

J D MOLLARD AND ASSOCIATES (2010) LIMITED

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Victor Amend
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RE: EM31 Geophysical Survey Results

Mr. Amend:

The following report describes the results of J.D. Mollard and Associates (2010) Limited's (JDMA) EM31 geophysical survey on the following 10 quarter sections:

SE 07-26-04-2	NE 17-26-05-2
SE 18-26-05-2	SE 19-26-05-2
NW 18-26-05-2	SW 20-26-05-2
NE 18-26-05-2	SE 20-26-05-2
NW 17-26-05-2	NW 20-26-05-2

Based on the geophysical results and other field observations, we have identified several areas with good to fair aggregate potential that could be targets for further testing (backhoe test pits).

Sincerely,

David Boschman, M.Sc.
 J.D. Mollard and Associates (2010) Limited

Introduction

This report summarizes results of EM31 geophysical surveys to assess the potential aggregate resources on parts of 10 quarter sections listed above and shown in Figure 1. This study follows an air photo mapping study that identified aggregate prospect locations within the study area. Based on the air photo interpretation study, JDMA identified a relatively wide area of aggregate potential along with several smaller areas of higher potential (Figure 1). The purpose of the EM31 survey was to collect some data over much of the wider area and a higher density of data over the more promising sub-areas.

JDMA uses an EM31 to carry out geophysical surveys in support of aggregate exploration. The EM31 device (manufactured by Geonics Ltd.) is a handheld instrument that measures the electrical conductivity of the ground. The EM31 can be used to collect ground electrical conductivity information (in mS/m) at effective exploration depths of ~3m and ~6m.

Because granular material has a lower electrical conductivity than other common surface deposits (Table 1), the ground electrical conductivity measurements provided by the EM31 surveys are useful in assessing the potential presence/absence of granular material prior to drilling or backhoe testing. EM31 conductivity values can also offer clues to the possible thickness of a granular deposit, and, if present, an estimate of overburden thickness. It is important to note that ground electrical conductivity measurements do not provide any indication of the coarseness of a granular deposit. Thus, further testing (backhoe, trackhoe or auger) is required to confirm the quantity and quality of any suspected granular deposits.

Table 1. Common surficial materials and associated EM31 readings.

<u>Common Material</u>	<u>Typical Deep (~6m) Conductivity (mS/m)</u>
Granular soils	5-20
Till	35-70
Clay	80-130
Shale	>100

The EM31 surveys were carried out on January 3 and 4, 2024. To conduct the surveys, the EM31 was towed on a trailer behind an ATV coupled to a GPS and data logger set to continuously record both GPS and EM31 data. The EM31 surveys were oriented to collect the 'deep' (~6m) readings.

Geophysical Survey Results and Interpretation

Figures 2 to 4 show the coverage and a general interpretation of the EM31 survey data over the study areas. As shown in the legend for Figures 2 to 4, EM31 readings coloured in green are considered to have 'good' potential for aggregate resources. Survey points shown as yellow and orange indicate 'fair' readings which can be considered borderline but still have potential for thinner / dirtier granular material or thicker overburden depending on the geology. Red and purple coloured readings are considered to have 'poor' potential for aggregate resources and are generally not recommended for further field testing.

Areas with good to fair EM31 readings have been identified and outlined in Figures 2 to 4. Six areas have been identified with two main areas being the most promising. The four additional areas identified are smaller and/or have less promising EM31 readings; as such they are more likely to prove negative.

Area 1 – Figures 2 and 3

Area 1 contains the largest area of good readings in the study area, with a mix of fair readings included in the area identified. Based on the readings, we expect some form of aggregate over most of the outlined area. With the mix of fair readings seen in this area, we also expect some variability in aggregate thickness and quality. This may be especially true in the southern part of Area 1.

Based on the EM31 readings, the aggregate may range from 3-4m thick in places with predominantly good readings to ~1m thick in other parts of the mapped area.

Area 1 covers approximately 40 hectares (98 acres) and is largely within SW20-26-05-2, but also extends into parts of NW20 & SE20.

Area 2 – Figures 2 and 4

Area 2 contains predominantly a mix of good and fair readings. This suggests that there is likely aggregate here but probably thinner and more variable than in Area 1. The aggregate thickness may vary from 1-3m over most of this area and the likelihood of pockets of thinner or non-aggregate material is higher.

Area 2 covers approximately 15 hectares (37 acres) and is located in NW17-26-05-2.

Areas 3 to 6 – Figures 2, 3 and 4

The remaining areas (3 to 6) are considered a lower priority as they are smaller areas with mostly fair readings with very few, if any good EM31 readings. That being said, they do have lower EM31 values relative to background readings, and as such, may contain small, thin pockets of aggregate that could be explored further with test pits.

Yard Site in NE18-26-05-2

As requested, we carried out a more detailed survey in the vicinity of the yard site in NE18-26-05-2 that has potential for subdivision. The EM31 survey did not identify any aggregate potential here. A large-scale map of the EM31 survey results in this area is shown in Figure 5.

Recommendations & General Comments

The EM31 survey identified several areas with 'fair' potential for aggregate resources over the various surveyed areas. While these areas show higher potential to contain aggregate resources than other parts of the surveyed areas, as previously noted, the EM31 data alone do not indicate the coarseness or quality of the potential material. Further testing (i.e., test pits) is required to confirm the quality of the material.

As discussed above the results over most of the study area are considered somewhat variable which can suggest pockety and inconsistent material in some areas.

There was insufficient time in the field program to carry out a survey on the prospective area identified in NW29-26-05-2. This area appears to be a northern extension of Area 1 and is thought to be prospective, although some clearing of the bush/trees may be required to explore this area further.

Closing

Based on the interpretation of the EM31 data, we have identified several areas with good and fair potential for aggregate resources. As the EM31 does not provide information on gradation, further testing (i.e., test pits) is required in the identified areas to confirm the presence and extent of coarser material, assess the quality of the material and to obtain volume estimates for any aggregate resources.

Please contact David Boschman (306-352-8811 or boschman@jdmollard.com) if you have any questions or would like to discuss planning and JDMA involvement in the next phase of field testing.

Reviewed by:



Lynden Penner, M.Sc., P.Eng., P.Geo.



FIGURES

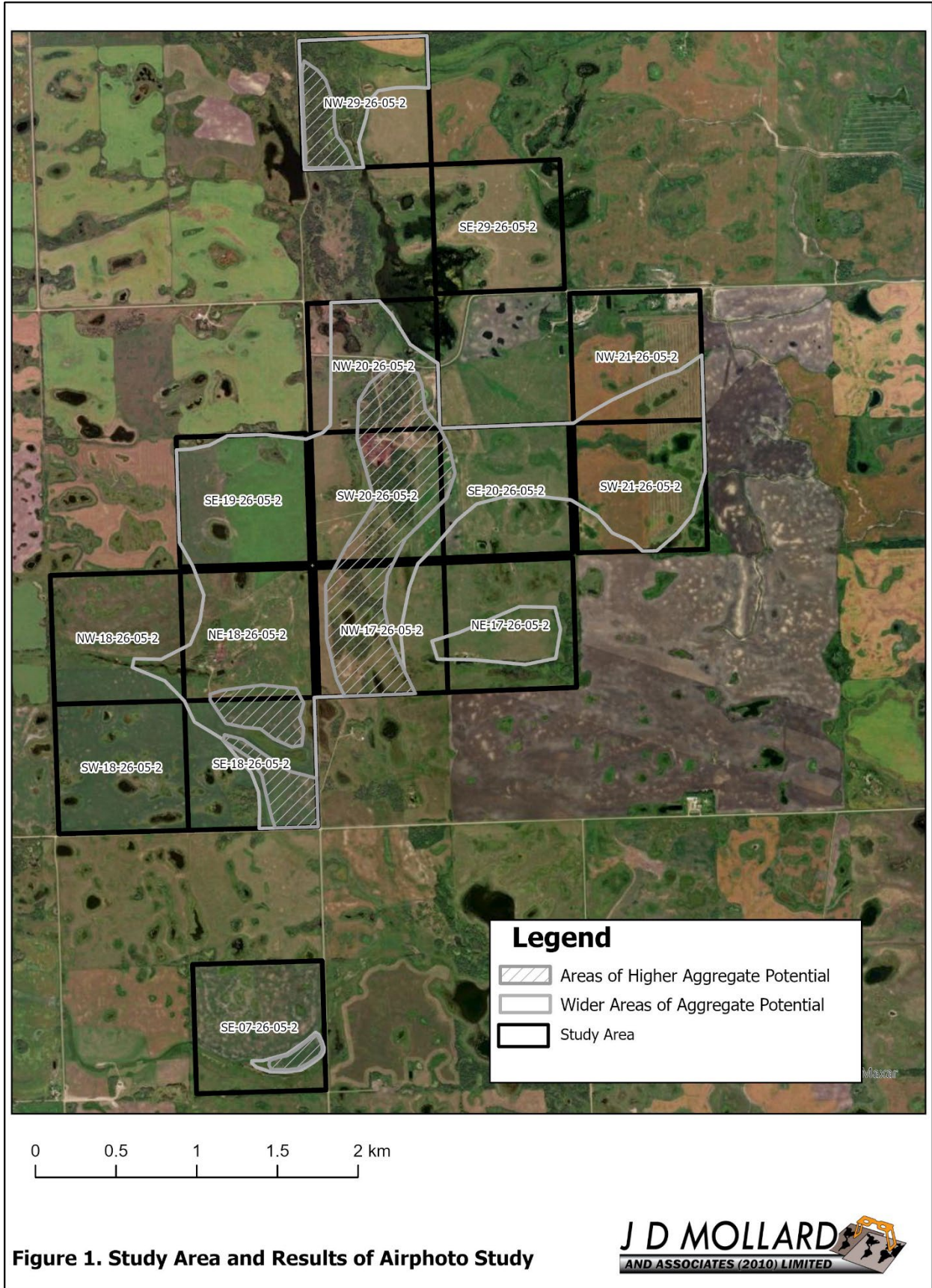


Figure 1. Study Area and Results of Airphoto Study

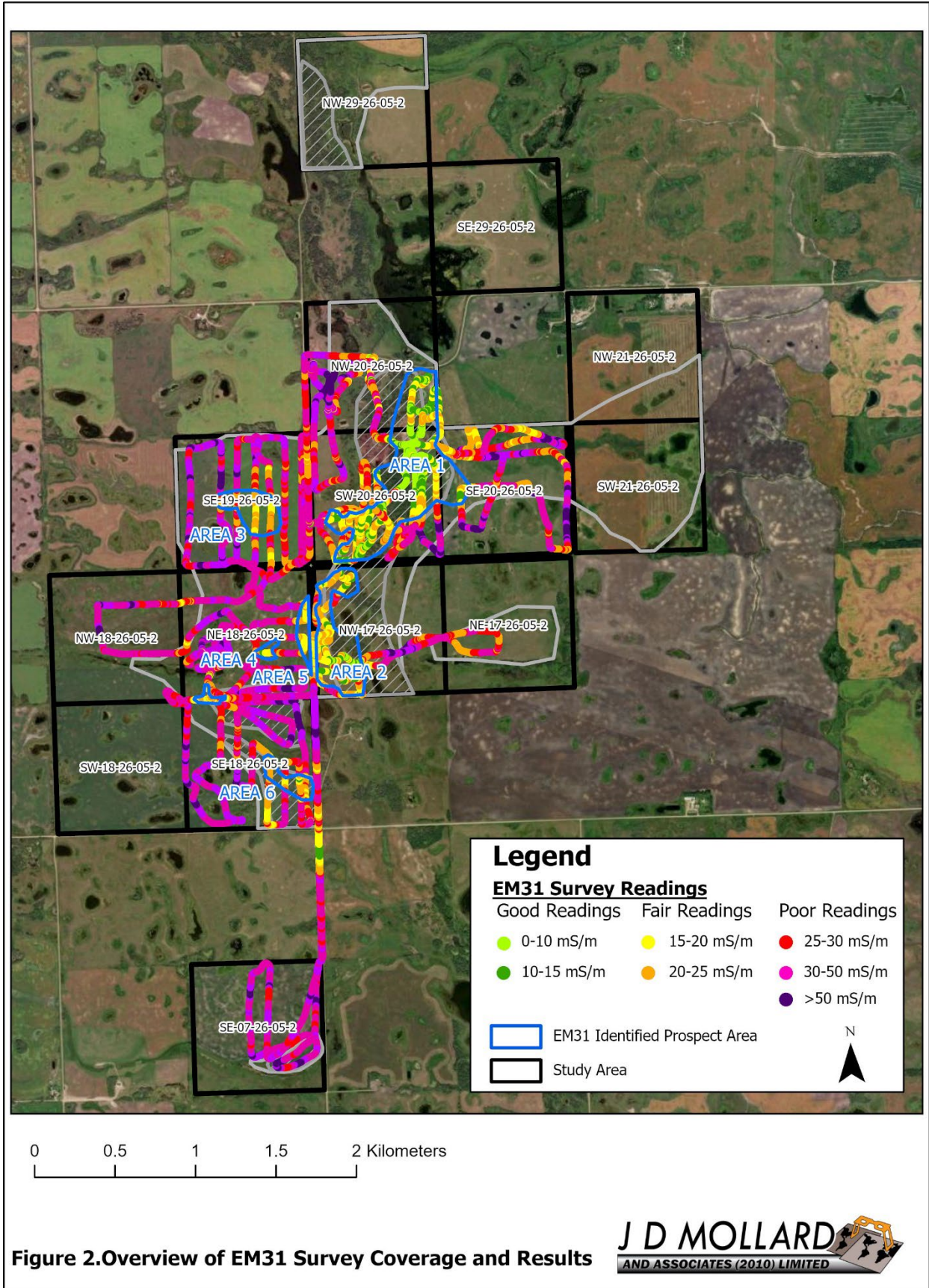


Figure 2. Overview of EM31 Survey Coverage and Results

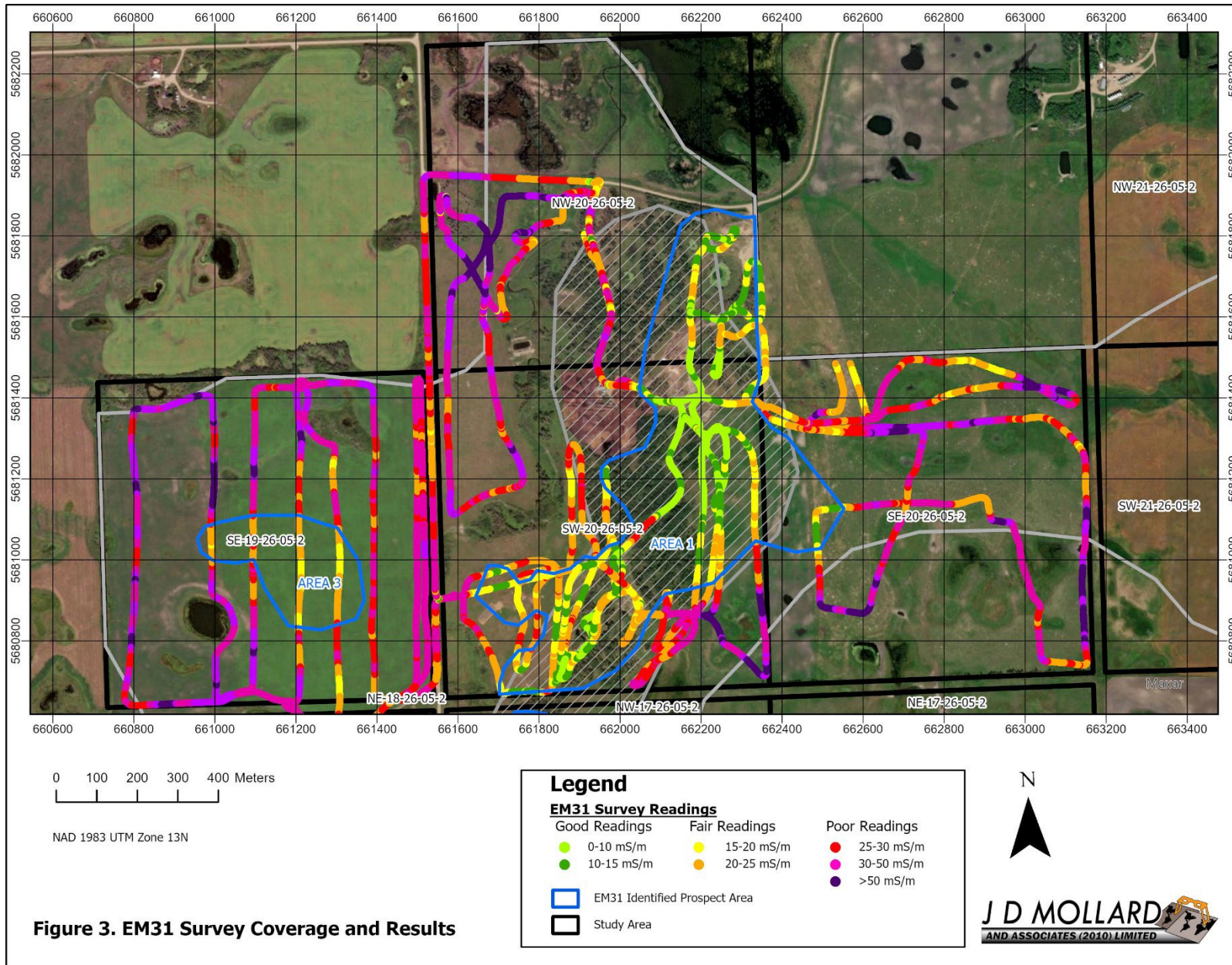


Figure 3. EM31 Survey Coverage and Results

