samples along five additional lines. The sixteen metals **Ag, Au, Ce, Co, Cr, Cu, Mo, Nd, Ni, Pb, Pt, Rb, Ti, U, W** and **Zn** of the MMI-M package were selected.

**Ag, Au, Co, Cu, Ni, Pb, U** and **Zn** are being evaluated for Co-Ni and Co-Ni-Ag veins.

**Au, Cu, Ni and Zn** are being evaluated for base metal deposits.

**Ag, Au, Cu, Mo** and **W** are being evaluated for Au deposits.

**Ce** and **Nd** are being tracked to determine favorable Archean sedimentary and felsic environments and possibly alteration

**Rb** is being monitored for a possible favorable alteration association.

This sample population was deemed sufficient for valid definition of **anomalous, probably anomalous** and **high background thresholds** for oxidized sample environments. Numerous anomalous and possibly anomalous responses were identified and 21 are tabulated below as priority targets. The distinction between valid and possibly valid anomalies and high background values is somewhat arbitrary. With time and work the lesser anomalies and high background values may prove to be valid responses related to economic mineralization. The **anomalous, probable anomalous** and **high background thresholds** are written and plotted on all the profiles of the 2014 MMI survey.

A widespread; weak; but conspicuous chalcopyrite, sphalerite and galena mineralization overprint is common in all Archean, Proterozoic and Nipissing age rocks encountered in the twelve diamond drill holes drilled in 2011. This widespread mineralization complicates the interpretation of MMI results. It is anticipated; the MMI surveys will tend to respond to the concentration of mineralization, hopefully in areas having elevated economic potential. Priority is given to: multi-metal anomalies with a logical metal assemblage; particularly in elevated background areas. Multi-sample anomalies were also given high priority. Isolated anomalous samples with only one or two anomalous metals were given a low ranking and not described. This does not mean these lower priority anomalies are invalid. As the total geological, geophysical and geochemical picture is enhanced these low priority anomalies may be given higher priority warranting testing.

The line spacing of Grid C and Grid D is 197.5m and 200 meters respectively. This was deemed too widely spaced to establish any anomaly association between grid lines. In the fall of 2014 Tom O'Connor cut lines C390W and C682W and Douglas and Betty Robinson cut line C439W.

Grid lines C00W, C197W, 390W, C587 and IPLA were destroyed by forestry operations. Glenn McBride recut these lines except for the dangerous and deep roadside slash. Tom O'Connor moved some of the slash piles from the lines using a back-hoe and buried some of the slash piles by back-hoe. This work was done under the foresters' permits/license.

Priority areas including areas having apparent high potential for mineralization were sampled at a 6.25 meter interval determined by pacing between pickets. Lower priority areas were sampled at 12.5 meter interval to assure a wide statistical bases for determining geochemical thresholds and to give preliminary coverage in marginal and peripheral area. The recommended 6.25 meter sample interval is the optimal sampling interval to:

- Establish and assure confidence in the geochemical signature of the sample profiles
- Reduce the probability of missing single sample anomalies expected from narrow veins that are a centimeters wide.

Douglas Robinson and Betty Robinson collected all the MMI samples and described these samples in the sample logs. The samples were uniformly collected at 10-25 cm below the humus-mineral soil interface. Where possible; the samples were hand augered (approximately 4cm diameter).

High boulder densities sometime approached 75% were commonly encountered. Soils with these high boulder densities were commonly hand dug. Commonly a conspicuous large boulder pried out of the ground exposing soil at 15 cm depth. Soil was then sampled from between the boulders within the prescribed sample horizon. Sample locations were marked by red flagged branch/branches bouquets of balsam fir stuffed in all the augered holes. Red flagged boulders were returned to the hand dug holes. Every sample was logged and photographed in the field. The photographs showed both the sample and the hole. The field notes were recorded in the sample books, later typed and are included in the appendices of this report. The field notes are a comprehensive description of the sample and sample site consistently describing the topographical slope, the vegetation, the soil profile, the soil colour, the sample's oxidation/reduction status, and other pertinent details including the wetness of wet holes. Every sample was weighed during the shipment packing process. The lab weighed each sample after receipt.



Every sample was double bagged in zipper sealed sample bags. Each bag was felt pen, pre-labeled with the last three digits of the sample number. A numbered sample tag was included in both bags. The filled bags were configured so all four repeats of the sample number were clearly visible. The air was expelled from the bag at the time of sampling.

## 8.5 THE MMI ANOMALIES

### Anomaly Table - Location and Discussion

#### AnomalyMetals

- C682W-269s Co U Pb Ni Cu Pb Mo Ce Nd Cr. This 984 ppb Co anomaly appears to be real and possibly associated with the higher priority, Co 2380 ppb Co anomaly at C585W-325s. This anomaly may be associated with the favorable Proterozoic unconformity.
- C682W-321s Ag. This Ag anomaly is tenuous but warrants follow-up because it is the first sample north of the sampling gap at the beaver pond. The very high priority, multi-metal anomaly C439W-325s and C487W-356s trends into this sample gap located caused by the beaver pond. This anomaly may be associated with the favorable Proterozoic unconformity.
- C682W-812s Co Cu Mo. This is a medium priority Co anomaly. The presence of elevated Ce, Nd and Rb to the south indicate this is a favorable environment deserving consideration. Examination of the water table is required as the first step in evaluating this anomaly. High water may have caused the high Ce, Nd values in this area. The data profiles appear to have a break at about 800s indicating a possible fault or change of lithological environment.
- C682W-850s Co. This is a medium priority Co anomaly. The presence of elevated Ce, Nd to the south and elevated Rb indicate this is a favorable environment deserving consideration. Examination of the water table is required as the first step in evaluating this anomaly. High water may have caused the high Ce, Nd values in this area.
- C585W-325s Co Ag U Mo Rb. This is a four sample anomaly extending from 312-350s and centered at a very high Co 2,380ppb value at 325s.
- C585W-500s Au Ag. Anomalies C585W-500s, C585W-519s, B C487W-475s, C487W-531s & C487W-581s appear to be associated with Au, W, Mo, Ag, Cu anomalies. These anomalies appear to be associated with an Au, W Mo mineral assemblage within the Gold style, (Ca, Mg, Fe) carbonate–pyrite alteration assemblage. This carbonate-pyrite assemblage was encountered in Trenches D1, D2, D3 and C1.
- C585W-519s Ag Au Mo Cu U Ni Ce. Anomalies C585W-500s, C585W-519s, B C487W-475s, C487W-531s & C487W-581s appear to be associated with Au, W, Mo, Ag, Cu anomalies associated with an Au, W Mo mineral assemblage within the Gold style, (Ca, Mg, Fe) carbonate–pyrite alteration assemblage. This assemblage was encountered in Trenches D1, D2, D3 and C1.
- C585W-575s Zn Pb Ag Ni. Base metal anomalies C585W-575s & C585W-619s appear to be spatially and possibly genetically associated and are located in a multi-metal, high background area. The Rb peak at 581s may be associated with significant associated alteration.
- C585W-619s Cu Pb U Nb Ce Au. Base metal anomalies C585W-575s & C585W-619s appear to be spatially and possibly genetically associated and are located in a multi-metal, high background area. The Rb peak at 631s may be associated with significant associated alteration. The Associated Ce may indicate favorable host rocks for primary base metal mineralization or base metal veins. The U association could be associated with base metal or Ag-Co veining.

- C487W-356s Ag Cu Pb Ce Au, Rb. High priority anomaly, possibly the strike extension of anomaly C439W-325s. Anomaly C487W-356s anomaly is located below the favorable but eroded Proterozoic unconformity. Unconformity related veins commonly cross cut the unconformity.
- C487W-475s Mo. This anomaly is located at the west edge of a large depression east of trench D1. Anomalies C585W-500s, C585W-519s, B C487W-475s, C487W-531s & C487W-581s appear to be associated with Au, W, Mo, Ag, Cu anomalies associated with an Au, W Mo mineral assemblage within the Gold style, (Ca, Mg, Fe) carbonate–pyrite alteration assemblage. This assemblage was encountered in Trenches D1, D2, D3 and C1.
- C487W-531s Au W Zn Ni. This anomaly is located at the within a north-south trending depression east of trench D1. Anomalies C585W-500s, C585W-519s, B C487W-475s, C487W-531s & C487W-581s appear to be associated with Au, W, Mo, Ag, Cu anomalies associated with an Au, W Mo mineral assemblage within the Gold style, (Ca, Mg, Fe) carbonate–pyrite alteration assemblage This assemblage was encountered in Trenches D1, D2, D3 and C1.
- C487W-581s Au Cu. Anomalies C585W-500s, C585W-519s, B C487W-475s, C487W-531s & C487W-581s appear to be associated with Au, W, Mo, Ag, Cu anomalies associated with an Au, W Mo mineral assemblage within the Gold style, (Ca, Mg, Fe) carbonate–pyrite alteration assemblage This assemblage was encountered in Trenches D1, D2, D3 and C1.
- C439-325s Ag Au Co Pb Cu Ce U. This very strong four sample, multi-metal anomaly extends from 300s to 337s. This is the highest priority anomaly encountered. This anomaly is located within meters of the favorable Proterozoic unconformity. It may align with a similar, moderately strong multi sample, multi-metal anomaly C487W-356s.
- C439-419s Ag Rb. MMI profiles trends give a tenuous indication of a fault projecting to C390W-450s. Possibly associated with Ag anomaly C390W-425s.
- C390W-279s Au Cu Ag U Nd. See C439-325s. This anomaly is located within Proterozoic sediments directly above the favorable Proterozoic unconformity.
- C390W-425s Ag. Possibly specially associated with C439W-419s.
- C000W-300s U Ce La Nd Cu Ag Au. This appears to be the same anomaly as ILPB025W-1425N which is 36 meters to the west north-west. This sample was distinctively unique; consisting of clay under 0.60 meters of black organics below the water table. It is uncertain if the reducing environment or clay contributed to the anomaly. The significance of this anomaly remains to be determined: however the association is somewhat favorable for mineralization.
- C000W-475s Cu Ce Co Mn. This anomaly is from an isolated sample from an isolated reducing environment. This association draws question to the validity of the anomaly until the impact of reducing environments is determined.
- C000W-550s Ag U Cr Au Co. This anomaly is repeated in the September 2013 and November 2013 sampling programs. This is classified a possible anomalous giving, it a lower ranking than the identified anomalies to the west. The multi-metal association is compatible with Ag-Co or Co vein mineralization. The lithology at this location was not identified; however it is possibly Proterozoic sediments neat the Proterozoic unconformity.
- ILPB025W-1425N U Cu Ce Cr Au. This appears to be the same anomaly as C000W-300s which is 36 meters to the east south-east. This water table was at surface. The samples to the north and south were oxidized samples and both were anomalous. It is uncertain if the reducing environment

contributed to the anomaly. The significance of this anomaly remains to be determined: however the association is somewhat favorable for mineralization.



*Above: Anomaly C439-325s Ag Au Co Pb Cu Ce U = 20,600ppb Ag. Note sample in auger. Note double sample tagging and double bagging.*

Anomalies C682W-269s, C682W-321s, C585W-325s, C487W-356s, C439-325s, C439-419s, C390W-279s and C390W-425s appear to be spatially associated with lithologies close to the Proterozoic unconformity. These anomalies are a multi-metal association common to Ag-Co-Ni veins.

The above list is an anomaly selection that was determined to be the priority anomalies. Numerous lessor anomalies exist and the distinction between high background samples and anomalous sample is somewhat arbitrary.



*Above: Anomaly C439-325s Ag Au Co Pb Cu Ce U (Analysis = 20,600ppb Ag)*

## 8.6 MMI RECOMMENDATIONS

The MMI anomalies should be prioritized and confirmed by resampling the key samples and running an anomaly definition line 25 meters to each side of the anomalies. The standard 6.5 meter spacing interval should be used. When the anomaly is confirmed and the most favorable location identified; the surface can be trenched. The soil profile should not be disturbed or piled outside the area that has been tested at a 6.25 meter interval along 25 meter spaced lines (6/25 sampling).

Detailed geological mapping, hand prospecting and Geotechnical Surveys including IP and walk-mag are serious considerations early in follow-up work. Focusing stripping on precise targets defined by follow-up MMI, mapping and geophysics will aid in reducing the footprint of stripping and drilling activities.

If MMI is proven to be a reliable exploration tool; the company should maximize the opportunity to use this MMI tool in the high mineral potential area prior to invasive activities.

If MMI is proven to be an effective exploration tool the eventual objective should be to eventually blanket the entire property with MMI sampling at a 6.25 m spacing along 50 meter spaced lines (a 6.25m/50m program).

MMI is essentially a one-time opportunity in a high mineral potential area where invasive exploration activities can destroy the opportunity for additional MMI work.

It is probably impractical and too expensive to blanket the entire property in a single MMI program. A phased program is favored. A phased program would involve a 6.25/50m or 6.25/25m sample density of the highest priority areas. This would be directed to providing early exploration targets. This phased program allows for an effective growing curve to maximize the effectiveness of additional MMI sampling.

Invasive exploration work should not commence until 6.25/25m sample density MMI is first completed within the impacted area.

The above MMI proposals are dependent on future work verifying the validity and usefulness of the MMI process. If MMI appears to be 50% effective, this author deems MMI effective and the MMI recommendations from this and future work appear to be valid.

It is sincerely hoped MMI surveying can significantly reduce the overall footprint of trenching and stripping by more effectively identifying the location of targets prior to digging.

## **8.7 MMI IMPLICATIONS: CARBON, METAL AND NUTRIENT CYCLES**

This MMI survey has raised issues concerning the various environment cycles that impact the MMI environment and the health of the Boreal Forest soils and the forest on which the Northern Ontario economy depends. These are extremely preliminary observations that deserve verification by study that is beyond the scope of a mineral exploration program. Logically; MNR and the Ministry of Agriculture would examine the validity of the observations and the potential impacts of forestry practises discussed in this report.

If metals and organic nutrient are moving in and out of the boreal forest soils, then society must consider the long term consequences of this mass movement of metals and nutrients.

## **8.8 CARBON CYCLE: CARBON SINK**

The soil profiles in the forested area appear to average approximately 5 cm of low density, organic material consisting of poorly decomposed organic litter resting directly on mineral soil. This 5 cm appears to be the total organic accumulation of approximately 10,000 of years to soil profile development.

The areas excluded from forestry operations commonly had thick, swampy organic horizons of black muck that commonly exceeds a meter deep. Below this depth the mineral soil profiles are commonly boulder pavement apparently lacking soil that can be auger sampled. The absence of appreciable organics in the soil profile of forested area of cut N132, indicates the forest floor is not an appreciable carbon sink from the long term, environmental perspective. The carbon sink of the harvestable boreal forest appears to consist primarily of the standing trees and the harvested wood products.

Cut NicolN132 appears to be a typical dry land boreal forest. The dominant, thin organic soil horizons of these dry boreal forests indicates dry land Boreal Forest are not a significant long term carbon sink. Harvested wood products (in the market place and in end uses) appear to be a significantly greater carbon sink than the thin organic litter in these typical dry land boreal forest. These dry land boreal trees include Jack pine, poplar, dry land black spruce-balsam fir forests. These trees grow in outcrop areas, and various glacial soils including glacial till, eskers, moraines and glacial lake sediments (lake-bottom clays and water reworked sediments) and windblown aeolian sediments.

Natural processes remove the carbon from the soil profile generating vegetation and CO<sub>2</sub>. The carbon in the soil is a very small volume held temporarily in the soil profile. If it were otherwise, close to 10,000 years of organic litter would probably be meters deep.

Harvesting the boreal forests increases the boreal forest carbon sink. None-political and reliable Carbon Accounting including the wood products is a requirement for ethical reporting of the carbon cycle (and carbon sink). Ethical carbon reporting and data presentation are required to facilitate management and legislative decisions. A healthy and productive forests, and atmosphere and a healthy forestry industry and a healthy economy of forestry dependent communities depends on an honest carbon accounting.

The establishment of Carbon Accounting standards/principle could use precious metal (Au, Pt, Ag) accounting of mills and smelters as an example of a material accounting process. The precious metal industry uses precious metal accounting to optimize their industrial processes and to detect/prevent criminal activities. Likewise: accurate and full carbon accounting is a requirement for informed and ethical industrial and government decisions and reporting.

The Boreal forest carbon sink must track the carbon extracted from the air, the carbon in the living and standing vegetation, the carbon in the soil and the carbon emitted as CO<sub>2</sub> (smoke, rotting vegetation etc.) and the carbon exiting the system as wood products. The boreal forest carbon sink includes living and standing vegetation and wood products.

It is critical that the citizens, local communities, Government, political and corporate lobbies, the industry and local communities have the same, easily accessible, reliable information concerning the forest and forestry issues.

If Federal or Provincial government (or other institution) should offer carbon credits or other similar environment incentives; these credits should go to the communities where the forest was harvested, not to the forest industry or the Ontario government. Any claw back of these credits should be charged to the product user at the time these wood products are destroyed as CO<sub>2</sub> emissions.

## 8.9 MINERAL NUTRIENT – ORGANIC NUTRIENT CYCLE

Two MMI samples were collected from under burned slash piles. These two samples were collected at the standard 10-25 cm depth. A single fresh wood ash sample was collected from second ash pile. These samples were collected soon after the burns and before long term leaching of the ash.

The analyses have significance to both MMI sampling and to dealing with; (1) the depletion of mineral nutrient and organic nutrient in the Boreal Forest soils and (2) the potential, inadvertent transfer/concentration of toxins to roadside slash areas consisting of slash accumulations, slash piles and wood ash accumulations.

MMI analyses are partial analyses involving only the mobile metals. They measure the mobile metal component of a sample and not the immobile metals. The required question is: What analytical test best measures nutrient levels in soils? This question must consider what metals vegetation absorbs. If the metal is in a form that the plant cannot absorb, that metal is not an available nutrient. Possibly; mobile metals are the metals concentrated in trees and wood ash from these trees. Are the metals in the wood ash likely to have positive and negative impacts on nutrients and toxins impacting vegetation?

Some metals that are nutrients may be toxins in higher concentrations. Metal losses in the forest and the transfer of these metals to roadside slash piles and roadside ash and cogeneration waste dumps may have a significant, unintentional impacts to nutrient and toxin depletions and concentrations controlling the long health of our forests.

The two MMI samples were collected in the normal procedure 10-25 cm below the surface of the mineral soil surface. The metal analyses of these samples appeared to be within the normal noise level for MMI analysis. No definitive conclusion can be inferred except: MMI sampling should not avoid slash burns and the field notes must record the association with the residual ash.

A single wood ash analysis indicates 14 of the 53 metals analyzed appear to be significantly concentrated in wood ash. The other metal contents of ash are extremely low to effectively nonexistent. The following metals (and



semi-metal As) are highly concentrated in wood ash and are potential concerns as nutrients systematically depleted in soil and/or toxins/contaminants systematically concentrated near roadsides. These metals and their ash analysis are: **K 2,000ppm, P 22.4ppm, Rb 16,900ppb**, Cs 156ppb, Te 50ppb, Mo 416ppb, Sb 6.0ppb, Ni 2,380ppb, **As 180ppb** and possibly Cd 28ppb?, Sr 300ppb, Cu 3990 ppb, Zn 1,700ppb(?) and Mn(?) 11,000ppb. The metals with “(?)” appear to have low or questionable concentration effect.

It appear metals nutrients and organic nutrients have a natural, uninterrupted cycle until systematic forest harvesting alters that cycle. The metal and organic nutrient cycle is preserved when plants return to the soil where they grew. Events such as volcanic eruptions and glaciers grinding rock to glacial flour introduce nutrients into the nutrient cycle.

Pleistocene glaciation and associated windblown aeolian soils formation ended approximately 12,000 years ago. These events appear to have been the last nutrient enrichment event liberating metal nutrients (including K and P) into future boreal forests soils. Forest fires that recycle nutrient back to the soil do not appear to alter the nutrient cycle. It appear metals and organic nutrients have a natural, uninterrupted cycle until systematic forest harvesting. The trees along with their mineral and organic nutrients are removed from the forest and transported to markets and roadside slash.

The last great soil mineral enrichment process appears to have been glaciation which rejuvenated metal content of today’s Boreal forest soils. It appear metals and organic nutrients have a natural, uninterrupted cycle until systematic forest harvesting. The metal and organic nutrient taken up by plants were returned to the soil where the plant grew.

A few metals are highly concentrated in organic matter, including wood products and roadside slash and roadside wood ash. These metals include important mineral nutrients such as **K** and **P** that are essential for heathy plant growth. The other metals may include known and unknown mineral/metal nutrients and toxins and benign metals.

This metal enrichment has implications for geochemical sampling. It appears MMI soil sampling for **Mo, As, Sr** and **Te** are ineffectual. However; these metals appear to be highly concentrated in organic matter. If specific plants are targeted for collection and ashed; these pathfinder metals in the ash could be used in mineral exploration. This author believes spruce buds and alders have historically been used in for mineral exploration geochemistry. The MMI analyses of wood ash supports this historic practice.

It appears **Ni, Rb, Ni, Cs, Au, Co, Cu, Zn, Cd, Mn** may respond as viable pathfinder elements in both ash analysis and standard MMI soil analysis. Wood ash analysis would have little additional benefit except in areas that lack soil horizons that can be sampled effectively. These areas could include swamps.

Jared Diamond deals with these soil related, environmental issues in his very practical book “**Collapse How Societies choose to Fail or Succeed**”. He deals with the consequences of soil degradation by the lose of mineral (metal) nutrients. Australia soils are extreme examples of mineral/metal nutrient depletion by natural events over geological time. The soil depletion theme is woven through his book with emphasis under the theme “Mining Australia” soils. We have to determine the impact of systematic, repeated harvesting has on the Boreal Forest’s ability to rejuvenate mineral nutrients. These nutrient include K and P and other nutrient metals. The MMI ash analysis indicate a possible mass depletion of K, P, Rb, Cs, Te, Mo, Sb, Ni As and possibly Cd, Sr, Cu, Zn in harvest areas and a mass deposition of these metals along roadside as wood ash and large volumes in rooting slash. We do not want to go the way of soil damage caused by repeated corn crops on the same ground year after year.

This depletion theme of soils is repeated by human nutritionist who describe the apparent degradation of metal nutrient content of the foods we eat. We have to either eat more or take mineral supplements to gain the essential metal nutrient required by our bodies. Like-wise trees growing on depleted soils may absorb lower than historic nutrient levels, and these levels may drop after subsequent harvests.

If the ecological significance of the metal transfer is not known: it is imperative to learn the ecological significance of this apparent mass transfer of potential nutrient out of the forest and possible introduction of toxins to the roadside.

The loss of any supposed carbon sink due to forest harvesting may be trivial compared to the potential impacts of the interruption of the natural mineral/metal cycle that returns essential nutrient to the soil. The nutrient cycle appears to act similar to the well-known water cycle. In the water cycle: water constantly moves in and out of the environment, but remains relatively constant over the long term. If the water cycle malfunctions; we are in serious trouble which includes crop failure and forest fires.

The Ministry of Natural Resources should determine how many crops of timber can be harvested without depleting the mineral and nutrients required for subsequent crops of trees. This may be comparable to high yield crops such as corn and the Ministry of Agriculture may be a valuable source of experience and expertise.

Cogeneration eliminates the potential of concentrating metal toxins along roadsides. Locally cogeneration is done at Kirkland Lake, Ontario. It appears Kirkland Lake wood ash is disposed of in landfill. If this wood ash waste is not toxic; maybe we should be considering returning the ash to the forest. If large accumulations of wood ash are toxic: the probability is, the ash would be beneficial to the forest if returned and broadcasted the forest as if it was generated as forest fire. It is probably safe to say: Emulating the natural process of forest fires is environmentally safe and would eliminate considerable wood ash in land fill sites.

Elk Lake is the cost neutral point for cogeneration in Kirkland Lake to Gowganda area. Between Elk Lake and Kirkland Lake, cogeneration pays the slash transportation costs. At Elk Lake; the cost benefit of the cogeneration passes zero. West of Elk Lake it cost money to cogenerate slash piles. The proponent refused to cogenerate the forestry slash on the Castle Silver property.

Cogeneration and wood ash issues are dealt with in a technical report titled " Life Cycle Sustainability of the Woody Biomass Innovative Project" dated 2013. This report is authored by Lal Mahalle, Shannon Berch, Caren Titus and Melissa. These authors deal with numerous issues including: wood ash analysis, wood waste cogeneration, and the need to divert wood ash from land fill sites by making it a useful products. This report was received by email April 17, 2014, from FPInnovations of Quebec City. This author has casually read sections and is willing to email a copy to anyone interested.

## 8.10 ALKALINE FLOODING

The author does not know the long term impacts of **Alkaline flooding** and associated extreme **PH modification** associated with wood ash accumulations. This author is aware (from MNM sources) that high PH may impact the mobility of the metals, causing some metals to move into the environment. A literature review of the Deloro, Ontario cleanup and PH implications may be warranted.

The author recommends all MMI samples collected under or near wood ash accumulations carry a cautionary field note concerning the presence of that wood ash.

## 9 2014 LINE CUTTING, GRID REHABILITATION, VOLUNTARY MINE REHABILITATION, TRENCHING/STRIPPING, CHANNEL SAMPLING AND TRENCH REHABILITATION

---

During October, November and December 2014 Canadian Gems & Minerals Ltd (Tom O'Connor and helper Dave Stiltz) performed Castle #1 voluntary shaft and muck pile rehabilitation, trenching/stripping, channel sampling, trench rehabilitation, grid cutting, rehabilitation of forestry damage to grid lines and burying forestry slash hazards.

At this time: this author and Betty Robinson performed boulder tracing, boundary mapping, prospecting, grid verification and MMI sampling. This author and Betty Robinson also provided field logistics, assistance and guidance to assist Canadian Gems & Minerals in their duties. The mine rehabilitation was under the direction of Frank Basa with support from Doug Robinson and Betty Robinson. Canadian Gems & Minerals also provided field logistics, assistance and advice to this author and Betty Robinson.

As contactors, our activities overlapped; we assisted each other. The activities overlapped with no clear separation of events. We were integrated supporting each other in an informal configuration.

The activities were performed in late fall and early winter with the normal problems associated with manual labor and operating equipment in cold weather. The heavy equipment was heated by propane to facilitate morning starting.

Accommodation for Douglas Robinson, Betty Robinson and Tom O'Connor was provided by Quick's Gowganda Lake Lodge. Mob and De-mob services were provided by W. Lafrance Logging Ltd. with float provided by 1302950 Ontario Ltd. The backhoe was provided by Brownlee Equipment. Propane to heat the equipment was provided by Superior Propane. The fuel to operate the equipment was provided by Bluewave Energy. The assaying was performed by Swastika Laboratories.

### 9.1 CASTLE #1 VOLUNTARY REHABILITATION

The Castle#1 shaft is located at Nad 83 UTM coordinates: Zone 17, 0520038E, 5278891N. This is approximately 80 meters west of the Northwest bay of Miller Lake. The shaft was identified, documented and photographed by Douglas Robinson during the 2014 field mapping work. The shaft is on mining claim 4263352 which was staked and recorded in April 11, 2013. The claim is presently under extension pending assessment work for voluntary rehabilitation.

The Castle #1 Shaft is not specially related to or connected to the Castle #2 and Castle #3 shaft workings approximately 1 ½ km to the north west.

Castle Silver Mines approached NMDM proposing voluntary rehabilitation of the Castle #1 shaft and muck pile. On Friday, September 6, 2013 the MNDM Inspector Robert Hunt inspected the Castle #1 hazards. His contact information is [robert.hunt@ontario.ca](mailto:robert.hunt@ontario.ca) and phone number 705 235-1646.

At that time the shaft was open with mine muck caving into the hole. A chain link fence encompassing the shaft was also caving. At that time the muck pile was steep sided at the angle of repose and extended eastward from the shaft to the shore of Miller Lake. A solid base road extended from the Everett Lake forest access road across the Miller Lake O'Brien mine (now Temex Resources Corp.) property to the Castle #1 shaft.

An informal agreement was been made with Temex to cross their mining property to deal with this hazard. The roadway was rehabilitated to access the property.

The muck pile was screened into three fractions: a minus 1 inch fraction (fines), a plus 1 inch-minus 4 inch fraction used as shaft fill and a plus 4 inch fractions that was returned to the original muck pile location. The fines were stockpiled on the property. The plus 1 inch-minus 4 inch fraction was stockpiled for use as shaft fill. The returned; plus 4 inch fraction was leveled to less than 30 degree slopes with 2 meter berms along the edge of the flat top on the muck pile. A decision was made that a very low profile pile without berms was more desirable long term solution. The berms were removed and the pile was spread out to gentle slopes.

Removing the minus 1 inch material from the shaft was a benefit the shaft fill by providing freer and more predictable flowing muck, a more predictable angle of repose, faster drainage and a greatly reduced surface area exposed to the shaft water; all of which appear to befit the rehabilitation.

Observed mineralization in the muck was restricted to a minor amounts of barren calcite veining and associated carbonate alteration.

The best level plans appear to be Kirkland Lake resident Geologist office file CO-1168. This map is dated 1971 and appears to have been prepared by Cunningham. Mineral Resources Circular 10; Silver Cobalt Calcite Vein Deposits of Ontario, 1968 by A.O. Sergiades reports the shaft is at least 450 feet deep with levels at 200, 300, 360 and 450 feet.

The Castle #1 workings are joined to the Capitol mine to the North-east. Most historical lateral work appears to have been conducted from the Capitol mine workings. It appears the Castle #1 workings are joined to the Miller Lake O'Brien working directly to the north and to the west of the shaft. The relationship of the Castle #1 and O'Brien workings appear to be uncertain.

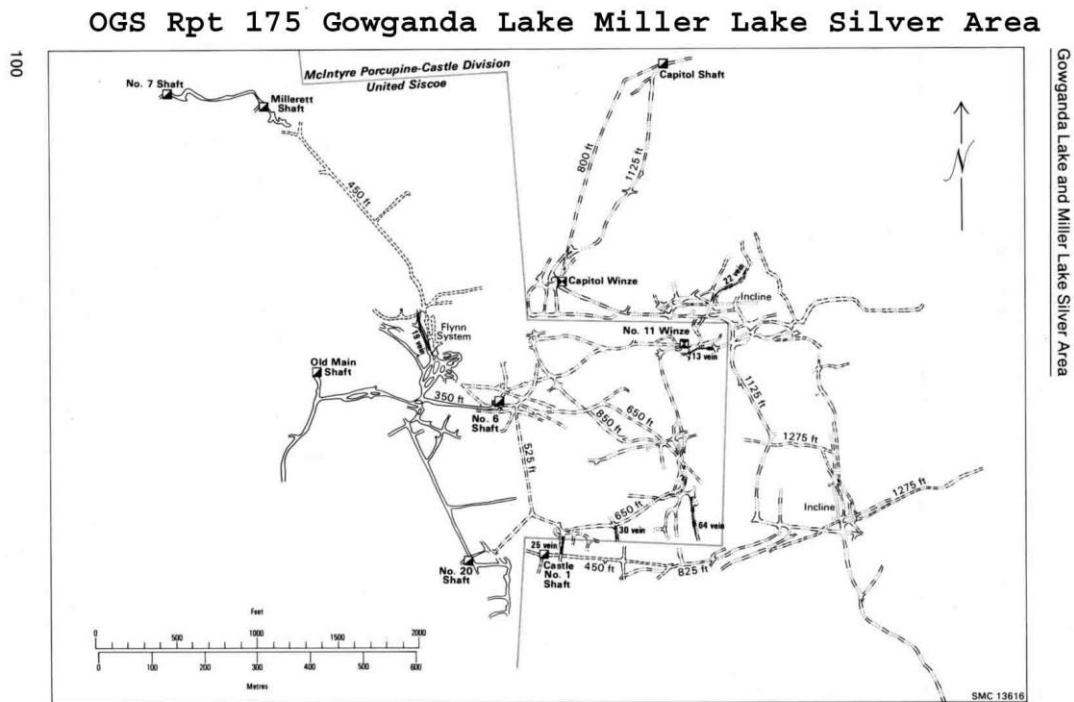
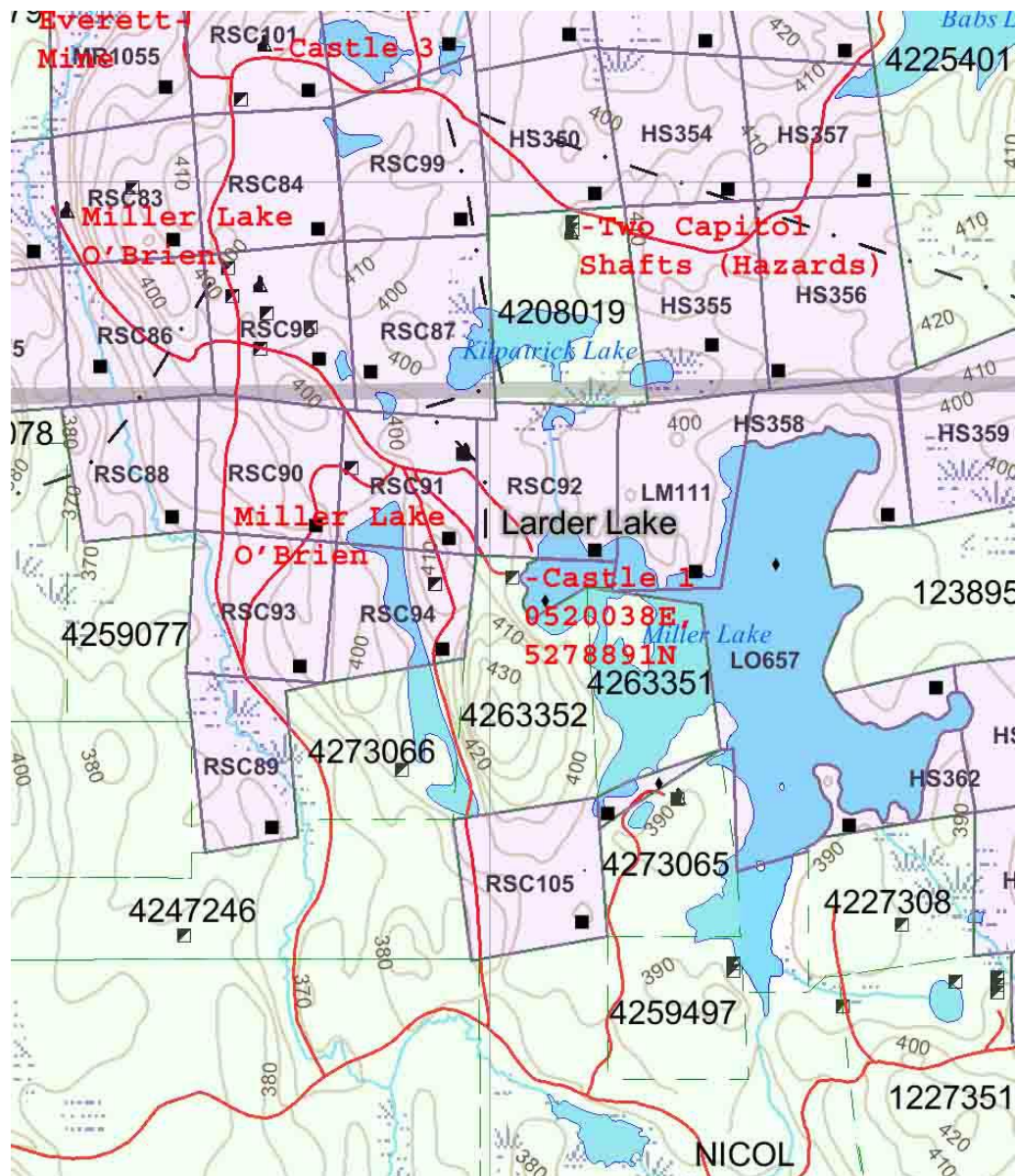


Figure 13—Partial underground plans of Miller Lake O'Brien (123), Castle No.1 Shaft (108), and The Capitol (72) Mines. Modified from plans dated April 1968, in the Annual Report of Siscoe Mines Limited for 1967.

Plan above: Capitol (north), Castle 1 (south) and Miller Lake O'Brien (west) mine workings. Note the preponderance of stopes and mine workings proximal to the lease boundaries. Past operator's internal reports recommend deal with boundary pillar ore. This author does not know if this ore was mined as was contemplated.

The plan to conduct voluntary rehabilitation of the Castle #1 shaft was developed by Jonathon Taylor (P.Eng) Rock Mechanics/Mining Engineer Golder Associates Ltd. in conjunction with Frank Basa CEO Gold Bullion/Castle Silver Mines with Douglas Robinson providing field and publication data. Frank Basa and Douglas Robinson conducted field inspections as work progressed.

The work was performed by Canadian Gems & Minerals Ltd operator Tom O'Connor during October and November 2014.



Above: Map showing location of Castle#1 Property on Claim 45263351.



*Above Photo: Castle No 1 Shaft (June 30 2013).*



*Above Photo: Castle No 1 Shaft (June 30 2013).*



Castle 1 Shaft collar November 07, 2014

Above Photo: Castle No 1 Shaft collar November 07, 2015.



Above Photo: Leveled muck pile showing filled shaft mound in background. Picture from shore of Miller Lake (November 22, 2014).



*Above Photo: Leveled muck from behind shaft mound viewing to Miller Lake. Shaft mound left foreground. Fines stockpile right foreground (November 22, 2014).*

## 9.2 CASTLE #3 VOLUNTARY REHABILITATION

The rehabilitation of the Castle #3 and Everett Mines continues from before the March 25, 2013, the recording of the first group of Legacy Claims that are contiguous with the Castle Silver Mines leases. Expenses incurred before that date are not claimed relative to the assessment report.

This author is not a mining Engineer but has been providing the relevant historical, geological and survey that he is aware of. Although not certified for performing rehabilitation work, many years of silver vein mining and exploration have given this author valuable and uncommon insights into the mining sequence of historic mines and the historic mining process. These insights are being lost as most people involved in these activities have either deceased or are quite old.

There is confusion and some uncertainty concerning the identities and existence of the Everett Shaft and the Castle #2 shaft. Both Sergiades in MRC#10 (pg 378-379) and Mcllwaine in OGS Report 175 (pg103 long section) report a 150-160 foot shaft near the on claim RSC101 very close to the East boundary of the Everett claim RSC102. It appears the Everett (RSC102) vein was developed from this shaft. The best records this author has examined indicates the Castle #2 Shaft is the **conspicuous shaft located between the Castle #3 Adit and the Everett Lake Road.**

This author and other older people he knows have consistently called this shaft the Everett shaft. The long-time residents of Gowganda are also consistent in calling this the Everett shaft. MNM habitation staff also call this the Everett shaft. This author was unaware of conflicting shaft identities until he tried to identify the location of the Castle #2 shaft during rehabilitation work.

This author (Douglas Robinson), Don Freeman and Betty Robinson spent several days searching for a second shaft on the Everett claim. No shaft or muck piles were identified. Observation of this author indicate the



apparent vector between the Castle #3 shaft and the identified shaft is consistent with the vector between the Castle #3 shaft and the Castle # 2 shaft as shown on the long section shown on page 103 of GSC Report 175. The location of the open cut identified on GSC report page 102 also appears consistent with its location along the vector between the Castle #3 and Castle # 2 shafts. Based on these observation; this author has concluded the Everett Shaft and the Castle #2 Shaft are the same shaft. It appears the operators of the Castle property may have renamed the shaft to identify the shaft with their company.

**This author and Castle Silver will continue to call the observed shaft by its common name, the “Everett Shaft”.**

Castle Silver rehabilitated the Everett shaft to MNDM specifications under the direction of Frank Basa and MNDM Inspector Robert Hunt. Most of the muck piles from the Castle #3 and Everett shaft have been leveled to gentle slopes from their original steep angle of repose profiles.

The muck was screened to a plus four inch fraction, minus four inch plus one inch fraction and a minus one inch fraction. The plus four in fraction was laid to as pads 8-10 inch deep. The metallic mineralization was hand cobbled from the muck using metal detectors to identify the mineralized rock. It appears this removal of mineralization was very effective. After a single pass it was very difficult to find any more mineralization and it was/is rare to find mineralized rock after rain washed the muck. Minor chalcopyrite, sphalerite, galena and hematite are present in the otherwise barren calcite veins. Pyrite, mineralization was/is rare in the mine muck. The absence of pyrite is due to the fact all the ore mining and almost all of the development work was performed in Nipissing diabase which is barren of significant sulphides. Nipissing diabase is high quality trap rock, a highly desirable, innocuous industrial product. Barren calcite vein material is common in the muck. The alteration to the veins is calcite alteration.

A raise to surface was uncovered while leveling the muck pile west of the Castle #3 shaft. MNDM mine rehabilitation is aware of this new hazard. The raise it is presently covered by a heavy removable vented concrete cap. The raise is fenced with an 8 foot page wire fence.

Another apparent raise to surface was discovered approximately 200m NE of the Castle #3 shaft. This raise was fenced with an 8 foot high page wire fence.

An open stope approximately 140 m north east of the Castle #3 shaft was examined by Castle Silver and MNDM. This hazard has been examined by MNDM and soil was slumping into the open hole and undermining the fence. Castle Silver has been requested to expand the fencing so enclose this hazard.

These hazards were dealt with by Frank Basa and Jim Birtch and Canadian Gems & Minerals.

### 9.3 TRENCHING/STRIPPING AND CHANNEL SAMPLING

Trenching, sampling and mapping were performed in winter conditions in the late fall and winter of 2014.

Prior to trenching, Canadian Gems and Minerals performed forestry rehabilitation. The area around the proposed stripping sites were dangerous due to widely scattered unstacked forestry slash and piles of forestry slash that did not burn. This rehabilitation involved burying the slash to give foot access to the work areas. It was dangerous to work in the clear cut.

Prior to stripping and during stripping operations, this author and Betty Robinson prospected the float train identifying outcrops. Emphasis was placed on identifying favorable alteration and mineralization for stripping, identifying the approximate location of the Proterozoic/Archean unconformity which defined the northern limit

of favorable, exposed Archean rocks, unaltered rocks and stripping, identifying unaltered rocks unsuitable and looking for near vertical Matachewan and Abitibi diabase dikes that post-date Archean mineralization.

Canadian Gems and Minerals operator Tom O'Connor and his helper Dave Stiltz trenched/stripped trenches named C1, D1, D2, and D3. The alpha designation (C, D) defines the area where the trench is located. D1 is the first trench in area D. D3 is the third and last trench in area D. C1 is the only trench in Area C. A total of 162 square meters of trenching and stripping have been performed in these two areas. Castle Silver anticipates continued stripping in seven areas named A, B, C, D, E, F and G.

Chart: Trench and Channel Sample Summary below

Trench C1	0520694mE	5279400mN	74m <sup>2</sup>	1 channels	28 Channel Samples
Trench D1	0520701mE	5279357mN	58m <sup>2</sup>	5 channels	23 Channel Samples
Trench D2	0520686mE	5279377mN	16m <sup>2</sup>	2 channels	13 Channel Samples
Trench D3	0520694mE	5279400mN	14m <sup>2</sup>	5 channels	19 Channel Samples



*Photo Above: Bagged Channel Samples Stripping Area C1 Channel "A" samples L42937-L42044*

The trenches and channel samples were mapped by this author (Douglas Robinson) and Betty Robinson. The field drafted plans were redrawn by hand tracing, scanned and completed by adding text using Photoshop 9.

Prior to trenching and as trenching progressed this author and Betty Robinson prospected potential trenching areas catalogued as A, B, C, D, E, F and G looking for favorable stripping area with shallow overburden, alteration and associated mineralized/alterd glacial float. Particular emphasis was placed on identifying Matachewan and Abitibi diabase dikes that post-date gold mineralization. It was imperative to avoid stripping areas where mineralization was likely to be diked out.

Diabase dikes were not identified with certainty. The unaltered coarse grained volcanics and dikes and diabase dikes can have a similar appearance. Positive identification and mapping of these rocks require a summer mapping program augmented by a Walkmag magnetic survey. The magnetic signature of the diabase, altered rocks and other rocks are required to verify the field mapping identifications and to verify the strike and dimensions of these rocks identified as diabase.

By elimination, the probable location of the Abitibi dike is tentatively determined to be a short distance south of C1 stripping, possibly under the road or directly south of the road. C1 stripping had a strong east north-east joint and gouge/shear planes. It is plausible the Abitibi dike intruded into this sheared zone and dilated the favorable alteration/mineralization structures in the area of Stripping C and D1 stripping. If the Abitibi dike intruded the C1 shearing it is unknown if this is a coincidental crosscutting relation or if they occur along a common Archean shear structure.

Coarse grained, dark green, unaltered outcrops were identified and avoided in the stripping program. It is assumed some of these are north-south striking Matchewan diabase dikes that post-date Archean alteration and mineralization and predate the overlying Proterozoic sediments.

Follow-up summer mapping and Walkmag surveys are recommended prior to additional stripping and MMI sampling. The apparent trends of the stripped subcrops appear to strike towards unaltered rocks that appear to be Matachewan dikes. Any projections of alteration, mineralization and veins must account for gaps and offsets along these dikes. Past and future MMI sampling was/will be performed along north-south lines to best deal with Archean trends. It is important to not place major parts of MMI lines over these barren, north-south striking, diabase dikes. 50 meter spaced Geotechnical Survey Lines are recommended using the Grid C coordinate system. The southernmost line is recommended near to the north shore Miller Lake (on land or over water). Geotechnical Survey Line C390W is recommended as the base line for this proposed grid extension.

The Matchewan dikes commonly have a few scattered (<< 1%) distinctive greenish white feldspar phenocrysts to 2 cm in a clean diabasic matrix. The absence of these distinctive phenocrysts is also common in these dikes. Both the Matachewan and Abitibi diabase dikes have distinctive chills and the Abitibi dikes are expected to have distinctive bilateral textural/mineral grain symmetry. Summer mapping conditions must be ideal and exposure has to be reasonably complete or you have to be lucky to have positive assurance for diabase identification and differentiation.



*Above: December 12, 2013 Tom O'Connor channel sampling trench D2*

The channels were cut approximately 3 cm deep as two parallel cuts approximately 2 cm apart. A single line cut across the channel marks the ends of every channel. An aluminum picket tag inscribed with the sample number was nailed into the sawn line marking the end of the sample. An axe used as a wedge and a small hand sledge were used to break and remove the samples. The samples were bagged and sealed with electrical tape. The samples were transported to the (on-site) core shed where these were opened, logged, photographed and resealed with electrical tape. The samples were stored in the core shed until this author or Betty Robinson personally delivered the samples to Swastika Laboratory. Swastika Laboratory assayed the samples for silver and copper.

The rocks were deeply weathered with 1 to 2 cm rusty weathering rinds common. The original lithologies could not be field mapped in the trench. However; the probable lithology, the alteration and the mineralization were identified and logged in the core shed and reported in the sample logs included in this report. Original ultramafic rocks were identified as pale grey to fuchsite green carbonate alteration with quartz stringers and veining. Very hard, white to pale grey alteration was identified as altered felsic diking or altered feldspar porphyry.

All sample numbers, gold assays and channel sample lengths were accurately drafted on the field maps. The Au grades were reported gAu/tonne over length in meter. All grams and meters numbers were reported to two decimal places.

One or more permanent reference points labeled in the format CRP00x, were established in each stripped/trenched area. A Mag nail was driven into bedrock in critical locations, to best reference geological features, strip-trench outlines and channel samples. Commonly, the deep weathering was soft and a mag nail could be driven directly into bedrock. Alternatives included driving the Mag nail into a fracture or into a small pilot hole drilled by carbide or small diamond bit (using a hand drill). The UTM location was measured by Garmin Rino GPS. The UTM determination typically consisted of integrated/averaged reading of 1000 seconds. Repeat readings having two or three meters differences were encountered. The author used his judgement to accept and report the apparent best reading.

Permanent Mag nail reference points were also established in areas of interest that were not stripped or trenched.

### 9.3.1 Trench C1

Trench one had quartz veining to 1.3 meters width. The original lithology included much extremely altered, pale grey to white felsic dike. This dike appears to be intensely silicified feldspar porphyry. The other dominant lithology is pale brown/grey carbonate to green fuchsitic carbonate. A pink alteration with extremely fine pyrite appears to be albite or K-spar alteration. Dark green chloritic alteration with minor copper was also common.

Pyrite is wide-spread throughout the trench and chalcopyrite and azurite-malachite was observed in numerous places; in both dark green chloritic alteration and in intensely silicified pale grey felsic rock. Prominent shear structures strike 066-074 degrees azimuth and dip 70-74 degree north. These shears appear to be parallel to a regional Abitibi dike. This Abitibi dike may have intruded into this shear zone, probably south of the trench, possibly under the road or south of the road.



*Above Photo: Azurite-Malachite mineralization from Trench C1*

### 9.3.2 Trench D1

Trench D1 exposed strong vertical pyritic, silicification-quartz vein striking 070 degrees. Four consecutive samples totalling 3.98 meters, averaged 0.77 g Au/tonne/3.98m. This channel was cut perpendicular to the vein structure. The veining and alteration in this trench was encouraging because; the main vein was strongly pyritic with coarse pyrite, was planer and coaxial with wall rock silicification. The wall rock on the east side of the vein was brittle fracture quartz veining which appears to be more favorable for gold mineralization than gash fracturing.

Trench	Channel	Sample	gAu/mT	Wide	Meters	gAuXm
Trench D1	Channel B	L42047	0.71	1.11		0.788
Trench D1	Channel B	L42048	0.35	1.04		0.364
Trench D1	Channel B	L42049	1.25	0.83		1.038
Trench D1	Channel B	L42050	<b>0.86</b>	<b>1.00</b>		<b>0.860</b>
<b>Weighted Average</b>			<b>0.77</b>	<b>3.98</b>		<b>3.05</b>

### 9.3.3 Trench D2

Trench D2 was intensely altered and mineralized with pyrite but appeared to lack a controlling structure. Two long channels were cut as an X pattern. The west side of Trench D2 was intensely carbonate altered ultramafic. The east end appeared to be intensely silicified feldspar porphyry.

The exposed subcrop is a dome sloping away in all directions. The outcrop and the topography slope steeply into a depression east of the trench. The assays were low; however the three eastern most samples were elevated in Au. This increasing Au trend to the east indicates the deep topographical and bedrock depression to the east of the trench may be better mineralized than the trench. Gold style, MMI anomalies occur along line C487W are within this topographical depression. These MMI target probably cannot be trenched. Drilling is the required to test these targets.

### 9.3.4 Trench D3

Five channel samples were cut perpendicular to the vein. The best sample interval of each channel is reported below:

- Channel 1            0.38 gAu/Tonne/0.95m
- Channel 2            1.16 gAu/Tonne/0.83m
- Channel 3            0.27gAu/Tonne/0.44m

Channel 4            3.77gAu/Tonne/1.27m

Channel 5            0.62gAu/Tonne/0.98m

The main vein strikes 050 degree azimuth and dips 69-75 degree north. A splay vein strikes 030 degree (dip 72 degrees NW).

#### 9.4 TRENCH REHABILITATION

The trenches were rehabilitated by gently leveling the displaced dirt as a gentle slope to the bedrock surface. The disturbed ground was seeded with red clover and timothy grass.

## 10 GLACIAL FLOAT TRACING AND PROSPECTING ALONG OLS SURVEY LINES

---

### a. BOULDER TRACING - THE PROGRAM

Boulder tracing was carried out as an **integral part of prospecting along OLS survey lines**. Most of the property boundary was determined to be heavily encumbered with strongly magnetic and extremely magnetic boulders of ultramafic/mafic affinities and Magnetite Iron Formation.



*Above Photo: Typical Float found in Float Train Tracking.*

The location of these boulders were plotted on an oversize (42 inch wide) Mylar compilation map. This oversize map is used for internal use and is too large for reproduction. The locations of key boulders are reported in the typed field notes of the trenches. The analysis of the boulders that were assayed and their UTM coordinates are included in the accompanying notes relating to the trench sampling.

Numerous glacial float with quartz veining and favorable alteration (+/- sulphides) were found along the north shore, of the north east arm, of Miller Lake. This float train was traced north to the approximate location of the Archean-Proterozoic unconformity north of a prominent beaver pond (C585W400s). The northern most favorable float was identified at C585W380s. This float was found at the base of a south facing slope in close proximity to the Proterozoic unconformity. This unconformity appears to be covered by glacial till. This float is also located 30 meters south of a three sample Co, Ag-U, Mo-Rb MMI anomaly located between C385W325s to C385350s inclusive.

Much of the float train appears to have come from a deep depression between Trench C1 and Trench D3. Numerous altered-pyritic float were found to approximately 75 meters north from trench C1. Trenches C1, D1, D2 and D3 are located slightly north of the centre point of this glacial float train.

Prospecting found the most consistent and densest float concentration was located midway between line C487W and C390W. The systematic MMI survey sampled lines C487W and C390W. No MMI samples were collected from the probable source of this float.

After the completion of the scheduled MMI sampling, Line C438W was cut to test over the strongest part of the float field. A 6.5 m sample interval was performed over the expected source of the float. Nine samples from the low priority area to the north was sampled at a 12.5m spacing. A significant multi metal anomaly was identified at C438W425S over the float field. The strongest and probably the most significant anomaly was identified at C438W325s in the low priority area to the north. This four sample; Ag, Au, Co, Pb, Cu, Ce U anomaly analysed 20,600 ppm Ag.

The successful stripping program was based on the successful float tracing program performed focused on the OLS Survey Line Grid.

## 10.1 BACKGROUND INFORMATION

Castle Silver cut Geotechnical Survey Grid C and Grid D in 2012 in preparation for an Abitibi Geophysics three dimensional IP survey. Abitibi Geophysics recommended; Castle Silver double the grid density to enhance the IP results. On this recommendation; Castle Silver planned to cut an additional four Geotechnical Survey Lines on Grid C and another four Geotechnical Survey Lines on Grid D early in 2013.

Georgia Pacific had scheduled forestry cuts H133 and H134 south of Everett Lake on the northern part of the Castle Silver mining leases. Castle Silver was monitoring the planned scheduling of these two cuts during 2012 and 2013. Cut N132 was not on the public domain forestry plans Castle Silver had reviewed in 2012 and again in March of 2013. After this early march 2013 examination of the public record, *Castle Silver learned* cut N132 which was scheduled to be completed over approximately half of Castle Silver's leased mining claims before the **2013 July-August tourist season** forestry prohibition. The surprise was devastating. This cut area is also a heavily used multi-user land used by both local residents and tourist to the region.

The emergency situation caused by the imminent forestry cut N132 did not change the exploration needs; but it did radically alter the emphasis and urgency of these necessary components of the mineral exploration program. The identification of the endangered **OLS Survey Lines** and **OLS survey corner monuments** became paramount at the



expense of the other activities, but **did not exclude the need for these other exploration activities**. The very successful float tracing program was conducted in unison with the OLS identification program. **OLS Survey Lines were used as mineral exploration traverse lines** instead of the grid lines. This change of emphasis resulted in exploration that was inefficient and far from cost effective.

The foresters requested Castle Silver suspend their planned mineral exploration including the planned grid expansion until the cut was completed November 18, 2013. This was done. Georgia Pacific delayed the start date of that cut until the second week of September 2013. Castle Silver expected the cut to be conducted quickly and efficiently. The cut was essentially completed in less than four weeks with the majority of the timber shipped to the foresters processing facilities. The foresters made a business decision to effectively cease operations for approximately 4-5 weeks causing the foresters to miss the 2013 slash pile burning program. The forester also refused to move slash piles of the lines until the last eleven operational hours of the cut schedule which ended November 18, 2013. At that time much of the slash was moved from the lines and much slash was left on the lines.

The scheduling and the apparent indifference of the foresters were serious issues that were and remain unresolved. Castle Silver surrendered their use of the land for one summer field season expecting the work site to be returned in a workman like manner with restored grids and the worksite in Occupational Health and Safety Standard standards. This obligation of the Forester has not been met.

Castle Silver was in a long term program of identifying the OLS survey fabric of their leases to assure their exploration activities were performed on their property. The 2012 work had established MNDM's UTM locations of mining leases was seriously flawed with all OLS survey locations having at least 20-30 meter errors in various directions. Based on observations with 2011-2012 cuts N131 and H135, it was apparent the OLS survey fabric was in great danger of being lost and destroyed by forestry operations of cut N132.

Forestry activities were recognized as a serious threat to Castle Silver's interests in preserving their Geotechnical Survey Lines grids and OLS survey fabric. These common concerns were paramount and intertwined in the various meetings and communications with the foresters. Likewise these concerns are intertwined in the various chapters of this assessment report and the communications quoted in this report. The issue of the foresters' indifference to existing mining values was pervasive and cannot be disentangled as individual issues out of context.

The eventual resolution of Castle Silver's issues and other similar situation is dependent on the interpretation of MNR's "Forest Management Directives and Procedure" "FOR.05.03.17.pdf" which states.

*"The licensee shall ensure that all **blazed claim lines, survey lines, corner posts, trenches and other grid markers** cut or otherwise established by markers, .... Are not damaged or altered by operations controlled by the licensee."* (Quote from FOR.05.03.17.pdf).

The Criminal code of Canada is brief but very definite OLS survey protection is paramount. The Mining Act of Ontario also addresses the protection of mineral exploration values.

## 10.2 FORESTRY DISCUSSIONS & PROCEEDINGS

The forestry proponents have stated the four month delay caused them great inconvenience and cost. Castle Silver sympathises with concerns. These delays and resulting inconveniences and added expenses were the result of the proponents having bypassed critical parts of the public consultation process.

The foresters had recently completed cuts N131 and H135 in 2011-2012 cuts. These cuts impacted Castle Silver's leases but were outside the active exploration area. Examination of these cuts revealed: If these forestry practices were not modified, Castle Silver's property values would be indiscriminately destroyed, damaged and/or lost. It was apparent the foresters would not maintain Occupational Health and Safety Standards required for Castle Silver to continue their mineral exploration survey operations safely. It was apparent cut N132, if not modified would involve invasive activities that:

- would make Castle Silver's active work site dangerous during and after forestry
- would render Geotechnical Survey Lines inaccessible for planned Geotechnical Surveys during and after forestry
- would destroy almost all OLS survey evidence and alter or destroy many OLS survey monuments.
- would result in OLS survey monumentation (lease) that could not be re-established at or reasonably near the original location of the OLS corner monuments.
- would destroy claim posts of the neighbours claims.

Castle Silver was systematically monitoring proposed cuts H133 and H134 which were scheduled for the northern part of the Castle property. For cut N132, the forestry proponents bypassed critical part(s) of the **public consultation process**. Cut N132 was not included in the **readily available public domain documents** used in the public consultation process. Cuts H133 and Cut H134 were properly included in the public consultation process and were included in the readily available public domain documents. Because cut N132 did not appear in these readily available public domain documents, Castle Silver was blind-sided by the suddenness of this cut.

The forestry proponents had recently completed clear cuts N131 and H135 which impacted the Castle Silver property. This author and Betty Robinson decided to take the shortcut across cut H135 at the end of a long traverse on HS359. This was a mistake. It would have been easier, faster and much safer to take the long route back through moderate to dense understory and mature trees. Nowhere was it possible to walk a desirable, reasonably straight line without long detours around the hazards and forestry waste.

This is an experience this author and Betty Robinson frequently encountered in cut N132. For example: We intended to traverse along Geotechnical Survey Line C585W but by error walked C390W to our apparent starting point. On arriving we realised our error and decided to take the short cut across the clear cut to the intended location on Line 390W. This walk required over 1½ hrs due to walking over, under, through and around forestry wood waste and compromised trees. This was 250 meter walk along the two year old line (normally a casual 4 minute walk) and the 270 m shortcut between the lines (normally a 10-15 minute walk). Many compromised trees had fallen flat, supported two to four feet above the ground by their branches. Compromised trees were also commonly nested in impenetrable thickets.

Dead forestry waste and fallen trees are dry wood that is difficult to cut by machete or axe. Without a chainsaw it is difficult to work in a compromised clear cut. With a chainsaw it is hazardous cutting wood waste in close proximity to the ground (usually 30-70% cobbles and boulders).

This author's standard for acceptable Occupational Health and Safety Standards is:

- the ability to walk a Geotechnical Survey Line unencumbered at 4-5 km per hour with full gear (including naked machete) without having to walk over, under, through or around forestry waste and forestry compromised trees brought down by snow loads.

- the ability to walk across a cut at 3-4 km per hour with full gear (including naked machete) in approximately straight lines, without having to walk under, through or around excessive forestry waste and excessive forestry compromised trees including compromised trees brought down by snow loads.

Nicol and Haultain are public access land that is heavily used by local people and tourist for sightseeing, mineral and rock collecting, hunting, food harvesting (i.e. rabbit snares) and remembering the good days when they and their ancestor lived or worked this mining land and the adjacent Temex property. This author actively engages visitors to enhance their experience.

### 10.3 OLS LINES DETERMINATION & LEGISLATED PROTECTION

It was established the forestry proponents were about to harvest OLS survey trees marking OLS survey lines and probably destroy some OLS survey corner monuments. It was established: If the OLS Trees were cut it would be impossible to locate numerous OLS corner monuments. OLS Trees marking OLS survey lines and OLS corner monuments are protected by the **Criminal Code of Canada**, the **Mining Act** of Ontario and MNR recognizes the protection in MNR's document "**Forest Management Directives and Procedures**" "FOR.05.03.pdf".

In a preliminary meeting; the forestry proponents clearly stated they owned the right to harvest OLS Trees marking OLS Survey Lines. The foresters also stated they intended to harvest these survey trees. MNR's document "Forest Management Directives and Procedures" "FOR.05.03.pdf" indicates the foresters do not own the right to harvest the OLS Trees marking OLS survey lines. As the meetings progressed the foresters stated they were willing to leave the bottom of these OLS Trees by harvesting the part above the surveyor's three sided blazes. These trees constituted a critical part of the survey monumentation that defines the survey fabric of the Mining Leases and the staked Legacy Claims in Haultain and Nicol townships. The surveys and the OLS blazed trees marking the OLS survey lines date back to circa 1909. By mid-summer the foresters agreed to protect only those trees, and only those OLS Trees Castle Silver identified by UTM coordinates and clearly flagged. The foresters' position was that the harvesting activities might inadvertently knocked down some OLS Trees by incidental contact that occurs during forestry operations. This author has seen no damage to these trees.

Castle Silver's position was: The OLS Trees marking OLS survey lines are protected by the criminal code of Canada and the Mining Act of Ontario. The foresters' position was: if the forester does not attempt to find blazed OLS tree marking OLS survey lines, they are exempt from the Criminal Code of Canada because; their failure to look for these trees was not a wilful act. Castle Silver's position was: **not looking for blazed OLS Trees marking OLS Survey Lines is dangerously close to a wilful act, enforceable by the Criminal Code of Canada and the Mining Act of Ontario**. This author recommends MNDM, MNR and the Surveyor General recognize foresters obligation to look for OLS evidence and formally report this activity in writing to these ministries and the impacted stakeholder or property owner.

Castle Silver's stated position concerning the harvest of permitted trees and protection of prohibited trees is comparable to the responsibility of sportsmen harvesting wild game. Prior to harvesting game: the sportsman is required by law to identify the species and sometimes the age and gender of game to determine its eligibility

for harvest. MNR accepts no excuses for mistakes in the harvest of wild game and MNR should accept no excuses for harvesting prohibited trees.

The forester had the option and responsibility to either:

- identify the prohibited trees and harvesting the others trees or
- identify and harvest the permitted trees and leave the prohibited trees

The foresters did neither.

In and near cuts N132, H133 and H134; Castle silver identified approximately one hundred fifty (150) protected blazed OLS Trees. Twenty six (26) of the protected trees were along the east edge of HS356 and the north edge of HS359. These twenty six blazed OLS Trees mark 1959 mark OLS Survey Lines along the perimeter of MR19148. Other OLS trees dating to the 1909 were very old and not marked for protection.

Many of the other 124 blazed OLS Trees were established in 1909 and many are in their last few years as identifiable survey monumentation. Had these trees that had not been identified prior to cutting would have been lost and the associated corner survey monuments will not be found. It appears some of the corner monumentation included decomposed, wooden posts lying on the ground. Some were identified as square mounds of moss covered with forest litter.

The foresters did protect those OLS Trees Castle Silver identified. The foresters honoured a rectangular 80x80 meter no cut, no entry buffer zone centred on the best guess location of the OSL corner monuments that Castle Silver could not locate.

The UTM evidence collected by Castle Silver recognizes 80x80 meter buffer zones are inadequate. A square 160x160 meter (80 meter radius) buffer zone (centred on the best estimate of the OLS fabric location) is required to reasonably assure OLS monuments are protected. This author recommends the 80 meter radius buffer zone be as requirement of all forestry operations until the OLS fabric is identified and reported to the Ministry as an easily assessable, public domain document. The identification of the monumentation would remove the required buffer zone for harvest provided the forester protects the OLS monument.

The crucial-critical importance of OLS monument identification became apparent as the boundary mapping progressed. It was determined that MNDM and MNR base maps appeared to be to have irrational, pervasive 25-40 meters errors identifying the OLS survey fabric. In final analysis MNDM's UTL locations the are +/- 80 meters in various directions.

It has also become apparent the MNR-MNDM errors are largely due original survey errors that could not be compensated for in piecing the individual survey plans into a cohesive overall survey fabric. Ten meter closure errors are common in the original the OLS plans examined. The sum of the survey measurement errors may be significantly more than closure errors of the claims.

The **closure error** is the **vector sum of all the survey errors** in a survey. A 20 m north error and a 12 meter south error is an 8 meter closure error (northerly) with a sum of 32 meters of survey errors. Considering these findings; MNDM has done well plotting CLAIMap; trying to make a silk purse from a sow's ear.

It appears industrial proponents including foresters, have relied on the MNR/MNDM survey fabric to avoid corner monuments and in the process have destroyed monuments by crossing over the actual location of these monuments.

It became apparent MNDM plans to convert to map staking mining claims by UTM coordinates. Ground staked claims recorded before November 1, 2012 were renamed Legacy Claims in preparation for Forced Conversion of Legacy Claims to Cell Claims. The preparation for conversion to cell claims also included the legislated requirement for claims recorded on or after November 1, 2012 record UTM corner post coordinates to a maximum 5 meter error limit. The preparation for conversion included incentives for existing legacy claim holders to identify and record UTM coordinates of corner posts and turning posts for assessment credits (un-surveyed townships only). Unfortunately; MNDM excluded determinations of UTM coordinates for Legacy claims within surveyed townships and the determination of UTM locations of Mining Lease, Mining Patents, Parks and other alienations. This was a serious and discriminatory omission considering MNDM does not know the locations of these encumbrances. MNDM has set the bar for prospectors at a 5 meter meter circle of confusion (maximum error). MNDM plans to merge the prospectors data determined to less than 5 meters error with the +/- 80 meter MNDM data set for Mining Leases, Mining Patents, Parks and other alienations. If this issue is not aggressively dealt with, MNDM will be issuing cell claims within cells where no open ground exists and it will be very difficult to map stake a cell with open ground where MNDM has determined no open ground exists. The legal implication cascading from this situation are significant to serious, maybe even being fatal to conversion process and cell based recording system for Mining Lands.

The Mining Act Modernization legislation involving Legacy Claims and UTM coordinate identification for recording and assessment credits appears to have been enacted November 1, **2012** as indicated from the following quote from the MNDM web page <http://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act/mining-act-modernization/claim-staking>

*“Effective November 1, 2012 If you ground stake a mining claim, you will be required to provide Global Positioning System (GPS) georeferencing data for the mining claim on the application to record the claim. This requirement will only apply to ground staked mining claims on lands that are unsurveyed (not surveyed into lots and concessions).*

*This is a step towards clarifying claim locations in advance of the planned move to fully electronic, on-line map staking. **It is imperative that every effort is used to obtain accurate GPS georeferencing data for the mining claim as these coordinates may be used to delineate the location of the claim after the transition to on-line map staking.**”*

.....

*“MNDM has developed Georeferencing Standards for Unpatented Mining Claims (MNDM guideline). The standards outline the data collection requirements. No specific GPS equipment is required however the unit itself must be capable of differential correction and must be capable of an **accuracy of +/- 5m** as per the manufacturer’s device parameters.” .....*

*“in order to receive assessment credit for providing GPS coordinates for the claim boundaries, a technical report and supporting data must be submitted as outlined in the MNDM guideline which outlines the data collection standards. This is **a step towards clarifying claim locations in advance of the planned move to fully electronic on-line map staking.**” .....*

*“Taking GPS coordinates of claim posts in subdivided townships is not required as the claim location is governed by the location of the surveyed lot and concession lines. Coordinates can be submitted along with the Application to Record however they will not be recorded.” .....*

*“The coordinates must be in UTM. Coordinates can be converted using a GIS system or an online coordinate converter but only if obtaining the UTM coordinates is not possible.”*

MNDM has legislated **“It is imperative that every effort is used to obtain accurate GPS georeferencing data” to “an accuracy of +/- 5m” as “a step towards clarifying claim locations in advance of the planned move to fully electronic on-line map staking.”** It is also **imperative that” MNDM make “every effort is used to obtain accurate GPS georeferencing data” to “an accuracy of +/- 5m” as “a step towards clarifying”** GPS locations of Mining Leases, Mining Patents, private lands and other encumbrances to **“claim locations in advance of the planned move to fully electronic on-line map staking.”**

This author recommends MNDM aggressively deal with this +/- 80 meter UTM identification problem by introducing assessment credits to identify UTM identification of Mining Leases, Mining Patents, Parks and other alienations and Township OLS surveys that define Legacy Claims that will experience Forced Conversion to Cell claims. It is recommended these **UTM identification cost be credited retroactive to the November 1, 2012**, the date legislation required UTM identification as a requirement to record mining claims and recognized assessment credit for UTM identification Legacy Claims in unsurveyed townships. By **doubling or tripling assessment credits** for the cost of identifying UTM locations of Mining Leases, Mining Patents, Parks and other alienations **MNDM can smell like roses and show the courts good faith and greatly improve the CLAIMap data base.**

The survey bars are sensitive-fragile relative to the impact of heavy forestry equipment and soil disturbances common to forestry operations. Most monuments are 5/8 inch square iron bars, a significant number are 1 inch square iron bars, and other shapes. One loose, 5/8 inch square iron bar was examined and found to be approximately 18 inches long. The bar was immediately returned to its exact location.

The survey monuments, circa 1909 were not designed to survive a direct hit by heavy forestry equipment or a direct hit by a large bundle of tree length logs dragged through the bush to haulage roads. The bundles of logs can even break boulders. If an 18 inch long bar projects 4-10 inches out of the ground it is extremely vulnerable. If an 18 long bar is totally in the ground; grooving can plough the bar out of its location. Surveyors carried their survey bars, equipment and supplies to Gowganda by canoe. This was arduous work and could explain the small size of the bars and the variable character of iron bars and rods used as OLS monuments.

The forestry proponents have stated they have no obligation to identify survey corner monumentation within the cut N132 or any of the other cuts on Castle Silver claims and leases and had no intention to do so.

Forestry and Mining Consultant; Mr. Demarell working for Georgia Pacific identified two monument along the Geotechnical Survey Line C780W. At that time the pickets were being double flagged for protection. These two monuments are steel (underground?) rails that project 15-18 inches above the ground. All other monuments were identified by Castle Silver. Geotechnical Survey Line C780W was designed to trace the property boundary.

In Phase three exploration Castle Silver intended to find OLS survey monuments in the course of other exploration activities, including watching for OLS survey evidence when traversing, mapping or sampling in

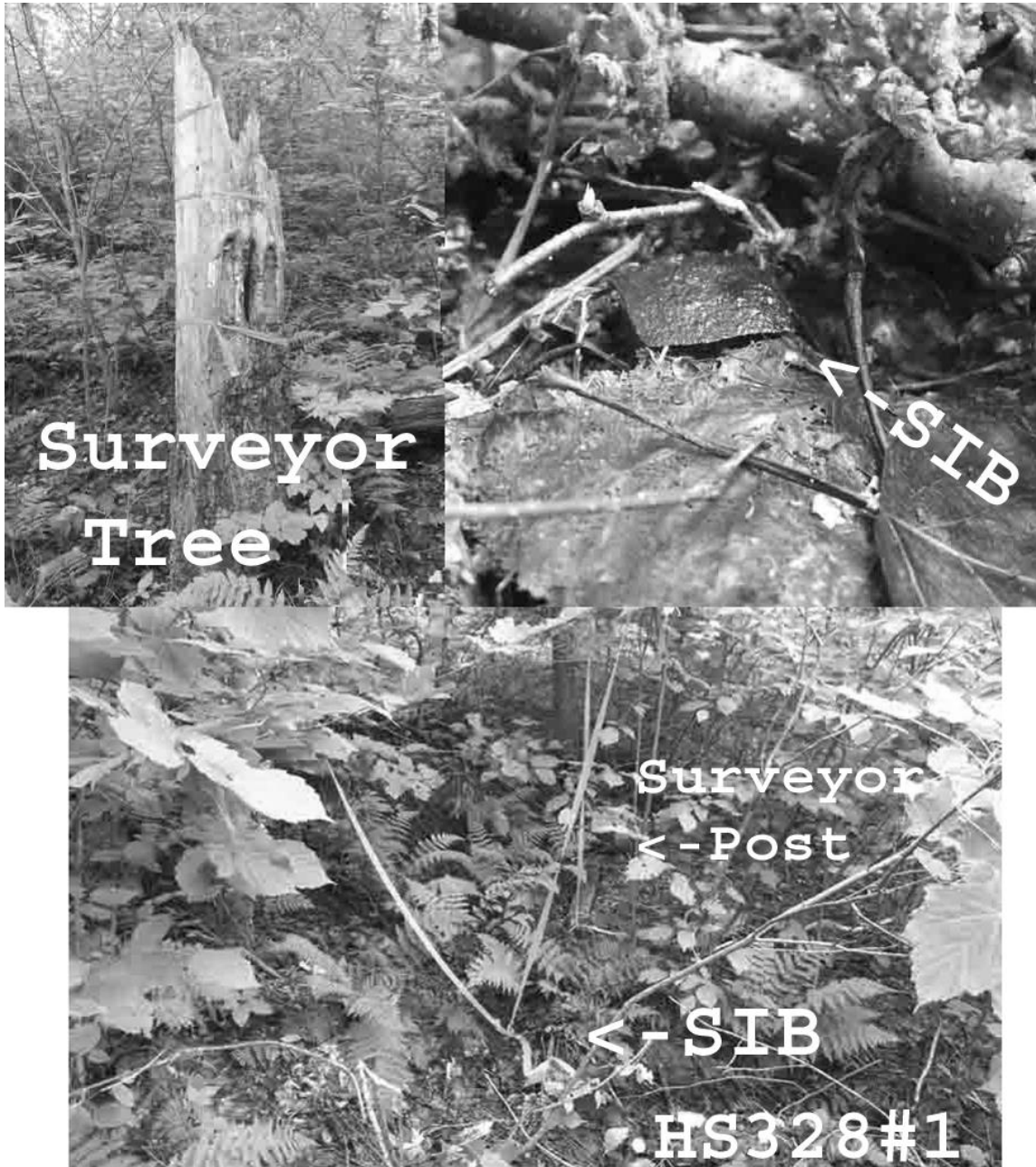
close proximity to expected OLS evidence. The work of Mr. Demarell is an example of this process. Two monuments were discovered and documented when he was flagging grid pickets for protection.



*Above: Claim post 1238950 #1 before destruction by Forester*

The forester indicated they would not pre-identify claim posts prior to cutting. The forester stated claim posts would be protected by an operator only if the operator identifies the posts during cutting operations. Castle Silver has established many of these posts are commonly **not readily identifiable** due dense undergrowth. Walking the ground to identify claim posts and flagging posts is the only viable means to protect posts during cutting and skidding operations.

It appears the owner of claim 1238950 did not notify the forester of its mining claims. Both the #1 and #4 post of this claim were destroyed by forestry operations of Cut N132. This author was in the process of identifying the #4 post, but was too late. The entire area was 3-5 feet deep in freshly felled timber.



Above Photographs: Three Part Survey Monumentation Marking HS328#1 Corner

The above photographs of HS328#1 monumentation shows a single surviving Bearing Tree, a 4 four inch square rotten wooden survey post lying on the ground and a 5/8 inch SIB. The bar finder gave many strong signals in this area. These signals were caused by strongly magnetic glacial float (rocks) and the strongly magnetic outcrop west of the monument. The survey tree was found by searching a broad area triangulated from HS359#4 and HS359#1 and following surveyor trees along the perimeter of HS359. The 4 inch square wooden survey post was identified first. Strong signals near the post were identified as glacial float. The SIB was eventually identified under the cover of dead leaves.





*Photos Above: Common Corner of HS358#3 and HS229#4. No SIB found*

The above picture shows the common corner monumentation for HS358#3 and HS229#4. This monumentation includes a 2 inch square rotten wooden post and the apparent original 4 inch squared claim post (also rotten). Both wooden posts were lying on the ground and covered by leaf litter. Both posts were within dense, ground level, cedar undergrowth. That undergrowth had to be cut out before the ground could be examined and the monumentation

identified. Five attempts; on separate days, were required to identify this monument location. The original search area was eventually shifted 60 meters from the original search area to the location where the monumentation was eventually identified. During this search the bar finder rendered many song signals due to glacial boulder. This problem was particularly acute at the monument location. There appears to be no SIB here. The claim post tags give no signal. This monumentation could not have been identified without the numerous three sided blazed OLS Trees used to trace survey lines to this location. It required the combination of tracking three sets of survey line evidence to identify this monumentation. These traverses required tracking OLS trees 3115 meters. These three traverses commenced at HS359 #1 and HS362 #4. The trees were intermittent, often with long gaps between them.

If the search for monumentation commenced after forest harvesting; HS358 #3 and the other monuments would not have been found. An OLS surveyor would have had to replant the monuments and these new monuments would have been a best guess location derived from using original surveys which are severely flawed with both chainage errors and directional errors. The Surveyor General's staff were candid; if missing monuments were to be replaced, the new monuments likely would be in significantly different locations than the originals monuments.

The three paths of OLS survey evidence were followed to eventually identify HS358#3. A total of approximately 3115 meters of survey lines defined by sporadic surveyor trees were an absolute necessity to establish the survey fabric to HS359#2. These line sequences are listed below:

2. Approximately 1240 meters from HS356#1 to HS359#4 to **HS359#3** to HS358#3 (by tracking trees and by triangulation).
3. Approximately 2330 meters from HS356#1 to HS359#4 to HS359#1 to HS359#2 to **HS359#3** to HS358#3 (dominantly by tracking trees).
4. Approximately 1080 meters from HS362#4 to HS362#1 to **HS359#3** to HS358#3 (exclusively by tracking trees).

MNDM CLAIMap data recognizes HS359 being defined by nine survey points (corners). The various survey plans, including HS359 and the adjoining claims all agree HS359 has seven original survey monuments, not nine as shown by CLAIMap. This CLAIMap error has resulted in Castle Silver's leases being over staked by Legacy Claim 4225401. Castle Silver was and is very concerned MNDM would grant a cell claim over parts of the HS359 Mining lease leaving Castle Silver with no recourse if the monuments were not identified prior to invasive forestry activities that could destroy OLS survey evidence. Three monuments separating HS359 and Legacy Claim 4225401 were not found. Several days were spent looking for these three apparently missing monuments.

Where a mining claim like Mining Lease HS359 occurs in an irregular OLS lease survey fabric similar to Haultain & Nicol Townships and if the MNDM UTM location has a 63 meter error there is a high probability:

- MNDM would issue cell claims where no open ground exists and/or
- MNDM would not allow map staking where there is open ground
- Consider if a claim holder owns a Mining Lease and an apparently contiguous cell claim. If the cell claim is brought to lease and the OLS survey establishes a 10 cm wide wedge is separating the claims, that wedge is open ground and will become a lottery claim going to the staker with the fastest computer. If an ore body occurs within either claim, a boundary pillar required by law. If an ore body exists in the boundary pillar; it is illegal to mine that deposit without the permission of the lottery claim holder that owns the 10 cm wide wedge claim.
- Consider if a claim holder owns a Mining Lease and an apparently contiguous cell claim. If the cell claim is brought to lease and the OLS survey establishes a 10 cm wide wedge totally separates the claims, the cell claim would forfeit to the crown if the assessment work was performed on the Lease Claim.

It is in the best interest of the Crown to actively work with MNR and the Surveyor General to aggressively initiate common action and policy to protect all survey monumentation including survey trees: either by enforcing the Criminal Code of Canada and the Ontario Mining Act, and MNR's "Forest Management Directives and Procedure" document "**FOR.05.03.17.pdf**", or by enacting new legislation and/or policy.

*"The licensee shall ensure that all blazed claim lines, survey lines, corner posts, trenches and other grid markers cut or otherwise established by markers, .... Are not damaged or altered by operations controlled by the licensee." (Quote from FOR.05.03.17.pdf).*

It is imperative to preserve survey evidence to assure and maintain legitimate boundary relationships between cell claims and previously existing Mining Leases and Mining Patents and private lands.

## 11 MAPPING REQUIRED TO MAINTAIN WORK WITHIN THE PROPERTY

---

### 11.1 BACKGROUND

Float mapping and prospecting was conducted as an integrated 2013 exploration program which was focused on lease boundary areas. The mineralized glacial float identified in the boundary mapping program was the basis of Castle Silver successful MMI sampling and stripping programs.

In the early 1900's; prospectors tied their stripping, drilling and prospecting work to the claim corners as a requirement to register assessment work. MNDM has continued to recognize the critical importance of property line to this day by encouraging assessment credits for locating and re-cutting claim lines. Recent MNDM legislation continues to recognise the importance of boundary identification by requiring stakers to report UTM coordinates of their claim post as a requirement to register their claims. Also recent legislation recognized the importance of property identification by allowing assessment credits for measuring UTM coordinates of claims. This recent legislation marks a move to recognizing the identification of claim fabric corners by UTM coordinates as paramount.

Castle Silver has operated within these principles by identifying the claim fabric and reporting the as UTM's during prospecting and boulder tracing. To not identify and record observed survey fabric in the course of prospecting, boulder tracing and geotechnical work would be irresponsible.

MNDM's planned conversion to a UTM based cell claim system is dependent on the whole prospecting community and particularly MNDM working together to assure the best possible survey fabric data to within the 5 meter mandate that MNDM requires of prospectors. MNDM's survey data set is seriously flawed with claim lease and patent survey fabric commonly +/-80 meters, averaging 30-40 meters in various directions. To implement map staking cell claims and to convert Legacy claim to cell claims; MNDM's needs to greatly improve its UTM data base of patents, leases, private lands, cemeteries and other alienations. MNDM must cease to be passive and aggressively encourage everyone to become active to their ability and MNDM must use their full capacity to encourage UTM reporting of survey fabric that controls and take precedence in cell claim fabric.

### 11.2 2012 LAROSE SURVEYING AND GEOTECHNICAL GRID LAYOUT

In the 2012 field season, Castle Silver determined it was imperative to determine the location of the Castle Silver property to assure their exploration activities were conducted on their ground. The MNDM land

tenure system; CLAIMap established the property was an irregular configuration of leases that were not oriented N-S and E-W and were not at a regular 400 meter square outline conducive to rational Geotechnical Survey Grids.

A boundary mapping program was initiated by professional surveyor, Ben Larose (now associated with Story Environmental of Haileybury) and Doug Robinson Consulting during the 2012 field season. Seven OLS survey monuments were identified along Ben Larose’s chainsaw cut survey lines tracing the OLS survey fabric. Mr. Larose had previously surveyed three or four of these survey monuments for Temex which holds the leases south of Castle Silver.

This program established a critical part of the property was 780 meters wide. Grid C was designed with a 195 meter grid spacing. The atypical 195 m grid required to maintain exploration work on the property. Geotechnical Survey Grids C and Grid D were established at irrational angular relationship to conform to irrational boundary lines.

Geotechnical Survey Grid placement and orientation were dependent the identification of **RSC99, HS350** and **HS356** OLS monumentation. These monument configurations controlled the placement of the base lines of **Geotechnical Survey Grid C** and **Geotechnical Survey Grid D**. These identifications were critical because the property is approximately **780 meters wide** with **skewed property lines** that are **not perpendicular** at the corners. It was intricate and convoluted work to establish and maintain five 195 m meter spaced lines of Grid C and five 200 meter spaced lines of Grid D within the property. The grids overlapped at a small angle.

Ben Larose used HS356 #1 OLS monument as the origin of Geotechnical Survey Grid C. Grid Coordinate C000W- 000N was assigned to this monument. The base line was turned to intersect the projected location of HS350 #2 monument. The critical monument **HS350 #2** monument appears to have been destroyed by the regional forest access road.

**11.2.1 Grid C Base Line Notes from file “Larose Survey 2012 UTM.xls”**

Base Line C was survey control cut to C780W00N. Geotechnical Survey Lines C000W, C195W, C380W, C585W and C780W were turned by instrument. Geotechnical Surveys Line C0W was cut by survey control northwards towards HS357 #1 OLS monument. Geotechnical Survey Line C0W was also survey control cut to HS356 #2 monument and extended to the edge of the property as a normal grid line. Geotechnical Survey Line C780W was instrument turned at the projected location of HS350 #2 OLS monument and cut towards HS355 #3 OLS monument.

Claim Corner Tie-In. Base Line C at 000N/L0+00W	<b>0521135.64 8mE</b>	<b>05279945.007 mN</b>	<b>415.300 Elevation M</b>	<b>#1 Post HS-356.</b> 5/8" diameter iron bar (by <b>Brotherhood OLS, 1959</b> ). N.B. Origin of Base Line 0. 0N-0W. See page UTM 18, UTM 19-22. Prime Survey Point for permanent reference.
Base Line C at 000N/L0+00W	<b>0521135.64 8mE</b>	<b>5279945.007 Mn</b>	<b>415.300</b>	Grid C. Pre-calculated Design Value for <b>000N-000W</b> . See final survey value at 5/8" diameter Iron Bar HS356-#1 post

Base Line C at C000N/L1+95W	<b>0520942.37</b> <b>5mE</b>	<b>5279918.847</b> <b>mN</b>	<b>409.283</b>	Grid C. Actual Layout. Survey layout of 0+00 BL and Grid Lines. 1 1/4" diameter HUB.
Base Line C at C000N/L3+90W	<b>0520749.20</b> <b>0mE</b>	<b>5279892.686</b> <b>mN</b>	<b>416.801</b>	1 1/4" diameter HUB.
Base Line Cat C000/L5+85W	<b>0520555.92</b> <b>3mE</b>	<b>5279866.527</b> <b>mN</b>	<b>416.883</b>	Survey Layout of 0+00BL and Grid Lines. 1 1/8" diameter HUB.
Base Line C at C000/L7+80W	<b>0520362.65</b> <b>9mE</b>	<b>5279840.376</b> <b>mN</b>	<b>412.200</b>	Survey Layout of 0+00 BL & Grid Lines. 1 1/4" diameter HUB.

The above chart relating to Grid C is included for completeness and work not claimed as assessment credits.

### 11.2.2 Grid D Base Line Notes from file "Larose Survey 2012 UTM.xls"

The Geotechnical Survey Grid D base line was cut perpendicular to the south property line of RSC99 (148 meters westerly from the HS350 #3. Geotechnical Survey Grid D origin is 148 meters westerly from RSC99 #2. Base line D0E was turned by instrument and cut as an instrument controlled line. Geotechnical Survey Lines D200N, D400N, D600N and D800N were turned by instrument. The location and orientation of the OLS survey lines were the key factors controlling Grid D's coordinate system, orientation and line spacing.

Grid D Base Line Layout Azimuth = 268°00'00".

Base Line D at D000E/L2+00N	<b>0519815.29</b> <b>4 mE</b>	<b>5280033.867</b> <b>mN</b>	<b>398.134</b>	6" Spike. Survey Layout of BLO+00E. <b>Grid D.</b>
Base Line D at D000E/L4+00N	<b>0519808.29</b> <b>4 mE</b>	<b>5280233.774</b> <b>mN</b>	<b>392.899</b>	Castle Mine Property Design/Layout of BLO+00E. 1 1/8"HUB. Grid D. Actual Layout.
Base Line D at D000E/L4+50N	<b>0519806.54</b> <b>8 mE</b>	<b>5280283.724</b> <b>mN</b>	<b>390.534</b>	Castle Mine Property Design/Layout of BLO+00E. Square head bolt. Layout Azimuth = 268°00'00".
Base Line D at D000E/L6+00N	<b>0519801.31</b> <b>3 mE</b>	<b>5280433.651</b> <b>mN</b>	<b>393.173</b>	Castle Mine Property Design/Layout of BLO+00E. 6" nail. Grid D. Actual Layout.
Base Line D at D000E/L8+00N	<b>0519794.32</b> <b>3 mE</b>	<b>5280633.520</b> <b>mN</b>	<b>399.999</b>	6"Spike.

The above chart relating to Grid D is included for completeness and work not claimed as assessment credits.

By using survey control Ben Larose cut the south claim lines of surveys RSC99, RSC101 and RSC102 (MR1055). The above Larose survey information is included for completeness. No expenses relating to the Ben Larose surveying were charged to this assessment report.

### 11.3 2013 FLOAT TRACING PROSPECTING PROGRAM

**During 2013 and in response to cut N132; an integrated float mapping and prospecting program was conducted along OLS survey lines. The location of all observed OLS survey monumentation was also documented and is included in this report. The mineralized glacial float identified in the boundary mapping program was the basis of Castle Silver’s successful MMI sampling and stripping programs.**

MNR’s document “Forest Management Directives and Procedure” “FOR.05.03.17.pdf” which states.

*“The licensee shall ensure that all **blazed claim lines, survey lines, corner posts, trenches and other grid markers** cut or otherwise established by markers, .... Are not damaged or altered by operations controlled by the licensee.” (Quote from FOR.05.03.17.pdf).*

It appears this MNR document was prepared in response to the Criminal Code and Canada and the Mining Act of Ontario, both of which offer legal protection to mineral exploration and mining values.

Castle Silver requested the foresters to:

- identify and protect the OLS survey markers and the OLS tree three sided blazed OLS tree marking the OLS survey lines,
- identify and rehabilitate Castle Silver’s three recent Geotechnical Survey Grids: Grid B, Grid C and Grid D. Grid C and Grid D were brand new grids that had not been used. Grid A was cut and surveyed in 2011. Grid B was also cut and surveyed in 2012, but Castle Silver did not request this grid be protected.
- Return the exploration worksite returned to Occupational Health and Safety Standards for exploration and forest activities.

The foresters said they were surprised by Castle Silver requests stating they had never encountered these problems before. The foresters delayed their cut to the fall of 2014 to deal with the issues. They stated this delay was costing greatly. These expenses could have been adverted had the foresters posted cut N132 on their readily available public domain maps as they did with cuts H133 and H134. Castle Silver was monitoring H133 and H134 on these maps. It was the foresters’ staff that processed the public review process, not Castle Silver that caused the delays and unexpected costs to the forester.

The foresters requested Castle Silver suspend their active exploration program to allow the foresters to work unhindered by exploration activities. This work was suspended as requested for the cut was done as requested.

At the foresters’ request, Castle Silver canceled their planned expansion of Geotechnical Grid C and Grid D until the end of Forestry operations, November 18, 2013. It was apparent the survey monuments were at high risk to damage and the OLS Survey Trees marking the OLS Survey Lines would be harvested if Castle Silver did not take action to preserve this OLS monumentation.

Castle Silver requested the foresters meet their obligation to protect the OLS Trees and monuments. The OLS Trees and the OLS Survey lines and OLS corner monuments are protected by the **Mining Act** of Ontario, **Criminal Code of Canada** and MNR’s “Forest Management Directives and Procedure” document “FOR.05.03.17.pdf”. Castle Silver requested the Foresters and Castle Silver equally share the process of finding and protecting the protected OLS Trees and OLS monuments.

The foresters refused to participate; saying, the foresters would only protect the OLS survey monuments Castle Silver flagged in the bush listed by UTM coordinates.

The foresters also refused to protect the OLS survey trees that are explicitly protected in MNR's "Forest Management Directives and Procedure" document "**FOR.05.03.17.pdf**". After some discussion, the foresters requested the right to harvest the OLS Trees above the OLS 3-sided blazes. Eventually the foresters agreed to protect all OLS Trees Castle Silver flagged and documented in a UTM coordinates list.

Cut H135 cut across the Castle Silver's east property boundary of Lease HS356. That boundary was surveyed in 1909. The property to the east (MR19148) was surveyed in 1959. Both generations of OLS trees were abundant and easily identified outside of cut H135. No OLS Trees remain in cut H135. It appears the foresters harvested the protected OLS Trees within that cut.

The foresters placed Castle Silver in a find it or lose it situation regarding the protected OLS monumentation. The forester said: if they foresters did not willfully damage OLS survey monumentation and including OLS Trees, they were not responsible to damage to this OLS monumentation. The Castle Silver position was: by not looking for protected OLS monumentation the forester was dangerously close to a willful act.

The Ministries took the position: Castle Silver's only recourse was legal action after damage is done.

Castle Silver started an aggressive program of prospecting and float tracing concentrated along OLS survey lines. These lines were used a quasi-grid identified by UTM coordinates within field notes. Many mineralized float were identified and formed the bases of the successful 2014 MMI and stripping programs. A total of 38 corner monuments and witness monuments (on shorelines) were identified and tabulated in this report and in the mapping notes in the appendices. Castle Silver flagged each monument for protection from forest harvesting. The foresters appear to have protected the survey monuments. HS355 #2 monument was found under slash.

The float tracing, prospecting boundary mapping commenced with procuring a comprehensive set of original OSL surveyor's notes and survey plans for the property and the adjoining leases (contiguous leases, some now expired). Tracking OLS Survey Lines by OLS trees of the claims adjoining the property was (and remains) required to project to problematic and/or missing monuments along the property boundary. The OLS Trees and Corner monuments of both active and forfeited neighbouring leases were critical survey evidence to finding the Castle Silver lease monuments.

A Schonstedt XT bar finder and Garrett metal detector were used to identify survey monuments within predetermined search areas. The pre-determined search areas were redefined as OLS survey evidence was identified by field observations.

The survey monuments found were generally small (sensitive/fragile placement) and were/are unlikely to survive a direct hit from heavy equipment and the logs bundles dragged by that equipment or roads and trails constructed to access the forest. The surveyors carried their gear, supplies, equipment and survey monuments by canoe into Gowganda.

## 11.4 OLS MONUMENT LOCATIONS IDENTIFIED & COMPARED TO MNDM OLS DATA

A total of 38 OLS monuments were identified in and near the proposed cuts N132, H133 and H134. These three cuts were all in imminent harvest plans over the Castle Silver Leases. Many monuments were not identified. In the end; the foresters (at MNR request?) protected square 80 x80 meter no cut, no go buffer zones centred on the best guess location of unidentified monuments. These buffer zones extended 40 m north, east, south and west of the best guess of the monument location. These buffer zones were protected.

Of the 38 corner monument identified in this report:

4 (10.5%) had errors exceeding 60 meters from the best MNDM/MNR locations.

7 (18.4%) had errors exceeding 50 meters from the best MNDM/MNR locations.

14 (36.8%) had errors exceeding 40 meters from the best MNDM/MNR and would have been at high risk of being outside the default, square 80x80 meter (no cut) buffer zone centred on the best guess location had the monument not been found.

The 38 monument were found and average 36.9 meter error in various directions.

The chart below is a summary tabulating the difference between the MNDM best data set and Castle Silver field identification data. The Castle Silver data reported to three decimal places is surveyed by Ben Larose. The Castle Silver data was measured by this author and is expected to be within to the sub five meters error envelope MNDM expects. Assuming the worst case scenario of a consistent (random direction) 5 meter error by this author, the errors will impact only the individual readings. Random errors would have little or no impact on the overall statistics in the left column. Half of the entrees would increase by five and half would decrease by five, rendering virtually the same cumulative frequency.

Chart Below: Chart of MNDM UTM Data Set and Castle Silver UNT Data Set of Lease Surveys

Stored as Haultain Nicol MNDM OLS Lease Coordinates.xls

		Lease Survey	Corner # & Comment	Best MNDM EASTING	Best MNDM NORTHING	True Easting (Castle Silver)	True Northing (Castle Silver)	Error Easting	Error Northing	Horizontal Error
0.026	23	HS362	4	520976.0	5278625.0	0520993	5278517	17.0	-108.0	109.3
0.053	9	HS350	3 & HS351 #4	519994.6	5279903.5	0519966	5279840	-28.6	-63.5	69.6
0.079	13	HS356	2 Confirmed As true HS359 #4 & HS358 #1	521216.5	5279469.9	0521203	5279408	-13.5	-61.9	63.3
0.105	18	HS359	1	521623.8	5279634.6	0521611	5279574	-12.8	-60.6	61.9



0.132	17	HS359	4 False corner	521161.8	5279448.0	0521203	5279408	41.2	-40.0	57.4
0.158	4	LM10 6 MR11 20	4	518724.0	5280992.0	0518709	5280937	-15.0	-55.0	57.0
0.184	15	HS359	2 & ECL HS360 & HS328 #1,& HS359 2	521696.6	5279120.5	0521734	5279081	37.4	-39.5	54.4
0.211	20	HS362	1 & HS329 2 & HS3283 & HS361 #4	521321.0	5278625.0	0521362	5278598	41.0	-27.0	49.1
0.237	8	LM11 1 False corner	1 Check MNDM	520754.2	5279404.5	0520797	5279383	42.8	-21.5	47.9
0.263	5	LM11 1	WP ECL	520728.0	5279256.0	0520774	5279250	46.0	-6.0	46.4
0.289	16	HS359	3 & HS358 #4 & HS359 #1 & HS358 #2	521205.4	5279022.0	0521242	5278994	36.6	-28.0	46.1
0.316	19	HS360	3 & HS361 #1 & HS328 #2	521722.0	5278674.5	0521759	5278649	37.0	-25.5	44.9
0.342	21	HS362	2	521382.0	5278207.0	0521425	5278202	43.0	-5.0	43.3
0.368	26	HS365	1	520196.3	5281153.5	0520175	5281119	-21.3	-34.5	40.5
0.395	27	HS365	2 & HS354 #3 & HS353 #4 & HS352 #1	520262.5	5280730.5	0520233	5280704	-29.5	-26.5	39.7
0.421	32	RSC10 1	2 & RSC100 #3 & RSC99 #4	519555.4	5280213.5	0519526	5280191	-29.4	-22.5	37.0
0.447	28	HS366	4	520377.0	5281645.0	0520353	5281618	-24.0	-27.0	36.1
0.474	24	HS364	4 & HS353 #1	520638.7	5280742.0	0520610	5280724	-28.7	-18.0	33.8
0.500	38	RSC10 6	4	519961.0	5278938.0	519991	5278924	30.0	-14.0	33.1
0.526	29	RSC82	1 & RSC102 #3 & RSC83 #4	518752.2	5280128.0	0518721	5280118	-31.2	-10.0	32.7

0.553	7	LM11 1	4	520370 .0	5279362. 0	0520393	5279340	23.0	-22.0	31.8
0.579	25	HS364	1 & HS369 #3	521045 .0	5280746. 0	0521021	5280726	-24.0	-20.0	31.2
0.605	33	RSC10 1	3 & RSC102 #2 (Ben Larose Survey)	519153 .5	5280189. 5	0519125. 722	5280175. 586	-27.8	-13.9	31.1
0.632	30	RSC99	2 & RSC87 #1	519994 .6	5279850. 0	0519966	5279840	-28.6	-10.0	30.3
0.658	11	HS355	3 HS354 #2 & HS357 #3 & HS356 #4	520449 .5	5279369. 4	0520439. 1	5279342	-10.4	-27.3	29.2
0.684	31	RSC99	3 & RSC 87 #4	519586 .3	5279831. 5	0519562	5279816	-24.3	-15.5	28.8
0.711	10	HS355	2 & HS356 #3 & HS358 #4 & LM111 #1	520797 .6	5279409. 5	0520797	5279383	-0.6	-26.5	26.5
0.737	14	HS356	3 & HS358 #4 &LM111 #1 HS359 #4 & HS355 #2	520797 .6	5279409. 5	0520797	5279383	-0.6	-26.5	26.5
0.763	37	RSC10 6	2	520119 .0	5278755. 0	0520136	5278735	17.0	-20.0	26.2
0.789	12	HS356	1 & HS357 #2 (Ben Larose Survey)	521146 .6	5279966. 5	0521135. 648	5279945. 007	-10.9	-21.5	24.1
0.816	1	LM10 5	1 Shore Everett Lake	519776 .0	5281412. 0	0519775	5281391	-1.0	-21.0	21.0
0.842	3	LM10 6 MR11 19	3 & RSC102 #4	518745 .0	5280550. 0	0518726	5280550	-19.0	0.0	19.0
0.868	6	LM11 1	WP WCL	520362 .0	5278986. 0	0520379	5278981	17.0	-5.0	17.7
0.895	34	RSC10 4	1 & LM109 #2	518359 .8	5280488. 0	0518347	5280495	-12.8	7.0	14.6
0.921	2	LM10 6 MR11 17	1 & LM107 #4	519081 .0	5281026. 0	0519072	5281016	-9.0	-10.0	13.5
0.947	22	HS362	3	520944 .0	5278135. 0	0520946	5278122	2.0	-13.0	13.2

0.974	35	RSC10 5	WP TO #1 NCL	520303 .0	5278249. 0	0520300	5278258	-3.0	9.0	9.5
1.000	36	RSC10 6	1	520136 .0	5278930. 0	520133	5278933	-3.0	3.0	4.2
Total 38 Monuments										1402.0
Average Error of monuments										36.9
Filed as: Haultain Nicol MNM OLS Lease Coordinates.xls Previously forwarded to MNM to assist MNM appraisal of MNM Data Set										

*Above Chart cut and pasted from file "Closure Error Compilation 2015-07 MNM.xls" An advance copy of this file was forwarded to MNM to help appraise the severity of the OLS problems in the MNM data set.*

The ground was heavily mineralized with high iron rocks including magnetite iron formation, and magnetite bearing mafic and ultramafic boulders and outcrops. This mineralized ground commonly rendered the electronic equipment ineffective because hundreds/thousands of boulders give strong signals within the search area. The monuments found **averaged 36.9 meter** (4.2-109.3m) from the best MNM/MNR location. **Without the very few surviving surveyor's tree (generally 0-4 per 400 meters) many of the monuments would not have been found.**

### 11.5 MNM EVIDENCE BASED POLICY DECISION RE: OLS SURVEY ENCUMBERED CELL CLAIMS

The Government of Ontario has an "Evidence Based" or "Evidence Informed" policy that appears to make MNM legally responsible to have determined the impact of the UTM locations of OLS survey fabric in defining the **existence** and **location** and area of 20,000-30,000 fractional claims cell including "Boundary Claims" and "Encumbered Claims" that will be created on and after the Forced Conversion date. November 1, 2012 and the dates Ontario establishing this policy are two key threshold dates that active this policy. November 1, 2012. At that time MNM established +/- 5 meter accuracy as the MNM minimum standard required to establish the Mining Claim, Mining Lease and Mining Patent fabric of Ontario. MNM was obligated to know leases and patents had an extreme positional errors (+/- 80 meters) averaging 40 meters in old mining camp like Nicol and Haultain and to know these OLS Surveys commonly floating in space and not tied to township fabric or UTM coordinates. The claims are in tied to each other independent of Township fabric and UTM coordinates.

The Society of Professional Engineers of Ontario magazine "Engineering Dimensions" deals with Ontario regulators obligations to crafting policies on "Evidence-based" or "evidence-informed" approach. This article is pg 17-19 of the March-April issue of this magazine. This article appears to be a blend on Federal and Provincial policy. This author considers this article a reasonable yardstick to judge MNM policy makers.

*"According to the Government of Canada's Policy Horizons "Evidence-based or evidence-informed or knowledge based policy development refers to an approach that leverages the best available objective evidence from research to identify and understand issues so that policies can be crafted by decision makers that will deliver desired outcomes effectively, with minimal margin of error and reduced risk of unintended consequences"*

*According to the Government of Canada's Policy Horizons "Evidence-based or evidence-informed or knowledge based policy development refers to an approach that leverages the best available objective evidence from research to identify and understand issues so that"*

policies can be crafted by decision makers that will **deliver desired outcomes effectively**, with **minimal margin of error and reduced risk of unintended consequences**

According to Jordan Max “This stems from **sound, rigorous, comprehensive and unbiased policy research**, which improves policy development in many ways, including by:

- Reducing uncertainty;
- Increasing logical clarity and consistency;
- providing new perspectives and understandings of policy issues;
- Providing increased accountability to the public ;
- **providing reliable facts and knowledge**; and
- Improving the **quality, inclusiveness and constructiveness** of public policy debate.

This major goal of evidence based policy development is **to ensure that the experience, expertise and judgement of decision makers are supported** and resources with the best available objective evidence and systematic research. Policy research is not expected to produce solutions or decisions. **It is meant to provide accurate, reliable and credible information, knowledge and analysis to inform public policy**. The knowledge base it provides an important ingredient for the policy development process to reduce risk and improve outcomes, but it is not a substitute for the process.”

.....

In **2010**, the Ontario government introduced a regulatory policy, including the following general principles of good regulatory governance:

- Regulations respond to a clearly identified need for regulation;
- Regulations be developed and implemented in a transparent manner;
- Regulations are designed to be least trade restrictive;
- Regulations are based on an assessed risks, costs and benefits and minimize impacts on fair competitive and innovative market economy; Differences and duplication of regulations is minimized, where appropriate;
- Regulations must be **results-based**, where appropriate and to the extent practical;
- Regulations are timely and reviewed on a routine basis and are not maintained if the need giving rise to their adoption no longer exists;
- Regulations are made easily accessible and written in language that can be easily understood by the public and business; and
- Regulations are introduced in a predictable manner (e.g. January 1 or July 1).

As well all new regulations (as of January 1, 2014) are to be subject to a mandatory review within 10 years. Ministries are required to post final regulations that have an impact on business on the Regulatory Registry for public comment for 45 days”

(Quote from Engineering Dimensions March-April Issue, 2015 pgs 17-19)

This report is intended to assist NNR, MMDN, MOL “**to provide accurate, reliable and credible information, knowledge and analysis to inform public policy**”. In this regard this report deals with:

- Preserving the OLS survey fabric in Ontario cohesive policy, legislation and enforcement by MNR, MNDM, with emphasis on protection of OLS corner monuments and the OLS Survey Line markers, commonly three sided blazed trees
- Demonstrating the need for accurate UTM locations of survey fabric in Ontario commensurate with the sub 5 meter accuracy MNDM requires of prospectors

- The need to define and protect Geotechnical Survey Lines
- The need for foresters to preserve the Occupational Health and Safety Standards previously existing in the work place of others
- The need of foresters maintain Occupational Health and Safety Standards commensurate for public entry onto crown lands in a judicious time frame when the trees are transported from the cut.

A key threshold date for MNM to have completed policy development “Evidence-based or evidence-informed or knowledge based policy development regarding the urgent and crucial necessity of accurate and precise UTM locations of the staking claims fabric, and the Ontario Land Survey fabric of Mining Leases, Mining Patents, private lands and other encumbrances was November 1, 2012,. This is the date MNM legislated sub five meter accuracy as the standard for the prospecting and mining community.

The cost of not dealing with UTM errors will be; Many of the 20,000-30,000 Fractional Claims issued on the conversion date will be claims issued for cells with no open ground. In other words this title will be owned by two owners. This author does not know the full legal consequence of double ownership and MNM’s liability to the owner and the apparent owner. A potential mine development could be delayed for years, if developed at all.

This author strongly recommends MNM immediately implement an aggressive program to encourage all stakeholders to report accurate UTM coordinates as assessment credits for all Legacy Claims, and encumbrances defined by OLS surveys; which include Mining Leases, Mining Patents and private lands. This author recommends these assessment costs reflect the actual cost of identifying these Legacy and these OLS survey fabrics. This author recommends these assessment credit costs be retroactive to the **November 1, 2012**. This is the date the **Mining Act Modernization legislation** was implemented in which **MNM set sub five meter accuracy and precision as the standard MNM required to effectively convert Legacy Claims to cell claims**. It is suggested MNM sweeten the pot and offer 2 or 3 times the actual cost for UTM identification of Legacy claim OLS survey fabric identification and this be retroactive to November 1, 2012.

MNM could train and employ disadvantaged claim stakers to identify and report the ground evidence of OLS survey fabric including OLS monuments and the sided OLS Survey Trees marking the OLS Survey Lines before this evidence is permanently lost.

## 11.6 OLS SURVEY CLOSURE ERROR CALCULATIONS AND CHART

OLS survey plans and notes were systematically reviewed by this author. The original chainage measurements were converted from chains to meters and the line directions were originally reported at bearings reported as degrees and minutes were converted to decimal degrees azimuth. The closure errors of each survey were calculated. The closure error calculations were verified by hand drafted plans plotted capable of determining closure errors to 0.5 accuracy.

**Thirty nine OLS surveys average 8.339 meters closure error.** Closure error is the vector sum of all the survey errors. For example a 20.0 m north error and a 12.0 meter south error has a closure error of 8.0 meters and a total survey error of 32.0 meters.

### Legend for Chart Below

N= Nicol Tp, H = Haultain Tp, #1-#36 = Castle Silver Mines Inc.

Numbers 1-36 generally N to S strips starting at the west edge of the property

Filed in: Surveys Land/Closure Errors/Closure Error Compilation

File Name: Closure Error Compilation 2015-07 MNDM.xls

Average Closure Error of 39 Surveys 8.339 meters

Tp		Survey Plan #	CS Legal Identifier	Meters		Delta	Meters
				Delta East	North		Horizontal Error
H	1	LM109 MR1121	LM109	1.736	2.035		<b>2.675</b>
H	2	RSC104 MR1120	RSC104	1.490	-15.889		<b>15.959</b>
H	3	LM110 MR1119	LM110	-2.111	0.083		<b>2.112</b>
H	4	LM105 MR1060	GG6196	-1.631	-2.541		<b>3.019</b>
H	5	LM106 MR1117	MR1117	2.564	0.547		<b>2.621</b>
H	6	RSC102 MR1055	MR1055	9.479	11.409		<b>14.833</b>
H	7	LM107 MR1058	LM107	-2.168	2.174		<b>3.070</b>
H	8	RSC101	RSC101	-4.507	21.718		<b>22.181</b>
H	9	LM108 MR1059	LM108	-0.173	-0.059		<b>0.183</b>
H	10	RSC100 MR1057	RSC100	5.981	6.998		<b>9.206</b>
H	11	RSC99 MR1122		-1.857	3.117		<b>3.628</b>

H	12	HS365 MR1105	HS365	-5.865	-7.404	<b>9.446</b>
H	13	HS352aa MR1085	HS352aa	-1.063	4.423	<b>4.549</b>
H	14	HS350 MR1152	HS350	3.847	0.471	<b>3.875</b>
H	15	HS353 MR1158	HS353	-8.039	1.232	<b>8.133</b>
H	16	HS354 MR1158	HS354	-2.077	-57.293	<b>57.330</b>
H	17	HS355 MR1159	HS355	-14.919	6.275	<b>16.185</b>
N	18	LM111 MR1054	LM111	0.899	-0.627	<b>1.096</b>
H	23	HS364 MR1161	HS364	14.169	2.760	<b>14.435</b>
H	24	HS357 MR1164	HS357	0.037	-1.818	<b>1.818</b>
H	25	HS356 MR1444	HS356	8.765	-0.485	<b>8.778</b>
N-H	27	HS359	HS359	-1.473	18.299	<b>18.358</b>
N	28	HS360 No1170	HS360	-6.936	-4.857	<b>8.467</b>
N	29	RSC105 MR1052	RSC105	-0.610	2.315	<b>2.394</b>
N	30	GG3879 (GG3875?)	GG3879 (GG3875?)	-0.968	-0.335	<b>1.024</b>

N	33	HS362 Land Only	HS362	-7.966	7.436	<b>10.897</b>
N	34	HS361 MR1173	HS361	1.301	-2.029	<b>2.410</b>
N	35	HS363 MR1171	HS363	3.886	2.998	<b>4.908</b>
N	36	TC458 MR1177	GG3652	0.615	-0.641	<b>0.889</b>
Neighboring Property Surveys Plans Used to locate Castle Silver monuments						
N	37	AK18 MR960		13.504	3.934	<b>14.066</b>
H	38	GG4910 Tp. Line		-0.289	1.429	<b>1.458</b>
N	39	GG5111 Tp Line		0.134	-0.021	<b>0.135</b>
N	40	HS328 (1208)		-7.727	14.842	<b>16.733</b>
H	41	HS351 MR1359		-5.500	-0.563	<b>5.529</b>
H	42	RSC103 MR1118		-0.754	0.204	<b>0.781</b>
N	43	RSC136 MR1503		-4.637	5.485	<b>7.183</b>
N	44	RSC92 MR 652		11.473	12.331	<b>16.843</b>
N	45	RSC98 MR1250		-0.883	7.182	<b>7.236</b>



H	<sup>46</sup>	TC147 MR19148	TC147	-0.112	-0.762	<b>0.770</b>
<b>Total Closure Errors of 39 Surveys</b>						<b>325.212</b>
<b>Average Closure error of 39 surveys</b>						<b>8.339</b>
Above Chart cut and pasted from file "Closure Error Compilation 2015-07 MNDM.xls" An advance copy of this file was forwarded to MNDM to help appraise the severity of the OLS problems in the MNDM data set.						

The OLS surveys were each plotted on individual 8½x11 inch paper. Eight 11x17 inch composite survey plans were also plotted. The metric length and (decimal) degree azimuth of every survey line was recorded along each survey line. The meters of closure error of every OLS survey was recorded on these maps. The N-S error, E-W error and total closure error format was used. **A special plotting process was developed to plot the surveys exactly as the notes and plans read. This specialized plotting format accounted for the large survey errors graphically and accurately, while preserving the precise relationship intuitively obvious.** These plotted closure errors were plotted to the 0.5 meter precision.

These eight compilation plots in conjunction with field evidence plots were used to develop a progressive over-size Mylar plan plotting the best guess UTM location of the OLS survey fabric similar to MNDM CLAIMap best guess location of this same OLS Survey Fabric. This map is being corrected as new evidence is identified.

Without the eight accurate, composite survey plots graphically showing the closure errors, the survey line lengths and azimuths as scaled and written format, it is doubtful the monument search would have been successful. These survey plans are included in the appendices and tabulated below:

Block	Maps: File Names
1-A	Castle Silver OLS Plots LM109 RSC102 West Outlier.pdf
1-B	Castle Silver OLS Plots LM105 HS350 Everett Lake SW .pdf
1 –C	Castle Silver OLS Plots HS365 HS531 Capitol N.pdf
1 –D	Castle Silver OLS Plots HS352 HS357 Babs Lake West.pdf
2-C	Castle Silver OLS Plots HS351 HS359 Miller Lake NE .pdf
3-B	Castle Silver OLS Plots LM111 RSC105 Miller Lake SW.pdf
3-C	Castle Silver OLS Plots HS360 TC458 Miller Lake SE.pdf
3-D	Castle Silver OLS Plots HS359 HS360 Extreme SE.pdf

The composite survey plans were organized into a W to E and N to S configuration as shown in the chart below:

1-A WO	1-B ELSW	1-C Capitol N	1-D BL W
		2-C ML NE	
	3-B ML SW	3-C ML SE	3-D Ex SE

The total closure error is the sum of the positive survey errors cancelled by the negative errors. For example a 20 m north error and a 12 meter south error has a closure error of 8 meter north error. This closure error is in in the context of a 28 total survey error. The only way to know the true survey error is to find the monuments. The consistent large survey errors made it difficult to locate survey monuments, particular where there we few or no surveyor trees marking the survey lines. These large total errors and closure errors explain why MNDM map Technicians were unable to determine reasonable lease locations and boundaries of Legacy Claims and claims staked after November 1, 2012. MNDM cannot give assurance to future on line map stakers that there is open ground in many of the 20,000 to 30,000 “**Boundary Claims**” and “**Encumbered Claims**” MNDM will issue. There is no way MNDM or claim holders can be certain if many the fractional cell claim issued exist. This uncertainty will leave MNDM and claim holders legally vulnerable.

Also ground open to staking will appear as not open in the proposed MNDM cell fabric. It will be very difficult to impossible to claim these open lands. As a currently existing, parallel example: At this time; MNDM is unable or unwilling to correct known CLAIMap errors that show contiguous Legacy Claims at four-way OLS survey fabric as separated and ineligible for flowing assessment credits from claim to claim.

## 11.7 SURVEY FABRIC DIVIDED IN EAST AND WEST SECTORS

The survey fabric of the Castle Silver property was found be divided into two sectors that were in disagreement along their common boundaries. Based on OLS plans and notes it appears these disagreements cannot be resolved without discrimination and deviation.

### 11.7.1 OLS West Part

The west part consists of leases (1)LM109, (2) RSC194 , (3) LM110, **(4) LM105 [GG6196]**, (5) MR1117, (6) RSC102 [MR1055], (7) LM107, (8) RSC101, **(9) LM108**, **(10) RSC100**, and **(11) RSC99**. It appears internal survey errors can be resolved without discrimination. Much of the perimeter with adjoining properties is recognisable because original OLS monumentation has been identified. Much if not all the common lines with Temex was previously identified by Ben Larose. Ben Larose also identified these monuments for Castle Silver. However significant monuments have not been identified; particularly at the location where Transition Metals locally ore grade Au zone crosses onto Castle Silver’s leases.

Field evidence indicates Transition Metals tried to locate the lease monuments of LM110 to determine the OLS Lines where their ore grade Au zone crosses onto Castle Silver property. Their work appears to be in disagreement with Castle Silver projection of that line. The projected location of the SW corner of LM110 is a boulder field of strongly magnetic rocks rendering the bar finder of little value. This author was also

unable to locate this key monumentation. He is unable to offer a verifiable opinion: except to state the field evidence of Transition Metal apparent boundary search does not agree with the projection by Castle Silver's field search.

**11.7.2 OLS East Part**

The east part consists of leases **(12) HS365, (13) HS352, (14) HS350**, (15) HS353, (16) HS354, (17) HS355, (18) LM111, (19) HS366, (20) HS367, (21) HS368, (22) HS369, (23) HS364, (24) HS357, (25) HS356, (26) HS358, (27) HS359, (28) HS360, (29) RSC105, (30) GG3879, (31) LO1379, (32) LO657, (33) HS362, (34) HS361, (35) HS363 and (36) GG3652 [TC458]. It appears internal survey errors can be resolved without discrimination. Much of the perimeter with adjoining properties is recognisable because original OLS monumentation has been identified. Much, unsuccessful effort was placed on identifying the other key OLS monuments that were not identified.

The common survey line segments separating western leases western leases **(9) LM108, (10) RSC100**, and **(11) RSC99** from the eastern leases **(12) HS365, (13) HS352, (14) HS350**, appear to have severe measurement errors. The errors are tabulated in the chart below.

	West Reference	Horizontal Measurement	Distance to Reference	Cumulative Error	Distance to Reference	Horizontal Measurement	East Reference
	M	M	M	M	M	M	
a	along LOM105 @ HS365#4	0.000	0.000	0.00	0.000	0.000	HS365#4
b	LM108#1 along HS365	9.053	9.053				
c	LM108#2 along HS365	398.514	407.567	-18.91	388.657	388.657	along HS365 @ LM108 #2
d					500.708	112.051	HS365 #3 along RSC100
e	RSC100#2 along HS352	403.543	811.110	-39.23	771.882	271.174	along HS352 @ RSC100#2

f					881.519	109.637	HS352#3 along RSC99
g	RSC99#2 @ HS350#3	519.215	1330.325	-37.42	1292.908	411.389	HS350 #3 @ RSC99
h					1814.134	521.226	HS351 #3 & RSC92#4 along RSC84
j	RSC87#2 @ along RSC92	517.806	1848.131	-2.82	1845.315	31.181	Along RSC92 @ RSC87#2
This author had issues reading the RSC92 measurement. The number may not be accurate							

Chart Above: The chart above tabulates the apparent cumulative difference of total length errors. These errors range from **0.00m** (at the north reference point), to a maximum of **-39.23m** (at RSC99 #2) and back to **-2.82m** (in the south). The absolute value of the cumulative errors are at least  $39.23m + 36.41m = 75.64$  meters over 1.845 km which is at least a 4.1% error. You can place an entire 4,000,000 oz silver deposit in that error.

**The Cumulative Survey Error of a lease is the sum of the absolute values of all survey errors.**

The closure error of the claims documented in the chart above are representative closure errors in the rest of Haultain and Nicol Townships. It is reasonable to assume the Cumulative Survey Errors reported in the chart above are typical of the rest of the claims in Haultain and Nicol Townships.

The closure errors of these claims are normal in Nicol and Haultain townships. No better, no worse than the many other claims this author is dealing with in this report. The various surveyors were contemporary with and did remeasure other surveyors' survey lines when all the survey lines were fresh. It appears safe to say survey problems in these lines are typical of the other OLS surveys where duplicate (verifying) evidence is lacking.

Where adjacent OLS survey plans report exact same line measurements, is proof of a single measurement determination. The HSxxx claims abut with HSxxx claims the same line measurement for both claims. Likewise; RSCxxx surveys record the same line measurements for boundaries between contiguous claims. This is proof the HSxxx group and RSCxxx groups were essentially performed as two surveys.

Of the ten OLS survey monuments dealt with in the chart, only three have been identified and two of these are not along Castle Silver's property lines. This author has spent much effort trying to locate the other seven OLS corner monuments. This is a significant issue; because **Legacy Claim 4208019 severely over-stakes the Castle Silver leases** at this location. How will MMND deal with **issuing cell claims over the top of Castle Silver property**, particularly when the key OLS corner monument appears to have been destroyed by the forestry access road?

Critical surrounding corner monuments once or twice removed cannot be identified and may have been destroyed or are unidentifiable due to survey errors in intense boulder fields of strongly magnetic rocks. **OLS trees that once marked the critical OLS lines have been destroyed.**

Internally these surveyor errors can be resolved without prejudice if a surveyor re-assigning a best estimate/guess of the original OLS monument locations. The Surveyor General's office acknowledges that OLS surveyors establishing new monuments over flawed surveys are unlikely to plant the new monument at the original monument locations. Establishing OLS boundary monuments, would probably result in prejudice to at least one owner. The apparent survey errors documented above appear to be pervasive throughout Nicol and Haultain Townships and in other old mining camps.

## 11.8 GRID REHABILITATION OLS PRESERVATION SUMMARY

In this report, the term "foresters or forestry people" refers to First Resources Management Group (FRMG) and Georgia Pacific (GP) and Timiskaming Forest Alliance (TFA) and William Lafrance Logging (WLL) and their employees/executives. Georgia Pacific is named as the shareholder on FRMG-MNR's document "**Timiskaming Forest – S.F.L. #542247**". The foresters' field people encountered in the field and on property visits reported to Georgia Pacific. These forestry people consistently asked that any issue they did not address be addressed to Georgia Pacific. The author's communications were commonly addressed primarily to Georgia Pacific, unless there was a reason otherwise.

Commonly the Foresters appeared to respond collectively and their responses were virtually identical to each other. As a past CRA agent, I question any perceived or claimed arms-length relationships among the foresters. The government has good reason to put much weight to the term "Arm's Length".

Throughout the discussion process forestry proponents: First Resources Management Group (FRMG) and Georgia Pacific made it very clear their **only obligation** was to preserve:

- Geotechnical Survey Line pickets (and only the pickets)
- Only those OLS corner monuments Castle Silver identified by UTM coordinates and flagged to the foresters' expectations.
- Any claim posts or OLS corner monument observed by the equipment operator while harvesting
- Late in the discussion; the foresters agreed under protest to protect OLS Survey trees (survey line markers) as required in MNR's "**Forest Management Directives and Procedure**" "**FOR.05.03.17.pdf**".

*"The licensee shall ensure that all **blazed claim lines, survey lines, corner posts, trenches and other grid markers** cut or otherwise established by markers, .... Are not damaged or altered by operations controlled by the licensee."* (Quote from FOR.05.03.17.pdf).

A major problem appears to be the foresters' interpretation of "Forest Management Directives and Procedure" "FOR.05.03.17.pdf". It appears the foresters interpret this document outside the apparent intent of legislation. OLS Survey Lines are the highest priority lines. The legal significance of OLS Survey Line far exceeds the legal

significance of Geotechnical Survey Lines or any other line. The three sided-blazed OLS trees are the highest level of Blazed Survey Markers referenced in MNR's document "Forest Management Directives and Procedure".

Much discussion revolved around the definition of survey lines, and other grid markers.

The foresters defined Geotechnical Survey Lines as the pickets and only the pickets. On this apparent assumption; the foresters perceived their only obligation was to protect pickets to assure the original picket location. The bottom half of a down picket was acceptable rehabilitation. With the exception of the south end of Grid A's base line, the foresters made no attempt to assure any semblance of a picket existed at the original picket locations.

**Castle Silver had four geotechnical survey grids:**

**Geotechnical Grid A** established in 2011 for IP Geotechnical Survey and diamond drilling

**Geotechnical Grid B** established in 2011 for IP Geotechnical Survey and diamond drilling

**Geotechnical Grid C** established in 2012 for 2013 Geotechnical Surveys

**Geotechnical Grid D** established in 2012 for 2-13 Geotechnical Surveys

The grids overlapped and were engineered at four different and deliberate orientations. The four overlapping geotechnical grids were/are at obscure orientations which caused serious confusion for foresters who were/are not accustomed to complex grid configurations. Only GP's contract/consultant mining and forestry consultant Kevin Demarell was able to cope with this issue. Castle Silver had sympathy for the foresters' confusion and inability to deal with this unusual, engineered geotechnical survey grid configuration.

The foresters' confusion and frustration with the proliferation of various overlapping grids does not alter their legal obligation to restore all the grids as required by MNR's "Forest Management Directives and Procedure" "FOR.05.03.17.pdf" and the Mining Act.

Castle Silver proposed and strongly recommended a viable solution to the foresters' dilemma. Castle Silver **recommended the foresters ignore the grid during forestry operations and perform an efficient, clean, unencumbered clear cut and establish replacement 2x2 commercial pickets in the original picket locations and provide unobstructed passage along the Geotechnical Survey Lines.** The estimated cost to Georgia Pacific to rehabbing the grid and the grid pickets would have been approximately \$10,000. Kevin Demarell, Georgia Pacific's mining and forestry consultant is extremely capable and able to perform the picket replacement and Glenn McBride is a very capable of re-establishing grid lines after picket replacement.

Mr. Demarell identified to sub meter accuracy, the location of every picket in cut N132. The forester made a business decision to operate between the lines leaving the pickets in place. This was done in in spite of Castle Silver repeated warnings that this was a poor decision.

The equipment operating between the lines; pushed trees away from that equipment causing these trees to lean towards the pickets and towards the Geotechnical Survey Lines. The equipment also compromised the roots of trees. The inevitable result of preserving the pickets resulted in a proliferation of wood waste concentrated on the lines and many trees downed by snow that preferentially fell across the line (during November and December of 2013). The similar age, clean, clear cuts along the highway west of Elk Lake were little impacted by these same snowfalls.

It appears the foresters probably spent more than \$10,000 extra by avoiding the pickets. By avoiding the pickets; much excessive, forestry waste and trees downed by snow obstructed the lines relative to clean clear-cuts in the region (particularly along the highways).

If the Geotechnical Survey Lines of Grid A, Grid C and Grid D had been cleanly clear cut ignoring the pickets; the wood waste hazards and obstructions between replacement pickets would have been greatly reduced. Also the remaining trees would not have been compromised and would have stood vertically even after the winter snow load. Also access between the lines would have been improved.

Most of Geotechnical Survey Grid A was clear cut ignoring the pickets. In a short day; Georgia Pacific's consultant, Mr. Demarell rehabilitated approximately 2.0 km of this line with 2x2 inch commercial pickets properly tagged with aluminum tags inscribed with the grid coordinates. This work costed \$445.15 (taxes and travel costs included). 8.6 km of grid lines were impacted by cut N132. The other 6.6 km of grid pickets were established by the author and Betty Robinson.

Castle Silver; not Georgia Pacific, re-established permanent 2x2 pickets and certified the pickets on the Geotechnical Survey Grid A (north part), Grid B, Grid C and Grid D. Castle Silver exempted the foresters of their obligation to protect most of the Geotechnical Survey Line B. Castle Silver also exempted the foresters of their obligation to protect the cross lines of Grid A and the cross lines of Grid B.

From the beginning; the forestry proponents: First Resources Management Group and Georgia Pacific made it clear the foresters would leave slash piles on the Geotechnical Survey Lines and Castle Silver had no grounds to complain. These lines were clearly double flagged and clearly visible during forestry operations. The foresters' stand was: Castle Silver geotechnical survey people should walk around the slash piles and through and over the indiscriminate slash left between the slash piles. These foresters also felt Castle Silver works should walk over, under, through or around the forestry waste obstructions and wood waste hazards on the Geotechnical Survey Lines and the forestry waste and compromised trees between the lines while carrying heavy gear and dragging length dedicated, geotechnical cables.

To walk around forestry wood waste means: a dedicated 100 meter geotechnical (conductor) cable may have to be stretched up to 150 meter to span a 100 m picket interval. The \$600, 100 meter, Teflon coated, dedicated cable the author purchased (circa 1980) had approximately 2-3 extra meters built in to accommodate normal typography. Under the foresters' terms for grid rehabilitation; it would be physically impossible to conduct a MaxMin Geotechnical Survey on the proposed rehabilitated Geotechnical Survey Line. It still remain impossible to conduct a Survey on the grids.

Castle Silver expected and requested the Geotechnical Survey Lines to be returned to the original safe condition (**Occupational Health and Safety Standards**) that existed in May of 2013. To this date in August 2015 the lines have deep slash, hazardous forestry waste and trees downed by snow (fallen frees trees left leaning and otherwise compromised by forestry operations before the snowfall) obstructing the lines.

Geotechnical Survey Grid C and Grid D were new grids cut for the 2013 field season and had not yet been used. The grids were safe, easily traversable and easily identifiable Geotechnical Survey Lines with clear line of sight and clean lines of travel between easily identifiable pickets. This author, Betty Robinson and Don Freeman had traversed every meter of the grid removing all the short rollers (cut at both ends) and lifters (branches that tangle the legs) from the lines. Every picket coordinate was certified correct with pencil inscription on both sides and aluminum coordinate tags on the even numbered pickets.

This author performs continuous magnetic geotechnical surveys conducted at a constant two km/hr walking speed. This constant 2 km/hr speed procedure generates one magnetic reading every two meters, which gives the optimized noise to density level. If the walking speed changes between the pickets the data is contaminated. A clean unobstructed line of travel is absolutely necessary for clean data. In a normal 1000m line, the operator

anticipates a slowing for a few 25 meter intervals. These changes of pace are required for difficult terrain: including wet depressions, difficult slopes, slippery outcrops (i.e. the white killer moss/lichen on rock) or other natural obstructions. This operator anticipates these situations and slows the walking speed to assure clean data.

**Geotechnical Surveying is like driving a car in fast rush hour traffic**, safe under controlled conditions, dangerous among hazards. During this survey, it is imperative to see the next picket. The operator is continuously planning 25 to 50 meters ahead to maintain a constant speed and to avoid problems. During the survey the operator cannot stop to read a picket without interrupting the string of readings. To deal with this: the author labels picket using coarse graphite pencil inscriptions with the last two digits enlarged (00, 25, 50, 75, 00 on both side of the picket). The pickets must be clearly legible at two km/hr. The pickets ending in "00" or "50" are repeat labeled with inscribed aluminum tags. The aluminum tags are visible from 15-20 meters and the operator has reasonable assurance of the picket coordinate before arriving at the tagged or untagged picket. With aluminum tags on alternate pickets and pencil inscriptions ending in large 00, 25, 50, 75 or 00 numeral, the operator has independent verifications of his grid position at all times, even midway between pickets. While walking, the operator:

- Monitors the locations the instrument is recording
- Anticipates the upcoming picket location and
- Verifies that picket location when passing the picket.

This takes much concentration to safely walk along well maintained Geotechnical Survey Lines. The operator has little available capacity to safely deal with a proliferation of dangerous forestry wood waste while focused on the survey. **Asking geophysical surveyors to operate within forestry waste strewn line of travel is like asking a forest harvester to operate within an array of live electrical power transition lines.** Even dead power lines appear to be a serious hazard for operators.

If the traverse data is contaminated by jarring the instrument, falling, having a sudden change of pace, stopping or other problem, the operator backtracks 50 meters and repeats the previous 50 meters to generate clean data. The data processor then has to view and certify the data and remove the contaminated data. The extra 25 meters of readings (equivalent to duplicate finger prints) is used to verify legitimate data of the entire 50 meter interval.

If the instrument is jarred, banged or jerked during the traverse or hits a branch as small as 2mm, the data is contaminated. Common causes of jars, bangs and jerks include **lifters** (loose branches/twigs the trailing foot lifts into the back of the leading knee) and **rollers** (12-18 inch long sawn logs sections left on the travel path) and **slippery rocks** and **wood**.

Almost every loose branch lifters and short sawn logs (18-24 inch rollers) that cutters commonly leave on the line were moved from **all** the Geotechnical Survey Lines. The grids were certified safe and ready for geotechnical surveys.

The problems of dealing with wood waste in MaxMin EM and magnetic surveys is small in comparison to the problems IP crews would encounter. It is much more difficult to deal with kilometers of multi strand electrical cable in combination with multiple electrodes. The wood waste of Cut N132 would certainly break or otherwise damage the IP conductor cable resulting in approximately \$10,000 a day for down time and the cost of the repair and/or replacement of damaged and broken equipment.



The cost effective way for the foresters to have dealt with cut N132 would have been to perform the recommended clean clear cut ignoring the pickets and planting 2x2 commercial pickets at the original picket locations and cleaning out the line of travel along the Geotechnical Survey Lines.

The remainder of this document expands, explains and documents the issues and events in greater detail.

The Foresters and Castle Silver have consistently held divergent and incompatible positions regarding the meaning of Grid Definition of grid and the meaning of grid rehabilitation. The bottom line of these positions are tabulated below

<u>Position</u>	<u>Position</u>
Castle Silver	First Resources Management Group & Georgia Pacific (the foresters)
A Geotechnical Survey Line consists of lines used to <b>access</b> a property systematically, effectively and safely.	Appears to be: A Geotechnical Survey Line is only an <b>array of pickets</b> at specific and regular locations that mark reference coordinates. Restoring pickets at their original position is the foresters' only obligation in grid restoration.
Safe access along Geotechnical Survey Line is a necessity and <b>it is the obligation of the foresters to restore Castle Silver workplace to Occupational Health and Safety Standards.</b>	Appears to be: Safety is not a forestry concern and rehabilitating Geotechnical Survey Line. The Ministry of Labour supports this opinion: stating it is Castle Silver's obligation; not the foresters' obligation, to restore the workplace to Occupational Health and Safety Standards.
The ability to easily <b>walk Geotechnical Survey Lines on the ground</b> is an absolute necessity.	Appears to be: The grid user has no right to walk on the ground along the Geotechnical Survey Line. The grid user must walk <b>over, under, through or around the forestry waste</b> left on the lines or move that wood waste.
Castle Silver requires full access to the ground to conduct geotechnical investigations such as outcrop mapping and sampling, and digging holes for geochemical sampling and using length specific geophysical equipment/ electrical cables and electrodes (except for natural hindrances or barriers such as cliffs or lakes).	Appears to be: Castle Silver does not have the right to expect access to the ground to conduct geotechnical investigations such as outcrop mapping and sampling, and digging holes for geochemical sampling and using length specific geophysical equipment/ electrical cables and electrodes. It is Castle Silver responsibility to move the slash to conduct geological, geochemical and geophysical investigations.
The pushed down trees, snow downed trees, slash crossing the lines are an act of the foresters, not an Act of God. The Act of God is the juxtaposition of 8 planned, closely sequenced clear-cut on Castle Silver property at the moment MNM was formulating plans to enact Forced Conversion of Legacy claims to cell claims.	Appears to be: The Georgia Pacific Foreman stated the proliferation of pushed down trees, snow downed trees, slash are natural processes; (which in essence is an <b>Act of God</b> ).

## 11.9 OCTOBER 10-11, 2013 INSPECTION REPORT – GRIDS – OLS LINES & MONUMENTS

The following quote is an inspection report recording the findings of an inspection the author performed on October 10 and 11, 2013.

### 11.9.1 Email October 16, 2013 to MNR, MNDR, GP Re: October 10-11 Inspection Report

#### *“October 10-11, 2013 Doug Robinson Inspection Report of Cut 132*

*Georgia Pacific has completed the cutting of the northern part of the Castle Silver Mines property located in Haultain and Nicol townships, north-east of Gowganda, Ontario. This is the part of the property covered by Grid A, Grid B, Grid C and Grid D. Much off the timber has been trucked off the property but timber remains along the roads awaiting pickup. The slash remains at the road side and remains to be gathered and dealt with by burning, chipping or energy cogeneration.*

*Based on this inspection: Castle Silver will be satisfied with Cut 132 when:*

- *the grids are re-established in working order and*
- *an agreement is finalized to share the cost of assisting the forestry proponent to comply with provincial and federal legislation concerning the protection of survey monumentation.*

*These issues are dealt with in the text of this document.*

*Cut 132 activities appear to be entering a phase in which many claim posts, the surveyor trees and possibly the survey corner monuments within the cut are in grave danger of being destroyed and/or compromised by the clear-cutting activities that appear to be in contravention of Federal and Provincial legislation. **To date Cut 132 has focused on Castle Silver ground where these have been identified and protected.** As of the middle of last week the clear-cutting has progressed to the edge of Castle Silver ground **and is entering neighboring ground where these features may not have not been identified resulting in danger of not going to be protected.** If the forestry proponents immediately place priority on identifying and protecting this fabric, these features can be preserved.*

#### *Estimated 50% of Clear-cut 132 is Well Done*

*An estimated 50% of Clear-cut 132 is well done as pictured in the following two photographs. Some slash shows in the foreground of the photographs but the forestry proponents plan to eliminate this slash material.*

*The two photographs below show part of the well done cutting. The un-harvested trees are vertical in natural grow position and most of the wood waste is flat on the ground .*



*First of Two Photographs of Favorable Clear Cut 132 Areas*



*Second of Two Photographs of Favorable Clear-Cut 132 Areas*

*Grid Re-Habilitation (also dealt with in October 8<sup>th</sup> Inspection Report)*

***“It is good financial planning of Georgia Pacific to cut in their normal procedure and then clean up mineral exploration grids after the cutting is finished”.*** October 8<sup>th</sup>

Inspection Report

*The October 10-11 inspection confirmed the observations of October 8, 2013. That inspection determined the clear-cutting activities rendered the grid unsafe and impassable pending grid cleanup.*

*During this inspection, the author became lost following a grid line he has followed many times without incident. It required about 10 minutes to find and identify the grid. While following this line the author then went down, falling forward due to a forestry floater that rose and lodged between his legs. This floater was a piece of loose clear cutting waste left on the line. Later in the inspection the author again fell down, this time on a roller, consisting of forestry wood waste.*

*It is necessary for the forestry proponents to render the grids safe and passable before mid to late November. At that time snow can cover the ground rendering hazards more difficult to identify and hazardous to cut. To safely cut ground level obstacles, the worker requires a clear view of the ground.*

*Two men with a chain saw and a pulp hook can do this quickly. We recommend Glenn McBride as we have confidence in his work and his crew meets our desire to consider First Nations Rights.*

#### *Definition the Essence of Grids and Grid Re-Habilitation*

***Preservation of a grid is much more than preserving a set of pickets.*** *Grid pickets are not the grid, they are positional markers within the grid. A grid is a set of easily identifiable lines in the forest marking position in the forest and giving access to the same forest.*

*Grid lines intended for long term use depend on the line defined by cut off stumps and an identifiable linear path of preferred travel (line of least resistance). In standing forest, pickets are easily identified because the line is easily identified and the workers attention is focused on identifying pickets at a regular defined interval.*

*In regenerated clear-cuts, the evidence of the grid lines is gone and pickets become lost in the dense growth. Picket identification is complicated by the abundant forestry refuse wood (that has the appearance of pickets). Cleaning the lines of clear-cutting waste and hazards will re-establish the identity of the line.*

*To help remedy this hardship of identifying lines; replacement of natural round pickets by 2x2 inch commercial pickets is required. Castle Silver is in the process of replacing the existing pickets with commercial pickets that will be identifiable in the thick growth of regeneration. Castle silver is willing to bear this cost which is comparable to the Forestry Proponent's cost of cleaning the lines of their wood waste. Castle Silver will have to re-cut the lines in about two-three years and again in about eight to ten years time, to remove **pervasive, fast growing regeneration.***

*Pervasive, fast growing regeneration is generally absent when lines leave the forest canopy. This cost is a burden to be absorbed by Castle Silver.*

*The Agnico grid lines of circa 1980 were still followable at the time of the clear-cutting.*

*The following is the list of lines the Forestry Proponent needs to rehabilitate.*

A000W	2000 m
C000W	900 m
C195W	600 m
C390W	600 m
C585W	600 m
C780W	800 m
D000N	600 m
D200N	500 m
Total	8600 m

***Castle Silver postponed cutting the 100m spaced in-fill lines to allow Georgia Pacific to complete cutting.*** These infill lines have been recommended by our geophysical contractor, and is also required for our MMI program and other work.

*Protected Surveyor Trees*

*Only the surveyor trees along the east boundary of HS356 and one other isolated surveyor tree were inspected. The tree in the photo below is of the isolated tree identified by Castle Silver and flagged for protection by both Castle Silver and the forestry proponent('s). **All trees examined were appropriately protected by forester.** It is assumed all the surveyor tree identified and catalogued by Castle Silver were similarly protected. The clear-cut near this tree was difficult to traverse safely.*

*The identification and tracking of surveyor trees was instrumental in finding at least half of the survey monuments identified. Without these surveyor trees many of the monuments could not have been found after clear-cutting.*



Photograph of Solitary Protected Surveyor Tree with 3-Sided Blaze Neighbors Claim Posts above

*Inspection of three claim posts on neighboring properties was attempted. The first post examined was a stump post that was protected. The location of the second was not accessible. It is difficult to perceive how a post could have survived the forestry operations at that location. The third post; a stump post, was found, served by the forester, and left face down on the ground. That post is shown in the following three photographs. The first photograph shows the post about a month before it was severed and the second and third photographs show the post shortly after it was compromised.*

*The potential damage to neighbors claim posts is not a direct issue to Castle Silver. However, it does demonstrate the fate of the property's survey fabric if Castle Silver had not intervened to identify the monuments and surveyor trees.*

*Destruction of and/or damage to neighbors claim posts may be a very serious issue to Ministry of Northern Development and Mines, Ministry of Natural Resources and the Surveyor General. It is recommended senior staff of these three ministries meet to formulate cohesive legislation and policy regarding the survey fabric concerns addressed in this report and the impact of these considerations on the pending implementation to map staking.*



*Stump Post Prior to Harvesting Cut 132 (Picture 1 of 3)*



*Same Stump Post After Harvesting Cut 132 (picture 2 of 3)*



Same Stump Post After Harvesting Cut 132 (picture 3 of 3)  
Typical Monument SIB Sensitivity

*The following photograph shows Typical Sensitive Survey Monuments. Most corner monuments appear to be approximately 18 inch square iron bars (SIB). Of the many SIB identified by the author during the 2013 field season, one was an in place, loose bar. It was examined and found to be approximately 18 inches long. The bar was replaced immediately.*

*These survey monuments were planted circa 1908, when all gear was probably transported by canoe from Lake Temiskaming. Of necessity, the monuments were small, light weight iron bars (generally square). The monuments that era were not designed to survive direct hits from heavy equipment and bundles of full size trees dragged through across the ground, often causing deep furrows. This activity even breaks some boulders.*

#### Protection of Claim Posts and Survey Monumentation

*Georgia Pacific and First Resources Management Group are both insistent they have no obligation to protect **survey monuments** and **survey line markers** (dominantly surveyor trees, commonly having 3-Sided Blazes) and **claim posts** (of staked mining lands); unless the property/mining rights holder identifies their UTM coordinates and mark them in the field with flagging.*

*If the property owner does not identify the UTM and flag the corner monuments, surveyor trees or claim posts the forestry proponents make no attempt to protect other than having the operators protecting those corner monuments, surveyor trees*



*or claim posts that are observed while operating their equipment. It appears, that both the cutter and the skidder operator must both independently identify the corner monuments, surveyor trees and claim posts because both operations can easily destroy monument, surveyor trees and claim posts.*

*Castle Silver has stated from the onset of discussions that the proponent (in this case the forestry proponent) working near and over survey monumentation is responsible to make effort to identify and protect this monumentation. This monumentation is protected by the Criminal Code and the Mining Act. Castle Silver recommends Ministry of Natural Resources, Ministry of Northern Development and Mines and the office of the Surveyor General work together to determine the definition of Willful. Castle Silver maintains that to make no attempt to identify known and suspected monumentation and claim posts is a Willful act (of neglect). Cohesion requires that the Ministry of Natural Resources policy must recognize the priority of the Criminal Code and the Mining Act.*

*Castle Silver has noted several times that hunters and fishermen are required to identify the species, and sometimes the gender and sex of their harvest. Ministry of Natural Resources accepts no excuses in this matter. The same standard should apply to the identification of trees the forestry proponent cuts. Surveyor trees are not part of the permitted harvest. The laws of the land are required to be cohesive. Where the law is not cohesive the law defaults to the conservative interpretation.*

*Castle Silver recommends industrial and other proponents (including foresters); performing potentially **invasive operations** near and over survey monumentation be required to file a report of their effort to identify survey monumentation.*

*This report would document UTM coordinates of the findings. Where no monumentation is found the report with identify the search area and method used. This report would be filed with the Surveyor General, Ministry of Northern Development and Mines assessment files (when dealing with mining lands) or another designated publicly assessable location. In the case of mining land, Ministry of Northern Development and Mines would forward the report to the property holder.*



*Additional survey considerations include:*

- *where survey monumentation is lost or destroyed the monumentation of contiguous properties is important to the identification of the location of the compromised monument.*

- *Where Ownership is extinguished, the surveys are not extinguished and are important to the contiguous properties where survey monumentation is lost or destroyed.*

*In other words: Where survey monumentation is lost or destroyed the lines extending out from that monument and the monuments at both ends of those lines are critical and this importance is independent of ownership or extinction of ownership.*

#### *Compensation to Castle Silver*

*In Cut 132 the Forestry Proponents bypassed much of the public consultation process giving Castle Silver three weeks notice (later extended from the early April, 2013 to Sept 8<sup>th</sup>, 2013). Castle Silver had checked the assessable public record in March 2012 and in March of 2013 and was tracking Cut 133 and cut 134 for these two field seasons. **That record made no reference to Cut 132.***

*This very short notice has totally disrupted Castle Silver activities for the 2013 and into the 2014 field seasons. The disruption of the Forestry Proponents activities was the result of neglect by the forestry proponents.*

*From the onset of discussion; Castle Silver has requested the forestry proponents meet their obligations of the Criminal Code and Mining Act and protect the survey fabric monumentation. Castle Silver was then and remains consistent in their offer of cooperation in identifying the monumentation; by absorbing half the cost. The direct contract costs of identifying the monumentation was \$55,250 and field expenses are approximately \$5000. Castle Silver identified approximately 40 survey monuments and numerous claim posts by UTM coordinates and flagged them for protection. **All field evidence to date indicates these features have been appropriately protected by the forestry proponents.***

*First Resources Management Group has stated they have spent much money identifying the UTM field location of the survey monumentation. Castle Silver is willing to share the combined cost proportional to the number of monuments found by the forestry proponents relative to the number of monuments found by Castle Silver. If the forestry proponents found 1/3 of the monuments, Castle Silver would pay 1/3 of the combined cost of identifying the UTM field locations of the monuments. The forestry proponents would then pay 2/3 as their share of the costs.*

#### *MMI Picket Array and Weathered Claim Post Recognition*

*A well flagged array of new commercial pickets were used as reference points for an MMI soil survey. The Forestry Proponent was asked to protect these pickets and was supplied with a UTM reference map showing their location relative to grid B and to Grid C and to UTM coordinates and to the claim fabric. The equipment operators appear to have been unable to recognize this clearly flagged array of new pickets. If these could not be identified how can the forestry proponent expect operators to recognize weathered claim posts or survey monumentation obscured by dense*

*undergrowth. Castle Silver is not seeking compensation for these compromised pickets.*

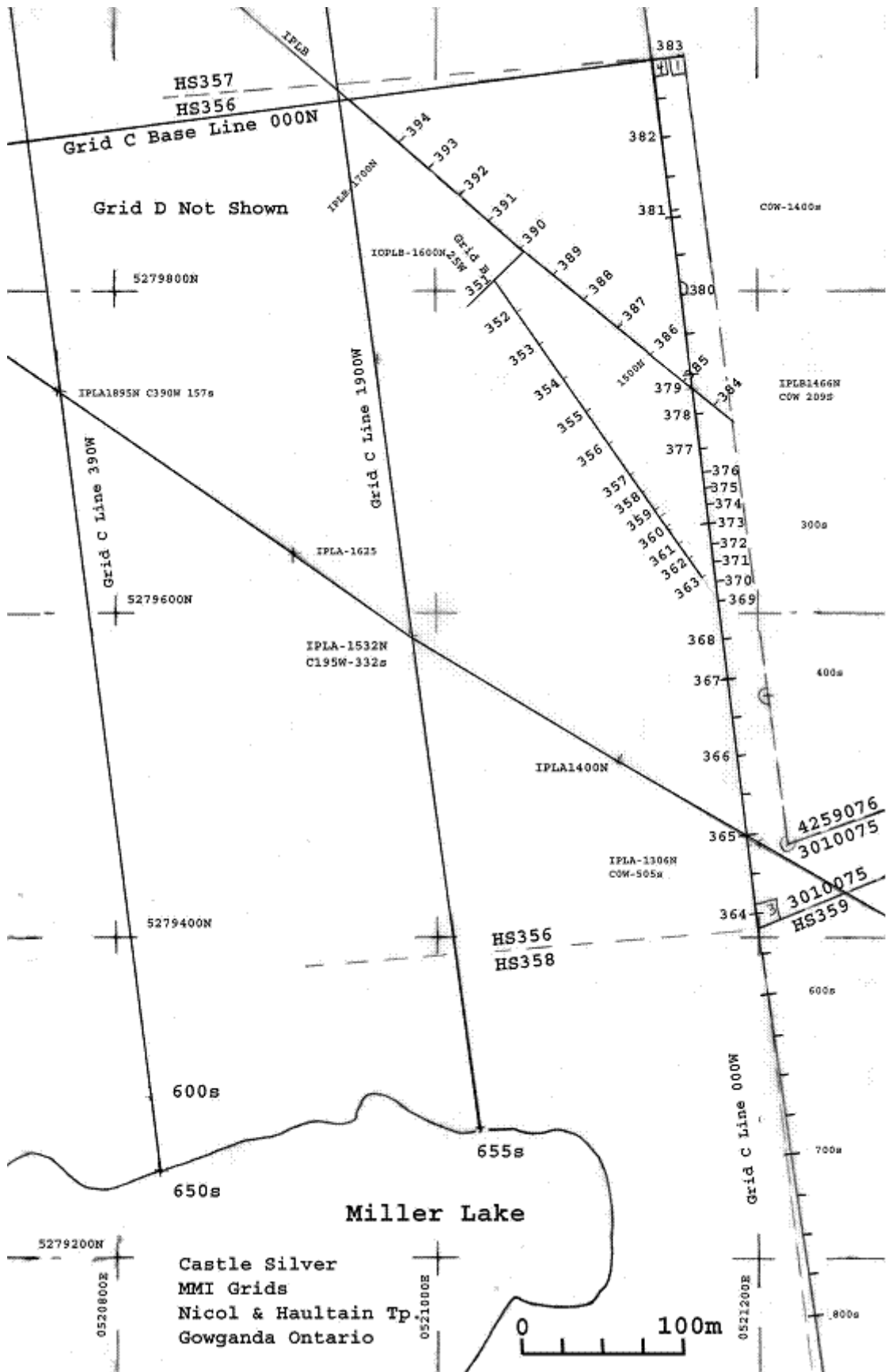
*These pickets are located from reference picket B1600W 025W planted in 2011. The picket array was located from 1375N-1600N*

<i>2x2" Picket 1600N</i>	<i>OK</i>
<i>2x2" Picket 1575N</i>	<i>Down</i>
<i>2x2" Picket 1550N</i>	<i>Down</i>
<i>2x2" Picket 1525N</i>	<i>OK</i>
<i>2x2" Picket 1500N</i>	<i>Obstructed</i>
<i>2x2" Picket 1475N</i>	<i>Missing</i>
<i>2x2" Picket 1450N</i>	<i>Down</i>
<i>2x2" Picket 1438N</i>	<i>Missing <b>This critical picket marks the anomaly location.</b></i>
<i>2x2" Picket 1425N</i>	<i>OK</i>
<i>2x2" Picket 1412N</i>	<i>Leaning severely</i>
<i>2x2" Picket 1400N</i>	<i>Obstructed and leaning</i>
<i>2x2" Picket 1388N</i>	<i>Obstructed</i>
<i>2x2" Picket 1375N</i>	<i>Missing</i>

*Three of 13 pickets are OK, four are compromised six are missing or totally down.*



*Down Picket B25W 1450N from 2013 MMI Survey  
Following Map Sent to Georgia Pacific & First Resources Management Group for  
Protection of Flagged Picket Array B025W (See Photograph Above)*



Slash Removal

*Until August 2013 the forestry proponents had no plans to deal with the slash piles generated by Cut 131, Cut 132, Cut 133, Cut 134 and Cut 135. At this time the forestry proponents have decided to deal with Cut 131 and Cut 135 by burning the slash piles and have posted warning slash pile burning signs. Cut 131 has survey RSC105 survey monumentation. The proponents are responsible to assure survey monumentation is not compromised by the burning.*

*Castle Silver has no survey monumentation that will be affected by burning of Cut 135 slash piles.*

*Castle Silver has no survey monumentation that will be affected by dealing with slash piles. At last comment the forestry proponents were uncertain how they planned to deal with the removal of their forestry slash. Burning, chipping and cogeneration remained options.*

*If the forestry proponent plans to burn the slash, Castle Silver requests this slash be burned close to the road on ground that has been compromised for Mobile Metal Ion (MMI) soil sampling. At this location the sample medium has been removed to build the road and the surviving soil has been homogenized. MMI sampling requires that a precise and consistent elevation with the soil profile be sampled.*

*Burning the piles on undisturbed ground will alter the distribution of Mobile Metal Ions and Immobile Metal Ions thus reducing the available sample area.*

*Respectfully Submitted*

*Douglas Robinson*

*October 16, 2013” (Above Quote from October 16, 2013 email from DRR to GP, MNR, MNM)*

It appears Georgia Pacific protected each and every OLS survey tree and every OLS corner monument flagged by Castle Silver. The above picture labeled “Typical Sensitive Survey Monument” appears to be an 18 inch, square 5/8<sup>th</sup> iron bar. Assuming this is an 18 inch long bar 1/3<sup>rd</sup>, of the bar is above ground. Any

direct contact with heavy forestry equipment of dragged bundles of tree length logs would put this monument in severe risk of destruction.



On October 10 the forest had been completely harvested and forestry operations appeared to have effectively halted until shortly before November 18, 2013. That was the last day scheduled for the 2013 forestry operations in cut N132.

Had the foresters continued their concerted forestry harvest in October there would have been plenty of time to have fulfilled the 10 day window between the end of the harvest operations and the 2013 slash pile burning. It was a business decision to design/schedule the forestry harvest to miss the MNR window for burning slash in 2013. One machine operator spent the approximately three to four weeks loading one or two loads of logs a day.

That operator had the ability and capacity to remove the slash piles from the grid lines during his down time. It was a decision of the foresters (supervisor) to refuse to allot time to move the slash piles until the last approximately 10 hours of the harvest. The last ten hours of the harvest included

moving some of the slash off the Geotechnical Survey Lines and removing all the heavy equipment from the property.

## 11.10 SLASH SNOWDOWN AND WORK HAZARDS ON PUBLIC LANDS – C195W & C780W

### TYPICAL

Forestry damage to Geotechnical Survey Line C195W was/is typical of damage to Grid A (IPLA), Grid B (IPLB), Grid C and Grid D. **Grid A and Grid B were cut in 2011** and were two years old during clear-cut N132. **Grid C and Grid D were new grids** that were freshly prepared for the 2013 field season.

Grid A and Grid B; each consisted of a long base line with 50m cross lines. Castle Silver was entitled for rehabilitation of the cross lines but did not request this restoration. Also much of Grid B was in Cut 132, but Castle Silver requested protection of only a short section of this base line.



Castle Silver requested full restoration of Grid C and Grid D. Castle Silver expected these grids to be returned safe; free of forestry hazards and obstructions and marked by 2x2 pickets at the original picket locations.

In the fall of 2013 this author and Betty Robinson; acting for Castle Silver, re-established the Geotechnical Survey Line pickets with 2x2 commercial pickets. Glenn McBride; acting for Georgia Pacific and under Georgia Pacific's license/permitting, restored the line of travel to these lines (excluding C780W). Unknown to Castle Silver, Geotechnical Survey Line C780W suffered severe forestry damage and was not rehabilitated by Mr. McBride's crew. The cutters were instructed to not deal with the roadside slash piles because it was unsafe and impractical, and not cost efficient. **Georgia Pacific - FRMG stated the roadside slash would be dealt with later using their on-site forestry equipment.**

The standing trees proximal to most of the grid lines were severely compromised during forestry operations. The heavy equipment damaged the standing trees and their root systems resulting in these trees leaning away from the equipment operating area. **The compromised trees were left leaning towards the grid lines.** The compromised trees fell across the grid lines early in the winter of 2013-2014, leaving the grids impassable.

The following email documents Forestry damage to Line C195W dating from the winter of 2013-2014 to this date. The commercial wood pickets shown in the photos were placed by this author and Betty Robinson in their 2013 picket restoration process. **The photographs were taken at 25 m intervals along this Geotechnical Survey Line.**

#### 11.10.1 Email March 27, 2015 to MNR, GP

*"From: Doug Robinson [<mailto:robinson@ntl.sympatico.ca>]*

*Sent: March-27-15 12:00 AM*

*To: Regional: Michael Young Planning Forester Timmins ([michael.young@ontario.ca](mailto:michael.young@ontario.ca));*

*'NMR: Mike Luikko KL Management Forester ([michael.luikko@ontario.ca](mailto:michael.luikko@ontario.ca))'*

*Cc: GP: Tammy Mazzetti' <[tammy.mazzetti@qapac.com](mailto:tammy.mazzetti@qapac.com)>; Castle Silver Frank and Elaine*

*Basa ([ebasa@live.com](mailto:ebasa@live.com)); Castle: Frank Basa ([moje@ntl.sympatico.ca](mailto:moje@ntl.sympatico.ca)); Robinson: Doug*

*([robinson@nt.net](mailto:robinson@nt.net))*

*Subject: MNR Nicol Cut 132 Unsafe and a Public Hazard and Work Hazard*

*To MNR Kirkland Lake March 26, 2015*

*Georgia Pacific and its assignees refused to deal with the slash of line C195W (pictured below) and C780W. The pictures below is a consecutive sequence of pictures along line C195W. For about a month Castle Silver repeatedly asked Georgia Pacific asked their (slash pile and log load) operator on the site to deal with the slash so we could assess the lines were working at that time. In the last three weeks of operation the operator was loading one or two trucks a day and had plenty of opportunity to deal with the slash. It was to business decision of the Georgia Pacific foreman to refuse permission for the operator to deal with the slash until the last 6-10 hours of operation of in the Nicol 132 cut.*

*In the late afternoon of the second to last day of operation the operator successfully cleared at least half of the slash piles from the lines. The next day I was not on the property and the quality of work was of lower quality.*

*Ac couple of days before the removal of the equipment the Georgia Pacific foreman point to the grid and line pictured below and stated this was ready for exploration operations.*

*The grid was brand new and had not been used when Georgia Pacific operations commenced. The grid was totally destroyed as an operation grid required to access the property and to identify locations on the property. In many places it was impossible to walk on the ground. It is extremely dangerous to walk suspended; 1, 2, 3 or more feet above the ground on the forestry waste.*

*Georgia Pacific and its assignees are required to establish grid both as an access line for travel and grid array to mark location on the property. The roadside slash and grid lines and the clear cuts must be returned to Occupational Health and Safety Standards.*

*MNR: please provide a copy of the MNR documents that certify Georgia Pacific and its assignees have completed Nicol Cut 1342 to MNR standards and requirement.*

*Pictures Below taken November 08, 2014*



*Picture 1: Line C195W at Road facing North (Above).*



*Picture 2: Continuing South on Line C195W (Above).*



*Picture 3: Continuing South on Line C195W (Above).*



Picture 3: Continuing South on Line C195W (Above).



Picture 4: Continuing South on Line C195W (Above).



*Picture 5: Continuing South on Line C195W (Above).*



*Picture 6: Continuing South on Line C195W (Above).*



Picture 7: Continuing South on Line C195W (Above).



Picture 8: Continuing South on Line C195W (Above).



Picture 9: Continuing South on Line C195W (Above).



Picture 10: Continuing South on Line C195W (Above).



*Picture 2: Continuing South on Line C195W (Above).*



*Picture 11: Continuing South on Line C195W (Above).*





*Picture 12: Continuing South on Line C195W (Above).*



*Picture 13: Continuing South on Line C195W (Above).*



*Picture 14: Picture crossing Nicol 132 from Line C195W to the Access Road (Above).*

*Above: End of Quote from Email sent to MNR GP March 27, 2015*

## 11.11 DEFINITIONS GRID & GRID REHABILITATION

### 11.11.1 Georgia Pacific & First Resources Management Group Position

Georgia Pacific and First Resources Management Group appear to define a “**Geotechnical survey Grid**” as an “**Array of Pickets**” (and only an array of pickets) that mark grid locations. They also maintain “**Grid Rehabilitation**” consists of restoring pickets at the original location of grid pickets and only the restoration of pickets. According to Georgia Pacific and First Resources Management Group: Grid Restoration does not include:

- 1) Restoring the Geotechnical Survey Grid to original “**Occupational Health and Safety Standards**”,
- 2) Restoring the line of sight along a Geotechnical Survey Grid Line,
- 3) Restoring line of travel along a Geotechnical Survey Grid Line (particularly critical for manually carrying heavy loads including soil samples, rocks and heavy geophysical gear),
- 4) Restoring access to the ground along the Geotechnical Survey Line (required for soil sampling, IP electrode placement,
- 5) Removing forestry waste to permit laying out length dedicated geophysical (EM, IP, SP) cables along the line. Shortening the array will alter the Geophysical Response creating false data.

### 11.11.2 Castle Silver Position

Castle Silver has consistently maintained, Geotechnical Survey Grids consist of Geotechnical Survey Lines having:

- 1) A clear line of sight,
- 2) A straight path of safe and unencumbered travel along Geotechnical Survey Lines, giving unencumbered access to the ground surface for:
  - (1) Geological mapping

- (2) Geochemical sampling,
  - (3) Geophysical measurements including EM, IP and SP.
  - (4) true linear, horizontal measurement
  - (5) true length (location) placement of dedicated geophysical cables including EM and IP.
- 3) And the Geotechnical Survey Grid Lines are augmented by pickets that mark locations along these survey lines.

Castle Silver has consistently maintained Geotechnical Survey Grid restoration requires:

- 1) Restoring the grid to original “**Occupational Health and Safety Standards**”,
- 2) Restoring the line of sight along every Geotechnical Survey Line,
- 3) Restoring line of travel along every Geotechnical Survey Line,
- 4) Restoring access to the ground along every Geotechnical Survey Line. Soil sampling, IP electrode placement require unencumbered access to the ground
- 5) Removing forestry waste to permit laying out length dedicated geophysical (EM, IP, SP) cables along the line. Shortening the array will alter the Geophysical Responses creating false data leading to flaws fatal to the exploration program.

Castle Silver has repeatedly asked Georgia Pacific and First Resources Management Group representatives to walk along the Geotechnical Survey Lines to see the difficult and unsafe conditions of these lines. Their representatives have repeatedly stated the lines usable and have consistently refused to walk these lines. All the Geotechnical Survey Lines cross the access roads. Most of the lines cross the roads twice.

If the foresters had walked the Geotechnical Survey Lines and the Ministry of Labor knew they were walking the lines (except for the purpose of rehabilitation), the Ministry would probably have cited them for violation of Occupational Health and Safety violations of their work site.

### 11.11.3 NMR MNDM Position

Until this year it appears MNR agrees with Georgia Pacific and First Resources Management Group regarding the makeup of grids and criteria of, and definition of grid rehabilitation.

This year MNR has expressed their **intent to perform a property visit and walk the grid lines**. It is hoped this will be done this field season.

MNDM stance appears to be: If Castle Silver has a dispute regarding grid rehabilitation; **the only recourse is legal/court action**.

### 11.11.4 Ministry of Labor Position

The Ministry of Labor clearly states Forestry companies have no obligation to maintain their work sight at the “Occupational Health and Safety Standards” required by their (previously existing and continuing) co-users of their work places. The continuous existence of the Castle Silver mining leases dating back to circa 1909 qualifies Castle Silver leases a historic and continuing workplace.

The Ministry of Labor is very clear: If the co-user wants to continue working in a joint workplace; the co-user (explorationist) must clean up the forestry hazards before continuing to work. Castle Silver has on occasion done this by burying wood waste in locations where it was extremely dangerous to enter. Castle Silver has also moved slash piles after the slash burning program left 50% of the roadside slash on the new cut lines and between the lines. Castle Silver performed **this forestry hazard rehabilitation under the foresters’ license/permit**.

It appears the Ministry of Labor has no concerns to public safety on public lands. It is clear the Ministry of Labor sees no implication of “Occupational Health and Safety Standards” to public lands resulting from forestry

operations. Castle Silver has encountered numerous local people and casual visitors, including a Ministry of Labor employee using the Castle Silver leases for private recreation use. This is common and acceptable use of public lands under mining leases.

If the Ministry of Labor had required the foresters to maintain their work sites to “Occupational Health and Safety Standards” that permit forestry workers to walk on the ground; there would be little or no concern for public safety when these worksites are abandoned. The MOL has abandoned an opportunity to exercise a cohesive application of safety standards by working in unison with MNR and MNDM and the recreational public and alternate workers to maintain a safe Ontario Public Lands.

## 11.12 CASTLE SILVER OBJECTIONS – NO CONSENT -STATUS DECEMBER 2013

After November 18, 2013, the foresters considered their obligation to rehabilitating of the mineral exploration values to be totally completed. The December 10, 2014 email is a reasonable summary of the objections of Castle Silver. The property was and remains in large part covered by dangerous forestry wood waste.

### 11.12.1 Email December 10, 2013 to MNR, MNDM, MOL, GP, SG

*“From: Doug Robinson [<mailto:robinson@ntl.sympatico.ca>]*

*Sent: December-10-13 4:56 PM*

*To: FRGG: Yves Vivier; MNR: Craig Fuller*

*Cc: Castle: Elaine Basa; Castle: Frank Basa; Castle: Robinson; GP: Tammy Mazzetti; MNDM: Robert Hunt: MNDM Hazards Inspector; Minister of Labour; Ministry of Labour; Survey Records*

*Subject: Agreeemet for Consent - Nicol Cut 132*

*Hello Yves*

*December 10, 2013*

#### **Castle Silver Consent to Cut 131, Cut 132 and Cut 135**

*Castle Silver is willing to consent to Cut 131, Cut 132 and Cut 135 after the forestry proponent has appropriately:*

- dealt with the slash to allow continued safe access to the mining property,*
- dealt appropriately the rehabilitation of the grid lines and*
- dealt with their obligation to identify and protect survey monumentation including surveyors trees that are protected by the Criminal Code and the Mining Act. Castle Silver is willing to pay half of the cost of the identification of the survey monuments that allowed the forestry cut to proceed.*

*Castle Silver’s position has been consistent from day one and has not changed. It was and remains the following three issues.*

- Dealing with the slash,*
- Rehabilitation of the grid lines and*
- Identification of the survey monuments and survey trees by the forestry proponent with Castle Silver incurring ½ of the expense of identifying the monumentation prior to cutting as a condition to protect the monumentation from*

*the cutting. The identification of the 40 monuments cost \$60,250 of which the foresters portion is \$30,125.*

*If consent can be negotiated prior to December 20, 2013; Castle Silver is willing to deal with the snow down damage of the compromised trees without cost to the forestry proponents.*

*Castle Silver does not consent to Haultain Cut 133 and Haultain Cut 134 and the other four scheduled cuts on Castle Silver's holdings in Nicol and Haultain Tp until Cut 132 issues are resolved.*

### **Background Information**

*In the spring of 2013 Georgia Pacific requested Castle Silver to cease operations on Grid C and Grid D to maximize the efficiency of their forestry operations. Grid C and Grid D were cut in 2012 for geophysics. Castle Silver's geophysics contractor recommended the grid density be doubled by cutting by cutting infill lines at 100 meter spacing (to augment the original 200 m spacing). Georgia Pacific stated: if Castle Silver were to do conduct this mineral exploration, Castle silver would seriously compromise Cut 132. Castle Silver did this for the year 2013 to accommodate the forester and is now waiting for the property to be returned permit safe access to the property and safe access along the grids.*

### **Cuts Impacting Castle Silver Holding**

*Castle Silver is impacted by the ongoing activities of cuts: Nicol 131, Nicol 132 and Haultain 135. The following cuts are scheduled to impact Castle Silver holdings in the near future: Haultain 133, Haultain 134, Haultain 141, Haultain 142, Haultain 143, and Haultain 144. It is important for Ministry of Natural Resources, Ministry of Northern Development and Mines, the foresters and Castle Silver to deal with Cut 132 issues before these six additional cut be permitted to proceed over Castle Silver holdings.*

### **The Forester**

*The forestry proponent is a configuration of:*

- First Resources Management Group (FRMG) the forest manager*
- Timiskaming Forest Alliance Inc. (TFA)*
- Georgia-Pacific North Woods LP (GP), (licensee) formerly Grant Forest Products Inc.*
- Wayne Lafrance Logging (WLL) (the cutter)*

### **The Mining Right Holder**

*The mining rights holder is Castle Silver (CS). Doug Robinson Consulting (DRC) is a contractor working for Castle Silver.*

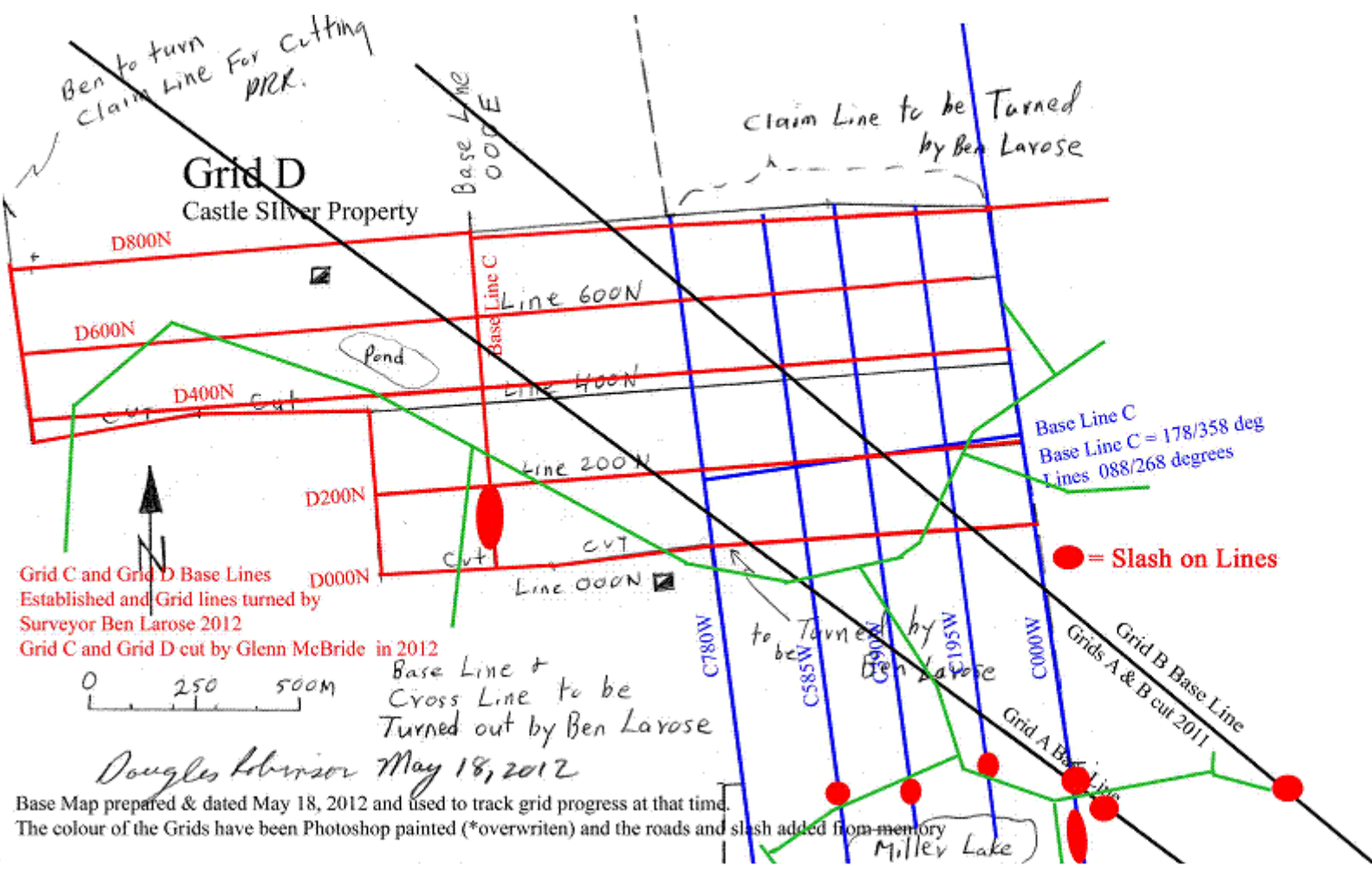
### **The Grids** (See Map below)

*The Castle Silver grids consist of*

1. *Grid A cut in 2011*
2. *Grid B cut in 2011*
3. *Grid C cut in 2012*
4. *Grid D cut in 2012*

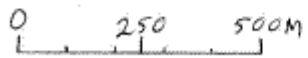
*Only the base lines are a concern for Grids A and Grid B. The cross lines are inactive not an issue.*

*Grid C and Grid D are the primary grids in active use.*



Grid C and Grid D Base Lines  
Established and Grid lines turned by  
Surveyor Ben Larose 2012

Grid C and Grid D cut by Glenn McBride in 2012



Base Line +  
Cross Line to be  
Turned out by Ben Larose

*Douglas Robinson May 18, 2012*

Base Map prepared & dated May 18, 2012 and used to track grid progress at that time.

The colour of the Grids have been Photoshop painted (\*overwritten) and the roads and slash added from memory

## Roadside Slash – History

*The first meeting of the forester and Castle Silver occurred on/or about April 9, 2013. At that meeting the Nicol Cut 132 (Cut 132) was not included on the FRMG maps. Slash issues were not discussed because Cut 132 was not an issue at that time.*

*The second meeting occurred April 25, 2013 and slash issues were discussed. The foresters were clear the existence of grid lines would not be considered during the slash piling process.*

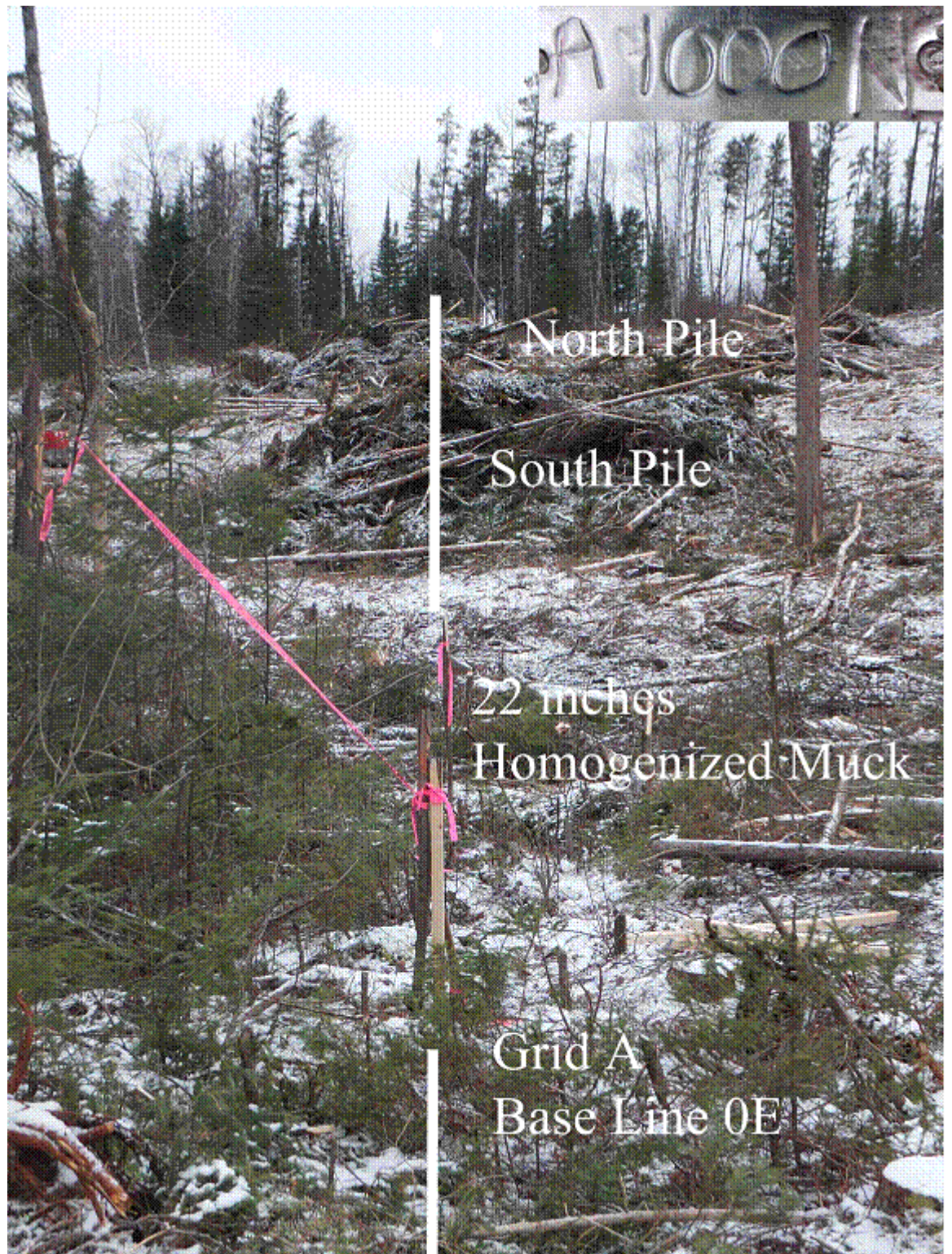
*Prior to forestry operations; the grid pickets which were located at 25 m spacing, were clearly flagged by Kevin Demarell. The picket locations were entered as shape files (sub meter accuracy) on the forestry maps. The lines were clearly visible when cutting started. While the trees and eventually the logs were stacked along the roadside the lines were not discernable from the road. The trees were limbed and the tops cut off at the roadside This generated much roadside slash. The logs were then loaded on trucks and shipped from the property. At this time the flagged lines were again clearly were clearly visible.*

*During the stacking of slash piles; the grid lines were clearly visible. Less than 50% of the roadside was used to stack the piles. It was a discretionary, business decision of the forestry operator to place the slash piles on the grid lines when the space existed to stack the slash beside the grid lines.*

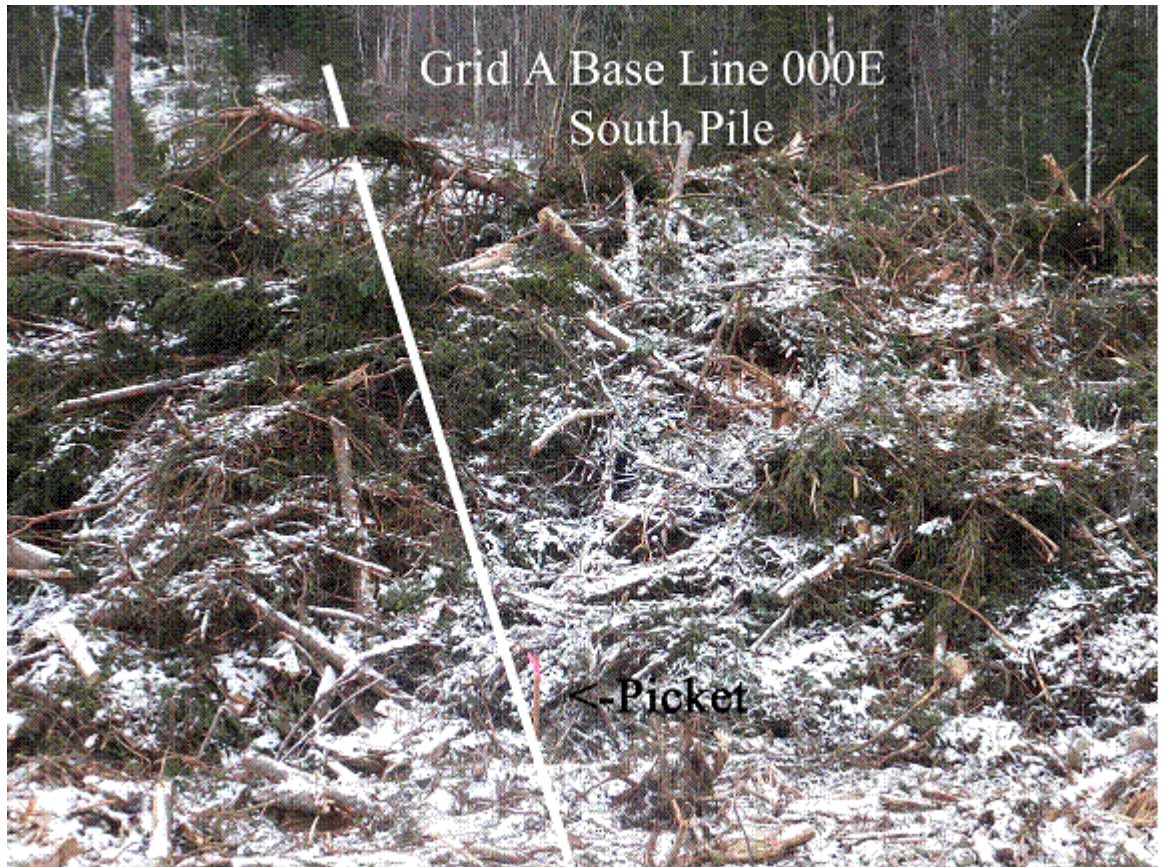
*Early in the forestry operations the forester was asked to move the slash piles from the lines. The forester was emphatic their business decision was to wait until the **last day of operations** to move the slash from the grid lines. During the last month of operations the stacking/truck loading operator was under utilized. The operator had plenty of time to move the most offensive piles (which were located on Grid C) near the loading/stacking operation.*

*The logs along Grid C Line 000W were the last piles trucked from the northern  $\frac{3}{4}$  of Cut 132. On the second to last day of operations the operator took two hours and moved half of the offending on line slash piles. This was done exposing the ground for access. (see next three photos). These piles were successfully moved exposing the ground for travel and picket placement.*





*Photo: These two typical slash piles were successfully moved in the to expose the ground*

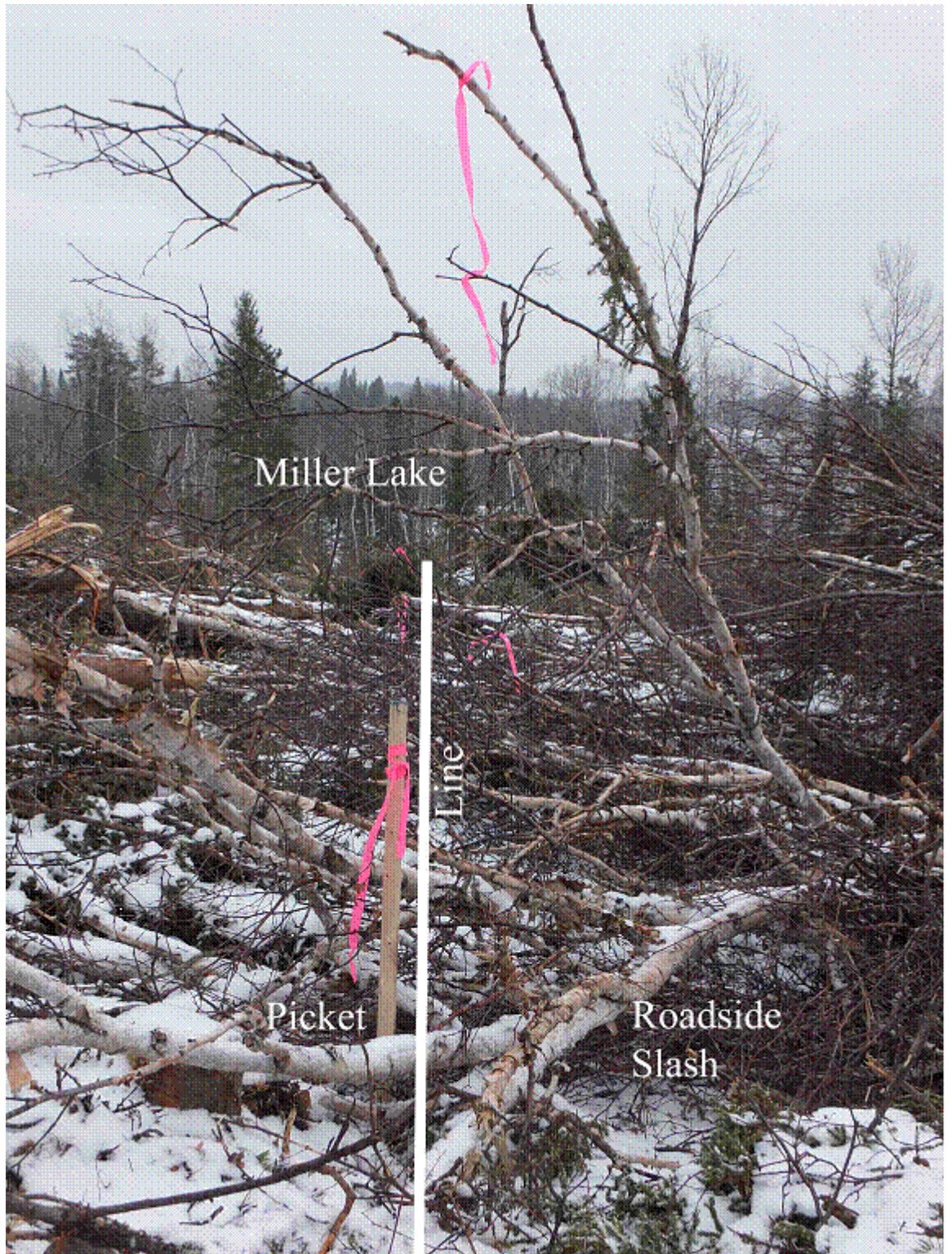


*Photo: This typical slash pile was successfully moved in the to expose the ground*

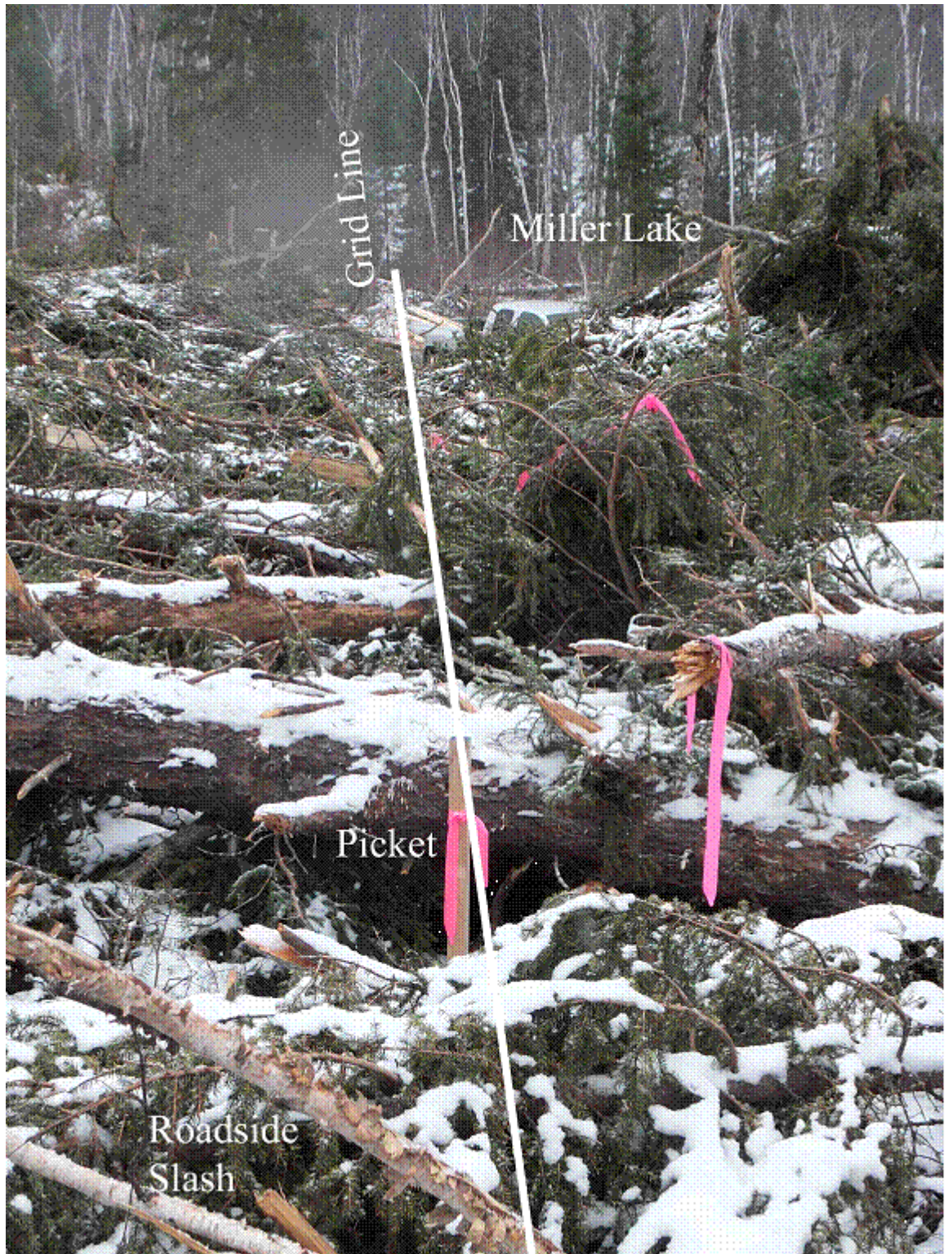


*Photo: This typical slash pile was successfully moved in the to expose the ground*

*On the last day of operations the remaining half of the slash piles were dealt with. That operator left up to a meter deep of dense wood waste on the grid lines (see the following photos).*



*Photo November 21, 2013 - Slash left after November 18 slash removal from Lines*



*November 21, 2013 - Slash left after November 18 slash removal from Lines*



*November 21, 2013 - Slash left after November 18 slash removal from Lines*



*November 21, 2013 - Slash left after November 18 slash removal from Lines*



*November 21, 2013 - Slash left after November 18 slash removal from Lines*





November 21, 2013 - Slash left after November 18 slash removal from Lines



November 21, 2013 - Slash left after November 18 slash removal from Lines

*In the April 25 meeting; the foresters gave no assurance they would deal with the slash. At mid summer 2013, the decision was not to burn the slash. During late summer 2013 the decision was made to remove the slash by burning or cogeneration.*

*By October 14, 2013 the last tree was cut from Grid A, Grid C and Grid D and most of Grid A was also cut.*

*Midway during forestry operations, the forester redirected the effort from Cut 132. By doing this; the forester missed the time threshold to burn the slash in the fall of 2013. The forester is now committed to deal with the slash by cogeneration in the spring of 2014.*

### **Roadside Slash – Grid**

*Roadside slash has effectively made much of the property inaccessible. The slash consists of both slash piles and un-staked slash. The un-staked slash is up to a meter or more in depth. The forester made a large issue of the need to meet Occupational Health and Safety standards on the property; but has failed to meet Occupational Health and Safety standards for Castle Silver use the grid or to enter or cross the property. Castle Silver expected the property and grids to be returned in a businessman like manner and safe to work.*

### **Roadside Slash - Public Use**

*Cut 132 is on Crown Land in a high use public/tourist area. These tourists are frequent visitors to the cut area and Castle Silver has consistently welcomed these visitors and answered their many questions concerning the industrial activities and rich heritage and sporting opportunities along the Everett Lake and Babs Lake roads.*

*The roadside slash is a formidable and dangerous barrier to public entry.*

*Photos above show roadside slash along lines C195W and C390W after the roadside slash removal conducted on the last day of operations (probably November 18, 2013). This slash is typical of the roadside slash that is a formidable and dangerous barrier to entry from the roads. The stacked slash piles are an even greater and more dangerous barrier to entry.*

### **COGENERATION OF SLASH**

*Cogeneration early in the spring now appears to be the only surviving option to deal with the slash of Cut 132. See attached communication (at the end of this document) sent to First Resources Management Group November 27, 2013 responding to an email from sent to FRMG November 25, 2013. This cogeneration is required to return the property for Castle Silver to resume exploration in the spring of 2014.*

*To extend forestry operations an additional year to deal with the stacked and un-staked slash in the fall of 2014 is unreasonable.*

### **Secondary Need for Cogeneration**

*The pile stacking captured from 65 to 90% (apparent visual average 75-80%) of the roadside slash along the loading zones. The slash missed in the stacking process is commonly a formidable barrier to entry. Cogeneration, not burning is the only viable way to deal with the roadside slash. This roadside slash will not be burned by the conventional burning process used by the foresters.*

*The missed slash along Grid C 195W is up to a meter deep and the missed slash along Grid C 390W is close to about 12-18 inches deep.*

*When our new grid lines cross the loading zones the cutters can expect to encounter similar missed slash in addition slash piles.*

*Winter cogeneration from Cut 132 is not viable because much of the roadside slash would not be observed and almost certainly be left on site.*

*On November 27, 2013 Castle Silver established cogeneration in the fall of 2013 was the optimum period. It was also established the spring of 2014 is viable, and the viability of cogeneration decreases as the wood ages affecting the viability of cogeneration after the spring of 2014.*

### **Diversion of Forester's Effort**

*In the first month of operations (September to October 14, 2013 the forestry proponents had finished cutting the trees on the grid area and shipped major portion of the harvested trees from the property. At that time it appears the foresters diverted their personnel and effort from Cut 132 to other cuts. Had the momentum been preserved the cut would have been done on time to meet Ministry of Natural Resources guidelines for commencing and completing silviculture operations. This would have dealt with the slash in the fall of 2013 returning the property to Castle Silver.*

*There was adequate time to completed Cut 132 and deal with the silviculture of burning and cogeneration the slash in 2013. It was the diversion of forestry activities that prevented completion of the cut and silviculture activities.*

*It is difficult to perceive that Ministry of Natural Resources would not have considered the severance of Cut 132 into Cut 132 North (~75% accessed from Everett Lake road) and Cut 132 South (~25% assessed from Highway 560) to allow cogeneration and burning of slash to commence in 2013. The Ministry of Natural Resources was aware of the time sensitive nature of the silviculture activities and would have done all in their power to assure the grid was returned in 2013.*

*It appears it was a business decision not to deal with the slash in the fall of 2013 and the foresters must accept dealing with the slash in the spring of 2014 as a requirement of that business decision.*

### **GRID REHABILITATION**

### Grid Definition

*The forestry proponents appear to have developed a misconception of grid protection. The forester is wrongly interpreting a grid as an array of pickets in the bush. A previous email deals this misconception in detail. The summary/highlights of that email are:*

1. *a grid is a set of lines:*
  - a. *for easy (safe) access to the property*
  - b. *to facilitate surveys and*
2. *the pickets are a small but important part of the grid.*

### Compromised Grid

*It appears; the forestry proponent considers preservation of only the pickets satisfies the requirement to protect the grid. This is in direct contrast with Castle Silver's claim that; grid protection is the protection of the lines which includes the pickets as well.*

*The forester contacted Kevin Demarell to measure the UTM location of all the pickets on Grid A, Grid B, Grid C and Grid D. He measured the pickets to sub one meter accuracy. In the process he clearly flagged all the pickets. These measurements were intended to give the forester the option of cutting over the pickets and reestablishing the pickets at the measured locations after the trees were harvested.*

*In the late spring meeting (GP, WLL and CS) on the grids: Castle Silver clearly stated it was their preference the cutters be allowed to **cut over (destroy) the pickets** during cutting. This would have allowed for an **efficient and clean clear cut** similar to some of the high quality cuts along the Highway 560, the Elk Lake–Gowganda highway.*

*Had this clear-cutting been performed as recommended, the grid rehab and picket replacement could have been commenced **October 14, 2013**, the day the last tree was cut on Grid B, Grid C and Grid D and the important north half of Grid A.*

*this clear-cutting been performed as recommended there would be virtually no compromised trees left on the lines and very few snow loaded trees would have fallen on the lines. Georgia Pacific and Wayne Lafrance Logging made it very clear they would decide how they would protect the grid and dismissed the clear cutting recommendation.*

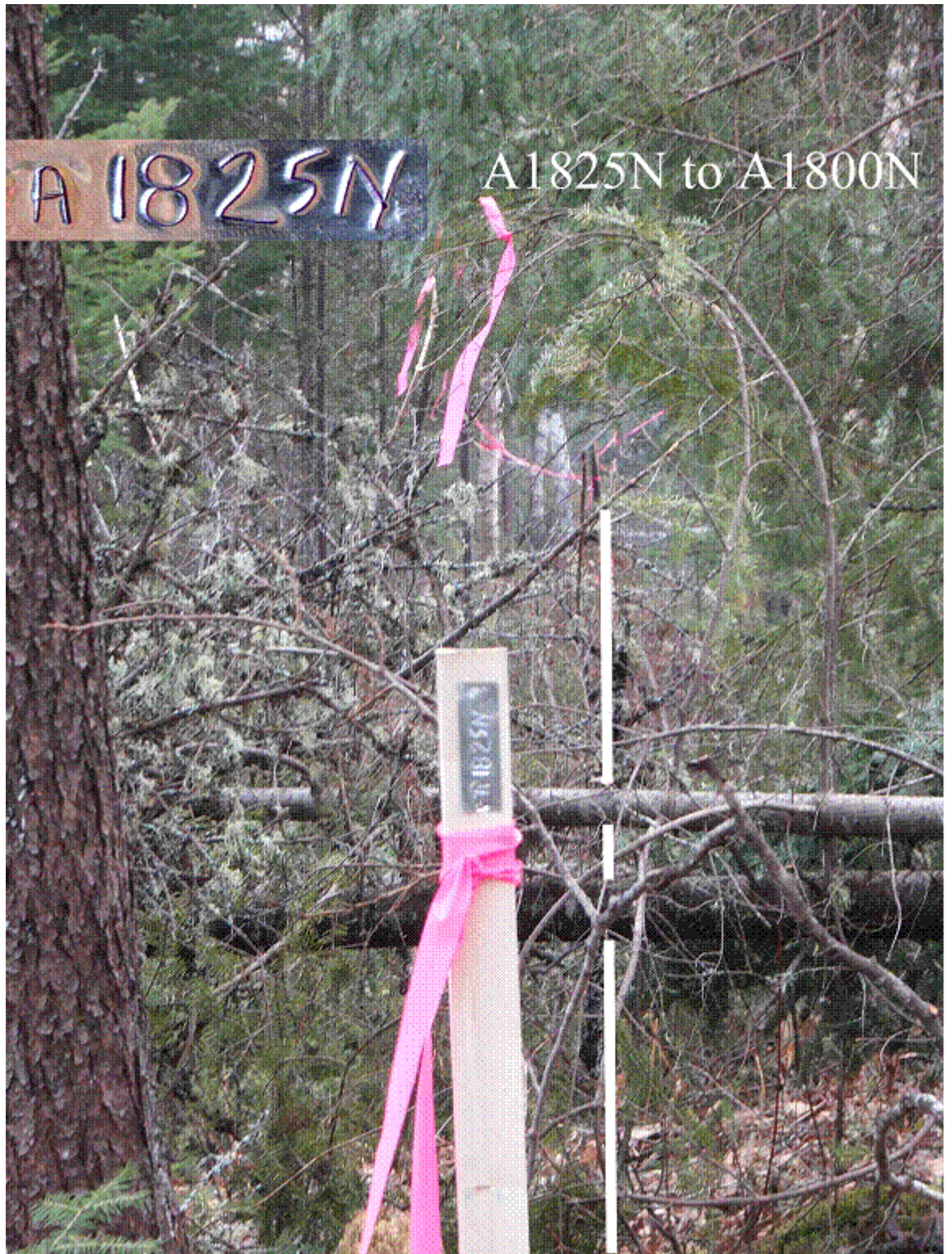
*The non-commercial trees (commonly balsam fir) near the grid lines were heavily damaged (compromised). Many were left at various angles of repose. These trees were no longer in natural growth position and formed an impenetrable barrier to passage. Later as snow accumulated, many additional compromised trees fell across the lines.*

*It was a business decision of the foresters to cut around the pickets. This process left much wood waste on the line and many down and leaning trees were left crossing the lines. These made the lines impassable and the lines effectively ceased to exist.*

*The cutting process preferentially leaves wood waste and hazards on the features being protected. These features include survey monuments, surveyor trees, grid lines, grid pickets. The equipment damaged the trees causing them to fall away from the equipment or lean away from the equipment towards or across the feature being protected. Those trees that are not initially across the lines are falling across the lines under the winter snow load.*



*Photo: Balsam fir interwoven with introduced hydro wires on line. This line was easy passage prior to the cut.*



*Photo: Typical compromised trees across the grid line*

**Grid Cleanup**

*It is not practical or safe to walk above the ground on slash, down trees, suspended hazards and other wood waste. Doug Robinson Consulting contracted a cutter to clean the lines and has submitted the invoice to for this work to Timiskaming Forest Alliance Inc. for payment. Yves Vivier of FRMG provided the payment information. The cleaning of the lines was completed with one day to spare before the onset of significant winter snow that would have prohibited safe grid cleanup.*

*The grid cleanup did not include roadside slash piles which were scheduled for removal on November 18, 2013, the last day of forestry operations.*

*A safe grid requires that the ground be clearly visible and free of (cultural) obstructions.*

*Wood waste and compromised trees are cultural and related to the forestry operations. These are not the result of natural events (as indicated/claimed by the foresters).*

### **Snow Load - Compromised Trees**

*Since the grid rehabilitation, the snow load is as caused many additional compromised trees to fall across the grid lines. These new hazards are commonly knee high to chest height above the ground and are impenetrable barriers. These downed, hazards commonly occur as clusters. These down trees prohibit passage along the lines. The forester is obligated to remove these compromised down trees from the grid. The winter snow will probably bring down many more trees making it impractical for the forester to re-clean the line before spring.*

### **Reestablished Grids**

*Castle Silver has offered to reestablish the pickets of Grids B, Grid C and Grid D without cost to the forester. This was commenced during grid rehabilitation and is continuing as geotechnical surveys progress. Some pickets remain to be replaced by Castle Silver (particularly near roadside slash).*

*The pickets of Grid A from 000N to approximately 1600N could not be re-established (chained) because to many pickets are missing. These pickets remain to be re-established by the forester using the UTM coordinates measured by the forester (Kevin Demarell). It is recommended four foot 2x2 pickets be used as replacement pickets. This is the procedure Castle Silver is using to secure the other grids. The forester's grid restoration of Grid A will have to wait until spring of 2014, when the ground has thawed.*

*Castle Silver re-chained and replaced the missing Grid A pickets from (about) 1600N to the north edge of the cut.*

### **2x2 Clear Cut Pickets**

*To follow mature grids depends on secondary evidence in addition to pickets. This secondary evidence includes blazed trees, and the bungees (the cut of bottoms of*



*the original brush) and tree stumps. This secondary evidence is lost in clear-cuts and normal round pickets from small trees are difficult to distinguish from the wood waste.*

*In clear cuts; the absence of the required secondary evidence of lines must be compensated for by easily identifiable pickets. The most practical pickets are four foot, 2x2 commercial timber cut as halves of 8 foot 2x2 lumber. The shorter commercial pickets are too short. The 4 foot pickets also allow the pickets to be driven into the ground years later extending the life of pickets a long time. The 2x2 pickets are conspicuous cultural markers, easily identified in a proliferation of wood waste that has the appearance of pickets.*

*During 2012 field work and 2013 survey monument identification; Castle Silver identified and followed many Agnico Eagle grid lines (circa 1980's). These mature lines were easily followed even though the pickets were not identified.*

### **PROTECTION OF SURVEY MONUMENTATION**

*Castle Silver has consistently stated Survey Monuments are protected by the Criminal Code of Canada and the Mining Act of Ontario. Castle Silver has consistently stated the forester is obligated to identify and protect survey monumentation and claim posts prior to cutting. From the beginning Castle Silver has offered to pay half the cost of identifying the survey monumentation and claim posts that the forester is obligated to identify and protect.*

*Current forestry practice is to make no attempt to identify:*

- 1. claim posts*
- 2. claim lines*
- 3. Ontario Land Survey monuments*
- 4. Ontario Land Survey line markers*

*except when the stakeholder supplies explicit UTM coordinates of the survey monumentation and flags the survey monumentation. This refusal to voluntarily protect the survey evidence has resulted in the systematic destruction of and it is continuing to destroy the survey fabric of Mining Lands in Ontario.*

*The closure errors acceptable in these very old surveys make it impossible to confidently reestablish the survey monumentation at or near the original survey locations. Five to twenty meter errors in relocating survey monumentation can result. These surveying closure errors and other errors can be resolved where the three sided blazed trees (survey line markers) are preserved.*

*The identification of the survey fabric is dependent on the identification and protection of these three sided blazed trees marked over 100 years ago. Without these trees the survey fabric is lost and the survey monuments cannot be reestablished with confidence. Castle Silver has identified many of these trees and they have been critical to finding most of the 40 survey monuments identified. The absence of these trees in forested areas has resulted in Castle Silver being unable to identify an equivalent number of survey monuments in forested lands.*

*The outcrops and the ground is full of iron bearing rock(s) that give strong responses to a bar finder. A proliferation of these false responses make identification of the monuments difficult. Many of the monuments are buried and otherwise out of sight.*

*The survey monumentation is typically a 16-18 inch long, 5/8<sup>th</sup> inch square iron bar Survey Monuments (see photo) that is sensitive to direct hits from timber skidding operations and other forestry operations. For example: forest access roads across the Castle Silver property appears to have been destroyed two survey corner monuments. This may have resulted as a result of using MNR/MNDM survey base maps that commonly have 25-40 meter errors in Haultain and Nicol Tp. In other areas these survey problems are significantly greater.*

*MNDM plans to initiate map staking. Map Staking is dependent on an accurate location of the active, historic survey fabric of Leased and Patented Mining Lands. If MNDM and Ministry of Natural Resources, the Surveyor General on Association of Ontario Land Surveyors (AOLS) do not immediately immediate action much more of this critical data will be lost to Mining Lands map staking implementation process.*



*Photo Stump post damaged by forestry operations*



Reads: IMPRISONMENT FOR REMOVAL

*Photo: Survey Monument protected by the Criminal Code of Canada  
Reads: IMPRISONMENT FOR REMOVAL*



Photo:

*Typical (sensitive) 5/8 inch iron bar Survey Monuments*

### **ROOT of COMPROMISED GRID PROBLEM**

#### **Castle Silver Concessions Ignored**

*The root problem causing grid damage became apparent at the spring, on site meeting of the forestry proponents and Castle Silver. Castle Silver was very clear they preferred a clean clear cut process allowing the cutters cut over the grid lines and pickets and replacing the pickets after the cut. This would have allowed the forester to simply replace the pickets at the sub-meter 1 meter UTM*

*coordinates determined by Kevin Demarell. The forestry proponents were equally adamant they were the sole identity to determine how the grid would be protected and disregarded this concession.*

*This meeting involved Georgia Pacific, Wayne Lafrance Logging and Castle Silver. First Resources Management Group was unable to be represented at that meeting and offered their apology.*

*At that time the forestry proponents made a business decision not to protect the grid lines. This decision placed the onus on the forester to deal with the compromised trees and hazards left on the lines.*

*If the forester claims a selective cut was used to protect the grids; the forester was then obligated to assure the un-harvested trees were not compromised in the manner experienced in Cut 132.*

#### **Non Economic Cuts do Not Justify Grid Damage**

*The parts of the grids most impacted by compromised trees were commonly areas dominated by balsam fir. The cut inventory maps list the percentage distribution of the commercial trees including: Jack pine, black spruce, poplar and white cedar. These distributions add up to 100% and balsam fir are not included in the totals.*

*In much of the Cut 132 timber allotment balsam fir is the dominant large tree and also dominant immature growth as well. Georgia Pacific was deeply concerned with this issue and expressed the view that much of many of these balsam fir stands within Cut 132 were not profitable to cut. It was these balsam fir stands that suffered the greatest grid damage. Why was this unprofitable bush cut.*

*If balsam fir is dominant species in natural regeneration; the regeneration will also be dominated by balsam fir. The proportion of balsam fir may increase because this species is well established and has a head start in the planned natural regeneration of Cut 132. The next cut will be even less commercially viable than the 2013 cut.*

*It is a possibility that the absence of establishing ground truth is causing severe issues in forest inventories. A long term loss of harvestable trees on the forest may be the price Ontario pays for forest inventory problems.*

#### **Bypassed Public Consultation**

*Much of the problem between the Forest Proponents and Castle Silver was the result of the Forestry proponents bypassing critical parts of the Public Consultation Process. Cut 132 was missing from the internet hosted "Annual Work Schedule" maps and the maps used in the Public Review meetings at the FRMG office in Englehart. Because of this oversight Castle Silver was unable to make informed decisions regarding forestry issues related to Cut 132. A Mining and Lands Commissioner's decision of 2012 deals with situations similar to Cut*

*132 issues. Castle Silver was unable to make informed decisions as defined by the Mining and Lands Commissioner.*

*Doug Robinson  
For Castle Silver  
December 10, 2013”  
(End of Quote December 10, 2013 by DRR to MNR, MOL FRMG GP)*

### **11.13 MNR’S FOREST MANAGEMENT DIRECTIVES AND PROCEDURE “FOR.05.03.17.PDF”**

In an email received December 02, 2013; MNR provided it’s “Forest Management Directives and Procedure” “FOR.05.03.17.pdf”. This document deals with Foresters’ obligations to protect mineral exploration and mining values.

*“The licensee shall ensure that all blazed claim lines, survey lines, corner posts, trenches and other grid markers cut or otherwise established by markers, .... Are not damaged or altered by operations controlled by the licensee.” (Quote from FOR.05.03.17.pdf).*

#### **11.13.1 OLS Survey Lines Covered by Protection under “FOR.05.03.17.pdf”**

This document is indecisive and weak by not explicitly dealing with OLS monuments and OLS trees.

The foresters of Ontario are systematically destroying the OLS survey fabric of Northern Ontario. It appears the foresters and MNR, MNDM and the Surveyor General are interpreting this document to exclude protection of OLS survey lines and OLS monuments. This is an active participation of the foresters and a passive participation of the Crown. This destruction of the OLS survey fabric is to the peril of the Ontario public, possibly fatal to the Forced Conversion of Legacy Claims to cell claims. It is an apparent conflict of interest for MNR to host the Surveyor General within its ministry.

MNDM and others depend on the MNR base maps and information from the Surveyor General’s administration. MNDM’s proposal for forced conversion of all staked mining claims is dependent on the information MNR administers. This information is severely flawed and the Surveyor General concedes the lost OLS survey fabric cannot be reconstructed accurately.

MNR must place no go-no cutting buffers around unidentified OLS monuments. In the advanced stages cutting N132; it appears MNR **placed square 80x80 square buffers around the MNR/MNDM determined location all the OLS monuments that were not identified.** The work of Castle Silver demonstrated the MNR-MNDM errors in OLS locations commonly exceed the expected **circle of confusion** (40 meter radius) centered on the best estimate of monument location.

It appears the foresters faithfully honored these square 80x80 meter no go-no buffer cutting zone.

Where foresters intend to harvest near or over OLS Survey fabric; this document recommends foresters file a technical report with MNR, MNDM, Surveyor General and property holders reporting their findings concerning OLS monumentation including OLS trees marking the OLS lines. This report must:

- Document UTM locations of OLS survey monuments and OLS trees found by the forester

- Record the UTM Coordinates of the OLS survey monuments and OLS trees found
- Describe the OLS survey monuments and OLS trees found
- Name the OLS fabric that was not located giving the reasons why the monumentation could not be identified.
- If any potentially impacted OLS monumentation is not identified, the closure error of the OLS survey be reported as:
  - the horizontal NS component and EW component of the closure error or
  - the total closure error vector specifying the azimuth/bearing and horizontal distance of the closure vector.
- Report the procedure planned to protect the OLS monuments and OLS trees marking the OLS lines.

**The MNR document FOR.05.03.17.pdf must be updated to deal explicitly with OLS Survey fabric protection.**

It is also recommended MNR, MNDM and the Surveyor General collectively require forestry and other land users observe a 70 meter radius buffer around the best determination of OLS monument locations, except with the written permission of the individual title holders impacted and the Ministries that may be impacted. Ministries other than MNR and MNDM could be impacted by holding vested interest impacted lands or lands immediately adjacent to cuts.

70 meters is the error envelope in which a OLS monument is expected as documented in this report.

It is recommended MNDM and the Surveyor General, not MNR be the prime contributors to the restructuring of “FOR.05.03.17.pdf”.

This author has on two locations observed clear cutting that crossed private/Crown land OLS boundaries.

### 11.13.2 Other Survey Lines Covered by Protection under “FOR.05.03.17.pdf”

The MNR document FOR.05.03.17.pdf is too vague to adequately define survey lines used by the mining and Mineral exploration community. The mining industry considers IP Survey Lines, EM Survey Lines, and MMI Survey Lines as **Geotechnical Survey Lines** entitled to protection. Foresters use the vague wording in “FOR.05.03.17.pdf” to exclude Geotechnical Survey Lines from protection and MNR appears to endorse the destruction of these Geotechnical Survey Lines.

True and meaningful correlation of two or more Geotechnical Surveys require that each survey measure the same (location) ground which is defined by the location of the Geotechnical Survey Markers known as pickets. For example: Shifting a geotechnical response from a felsic rock to an adjacent mafic rock can change the interpretation and application of that response.

MNR must officially and explicitly recognize Geotechnical Survey Lines are survey lines protected by MNR’s Forest Management Directives and Procedure “FOR.05.03.17.pdf” and actively enforce the restoration of these Geotechnical Survey Lines. These ground based lines are essential to preserving the integrity of past and future Geotechnical Surveys and permit the continued geotechnical surveying of exact same Geotechnical Survey Lines.

The following quote from Castle Silver response to “FOR.05.03.17.pdf” is quoted below: (Quote from December 04, 2013 email from DRR to MNDM, MNR & Surveyor General)

### “Summary

*This document appears to be the root cause of the problems encountered between Castle Silver and the forester regarding cut 132 in Haultain Township.*

*The forester in essence defines a grid as an array of pickets based on this document and only protects the picket locations. This is not a reasonable interpretation and is contrary to decisions and actions of the Mining and Lands Commissioner's office. This document requires modification to clarify the need to protect the entire grid system, not just the array of pickets within a grid.*

*By not addressing the survey fabric of mining patents and leases as addressed in the Criminal Code of Canada, Ministry of Natural Resources sections 441 and 442 (which deals with the protection of Survey Monuments and Survey Lines) is perceived by the Forester to grant impunity to disregard survey fabric which is critical to the Province of Ontario and many Ontario stakeholders. It appears to override basic property rights.*

*As administrator of forestry practices Ministry of Natural Resources by its silence is dangerously close to being in contravention of the Criminal Code of Canada: sections 441 and 442 which deals with the protection of Survey Monuments and Survey Lines defining Private Property, Leased Mining Lands and Patented Mining.*

*By not addressing the right to know in a reasonable time frame it appears to contravene recent decision of the Mining and Lands Commissioner."*

.....

*"Grid Protection*

*This document is weak on identifying the needs to protect mining grids. The document references grid pickets specifically but is silent concerning the need to protect the grid lines necessary for grid identification and property access. Because grid lines are not directly addressed, the protection of mining grids appears to be ignored by forestry operators, even when grid protection is specifically addressed by the mineral exploration/mining stakeholder."*

.....

*"It appears this document (FOR.05.03.17.pdf added for clarification) is not the document referenced by Mr W. D. (Bill) Buck, OLS, CLS, P. Eng., Registrar, Association of Ontario Land Surveyors:*

*at 1043 McNicoll Ave., Toronto, ON, M1W 3W6 Phone (416) 491-9020 Ext. 29*

*1-800-268-0718 Ext. 29. email: bill@aols.org*

*... I believe that MNR published guidelines for forestry companies that require them to maintain a considerable buffer zone from the boundary of a property when there is any doubt as to its exact location. You can ask them about this ...*

*Quote from email of Tuesday November 19, 2013*

*From Mr Buck's comment is uncertain the referenced MNR document exists. If this or similar document does not exist; it is incumbent on the Ministry of Natural Resources, the Ministry of Northern Development and Mines and the Surveyor General to prepare a document outlining the obligations of operators (including foresters) working near survey fabric of all surveyed lands (including Mining Leases and Patents).*



*This protection is also critical to staked mining claims that are contiguous with surveyed Leased Mining Lands and Patented Mining lands. This document should be given to all Mining Lease and Mining Patent holders as part of the requirement to consult.*

*At this time forestry practice is to make no attempt to identify:*

- 1. claim posts*
- 2. claim lines*
- 3. Ontario Land Survey monuments*
- 4. Ontario Land Survey line markers*

*except when the stakeholder supplies explicit UTM coordinates of the survey monumentation and flags the survey monumentation. This refusal to voluntarily protect the survey evidence has resulted in the systematic destruction of and it continuing to destroy the survey fabric of Mining Lands in Ontario.*

*The closure errors acceptable in these very old surveys make it impossible to confidently reestablish the survey monumentation at or near the original survey locations. Five to twenty meter errors in relocating survey monumentation. These surveying closure errors and other errors can be resolved where the three sided blazed trees line markers are preserved.*

*The identification of the survey fabric is dependent on the identification and protection of these three sided blazed trees marked over 100 year ago. Without these trees the survey fabric is lost and the survey monuments cannot be reestablished with confidence. Castle Silver has identified many of these trees and this has been critical to finding 40 survey monuments. The absence of these trees in forested areas has resulted in Castle Silver being unable to identify an equivalent number of survey monuments in forested lands.*

*The survey monumentation is typically 16-18 inch long, 5/8th inch square iron bar Survey Monuments that is sensitive to direct hits from timber skidding operations and other forestry operations. For example: forest access roads across the Castle Silver property appears to have been destroyed two survey corner monuments. This may have resulted as a result of using MNR/MNDM survey base maps that commonly have 25-40 meter errors in Haultain and Nicol Tp. In other areas these survey problems are significantly greater.*

*MNDM plans to initiate map staking. Map staking is dependent on an accurate location of the active, historic survey fabric of Leased and Patented Mining Lands. If MNDM and Ministry of Natural Resources, the Surveyor General on AOLS do not immediately initiate action much more of this critical data will be lost to Mining Lands map staking implementation process.” (Quote from December 04, 2013 email from DRR to MNDM, MNR & Surveyor General)*

## **11.14 2014 SLASH BURN WITH 50% EFFICIENCY NOTATIONS**

The following email of March 27, 2015 was sent to Georgia Pacific and MNR establishing the fact that the 2014 slash burning program was shockingly inefficient in comparison to the slash burns to the

north east. The burner was frustrated by the inefficient pile design. He was quite frank in saying the piles would not burn. By coincidence this author and Betty Robinson arrived at our scheduled MMI sample site with approximately 50 meters of the first pile he ignited a few minutes after we arrived.

We were systematically MMI Soil Sampling and the burner graciously delayed the burn at our exact location allowing us to continue our sampling to the north. He burned these piles a short time later. We worked smoke free all day with fires burning to the northeast, north, east, south and southeast. Late in the afternoon we checked in with the burners as they were ignited the last three piles of the burn. These were the piles near the Capitol shaft, the last piles along the road existing cut N132.

The first three piles he ignited are included as photographs in the quoted email below. Photographs of the last three piles the burners ignited are also in that quoted email.

It appears less than 20% of the slash in the first three and last three piles ignited actually burned. The author was present when these six piles were ignited and vouches for the fact the burners gave it their best effort. The burners also did a sweep of the cut to reignite files that failed to burn. It appears the pile design prevented the piles from burning.

The area around the first piles burned was typical of much of the roadside slash. The piles were poorly designed and there was a random proliferation slash between the piles. This was a dangerous workplace. To walk the 30 meters from the road to the clear cut was an arduous and dangerous procedure. Restricted access to the ground made MMI sampling challenging and difficult; particularly within 30 meters of the access roads. This was typical of much of the Geotechnical Survey Grid area.

After MMI sampling was completed: Castle Silver buried the loose slash and slash piles in this area to provide safe access to the ground for continued geotechnical work. This forestry rehabilitation was performed under the license/permits of the foresters. It was necessary to complete the MMI sampling before dealing with the proliferation of random, loose slash between the piles and the (approximately 90% portion of the) slash piles that did not burn.

#### 11.14.1 Email March 27, 2015 to MNR GP

**From:** Doug Robinson [<mailto:robinson@ntl.sympatico.ca>]

**Sent:** March-27-15 12:00 AM

**To:** Regional: Michael Young Planning Forester Timmins ([michael.young@ontario.ca](mailto:michael.young@ontario.ca));

'NMR: Mike Luikko KL Management Forester ([michael.luikko@ontario.ca](mailto:michael.luikko@ontario.ca))'

**Cc:** GP: Tammy Mazzetti' <[tammy.mazzetti@gapac.com](mailto:tammy.mazzetti@gapac.com)>; Castle Silver Frank and Elaine Basa ([ebasa@live.com](mailto:ebasa@live.com)); Castle: Frank Basa ([moje@ntl.sympatico.ca](mailto:moje@ntl.sympatico.ca)); Robinson: Doug ([robinson@nt.net](mailto:robinson@nt.net))

**Subject:** MNR: Nicol 132 Slash Burn 50% burn at Best

To MNR March 26, 2015

[History Nicol 132 of Burn of 2014](#)

*Prior to the 2014 prescribed burn it was promised that Nicol cut 132 would receive priority status to accommodate the then ongoing Castle Silver Exploration program. The following pictures were taken during that program. The first two pictures show*

the burning performed October 22 to the east of the property. This was a high quality burn that we expected to render our work site usable.

Much later the Castle property was prescribed burn. We found out from the residents of Elk Lake it was common knowledge this was the last burn in the program. Last priority was not our expectation from Georgia Pacific and its assignees.

Failure of Burn

A quick drive by of the slash piles on the northern part Castle North indicates the roadside slash control program had at best a 50% success ratio. First Resources Management Group is surprized when the success roadside slash control has a success rate is as low as 75%.

<i>Initial Decimal Fraction</i>	<i>Fact or</i>	<i>Resulting Decimal Fraction</i>	<i>Comments</i>
1.00	0.80	0.80	Estimated 80% of roadside slash piled for burning
0.80	0.65	0.52	70 of 107 piles (65%) burned significantly
0.52	1.20	0.63	Credit for burning of larger, better designed piles being more efficient
0.63	0.80	0.50	Estimated 80% of slash in the burned piles burned
		0.50	Final Decimal fraction of roadside slash burn program

A x1.20 factor was assigned to be more than fair to the burn proponent. It is anticipated the burn of the piles on the South part of the Castle property where there are no grids will be at least 75%, possibly >85% due to well-designed slash piles in this area.

Request

**We recommend MNR require Georgia Pacific either cogenerate the roadside slash of redesign-restack the roadside slash to achieve a 90% success rate** prior to the 2015 spring exploration season. That 90% burn ratio would be in line with the numbers First Resources Management Group considers a successful roadside slash control program. If the redesigned slash piles are placed on the roadside stripping exposing lower levels of mineral soil the burn can be more aggressive as wide-fire risk would be reduced.

Georgia Pacific's Maintained a Dangerous Worksite – Occupational Health and Safety Standards

At one point my assistant had at least 10 blue leg bruises from slash related incidents from walking crossing forestry waste consisting of slash and compromised trees that fell across the lines after cutting. The roadside slash is extremely dangerous to cross and is unacceptable in public lands and in the worksites that

*Castle Silver Shared with Georgia Pacific. My assistant refuses to walk the first half as it clearly does not meet Occupational Health and Safety Standards.*

***MNR must work with the Ministry of Labour to assure GP is required to return the workplace to acceptable Occupational Health and Safety Standards.***



*Above: October 22, 2014 Slash Burning to East of Haultain - Nicol Tp. (Picture during burning).*

*This is the type of slash control we required and expected*



*Above: October 22, 2014 Slash Burning to East of Haultain - Nicol Tp. (Picture during burning).*

*This is the type of slash control we required and expected*



*Above: Nicol Cut 132 - First Slash Pile Ignited (Picture after burning completed)*



*Above: Nicol Cut 132 - Second Slash Pile Ignited (Picture after burning completed)*



*Above: Nicol Cut 132 - Third Slash Pile Ignited (Picture after burning completed)*



*Above: Nicol Cut 132 Last Three Slash piles Ignited (Picture after burning completed)  
Above Quote from DRR to MNR GP on March 10, 2013*

#### 11.14.2 Cumulative Effect of Six Forestry Business Decisions

Prior to Cut N132 the foresters were explicit that the location of the Geotechnical Survey Lines would not receive consideration when the foresters placed their slash piles. The Geotechnical Survey Lines were clearly double flagged at each picket. There was a clear line of sight between the pickets. From every picket the picket(s) before and after that picket were clearly visible. The slash pile operator used approximately 40-50% of the roadside for the slash piles. The other 50-60% could easily have been reserved for the Geotechnical Survey Lines which were spaced at 200m intervals along the road. It was an operator decision to place the slash piles on the Geotechnical Survey Lines and to not clean up the random forestry slash between the piles.

The equipment operators were supplied with the UTM location of 150 OLS tree and the operators avoided these trees. The forester also had the UTM locations of an equivalent number of Geotechnical Survey Lines pickets which were also clearly double flagged. The forester created computerized shape file for both the protected trees and the Geotechnical Survey Lines pickets which appear to have been created to give forestry operators the capacity and ability to protect mineral exploration values. The foresters made a business decision (**first decision**) to not protect the Geotechnical Survey Lines from indiscriminate slash piling.

When the business decision was made to leave slash piles on the lines there was no plan to burn the slash piles. The decision to burn the piles was made a few months prior to the 2014 burn. It also appears the

foresters planned to leave the slash piles on the Geotechnical Survey Lines when the decision was made to place the piles on these lines.

The October 10-11, 2013 site inspection by this author established the cutting of the entire grid areas was completed and most of the timber had been trucked off site. Shortly after this; the foresters made a **business decision to effectively halt operation for approximately three-four weeks causing the foresters to miss the 10 day window between harvesting and burning**. If the foresters had continued their concerted forestry harvest in mid-October; there would have been time to satisfy for the 10 day window between the end of the harvest and the slash pile burn program.

This **second decision** was a business decision to design/schedule the forestry harvest causing the foresters to miss the MNR window for burning slash in 2013. In that interval, one machine operator spent the approximately three weeks or more loading one or two loads of logs a day.

The foresters made a **third designed business decision to burn the Castle Silver slash piles on the last day of the 2014 slash burning program**. It appears this business decision may have been designed to deny Castle Silver the opportunity to inspect the slash burns and request the job completed in a businessman like manner to render the property safe.

The foresters made a **fourth designed business decision to refuse to move slash piles from the grid line lines until the last eleven operating hours of the 2013 harvest operation**. On that last day all the heavy equipment was removed from the cut area. It appears this business decision was intended to deny Castle Silver the opportunity to inspect the grid lines hazards and request the job completed in a businessman like manner to render the property safe.

Individually the above four business decision could be coincidences: However, collectively these four business decisions in combination with a low quality of work in a high use area give credence to the possibility the foresters were deliberate in not performing work in a businessman like manner, causing needless hardship to Castle Silver and the public using these lands as they were doing at the time cutting commenced.

Castle Silver strongly recommended the foresters make a full clean clear-cut ignoring the pickets and replacing the pickets after the harvest. This was the safe and cost effective way for the foresters to deal with grid rehabilitation. The foresters refused to consider this clean clearcutting option; leaving the lines the worst place to walk on the cut N32. This **fifth designed business decision further disadvantaged Castle Silver**. In the few areas where full clear-cuts crossed the survey lines ignoring the pickets, the traces of the lines were much easier and safer to walk. This is the only place the foresters rehabilitated the line pickets. It was Castle Silver not the foresters that performed all the other picket rehabilitation.

Castle Silver had deferred their 2013 summer field season and expanded grid cutting to allow forestry operations to proceed systematically without the encumbrance, particularly concerning the proposed doubling the grid density that would have substantially increased rehabilitation and cutting cost to the foresters. This is particularly significant in the context of the foresters omitting Cut Nicol 132 from the public domain maps intended for public comment period. Castle Silver had been monitoring the local cuts and were surprised to receive approximately three weeks notice of the massive Nicol 132 clear cut. **Was this**



**sixth event intended to prevent community comment?** In context of the other five events described above; it is possible.

The **six events** described above, in combination with difficulty of getting informative responses from all the foresters; gives the appearance of collusion within the forestry group consisting of: Georgia Pacific, First Resources Management Group and the Timiskaming Forestry Alliance and the cutters. The forestry group appears to be collectively inhibit the public from meaningful input to forestry practices. For example they make statements that they have never before had issues with prospectors and the exploration community. This stance quickly changed when reminded that Rick Pascoe of the Mining and Lands Commissioner's court negotiated compensation for grid damage to other's property. Prior to cutting: The foresters clearly knew the negative impact of cutting on Geotechnical Survey Lines and the foresters' obligation to rehabilitate Geotechnical Survey Lines.

It is this author's intent to lay out the reality of forestry issues for the benefit of others in the author's situation. This author can email (home 705-642-9153) backup information to others that face similar circumstances.

The foresters appear to engage in the practice of the passing off responsibility and inhibiting passage of knowledge commonly known as "**passing the buck**". This author eventually dealt with this passing the buck issue by addressing correspondence to Georgia Pacific as the primary recipient and copying the foresters. Passing the information primarily to Georgia Pacific is justified in part by the probability of persons having overlapping positions and responsibilities in the forestry community.

MNR must consider the cumulative affect above six, negative business decisions before clearing Georgia Pacific and the other foresters of their obligations to protect and restore Castle Silver work place and mineral exploration values and restore favourable and safe public access to these public lands in a high use tourist area.

It is recommended; that MNR require the foresters rehabilitate the exploration property in the Nicol 132 cut by cogenerating the roadside slash. In making this cogeneration decision; MNR should use the value of the slash as cogeneration feed in 2013 before weathering degraded that value. This work must be performed without snow on the ground and when the steep hillside roads are ice free.

### 11.15 COGENERATION

Castle Silver researched slash process for the foresters. The finding regarding cogeneration alternative are listed below in an email. It is Castle Silver's opinion that cogeneration was the only viable slash process to deal with the foresters' obligation to return the property to Castle Silver in an orderly and safe manner. The foresters made a business decision to miss the 2013 deadline for burning slash, leaving cogeneration as the viable means of returning the property in a safe and businesslike manner.

The pictures; copied from the following quoted email, demonstrate the need for an aggressive and clean recovery of roadside slash for cogeneration.



The first picture is typical cut N132 slash piles in the Geotechnical Survey Grid area. Note the random slash between the piles making the entire roadside dangerous to walk. This is particularly dangerous to walk in the early winter, when there is snow on the slash. Equipment is required to deal with both the slash piles and the large volume of random slash between the piles.



The second picture is typical of the cut N132 piles outside the grid area (near the Highway). Note the clean ground that can be walked safely. This is how the roadside slash should have been treated. The ground between the piles should have been cleaned and the piles designed to burn effectively. If the Geotechnical Survey Grid had been treated in this businessman like way, the bulk of the slash would probably have burned in 2014. At best, 50% of the roadside slash was burned in the Geotechnical Survey Grid area.

It is apparent the high quality/value wood waste for cogeneration has greatly diminished the potential financial return from that wood. The foresters' apparent business decisions have severely compromised Castle Silver ability to work safely and effectively on its active work site. Any considerations of diminished wood values should be disregarded.

It is recommended MNR require cogeneration proceed to completion, or require the foresters' to remove the wood waste from the property.

The Mining and Lands Commissioner has dealt with the principles in work place damage in her decision regarding Chitaroni vs Bott Construction and the various Ministries involved in placing highway waste on active exploration work places.

It should be noted that some slash within 10 km of the Castle Silver property was scheduled for cogeneration. The following quoted email reports Castle Silver's research concerning cogeneration and their request for cogeneration.

#### 11.15.1 Emails: February 05, 2015 to MNR, MNM, FRMG GP Re: Cogeneration

**From:** Doug Robinson [<mailto:robinson@ntl.sympatico.ca>]  
**Sent:** February-05-14 9:49 PM  
**To:** MNR: Craig Fuller; FRGG: Yves Vivier  
**Cc:** OPA: Gary Clark; NPA: Dave Larocque; NPA: Jason Ploeger Secretary; MNM: Robert Calhoun; MNM: Robert Hunt: MNM Hazards Inspector; Castle: Elaine Basa; Castle: Frank Basa; Castle: Robinson; GP: Tammy Mazzetti; Cogeneration: TWP Rick Nychuk;  
Cogeneration: KPLC Mike McLaughlin  
**Subject:** Re: Cut 132 Cogeneration

*2014-02-05 Email: Cogeneration - Forestry  
From Castle Silver Mines Inc.  
Prepared by Doug Robinson*

*Hello All*

*This is a reminder of the Wednesday, November 27, 2013 4:37 PM email; deals with **Cogeneration** the apparent best and probably the only option to deal with the slash to render the property compatible to Occupational Health and Safety Standards This is required Castle Silver to commence field work in the spring of 2014.*

*First Resources Management Group – Georgia Pacific requested Castle Silver to defer field work including grid cutting until the spring of winter of 2013 - spring of 2014. This request was honored so the grid density would be half of the alternative.*

*The two pictures are typical roadside slash that needs to be dealt with to permit line cutting and other field work to commence as agreed to in the spring of 2013.*





----- Original Message -----

**From:** Doug Robinson

**To:** MNR: Craig Fuller ; FRGG: Yves Vivier

**Cc:** MNDM: Robert Hunt: MNDM Hazards Inspector ; Castle: Elaine Basa ; Castle: Frank Basa ; Castle: Robinson ; GP: Tammy Mazzetti ; Cogeneration: TWP Rick Nychuk ; Cogeneration: KPLC Mike McLaughlin

**Sent:** Wednesday, November 27, 2013 4:37 PM

**Subject:** Cut 132 Cogeneration

*Hello Yves*

*2013-11-27 Cogeneration Info*

*Phone contacts today established*

- 1. Wood waste produced during September-October 2013 is best used for cogeneration is best used in the year cut.*
- 2. Wood waste produced during September-October 2013 is viable for cogeneration in the spring of 2014.*
- 3. The viability of wood waste produced during September-October 2013 decreases after the spring of 2014 due to the aging process. It was not established how this aging process would affect the financial relationships involved in cogeneration.*
- 4 Cogeneration is typically performed by Kirkland Lake Power Corp in Kirkland Lake ( <http://kirklandlakepowercorp.com/> phone: 705 567-9501) or Northland Power Homepage*

<http://www.northlandpower.ca/Home.aspx> in Cochrane Ontario depending on geographical considerations.

5. *Temiskaming Wood Products (Rick Nychuk) 705-568-7702 (alternate # 705 643-2389) is the normal contractor providing wood waste grinding and trucking to the cogeneration plant. This company is experienced in the process and provides the grinding and trucking service delivering the wood waste to the cogeneration plant.*
6. *The normal range for cogeneration is Elk Lake from Kirkland Lake.*
7. *The cost for the forestry proponent shipping wood waste to the cogeneration plant within the Kirkland Lake Elk Lake area is nil. Beyond Elk Lake the forestry proponent would probably pay a surcharge to cover the extra shipping distance.*
8. *Cut 132 is within 50 km of Elk Lake (estimated as 42 km to the Everett Lake road plus 5 km to the slash).*
9. *The Haultain road is not suitable for winter haulage due to the hill approximately 1-2 km north of the highway.*
10. *Winter processing of the slash is not desirable to effectively clean the slash*
11. *Processing the wood slash in the spring of ~~2013~~ (error correction 2014) is the acceptable time frame to deal with the slash on Castle Silver ground.*
12. *Cogeneration may not apply to the slash outside the Castle Silver Property.*

*Respectfully submitted  
November 27, 2013  
Douglas Robinson*

*Contact Info  
Temiskaming Wood Products  
Rick Nychuk           705 568-7702            [nychuk@ontera.net](mailto:nychuk@ontera.net)  
Cathy Nychuk       705 643-2389*

*Kirkland Lake Power Corp  
Mike McLaughlin Wood Fuel Procurement Manager  
705-567-9501 ext 226            [Mike.McLaughlin@kirklandlakepower.ca](mailto:Mike.McLaughlin@kirklandlakepower.ca)*

*Yves Vivier, R.P.F. Forest Program Manager First Resources Management Group  
Office: (705) 544-2828 ext. 232   Cell: (705) 544-3368  
Email: [yves.vivier@frmg.ca](mailto:yves.vivier@frmg.ca)*

*Tammy Mazzetti Georgia Pacific 705 544-6153  
Email: [Tammy.Mazzetti@gapac.com](mailto:Tammy.Mazzetti@gapac.com)*

*MNR Craig Fuller 705 568-3225  
Email: [craig.fuller@ontario.ca](mailto:craig.fuller@ontario.ca)*

*Robert Hunt MNDM Hazards Inspector 705 235-1646*

*Email: [Robert .hunt@ontario.ca](mailto:Robert.hunt@ontario.ca)*

*Douglas Robinson (Castle Silver) 705 642-9153*

*Email: [robinson@nt.net](mailto:robinson@nt.net)*

*Frank Basa Castle Silver 416-625-2342*

*[moje@ntl.sympatico.ca](mailto:moje@ntl.sympatico.ca)*

*Elaine Basa Castle Silver 514 441-4019*

*Email: [ebasa@live.com](mailto:ebasa@live.com)” (Quoted from February 05, 2014 email from DRR to GP FRMG MNR MNDM Cogeneration Community)*

It is recommended MNR require the foresters rehabilitate the exploration property by cogenerating the roadside slash of N132 over the Castle Silver property. In this decision; it is recommended MNR consider 2013 values of the high quality 2013 slash, not the diminished slash value after weathering.

#### **11.15.2 Wood Ash Analysis**

In an email received April 17, 2014, FPIInnovations (Quebec City) provided a pdf copy of an informative wood ash analysis report. This Technical Report (076) is titled “Life Cycle Sustainability of the Woody Biomass Innovative Project: A preliminary Assessment dated 2013. This report appears to be informative.

This author has casually read pertinent sections and is willing to email a copy to anyone interested.

### **11.16 GRID REHABILITATION BY GLENN MCBRIDE FOR GEORGIA PACIFIC (2013)**

The foresters’ made a business decision to refuse to start survey line rehabilitation until after the official completion of their harvest (November 17, 2013). The cutting and slash piling were completed in mid-October. This was a bitter bone of contention between Castle Silver and the foresters.

On behalf of the foresters, this author arranged and organized the necessary survey line rehabilitation. During November 4–8, 2014 inclusive; Glenn McBride and his crew acting under the foresters’ permit/license rehabilitated the trace of the Geotechnical Survey Lines of Grid A, Grid C and Grid D. This crew cut out the forestry obstructions hindering safe travel along the lines.

It snowed two days after Mr. McBride restored the line of travel along these survey lines. Had this survey line clearing-cutting been delayed until after November 17, 2013 as the foresters stipulated; this rehabilitation of Geotechnical Survey Lines (grid lines) would have been winter rehabilitation which would have left the survey lines unsafe for summer use.

This author and Betty Robinson had previously rehabilitated Survey Lines of Grid B.



Nov 7, 2013, 2:10pm) Above photo: Glenn McBride's cutter clearing line in close proximity to A1800N.

Prior to Glenn McBride's work; this author and Betty Robinson rehabilitated the pickets along the Geotechnical Survey Lines of Grid A (north part), Grid B, Grid C and Grid D. We located and re-established the surviving pickets, and planted 2x2 commercial pickets at every original picket location. Where original pickets were identified the original picket was tied to the new 2x2 commercial picket. We used the best commercial pickets available which by coincidence were produced by Georgia Pacific and sold locally in Earleton.

Only the pickets on the south part of Geotechnical Survey Grid A Base line (IPLA) and C780W were not reestablished by this author and Betty Robinson. The Grid A base line had few surviving pickets. Glenn McBride and this author walked the full length of Grid A Base line and found few surviving pickets. It is possible some down pickets survived in the slash and were not distinguished from that slash. Glenn cut out the slash and cut new (stick) pickets to mark the trace of the line. These pickets were not chained.

Geotechnical Survey Line C780W was not picket rehabilitated because the author did not know the western extremity of the cut N132 destroyed this Geotechnical Survey Line. This author and Betty Robinson discovered this fact while traversing prior to MMI sampling in this area. This Geotechnical Survey Line remains to be rehabilitated by Georgia Pacific.

During picket rehabilitation, the author encountered two extremely serious hazards. At Grid coordinates **A000W1875N** and D400N020E (photo in another part of this report); the author encountered multi-strand (spiraled) aluminum power transition lines intertwined with tangled forestry slash placed on the Geotechnical Survey Lines. The operator had to know he was moving power transition lines because the foresters pre-identified these power lines as serious hazards to be dealt with. The geotechnical line was also clearly flagged prior to cutting and the operator knew the power lines were being placed on survey lines.

The forester demanded the grid rehabilitation be performed in the winter of 2013-2014 when the slash was covered by snow. It appears safe to say; had the chain saw operator cut into a slash-power line hazard there could have been very serious consequences.

By coincidence; Tammy Mazzetti (from the road) witnessed this author and Betty Robinson at **A000W1875N**, while we were planting commercial replacement pickets along Base Line A. The ensuing conversation was a close as the foresters have come to acknowledging the seriousness of forestry hazards introduced onto the safe geotechnical lines. About an hour earlier; Tammy, Betty and the author had examined the reasonably cut half of the cut N132 south west of the main grid. Tammy seeing Base Line A and knowing another woman had to walk that line, over, under and through the abrasive hazards, must have been revealing.



(Nov 7, 2013, 2:03pm) The picture above is the location of A000W1875N. This is the location of the power line that was woven within the slash shown. The author cannot remember if he had removed the hazard or if it is hidden in the wood waste.





In the picture above part of the power transmission line is flagged. It was also woven through the slash (not visible in the picture). The author see no apparent reason for the foresters to have entered this known high risk power line area with two cross Grid lines to harvest very little if any desirable timber.

Locally, Tammy is a well-respected forester; a view that is shared by this author and Betty Robinson, and we encourage her to stay involved in the forest industry.

All forestry persons including all Georgia Pacific persons have consistently refused to walk along the Geotechnical Survey Lines and the clear cuts between these lines. Even when they are standing on the line on the road they flatly refuse to enter the clear-cut, stating these lines are acceptable.

Circa 2000: while working with Grant Forest Products (precursor of Georgia Pacific), this author and Grant Forest Products determined the only pickets suitable for Geotechnical Survey Line markers; within clear cuts, were 2x2 commercial timber. Since that time, this author has used 2x2 commercial timber exclusively in clear cuts. 2x2 commercial timber pickets are the only commonly used pickets that are recognizable several or more years of geotechnical work in the clear-cut forests. In field work it is necessary to focus on the work and pickets must be intuitively obvious. Pickets must be distinct and different from the wood waste common in clear cuts. This author requests that MNR, and MNDM and foresters officially recognize 2x2 commercial timber as the (default) viable industry standard within forestry cuts.

#### **11.17 GRID REHABILITATION BY DEMARELL FORESTRY & MINING CONSULTING (2014)**

In total the cut N132 impacted 8.60 km of Geotechnical Survey Lines. On November 6, 2014, Kevin Demarell of Demarell Forestry & Mining Consulting reestablished 2.0 km of missing and damaged pickets with 2x2 commercial pickets with inscribed aluminum tag denoting the grid location. This was done at a total cost of \$445.15 paid by Georgia Pacific. This price included taxes and \$69.50 for commercial pickets. Kevin is a highly qualified and skilled mining and forestry consultant.

The pickets Kevin planted were along the south part of Geotechnical Survey Line IPLA. This author and Betty Robinson established the other 6.60 km (87%) of the picket restoration at the expense of Castle Silver.

During November 2013, Glenn McBride and this author walked IPLA and determined most of the pickets were missing. We crossed the entire cut N132 and one forestry worker was encountered. In his rehabilitation of the IPLA Mr. McBride cut and randomly planted new pickets to locate the line across long stretches of clear cut with no surviving pickets.

Prior to work by McBride and Demarell, this author and Betty Robinson commenced planting 2x2 commercial pickets along Geotechnical Survey Line IPLA, starting at IPLA1900N. We had to abandon picket placement because the line was in large part obliterated and too few pickets survived to establish the line and the line coordinates. This is a positive comment because the cut appeared to be significantly cleaner and safer along this line.

## 11.18 BALSAM FIR QUESTION

The author observed significantly large areas dominated by Balsam fir in the densely gridded area, particularly near the Castle #3 mine and Capital mine.



Nov 7, 2013, 2:10pm) Above photo: Glenn McBride's cutter clearing line in close proximity to A1800N. This tree stand is dominated by small to large balsam fir.



*(October 11, 2013 near B000E Base Line) Above: Harvested stand showing high density of balsam fir.*

The author's first job in northern Ontario was sandvik operator work under an MNR forester. My supervisor called these trees "*balsam shit*". After 50 additional years of work; this author knows why this is the name he used to describe balsam fir. It appears Georgia Pacific had a similar view. Their forester questioned the economic value of the forest in the densely gridded area. The author's question is: **If the value is not in this forest, why were these high multi-user forested areas cut**, leaving a well-established balsam fir understory and many compromised and leaning balsam fir that fell under the first snow load.

Tabulated below are the sector description

99099	SB30 BW30 PO30 CE10	76-1-1.0-MW2-8Ha
99099	SB30 BW30 PO30 CE10	76-1-1.0-MW2-9Ha
07997	BW40 SB30 SB10 MR10 PO PJ 10	71-3-1.0 MW2-13Ha
15493	PJ70 PO30	91-2-1.0 PJ2-59Ha

*(The above data was copied from the Forest map (inventory? Activity?). The maps are low quality and the text was barely legible, a common problem with forestry maps collected for archival purposes).*

**The source map was titled "Timiskaming Forest S.F.L. #542247 Twp(s): Haultain, Nicol Block ID: Nicol 132 Area 219.6 Ha Shareholder: Georgia-Pacific North Woods Treatment Date: 2013-2014".**

The author assumes the trees referenced in the forestry map are:

PO	Poplar
SB	Black Spruce,
PJ	Jack pine
BW	White Birch

MR Red Maple  
CE White Cedar

**Timiskaming Forest map S.F.L. #542247** makes no reference to balsam fir in the grid area. In cut N132; balsam fir is a prominent tree and the dominant tree in much of the understory. It appears **regeneration will increase the proportion of balsam fir at the expense of higher quality marketable timber**. If this is true; the author questions if this is in the long term best interest of the forest industry and the taxpayer.

The foresters assured this author that balsam fir are accounted for in the forest inventory and are harvested as a marketable tree.

The author works with mineral statistics and mineral inventories and has reviewed and commented from that perspective regarding Forestry map S.F.L. #542247. Forestry map S.F.L. #542247 appears to report the apparent total forest inventories totaling 100% with individual entries reported in increments of 10's. It appears the forestry people went to great effort to make these maps. This author assumes; these people used the best easily available information to report the apparent forest inventory. If these numbers are actual meaningful measurements they would report to one significant figure which is **101 increments** from 0% to 100% inclusive. It appears these apparent forest inventory numbers are crude estimates of wood in the forest.

The author recommends MNR perform a site visit and identify the species and frequencies of tree harvested to assure the contractor supplying these forest inventory is performing an accurate determination. It is recommended these checks be performed on Geotechnical Survey Lines of Grid C and Grid D which are the best lines of access in the cut. The lines are chained with pickets and the lines are excellent impartial sample distribution. The author cautions against basing observations weighted towards the easily accessible cameo parts of the cut outside the grids. It is possible the cleanly clear-cut area hosted the economically desirable part of Cut N132.

The recommended priority test area is sector *"99099 SB30 BW30 PO30 CE10"* which (is grid B) located between the Castle #3 and Capitol shafts at the NW access road to cut N132. The concern here is the absence of balsam fir in the totals. The second priority is sector *"15493 PJ70 PO30"* which is grid C located at the NE access road to Cut N132. The concern here is the 70% Jack pine over 13 Ha determination.

Author cannot speak for the forest industry; however the author has sympathy for the harvester, if the apparent inventory observations are backed up by an MNR site visit of the grid area.

## 12 FIRST NATIONS RELATIONSHIPS

---

Castle Silver Mines has an excellent relationship with Matachewan First Nation. A memorandum of understanding has been reached with the Matchewan First Nation. This agreement is a secret agreement and this author is not privy to the content of this agreement.

First Nations people have done all the staking almost all the line-cutting, all of the 2012 cutting of Grid C and Grid D and much of the grid rehabilitation of Grid A, Grid C and Grid D. The diamond drill contractor in the 2011 diamond drill program also had a first nation driller one of the two rotating shifts.

Castle Silver has benefited from the high quality of workmanship and friendliness.

Megwich

Castle Silver Mines

## 13 DISCLAIMER

---

This report documents activities of the Castle Silver exploration program and proceedings and events that have impacted Castle Silver properties and activities. The document was prepared by Doug Robinson Consulting and is presented to Castle Silver as a permanent record of these events to be used for assessment reporting to MNM Mining Lands.

The author is not a lawyer or legal expert, but the author believes the opinions and recommendations expressed deserve a fair and objective hearing.

Most Canadians regularly make legitimate, informed legal decisions without legal advice. Also some lawyers make written and legal presentations to the courts that are wrong or misleading.

The intent of the background information, reporting of findings and recommendations of the report are directed to bring foresters, mineral explorationists, the public and Government together to **sing from the same song book**. But first we have to canonize the hymnbook.

Many of the identities identified in this report are very careful to not express written accounts, stands or opinions. This appears to be a systemic process. Castle Silver has been blindsided by many events and issues controlled by others referenced in this report. The events and related issues were outside of Castle Silver's experience and expertise. For example foresters routinely cut in conflict situations and are **skilled** and **experienced** at controlling the negotiation process to the advantage of the forester. This is done without full disclosure of the impacts and activities. Mineral explorations including Castle Silver and other impacted citizens and corporate citizens impacted by forestry conflict situation are on a first time encounter and lack the experience to defend their values. This is not a level playing field.

This author has chosen the report format for the benefit of other stakeholders in similar first encounters. It is important for other stakeholders to not rely on the verbal, unverifiable accounts and/or assertions similar to those this author experienced in 2013, 2014 and 2015. The Mining and Lands Commissioners reasoned legal decisions are the one gold standard this author has encountered and trusts with confidence.

Prospectors, mineral explorationists and other stakeholders suffer bifurcation and respond individually without understanding which is in contrast to the strong collective cooperation of foresters such as Georgia Pacific, First Resources Management Group, Timiskaming Forest Alliance and the cutters who promote their common interest at the expense of mineral exploration and other stakeholders.

This author is hearing the same exasperation from northerners that have little or no connection with mining.

Due to an apparent suppression of critical information and easy to verify information, there will probably be some errors in this report. This author requests the parties involved to be much more forward with information that impact their past, present and future relationships with mineral explorations and other stakeholders.

It is sincerely hoped this report has brought forward to MNR and MNDM and MOL issues that will impact these ministries down the road. It is hoped the recommendations articulate reasonable solutions. It is also hoped the Ministries respond to the recommendation in a manner that demonstrates insight and a desire to understand the concerns raised.

It is also hoped the mineral exploration and mining industry also review the recommendations with insight and with intent to protect all individuals in the industry, and the public.

## 14 RECOMMENDATIONS

---

The recommendations below are some of the recommendation made within this report.

### 14.1 RECOMMENDATIONS TO THE PREMIER OF ONTARIO

The following recommendations are directed to the Premier of Ontario.

#### 14.1.1 RECOMMENDATIONS TO MNR-MNDM-MOL- SURVEYOR GENERAL & OTHER MINISTRIES

It is **recommended**:

- the Surveyor General,
- the Ministry of Northern Development and Mines (MNDM),
- the Ministry of Natural Resources (MNR),
- the Ministry of the Environment (MOE),
- the Ministry of Labour (MOL),
- the Ministry of Tourism MOL,

each designate a person of authority to meet collectively at cut H135 and the Geotechnical Survey Grid in cut N132 site. Based on their findings at these sites it is **recommended** these ministries evaluate their interrelationships and their impact on each other for the purpose of formulating a process to construct **comprehensive, cohesive, coherent, consistent** legislation, policy, best practices and enforcement for forestry practices concerning preservation of Ontario Land Survey fabric, tourist values, environmental values, forest values, mineral exploration and mining values, and **Human** Occupation Health and Safety concerns impacting persons accessing public lands. These people include tourists, local residents, hunters, trappers and other people that regularly access these public lands.

#### 14.1.2 Recommendations Background Regarding Ministry Leadership Responsibility

It is **recommended** all ministries quickly and decisively and officially acknowledge the negative impacts of their legislation, policy and enforcement including: Acts, regulations, best practises documents and the enforcement of these legislations.

Almost all legislation has positive and negative attributes to different stakeholders and interest groups including the public and the Government. Federal and Provincial Evidence Based Policy development legislation was implemented to formalize a balanced approach to creating legislation and policy. If a ministry appropriately practices **Evidence Based Policy Development**, that ministry is taking its proper leadership role.

There appears to be a systemic, residual problem: The ministries referenced in this report appear to be ignoring and refusing to acknowledge very serious problems in existing enforcement and planned legislation-policy changes.

If a Ministry and the informed persons in the ministry do not acknowledge major problems relating to existing and planned legislation and policy changes; the less informed politicians driving the changes and those impacted by the changes have extreme difficulty engaging in informed discussion. When there is no agreed to recognition and statement of facts; the discussion wastes much time, and effort establishing and re-establishing facts many times. That wasted time and effort should be devoted to finding solutions.

It is the responsibility of a ministry and the Government to take their proper leadership role and establish the relevant Evidence Base studies in the public domain so all parties are singing from the same hymn book and dealing with solutions.

### 14.2 RECOMMENDATIONS TO GEORGIA PACIFIC AND PUBLIC

It is **recommended** Georgia Pacific and the public review this assessment report in perspective of Georgia Pacific's social license to harvest Ontario's forests.

The public and Georgia Pacific's employees and impacted contractors are invited to respond to Georgia Pacific's compliance to their social license and other issues by assessing Georgia Pacific's compliance phone: 1-800-234-4321 or on-Line service at <https://reportlineweb.com/georgiapacific> or at General Corporate Headquarters, Georgia-Pacific LLC, 133 Peachtree Street Atlanta, GA 30303 (404) 652-4000 /main phone.

Georgia Pacific's various Codes of Ethical Behaviors and social awareness discussed below are all hot linked from the lower right quarter of the page titled "Sustainability: Every Day in Everything we Do". The web address is below:

<http://www.gp.com/Company/Sustainability> . (Level 1)

This page and the subsequent pages discussed were identified after the report recommendations were substantially completed. Redundancy of recommendations has resulted. A light editing was performed to eliminate some duplication.



#### 14.2.1 Georgia Pacific Level (1a) Comment: Code of Conduct Contact Information

Georgia Pacific's "**Code of Conduct**" (Asking Questions and Raising Issues) for reporting of Ethical conduct web page is:

<http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/List/Code%20of%20Conduct%20-%20GuideLine%20Numbers.ashx?force=1> (Level 1a)

This page gives Georgia Pacific's compliance phone number: 1-800-234-4321 and on-Line service at <https://reportlineweb.com/georgiapacific>.

---

#### 14.2.2 Georgia Pacific Level (1c) Recommendations: Sustainable Practice Certification

Georgia Pacific's document "**GP Statement on Forest Protection and Sustainable Practices**" (updated 2013) is available as web page:

[http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/List/GP\\_Statement\\_on\\_Forestry\\_Protection.ashx?force=1](http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/List/GP_Statement_on_Forestry_Protection.ashx?force=1) (Level 1c) (Level 1b not quoted)

This document state: "*Georgia Pacific will continue regular **third-party certification** of its wood and fibre procurement practices across all of its operating areas. Summary results of audits will be periodically made public and **available to interest groups and stakeholders.***"

It is **recommended** Georgia Pacific's "**third party certification**" of Timiskaming District forest operations be third-party audited for "certification of its wood and fibre procurement practices" in cut N132 and H135 and the "*Summary results of audits*" be "*made public and **available to interest groups and stakeholders***" including Castle Silver..

It is **recommended** the Georgia Pacific third party certification deal specifically with cut N132,

- sector "*99099 SB30 BW30 PO30 CE10*" which (is grid B) at the NW access road to cut N132 and
- sector "*15493 PJ70 PO30*" at the NE access road into cut N132..

By policy; Georgia Pacific expects the same standards of its cutters, assignees and suppliers that it expects from itself. By this policy; Georgia Pacific cannot assign its liability to others. It is appropriate to address all forestry concerns regarding Georgia Pacific cuts to Georgia Pacific expecting them to respond to these concerns. In this document Georgia Pacific states "*Georgia Pacific will continue to require adherence to both mandatory and voluntary state Best Management Practices (BMPs) during the harvest of any timber supplied to Georgia Pacific Facilities*".

It is **recommended** Georgia Pacific's head office review the questions asked of Georgia Pacific and determine from written statements to Castle Silver if Georgia Pacific has voluntarily responded appropriately. It is requested Georgia Pacific head office respond giving their findings to the questions in the email sent to Georgia Pacific and included in this report.

If is **recommended** MNR review and investigate Georgia Pacific's **third party certification** of Timiskaming Forest operations with emphasis on Cut H135 and N132 operations impacting Castle Silver.

If Georgia Pacific's does not have **third party certification** of Timiskaming District forest operations with emphasis on Cut H135 and N132 operations impacting Castle Silver; it is **recommended** MNR conduct an equivalent determination before these two cuts are certified complete.

### 14.2.3 Georgia Pacific Level (1d) Comment: Canadian Forest Certification

Georgia Pacific's "Forest Certification Around the World" web page indicates 50-75% of Canadian forests are certified forests. There is a significant possibility Georgia Pacific cuts H 135 and N123 are certified forests. The web address is:

[http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/Forest\\_Certification\\_Around\\_the\\_World.ashx?force=1](http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/Forest_Certification_Around_the_World.ashx?force=1) (Level 1d)

It would be surprising if MNR did not desire that Ontario forests be internationally certified forests.

---

### 14.2.4 Georgia Pacific Level (1e) Recommendations: Loggers Training for Social Values

Georgia Pacific document "Sustainable Forestry Outreach" web addressed below states Georgia Pacific requires "all loggers and suppliers to be **trained through professional logger training programs**":

<http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/Sustainable%20Forestry%20Outreach.ashx?force=1> (Level 1e)

It is **recommended** Georgia Pacific, First Resources Management Group and Timiskaming Forest Alliance staff and assignees take professional logger training programs dealing specifically with:

- Mining and mineral exploration values including:
    - walking Geotechnical Survey Lines carrying heavy packs without deviating from the lines for forestry waste and forestry hazards
    - walking in predetermined (prescribed) straight lines across forestry worksites
  - demonstrating multiple contractor workplace Occupational Health and Safety Standards for walking straight lines throughout the cut and roadside slash areas to MOL standards for all contract workers including the forester
  - public values including public safety.
- 

### 14.2.5 Georgia Pacific Level (1f) Recommendations: Independent Forestry Analysis

Georgia Pacific's web page Sustainable Forestry Program Overview (Program Overview) below states Georgia Pacific has established "an **independent analysis confirmed that all basins in which we operate are at low risk for impacting ... violating traditional and civil rights**".

<http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/Sustainable%20Forestry%20Program%20Overview.ashx?force=1> (Level 1f)

It is **recommended** Georgia Pacific, MNR, MOL, MNM and the independent analyst (mentioned in this web page) define mineral exploration projects as high risk situations that impact the **traditional** and **civil rights** of mineral explorationist to quiet operations in their projects and work places.

It is **recommended** Georgia Pacific, MNR, MOL, MNM and the independent analyst recognize Cut N132 as a known conflict site with ongoing mineral exploration activities on that worksite. Mineral exploration work commenced prior to 1909. This was an active project and worksite at the time of planning cut N132 and cutting of N132.

It is **recommended** Georgia Pacific, MNR, MOL, MNM and the independent analyst recognize Cut N132 violated Castle Silver **traditional** and **civil right** of quiet mineral exploration in their active work place.

It is **recommended** Georgia Pacific not engage Ontario or Canadian corporate representative in the above recommended determinations.

#### 14.2.6 Georgia Pacific Level (1g) Recommendations: Public Values, Woody Biomass Fuels, Self-Audits, Third-party Audits

Georgia Pacific's web page "Brochure" (Rethink, Reuse, Recycle) discusses Georgia Pacific's operational social responsibility, "Woody Biomass Fuels", self-audits and third-party audits

[http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents-List/reBrochure.ashx?force=1](http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Documents/ReBrochure.ashx?force=1) (Level 1g)

It is **recommended** Georgia Pacific meet its social obligation to the Ontario public and property stakeholders by "operating in a manner that is environmentally and **socially responsible**" (Introduction page b) "meeting the need of society today without jeopardizing our ability to do so in the future" (pg 1) by aggressively **protecting the Ontario Land Survey fabric (OLS)** that defines private and corporate holdings as discussed in this report. The future of MNDM's Mining Act Modernization Act depends on the immediate and continued protection of OLS survey fabric.

It is **recommended** Georgia Pacific meet its policy to cogeneration. This applies specifically to Timiskaming's forests including the cut forests of Nicol and Haultain Townships. Georgia Pacific states "**GP is responsible for more than 12 percent of the electricity generated from renewable woody biomass in the entire US**" (pg 10). The development of electricity generated from renewable Woody Biomass Fuels is essential to Ontario. Georgia Pacific further states "*Biomass fuels reduce our dependence on fossil fuels and demand for purchased electricity while reducing greenhouse gas emissions.*" (pg10).

Georgia Pacific further states their policy on page 4 stating: "*PG manufacturing processes are planned to help assure that **no part of a tree is wasted.***" It is **recommended** Georgia Pacific practice a zero waste program by recognizing roadside **slash is part of trees.**

It is **recommended** Georgia Pacific cogenerate the Woody Biomass Fuels from Castle Silver property. This fuel consists of many roadside slash piles and much indiscriminate wood waste hazards between these slash piles. This valuable Woody Biomass Fuel is a public hazard in highly used public access areas. This is also an extreme Human Health and Human Safety hazards on Castle Silver workplace and in the community in which Georgia Pacific operates.

Georgia Pacific states (pg 11) "At GP we document our environmental performance through **comprehensive self-audits and third-party audits** programs. Our employees who have environmental responsibility receive training to keep them current on changing requirements and goals".

It is **recommended** Georgia Pacific include "At GP we document our **Occupational Health and Safety Standards** impacting the safety of the public and other workers through **comprehensive self-audits and third-party audits** programs. Our employees who have **social health and social safety responsibilities**, receive training to keep them current on changing requirements and goals of public health and public safety goals."

It is **recommended** Georgia Pacific institute the above described **self-audits** of their compliance to their social license. It is **recommended** head office staff not local Ontario corporate representatives be involved in the above recommended self-audits.

---

#### 14.2.7 Georgia Pacific Level (1h) Recommendations: Social License, Public and Workplace Safety

Georgia Pacific's web page "*Supplier Sustainability Guidelines*" deals with "**Social License**" as a requirement for all Georgia Pacific's suppliers and by extension for Georgia Pacific itself. It supports ways to "**long-term social**

*license to operate by being good corporate citizens in the communities in which they have operations*". This documents has web address:

[http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Document-List/supplier\\_guidelines.ashx?force=1](http://www.gp.com/~media/Corporate/GPCOM/Files/Sustainability/Sustainability-Document-List/supplier_guidelines.ashx?force=1)

This document statements include:

- *"We encourage suppliers to make continuous improvements as they identify new and innovative ways to create value and **mitigate risk** in the **social**, environmental and economic dimensions of sustainability"*
- *"... **support for the communities in which we live and work, maintaining quality work environments**"*
- *"... **maintain their long-term social license to operate by being good corporate citizens in the communities in which they have operations**"*.

It is **recommended** MNR, MOL and MNDM cancel Georgia Pacific's social license and cutting license until Georgia Pacific puts forward an aggressive plan to immediately deal with restoring **Public** and **Human Health and Human safety** in cuts H135 and N132; so forestry workers including Georgia Pacific workers, and mineral exploration workers of Castle Silver and the public can safely walk on the ground in straight lines along Geotechnical Survey Lines and between grid lines without encountering forestry created hazards or obstructions.

See Georgia Pacific's EHS compliance quotes regarding Human Health and Human Safety relationship with communities in following section.

---

#### 14.2.8 Georgia Pacific Recommendations: EHS Commitment (Environment-Health-Safety)

Georgia Pacific's web page "**Georgia-Pacific EHS Commitment**" deals with the environment issues, to **human health** issues and **human safety** issues. Below is the web address of this page:

<http://www.gp.com/Company/Sustainability/EHS>

Georgia-Pacific's Environmental, Health and Safety "EHS Commitment" is similar to Georgia Pacific's definition of social license. The EHS Commitment states:

- *"Georgia-Pacific, worldwide, will manage operations and develop, produce, distribute and market products in a manner that protects the environment and the **health** and **safety** of employees, customers, **contractors** and **the communities in which we operate**, while fully complying with applicable laws and regulations. The company will **continuously improve Environmental, Health & Safety (EHS)** performance toward a goal of zero incidents."*
- *"To demonstrate our commitment to superior EHS performance, the company is committed to .... Working proactively with legislators, regulators, **concerned groups**, and **industry peers** to develop and advance effective **approaches to human health and safety** and environmental protection."*
- *"To demonstrate our commitment to superior EHS performance, the company is committed to ... Communicating regularly on EHS issues and performance with employees, contractors, customers, regulators, **the communities in which we operate**, and the **general public**"*
- *"To demonstrate our commitment to superior EHS performance, the company is committed to ... **Auditing assets and operating practices** regularly, and taking the appropriate corrective actions."*

It is **recommended** Georgia Pacific, MOL, MNR and MNM collectively work together to assure “**Human**” **occupational safety and health standards are restored** to H135 and N132 so forestry workers including Georgia Pacific and mineral exploration workers of Castle Silver can safely walk straight lines on the ground along Geotechnical Survey Lines and between grid lines without encountering forestry created hazards.

Georgia Pacific is explicit describing **occupational safety and health standards** as **Human standards** not exclusive to their own corporate workers.

It is **recommended** Georgia Pacific comment in writing explaining their commitment to EHS to Castle Silver and the public in relation to cut N132.

### 14.3 MNM STANDARDS RE: EVIDENCE BASED POLICY DEVELOPMENT

It is **recommended** MNM and the Ontario Government fulfill the Government’s and Federal Government’s standards for “**Evidenced Based Policy Development**” for the Mining Act Modernization issues raised concerning Map Staking, Forced Conversion of land staked mining claims to cell based mining claims, for assessment credit requirements for fractional claims, protection of OLS Survey Monumentation and granting assessment credits for identifying OLS Survey fabric.

#### 14.3.1 MNM Engagement in Evidence Based Policy Development

Based on the principles of **Evidenced Based Policy Development**; It is **recommended** MNM **recognise November 1, 2012 as the effective date** MNM policy recognised sub five meter accuracy as the objective standard for all staking fabric UTM data and all OLS mining related survey fabric UTM data to be used in the claim conversion process.

To not accept this policy and its November 1, 2012 activation date has critical, potentially fatal implications for many of the 25,000-35,000 **Fractional Claims** (Boundary Claims and **Encumbered Claims**) replacing Legacy Claims and claims staked after November 1, 2012.

#### 14.3.2 MNM Recommendation: Evidence Based Accounting of Encumbered Cell Claims

MNM appears to have initiated Evidence Based Accounting of **Fractional Boundary Claims** that will be generated by Forced Conversion. MNM appears to have omitted Evidence Based Accounting of Fractional **Encumbered Claims** that will be generated by Forced Conversion.

It is **recommended**; MNM immediately initiate Evidence Based Accounting of **Fractional cell Claims** that will be generated by Forced Conversion and account separately for Boundary Claims, Encumbered Claims and claims that are both Boundary Claims and Encumbered Claims.

It is probably to pick an arbitrary date because the base line claim fabric is constantly changing. The choice of date will probably be statically neutral over a few months. During Lands for Life process MNM performed a base line study to determine the impact of the Lands for Life process. If MNM revisits this example be sure to review the second review performed in Timmins (by Gordon Yule?). This study was amended in response to the evidence presented in the 2001 Ontario Superior Court trial KL5/01. Examination of that amended study in light of that evidence will be informative to effective case dealing with the nuances of Evidence Based Accounting performed by MNM. MNM has a complete copy of the trial transcript and all the court documents. If these are destroyed this author can provide a copy.

#### 14.4 MNDM LEADERSHIP ROLE IN POLICY CONVERSIONS TO FRACTIONAL CLAIMS

**MNDM has done an excellent job eliminating fractional claims from the claim fabric of Ontario.** In the past, MNDM took the leadership role to minimize the hardship caused by land staked Fractional Claims.

**It is recommended MNDM again take an active leadership role to decisively and fairly to minimize hardship** to all claim holders that will inherit the estimated 25,000-35,000 Fractional Cell Claims during Forced Conversion. This decisive action is required to mitigate hardship associated with the fractionalization of mineral explorationists' claim groups.

MNDM has a truly viable and fair option with a small cost (see ~next page). This cost is small relative to the industry cost of dealing with the fractions. The cost includes not developing mines due to fractional claim issues created by dealing with these many Fractional Claims. Given the many thousands of fractional claims, it is a matter of time before Ontario has lost several mines because of fractional claim issues.

The Marion claims of Teck Township claims should be used to judge MNDM's handling of Fractional Cells Claims. This author and others put forward Marion's scenario for impact evaluation.

##### 14.4.1 MNDM Obligation to Certify Existence of Conversion and Map Staked Cell Claims

It is **recommended** MNDM recognize in advance that: MNDM is the proponent, proposing Forced Conversion of Legacy Claims and claims recorded on or after November 1, 2012.

It is **recommended** MNDM recognizes in advance that, as the proponent; MNDM has the legal obligation to certify the exact perimeter of all Encumbered Claims and Boundary Claims issued during Forced Conversion.

MNDM has set **sub 5 meter accuracy** as the minimum industry standard, and MNDM must recognize this **sub 5 meter accuracy** as the worse case, acceptable scenario in its OLS survey data.

It is **recommended** MNDM recognizes in advance that MNDM has the legal obligation to certify the existence, location and extent of all Encumbered (cell) Claims that will be issued after the conversion date.

#### 14.5 MNDM POLICY MNDM FRACTIONAL CLAIMS & ASSESSMENT CREDITS

##### 14.5.1 Preferred Recommendation: Merging Assessment Requirements of Fractional Cell Claims

It is **recommended** MNDM officially recognize Forced Conversion of Legacy Claims and Claims recorded subsequent map staking system will generate 25,000 to 35,000 new **Fractional Claims** instantly. These Fractional Claims will include Boundary Claims and Encumbered Claims, many of them as small as **a tiny fraction of a fraction of a single Ha.**

It is **recommended** MNDM allow

- any Fractional Claim holder to make application subject to automatic approval to have any required assessment work requirements for any fractional claim be **assigned at a prorated \$25 per Ha per year** to be entered on the Claim Abstract of a contiguous claim (fractional or complete cell) called a **Parent Claim**.
  - If a 0.50 hectare (Ha) Fractional Cell Claim assessment requirement were combined with a typical 20 Ha cell claim; the combined yearly assessment required would be \$25 + \$ 400 = \$425 per year.

- If a 0.50 ha Fractional Cell Claim, a 5.25 Ha Fractional Cell Claim and a 20 Ha cell claim are combined, the total yearly assessment requirement would be  $\$25 + \$125 + 400 = \$550$ , which is fair and just for all stakeholders including the neighbors.
  - A combined annual assessment requirement of  $\$1200$  for the above claims would be unjust.
  - An annual assessment of  $\$25$  annual requirement for a 0.5 Ha Fractional Claim could be subject to abuse
  - An annual assessment requirement more than  $\$25$  for a 0.5 Ha fractional claim would be unjust.
- If a 0.50 Ha Fractional cell Claim, a 5.25 Ha Fractional cell Claim were combined the total yearly assessment required would be  $\$25 + \$400 = \$425$ .
- An isolated 0.5 Ha cell claim with no potential parent would have a  $\$400$  annual assessment requirement.
- If an owner of an isolated 0.5 Ha cell claim acquired a contiguous parent claim the above  $\$425$  combined annual assessment requirement would apply.
- The above recommendation would permit a fractional claim to be severed from the parent claim without discrimination.

It is difficult to conceive that any interest group that would object to the above fair and just application of law for Fractional Claims issued after conversion. Some can reasonably argue that assessment credits for Legacy claims not exceed the annual assessment requirement before conversion.

A typical **16 Ha Legacy Claim** enclosed in private lands, leases, patents and/or ground claims will be divided into **four Fractional cell Claims**. For example; a **16 Ha = 0.5 +3.5 + 1.7 +10.3**. Fair annual assessment requirements must not exceed  $\$25 + 100 + \$50 + \$250 = \$425$ , not increased to  $\$1200$ . The Marion scenario in Tech Township is an excellent example that MNDM must consider.

This above annual assessment system would eliminate speculative staking of wedges with a  $\$25$  annual assessment requirement. The proposal is also fair to the stakeholder, the neighbours, those engaged in the practice of watching claims for forfeiture and the Ontario public.

This system would statistically favour a stable large claim packages without disadvantaging small package stakeholders. Statistically it would generate a stable and predictable claim package fabric friendly to mine development free of isolated fractions. Statistically it would also enhance enlargement of fractions as neighbouring properties forfeit to be included in the fraction. Many fractional claims would expand to fill a cell.

Working fractions is difficult and could be virtually impossible. How does one drill a 400 meter hole on a two meter wide Fractional Cell Claim?

If this system is not adapted; the 25,000 to 35,000 Fractional Claims created by Forced Conversion will become a nightmare of bad feelings of injustice that perpetually haunts MNDM and the mining and mineral exploration industries.

The Marion claims of Teck Township claims should be used to judge MNDM's handling of assessment requirements for Fractional Cells Claims. This author and others put forward his scenario for impact evaluation.

#### 14.5.2 Alternate; Pro-Rated Assessment Requirements of Fractional Claims

The alternative to merges annual assessment recommendation is: It is alternatively **recommended** a fully prorated assessment system be created in which all fractional claims be assigned a \$25/Ha per year assessment requirement. For example: A typically 16 Ha Legacy claim would be divided into four Fractional Cell Claims such as 0.5 Ha +3.5 Ha + 1.7 Ha +10.3 Ha = 16 Ha . Assessment requirements would not exceed \$25 + 100 + \$50 + 250 = \$425.

The first recommendation appears to be the fairest and most reasonable to the Claim holder, those watching the claims to forfeit and Ontario.

The Marion claims of Teck Township claims should be used to judge MNM's handling of assessment requirements for Fractional Cells Claims. This author and others put his scenario forward for impact evaluation.

## 15 OLS CONSIDERATIONS

---

### 15.1 MNM ASSESSMENT CREDITS FOR OLS IDENTIFICATION

MNM has legislated *"It is imperative that every effort is used to obtain accurate GPS georeferencing data"* to *"an accuracy of +/- 5m"* as *"a step towards clarifying claim locations in advance of the planned move to fully electronic on-line map staking."* It is also **imperative that MNM make "every effort is used to obtain accurate GPS georeferencing data" to "an accuracy of +/- 5m" as "a step towards clarifying" GPS locations of Mining Leases, Mining Patents, private lands and other encumbrances to "claim locations in advance of the planned move to fully electronic on-line map staking."**

As *"a step towards clarifying claim locations in advance of the planned move to fully electronic on-line map staking"*, it is **recommended** MNM immediately:

- Introduce assessment credits to identify UTM OLS Survey fabric of Mining Leases, Mining Patents, private lands, Parks and other alienations and Township OLS surveys that define Legacy Claims and claims registered on or after November 1, 2012.
- It is **recommended** these **UTM identification cost be credited retroactive to November 1, 2012**, the date legislation required UTM identification as a requirement to record mining claims and recognized assessment credit for UTM identification Legacy Claims in unsurveyed townships.
- It is **recommended** MNM **Double or triple assessment credits** for the cost of identifying UTM locations of Mining Leases, Mining Patents, private lands, Parks and other alienations.
- It is recommended MNM consider grants to identify OLS fabric and these grants be retroactive to November 1, 2012.

MNM must immediately become proactive and aggressive at with an OLS Fabric identification program. **MNM can smell like roses and show the courts good faith and greatly improve the CLAIMap data base.**

### 15.2 MNM: QUALITY ASSURANCE OLS UTM LOCATIONS AND CLOSURE ERRORS

It is **recommended** MNM Mining Lands recalculate and verify this author's closure error calculations determinations included in this report.



It is **recommended**: MNM Mining Lands make their planned property visit to Castle Silver's Haultain and Nicol Township property. It is **recommended** this be a step in MNM dealing with the deficiencies in MNM's UTM locations of the OLS survey fabric of Mining Leases and Mining Patents. As part of this process; it is **recommended** MNM measure the UTM locations of the 38 OLS monuments identified by Castle Silver.

## 15.3 OLS FORESTRY CONSIDERATIONS

The following recommendation apply primarily to MNR and foresters

### 15.3.1 Foresters' Obligation to Identify OLS Trees and Monuments

It is **recommended** MNM, MNR and the Surveyor General recognize foresters obligation to look for OLS evidence and formally report this activity in writing to these ministries and the impacted stakeholder or property owner.

Castle Silver's stated position concerning the harvest of permitted trees and protection of prohibited trees is comparable to the responsibility of sportsmen harvesting wild game. Prior to harvesting game: the sportsman is required by law to identify the species and sometimes the age and gender of game to determine the eligibility for harvest. MNR accepts no excuses for mistakes in the harvest of wild game and MNR should accept no excuses for harvesting prohibited trees.

It is **recommended** the forester have two option relating to OLS Trees:

- identify the prohibited trees and harvesting the others trees or
- identify and harvest the permitted trees and leave the prohibited trees

It is **recommended** a moratorium be established prohibiting forest harvesting proximal to OLS Survey Lines and OLS survey monumentation until MNM has established the OLS survey fabric that are required to establish the perimeters of Legacy claims and claims staked after November 1, 2012. This could possibly be done though the Mining and Lands Commissioner by asking for an order of prohibiting cutting within 200 meters of OLS survey fabric that defines the Mining Leases and Mining Patents and surveyed encumbrances.

### 15.3.2 MNR Foresters Reporting OLS Fabric

Where foresters intend to harvest within 100 meters of OLS Survey fabric or over OLS Survey fabric; it is **recommended** foresters file an OLS technical report with MNR, MNM, the Surveyor General and property stakeholder reporting the foresters' findings concerning OLS monumentation including OLS Survey Trees marking the OLS Survey Lines within their proposed cut. This report must:

- Record the UTM Coordinates of the OLS survey monuments and OLS trees found
- Describe the OLS survey monuments and OLS line trees found
- Name the OLS monumentation that was not located; giving the reasons why that monumentation could not be identified.
- If any potentially impacted OLS monumentation is not identified, the closure error of the OLS survey be reported as:
  - the horizontal NS component and EW component of the closure error or
  - the total closure error vector specifying the azimuth/bearing and horizontal distance of the closure vector.
- Report the procedure planned to protect the OLS monuments and OLS trees marking the OLS lines.

### 15.3.3 Increase OLS Buffer Zone to 160X160m Until OLS Report Completed

The UTM evidence collected by Castle Silver recognizes 80x80 meter buffer zones that appear to have been implemented by NRR and observed by Georgia Pacific were inadequate to protect the OLS monumentation not identified. A square 160x160 meter (80 meter radius) buffer zones centred on the best estimate of the OLS fabric location, is required to reasonably assure most OLS monuments are protected.

It is **recommended** MNR, MNM and the Surveyor General collectively require foresters and other land users observe a 80 meter radius buffer zone around the best determination of OLS monument locations. With the written permission of the impacted stakeholder and the Ministries that may be impacted, this buffer zone could be lifted. Ministries other than MNR and MNM could be impacted by holding vested interest in lands impacted cuts or immediately adjacent to cuts.

It is **recommended** the 160x160 meter buffer zone be lifted when the impacted OLS monumentation is identified, reported and a protection plan are presented to the title holder, MNR, the Surveyor General and MNM.

## 15.4 MNR UPDATE FOR.05.03.17.PDF

It is **recommended**: MNR update MNR's document "Forest Management Directives and Procedure "FOR.05.03.17.pdf"" to deal explicitly with OLS Survey fabric protection including OLS Corner Monuments and blazed OLS Survey Line Trees.

It is recommended MNM and the Surveyor General, not MNR be the prime contributors to the restructuring of MNR's "Forest Management Directives and Procedure "FOR.05.03.17.pdf"".

MNR is in an apparent conflict of interest when dealing with the impacts to MNM's and the Surveyor General's vested interest in OLS protection.

### 15.4.1 MNR Grid Protection under 'FOR.05.03.17

It is **recommended** MNR officially and explicitly recognize Geotechnical Survey Lines as survey lines protected by MNR's "Forest Management Directives and Procedure" "FOR.05.03.17.pdf"

It is **recommended** MNR actively enforce the restoration of these Geotechnical Survey Lines.

These ground based lines are essential to preserving the integrity of past and future Geotechnical Surveys and to assure continued geotechnical surveying of the exact same Geotechnical Survey Lines.

### 15.4.2 MNR Recommendation of 2x2 Commercial Pickets Standard in Forestry Cuts

It is **recommended** MNR, MNM, Prospecting Community and Foresters officially recognize four foot-2x2 commercial pickets as the industrial standard for Geotechnical Surveys Line pickets in forestry cuts.

Commercial pickets are the only readily available picket material that can be easily distinguished among clear cut forestry waste and in early forest regeneration.

### 15.4.3 MNR Geotechnical survey Line Definition

It is **Recommended** MNR, MNM, Prospecting Community and Foresters officially recognize that a Geotechnical Survey Line consists of a **line of access** and travel, and a **line of sight**, that also include pickets or other line markers that record the grid locations.

It is **recommended** MNR, MNDM, Prospecting Community and Foresters officially recognize Geotechnical Survey Lines are designed to allow unobstructed line access:

- to lay dedicated length dedicated geotechnical cables at close to true length along the line and
- to provide **unobstructed access to the ground** for geotechnical surveying which can include outcrop mapping, boulder tracing, and electrode placement for various geophysical surveys and digging soil samples among other activities.

#### 15.4.4 MNR Close Cut N132 Until Workplace Foot Based Work & Access at MOL Standards

It is requested and **recommended** that MNR not free Georgia Pacific of its obligations regarding Cut N132 until:

- the roadside slash piles be removed from the property for cogeneration or moved to an alternate site.
- the indiscriminate wood waste and forestry hazards between the roadside slash piles be removed from the property for cogeneration or moved to an alternate site.
- the Geotechnical Survey Lines are restored to Occupational Health and Safety Standards that existed January 1, 2013 when the lines were freshly cut and ready for use in 2013.

It is **requested** MNR consider the cumulative effect of Georgia Pacific's six, negative business decisions before clearing Georgia Pacific and the other foresters of their obligations to protect and restore Castle Silver's work place values, and mineral exploration values and restore favourable and safe public access to these public lands in a high use tourist area.

#### 15.4.5 MNR Cogeneration of Cut N132

It is **recommended** MNR require the foresters immediately rehabilitate the exploration property by cogenerating the roadside slash and indiscriminate roadside forestry hazards and forestry waste between the slash piles on the Castle Silver property in cut N132.

It is **recommended** MNR recognize the cogeneration quality of this 2013 slash as the high value in 2013, not the diminished slash value after weathering.

This work must be performed without snow on the ground to meet workplace Occupational Health and Safety Standards that existed prior to the cut. Also the steep hillside roads must be ice free to avoid dangerous driving hazards.

#### 15.4.6 MNR and Foresters Cut H133, H134, H141, H142, H144 and H145 Imminently

It is **recommended** MNR and the foresters schedule Cut H133, H134, H141, H142, H144 and H145 soon, before Castle Silver develops grids on these properties. It is recommended clean clear cut be performed assuring trees not harvested are left standing vertical and not compromised. Compromised trees that are left fall under snow loads and commonly become suspended safety hazards and obstructions to travel. This is further complicated by the tendency of compromised trees being clustered in impenetrable, interwoven groups of individual hazards.

It is **recommended** the slash piles and other roadside waste be dealt with immediately after the trees are harvested and before the equipment leaves the property.

It is **recommended** the roadside be cleaned of slash piles and other roadside waste and hazards in the season that the forest is harvested.

According to the foresters: MNR does not permit silva-culture activities until ten days after the last log and machinery are removed from the property. According to the forester: MNR classifies dealing with slash and other forestry hazards as silva-culture activity which is not permitted during harvesting operations. MNR and the foresters are out of synch with the needs of the impacted communities that use these public lands.

It is **recommended** MNR find a way to permit foresters to deal with roadside slash piles and roadside forestry waste and forestry hazards during harvesting operations before the last log and the equipment are removed from the property or change this policy. For example the Castle Silver property was idle for weeks with a few dozen loads of logs stacked outside the Castle Silver grid areas requiring rehabilitation. The single idle equipment operators or imported workers could easily deal with the slash if MNR had permitted this activity.

## 15.5 MNR TO CHECK FOREST INVENTORIES

It is **recommended** MNR perform a site visit to cut N132 and identify the species and frequencies of trees harvested to assure the contractor supplying forest inventory is performing an accurate determination. It is **recommended** these checks be performed on Geotechnical Survey lines of Grid C and Grid D which are the best lines of access in the cut. The lines are chained with pickets and that are an excellent impartial sample distribution.

The **recommended** priority test area are:

- sector “99099 SB30 BW30 PO30 CE10” which (is grid B) located between the Castle #3 and Capitol shafts at the NW access road to cut N132. The concern here is the absence of balsam fir in the totals.
- sector “15493 PJ70 PO30” which is grid C located at the NE access road to Cut N132. The concern here is the reality of the 70% Jack pine inventory and absence of balsam fir over 13 Ha.

The author cautions against basing observations weighted towards the easily accessible cameo parts of the cut outside the grids. It is possible the cleanly clear-cut area hosted the economically desirable part of Cut N132.

## 15.6 MINISTRY OF LABOUR CONSIDERATIONS

The following recommendations apply primarily to the Ministry of Labour relating to forestry acting as safety conscious guests in other stakeholders workplaces and as guest on public access lands.

### 15.6.1 Recommendations to MOL

Georgia Pacific was a workplace guest in Castle Silver’s previously existing and active Castle Silver worksite.

It is **recommended** the Ministry of Labor require all foresters to maintain their work sites to Human “Occupational Health and Safety Standards” that permit forestry workers to walk on the ground during and after forestry operations.

If this logical and reasonable “Occupational Health and Safety Standard” had been enforced during forestry operation, this enforcement would also have protected Castle Silver workers and the public which regularly traverse and uses this site.

MOL repeatedly refused to investigate this work site which appears to have prohibited the forestry workers from walking on the ground. This failure has also compromised the Georgia Pacific's stated policy of maintaining "Human health and Safety" in high regard.

Two tourist outfitters, one trapper, hunters, local residents, past residents of the Haultain mining property, past miners, passing tourists, Castle Silver workers and one MOL employee access this this land for their use. This author regularly communicates with these visitors and has appreciated learning much from them.

It is **requested** the Ministry of Labor require the foresters to establish cut N132 to Human "Occupational Health and Safety Standards" as a **foot based worksite** and to render this public access area safe for the traditionally use of the local community and tourist industry which uses this land and to permit Georgia Pacific's employees and contractors employees to walk on the ground without danger from forestry hazards.

If this site N132; is not approved and the file closed by MNR, Georgia Pacific is still bound by MOL Occupational Health and Safety Standards and MOL can still act.

## 16 CASTLE SILVER RECOMMENDATIONS

---

It is **recommended** Geotechnical Survey grid C north-south Geotechnical Survey Line be re-cut and new lines established as tabulated below:

Line	Description	Line
<b>000W</b>	<b>Re-cut north and south of base line- High Priority for IP</b>	<b>Spacing</b>
97.5W	Cut north and south of base line High Priority for IP	97.5m
<b>195W</b>	<b>Re-cut north and south of base line- High Priority for IP</b>	<b>97.5m</b>
292.5W	Cut north and south of base line High Priority for IP	97.5m
<b>390W</b>	<b>Re-cut north and south of base line- High Priority for IP</b>	<b>97.5m</b>
438.75W	Cut south of Base Line for MMI & Mag	48.75m
487.5W	Cut north and south of base line High Priority for IP	48.75m
536.25W	Cut south of Base Line for MMI & Mag	48.75m
<b>585W</b>	<b>Re-cut north and south of base line- High Priority for IP</b>	<b>48.75m</b>
682.5W	Cut north and south of base line High Priority for IP	97.5m
<b>780W</b>	<b>Re-cut north and south of base line- High Priority for IP</b>	<b>97.5m</b>

These N-S Geotechnical Survey Line are intended for the previously planned Abitibi Geophysics three dimensional IP survey, a WalkMag 2 meter interval total field magnetic survey, detailed 97m/6.5m and 48m/6.5m MMI soil geochemistry survey (to complete the 2014 MMI program).

The WalkMag survey is intended to identify regions with associated gold style alteration that neutralizes the strong magnetic signature of the Archean rocks. It is uncertain if the strong magnetic signature of flat lying Proterozoic (Huronian) sediment will mask the Archean signature. The Nipissing diabase is expected to have a long wavelength magnetic signature on which the short wavelength Archean magnetic signature is superimposed. It is also critical to identify, locate and trace the East North East trending Abitibi diabase

dike that offsets and dilates the Archean, Proterozoic and Nipissing Age rocks including the apparent dilation of the Gold zone identified in the float tracing and trenching.

It is **recommended** Geotechnical Survey grid C north-south Geotechnical Survey Line be re-cut and new lines established as tabulated below:

<u>Line</u>	<u>Description</u>	<u>Line</u>
<b>000N</b>	<b>Re-cut east &amp; west for WalkMag survey</b>	<b><u>Spacing</u></b>
<b>100s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>100m</b>
<b>200s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>100m</b>
<b>300s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>100m</b>
<b>350s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>50m</b>
<b>400s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>50m</b>
<b>450s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>50m</b>
<b>500s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>50m</b>
<b>550s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>50m</b>
<b>600s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>50m</b>
<b>700s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>100m</b>
<b>800s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>100m</b>
<b>900s</b>	<b>Cut east &amp; west from 390W for WalkMag</b>	<b>100m</b>

These east west lines are intended for 50m/2m WalkMag surveys intended to identify, locate and trace north-south trending Matachewan diabase dikes that offset and dilate Archean ages formations and mineralization including Archean aged gold mineralization that has been identified by boulder tracing, surface mapping, stripping and trenching and MMI geochemical soil sampling.

It is critical to know the locations of these dikes to avoid these with invasive surface exploration including stripping, trenching and diamond drilling. It is also important to avoid MMI sampling along and over these dikes.

It is **recommended** Geotechnical Survey grid D activities be delayed to accommodate detailed exploration activities in the highly favourable Grid C area.

The MMI anomalies should be prioritized and confirmed by resampling the key samples and running an anomaly definition line 25 meters to each side of the anomalies. The standard 6.5 meter spacing interval should be used. When the anomaly is confirmed and the most favorable location identified; the surface can be trenched. The soil profile should not be disturbed or piled outside the area that has been tested at a 6.25 meter interval along 25 meter spaced lines (6/25 sampling).

Detailed geological mapping, prospecting and Geotechnical Surveys including IP and walk-mag described above are necessary early in follow-up to the 2013-2014 exploration program. Focusing stripping on precise targets defined by follow-up MMI, mapping and geophysics will aid in reducing the footprint of stripping and drilling activities.

If MMI is proven to be a reliable exploration tool; the company should maximize the opportunity to use this MMI tool in the high mineral potential area prior to invasive activities.

If MMI is proven to be an effective exploration tool the eventual objective should be to eventually blanket the entire property with MMI sampling at a 6.25 m spacing along 50 meter spaced lines (a 6.25m/50m program).

MMI is a one-time opportunity in a high mineral potential area where invasive exploration activities can destroy the opportunity for additional MMI work.

It is probably impractical and too expensive to blanket the entire property in a single MMI program. A phased program is favored. A phased program would involve a 6.25/50m or 6.25/25m sample density of the highest priority areas. This would be directed to providing early exploration targets. This phased program allows for an effective growing curve to maximize the effectiveness of additional MMI sampling.

Invasive exploration work should not commence until 6.25/25m sample density MMI is first completed within the impacted area.

The above MMI proposals are dependent on future work verifying the validity and usefulness of the MMI process. If MMI appears to be 50% effective, this author deems MMI effective and the MMI recommendations from this and future work appear to be valid.

It is sincerely hoped MMI surveying can significantly reduce the overall footprint of trenching and stripping by more effectively identifying the location of targets prior to digging.

All MMI samples collected under or near wood ash accumulations should carry a cautionary field note concerning the presence of that wood ash.

### 16.1 CASTLE SILVER REPORTING/TRACKING CLAIM CORNER POSITIONS

Identification of lease locations is tedious high risk tracking. This author uses a tracking numbers 1-36 as tabulated below. It is **recommended** this numbering system be continued.

Tracking survey monument locations involves is much redundancy with one OLS Survey Monument identifying four leases. If the locations of OLS survey monuments of the claims listed in bold red font below are tracked almost all the OLS corner monument redundancy is eliminated.

Tracking #	Claim Number	Township	Lease #	Parcel #
<b>1</b>	<b>LM109</b>	HAULTAIN	19698	3401LT
2	RSC104	HAULTAIN	19706	3396LT
<b>3</b>	<b>LM110</b>	HAULTAIN	19699	3402LT
<b>4</b>	<b>LM105 (GG6196)</b>	HAULTAIN	19573	4297LT
<b>5</b>	<b>LM106 (MR1117)</b>	HAULTAIN	19149	3657LT

<b>6</b>	<b>RSC102 (MR1055)</b>	HAULTAIN	19148	3658LT
7	LM107	HAULTAIN	19696	3399LT
8	RSC101	HAULTAIN	19708	4082LT
<b>9</b>	<b>LM108</b>	HAULTAIN	19697	3400LT
10	RSC100	HAULTAIN	19707	3394LT
<b>11</b>	<b>RSC99</b>	HAULTAIN	19700	4325LT
<b>12</b>	<b>HS365</b>	HAULTAIN	19682	3418LT
13	HS352	HAULTAIN	19684	3405LT
<b>14</b>	<b>HS350</b>	HAULTAIN	19683	3404LT
15	HS353	HAULTAIN	19685	3406LT
16	HS354	HAULTAIN	19681	3407LT
<b>17</b>	<b>HS355</b>	HAULTAIN	19680	3408LT
<b>18</b>	<b>LM111</b>	NICOL	19709	3403LT
<b>19</b>	<b>HS366</b>	HAULTAIN	19674	3419LT
<b>20</b>	<b>HS367</b>	HAULTAIN	19675	3420LT
<b>21</b>	<b>HS368</b>	HAULTAIN	19678	3421LT
<b>22</b>	<b>HS369</b>	HAULTAIN	19672	3422LT
<b>23</b>	<b>HS364</b>	HAULTAIN	19673	3417LT
24	HS357	HAULTAIN	19679	3410LT
<b>25</b>	<b>HS356</b>	NICOL	19701	3409LT
26	HS358	NICOL	19702	3411LT
<b>27</b>	<b>HS359</b>	NICOL	19703	3412LT
<b>28</b>	<b>HS360</b>	NICOL	19704	3413LT



<b>29</b>	<b>RSC105</b>	NICOL	19695	3397LT
<b>30</b>	<b>GG3879 part</b>	NICOL	19676	3492LT
31	MLO1379	NICOL		
32	MLO657	NICOL		
<b>33</b>	<b>HS362</b>	NICOL	19694	3415LT
34	HS361	NICOL	19705	3414LT
<b>35</b>	<b>HS363</b>	NICOL	19677	3416LT
<b>36</b>	<b>TC458 (GG3652)</b>	NICOL	19572	4298LT

It is recommended the above tracking system be the default tracking system for Lease reporting and OLS monument tracking.

Respectfully submitted to Castle Silver Mines and MNDM as assessment report and a report of activities performed on the property and outside activities that impact the Castle Silver exploration program.

## 17 REFERENCES

---

- Burrows, A.G. 1920: Gowganda Silver Area; Ontario Bur. Mines, Vol.29, pt.3, p.77-88.
- Burrows, A.G. 1926: Gowganda Silver Area (Fourth report, revised); Ontario Dept. Mines, Vol.35, pt.3, p.1-61.
- Campbell, Angus D. 1930: Gowganda Silver Area; Trans. Can. Inst. Mining and Metallurgy, Vol.33, p.272-291.
- Canadian Mineralogist Vol-11, part 1: 1971. **The Silver-arsenide Deposits of the Cobalt-Gowganda Region, Ontario**, (ed.) L.G. Berry.
- Card, K.D., McIlwaine, W.H., and Meyn, H.D. 1970: Operation Maple Mountain, Districts of Timiskaming, Nipissing, and Sudbury; Ontario Dept. Mines and Northern Affairs OFR5050, 275p. Accompanied by Maps P.584, P.585, scale 1:63,360 or 1 inch to 1 mile.
- Hester, B.W. 1967: Geology of the Silver Deposits near Miller Lake, Gowganda; CIM Bull., Vol.60, p.1277- 1286.
- Kilborn Limited, 1987: Feasibility study: Canadian Lencourt Mines Ltd; Sandy K Mines, Appendix B, p.71-116
- Kissin, S. A. 1993: Five-element (Ni-Co-As-Ag-Bi) Veins; in Ore Deposit Models Volume II, (ed.) P.A. Sheaham, and M.E. Cherry; Geoscience Canada Reprint Series 6. p 87-98.
- Max, Jordan 2015: Engineering Dimensions: Moving Towards Evidence-Based Policy Development p 17-19.
- McIlwaine, W.H. 1978: Gowganda Lake-Miller Lake Silver Area, District of Timiskaming; Ontario Geological Survey, Ministry of Natural Resources, Report 175, 161p. Accompanied by Maps 2348 and **2349** scale 1:31,680 or 1 inch to 1/21 mile.
- MERQ-OGS 1983: Lithostratigraphic map of the Abitibi Subprovince; Ontario Geological Survey/Ministry de l'Energie et des Ressources, Quebec; 1:5000 000; catalogued as "Map 2484" in Ontario and "DV 83-16" in Quebec.
- Miller, W.G. 1910: The Cobalt-Nickel Arsenides and Silver Deposits of Timiskaming (Cobalt and Adjacent Areas); Ontario Bur. Mines, Vol.19, pt.2, 279p. (4th edition, published 1913). Accompanied by maps and sections.
- Ministry of Northern Development and Mines (<http://www.mci.mndm.gov.on.ca/Claims/clmmen.cfm>)

MNM, 1989: Report of Activities 1988, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 142, 391p.

MNDM, 1990: Report of Activities 1989, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 147, 345p.

Moore, E.S. 1955: Geology of the Miller Lake Portion of the Gowganda Silver Area; Ontario Dept. Mines, Vol.64, pt.5, 41 p. (published 1956).

#### ODM

1920: Mines of Ontario; Ontario Dept. Mines Vol.29, pt.I, p.66-141.

1926: Mines of Ontario; Ontario Dept. Mines Vol.35, pt.I, p.73-168.

1927: Mines of Ontario in 1926; Ontario Dept. Mines vol.36, pt.I, p.75-178 (published 1928).

1928: Mines of Ontario in 1927; Ontario Dept. Mines Vol.37, pt.I, p.73-184 (published 1929).

1930: Mines of Ontario in 1929; Ontario Dept. Mines Vol.39, pt.I, p.73-163.

1953: Mines of Ontario in 1952; Ontario Dept. Mines Vol.62, pt.2, 131p.

Quantec Geoscience, 2011: Titan-24 DC/IP\MT Survey – Geophysical Report – Castle #3 Project, Ontario, Canada on Behalf of Gold Bullion Development Corp., 131 p.

[Robertson, J.A., Card, K.D., and Fraey, M.J. 1969: The Federal-Provincial Committee on Huronian Stratigraphy: Progress Report; Ontario Dept. Mines MP31, 26p.](#)

Ruzicka, V. and Thorpe, R.I. 1996: Arsenide vein silver, uranium; In Geology of Canadian Mineral Deposit Types, (ed.) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada, Geology of Canada, no. 8. p 287-304.

Sergiades, A.O. 1968: Silver Cobalt Calcite Vein Deposits of Ontario; Ontario Dept. Mines, MRC10, 498p.

[Thurston, P.C. 1991: Geology of Ontario, Ontario Geological Survey, 1525p.](#)

# CERTIFICATE OF QUALIFICATIONS

---

I, Douglas Robinson, of 24 Victoria Avenue, Swastika, Ontario hereby certify that:

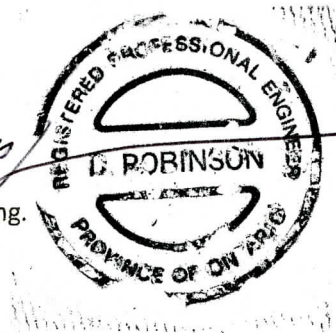
1. I am a registered professional Engineer of the province of Ontario, No. 39322011.
2. I am a graduate of Queen's University in Kingston Ontario with an Honours Bachelor of Science, Geological Engineering 1975, and a mining technician certificate from Northern College, School of Mines in Haileybury, Ontario, 1970.
3. I have been practicing my profession since graduation.
4. The information contained in this report is the result of work done by myself and the references cited.
5. I Douglas Robinson and my wife Betty Robinson no other interest in Castle Silver Mines Inc , properties or shares.
- 6 I Douglas Robinson and my wife Betty Robinson own shares in Gold Bullion.

Respectfully submitted

*Douglas*

Douglas Robinson, P. Eng.

August 20, 2015



## 18 APPENDICES

---

Appendices