

*Final Operations Report  
on the*

***2007 Indigo 2D Seismic Survey***

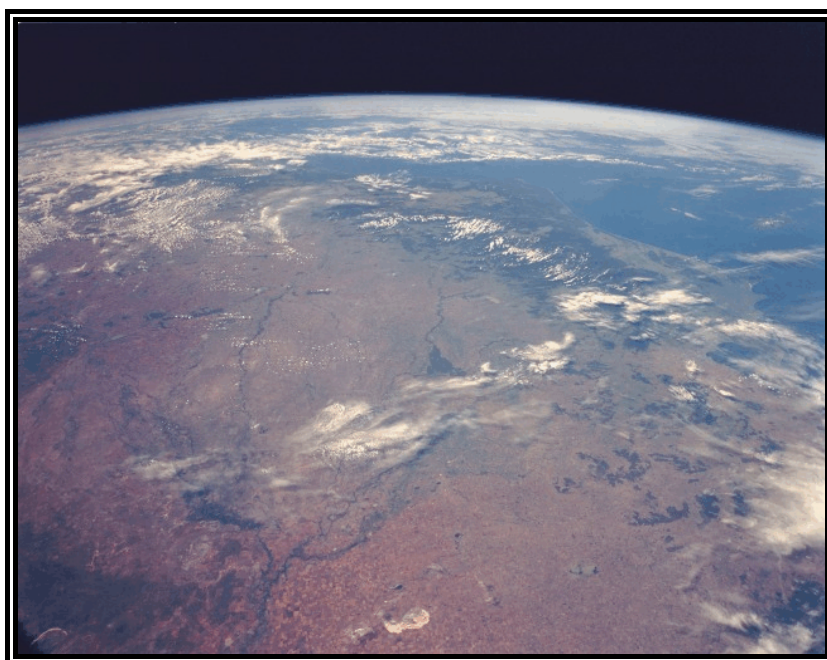
*for*

***Blue Energy Limited***

*and*

***Terrex Seismic Pty Ltd***

*November 2007*



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**Dynamic Satellite Surveys Pty Ltd has a Quality Management System,  
externally certified to AS/NZS ISO 9001:2000 standards by  
SAI Global Pty Ltd. (Lic# QEC10046)**

*This project was undertaken for Terrex Seismic Pty Ltd. The sole purpose of the job was to install and survey 2D seismic lines in the Paradise region as per instructions received from the client Blue Energy Limited. The use of the data for any other purpose is not authorised.*

*All data contained in this report and on the attached CD is deemed to be final and overrides any previous data received from DSS, unless otherwise stated.*

*All maps present in this report are a representation only of the digital data contained on the final CD. Underlying topographic maps have been sourced externally and DSS have not necessarily surveyed features shown on these underlying maps.*

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# 1

## ***INTRODUCTION***

The following report covers the **2007 Indigo 2D Seismic Survey**, performed by **Dynamic Satellite Surveys Pty Ltd** (DSS) whilst contracted to **Terrex Seismic Pty Ltd** for **Blue Energy Limited**.

The survey operation was situated five kilometres North East of Boggabilla, Queensland.

A total of six (6) 2D seismic lines were surveyed totalling **106.575 kilometres** at fifteen-metre station intervals. All lines were covered in ten days giving an average of 10.7 kilometres per day.

The survey operations were completed between the 17<sup>th</sup> November and the 26<sup>th</sup> November 2007.



# 2

## ***INSTRUMENTATION AND PERSONNEL***

### **2.1 Personnel and Logistics**

DSS personnel involved in the survey were as follows.

**Terry Hamilton** - Bachelor of Geomatics (Surveying) - University of Tasmania.  
**James Hartley** - Cadet Surveyor

Personnel and equipment logistics were supported by the DSS Yeppoon office.

Survey operations were based at Goondiwindi.

## 2.2 Equipment

Equipment provided by DSS and used on this project.

	<b>Description</b>	<b>Qty</b>
<b>Vehicle</b>	Nissan Patrol Turbo Diesel - Hired	1
<b>GPS receivers</b>	NovAtel GPS Receiver with VHF Telemetry	2
<b>Computers</b>	Dell Inspiron Laptop 5150	1
	Compaq Ipac Field Loggers	2
<b>Software</b>	GrafNet GPS Processing Software	Ver 7.60
	Nav05 field software - DSS	Ver 4.12
	MIB for Windows - DSS	Ver 6.42
	MapInfo Professional	Ver 8.5
<b>Printer</b>	Canon i6500	1
<b>Miscellaneous</b>	Necessary standard surveying equipment	
	Sundry office and transport equipment	
	Field and Office Consumables	



# 3

## ***SURVEY REFERENCE SYSTEMS***

### **3.1 Geodetic Datum**

This project was based on the Geocentric Datum of Australia 1994 (GDA94) which is based on the Geodetic Reference System 1980 (GRS80) model defined by the following parameters:

<i>Datum:</i>	GDA94(Geocentric Datum of Australia 1994)
<i>Spheroid:</i>	GRS80 (Geodetic Reference System)
<i>Reference Frame:</i>	ITRF92 (International Terrestrial Reference Frame)
<i>Semi-Major Axis Length:</i>	6 378 137.0
<i>Inverse Flattening:</i>	298.257222101
<i>The Unit of Measure:</i>	International Metre

### 3.2 Map Projection

Final rectangular coordinates were based on the Map Grid of Australia 1994 (MGA94). Parameters for this projection are as follows:

<i>Projection:</i>	Universal Transverse Mercator (MGA Zone 56)
<i>Latitude of Origin:</i>	0°
<i>Central Meridian (CM):</i>	153° E
<i>Scale Factor at CM:</i>	0.9996
<i>False Easting:</i>	500 000
<i>False Northing:</i>	10 000 000
<i>The Unit of Measure:</i>	International Metre

### 3.3 Height Datum

All elevations obtained relative to GDA94 have been reduced to the Australian Height Datum (AHD) using the AUSGeoid98 Geoid - Spheroid separation model to determine the geoid-ellipsoid separation (N) for the particular area.

GPS observations are made on the GDA94 datum. The height associated with this datum is an ellipsoidal height (h). The Australian Height Datum (AHD), the height datum associated with MGA94, is an orthometric height which is measured as the height above mean sea level, or the geoid (H).

The function that defines the relationship between the ellipsoid and orthometric heights is:

$$H = h - N$$

Or

$$\text{AHD} = \text{GDA94} - (\text{Geoid / Ellipsoid Separation})$$

The value for the geoid/spheroid separation is interpolated from a national model called AUSGeoid98.



AUSGeoid98 is the third in a series of national geoid models produced for Australia by the Australian Surveying and Land Information Group (AUSLIG). The geoid-ellipsoid data is prepared for the Australian region from:

- EGM96 Global Geopotential Model;
- 1996 Australian Gravity DataBase, from the Australian Geological Survey Organisation (AGSO);
- AUSLIG / AGSO GEODATA nine-second digital elevation model;
- Satellite altimeter - derived free air gravity anomalies offshore;
- Theories, techniques and software developed by Associate Professor Will Featherstone, Curtin University of Technology<sup>1</sup>.

AUSGeoid98 N values were interpolated using the GrafNet Version 7.60 software, distributed by Waypoint Consulting Inc.

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<sup>1</sup> Johnston, G.M., Featherstone, W.E. (1998) AUSGEOID98: A New Gravimetric Model for Australia



# 4

## **SURVEY CONTROL**

The control for the Indigo prospect was completed in two stages due to time restraints at the beginning of the job. A number of arbitrary datums were created for Stage One. These datums were used to place the pegs. This was suitable since the seismic lines were set-out along roads and easily defined sections.

Stage Two was to block-shift the datums onto the GDA datum. This was completed by connecting the control stations that define the arbitrary datums to a GDA state control mark found near the prospect. This gave the difference between the control datum and the arbitrary datum. The difference in Easting, Northing and Height was used to block-shift the prospect control and corresponding line data onto the GDA.

Coordinates and further information are listed in **Appendix A - Survey Control**.



# 5

## **MONUMENTATION**

All lines were pegged at a fifteen-metre station interval. Wooden pegs were placed at every 5<sup>th</sup> station and were numbered on both sides. Pin flags were placed at every other station with the colour representing either odd or even numbers.

There were no permanent marks placed for the prospect. The four stations that were connected to the state control were tagged for future reference.



# 6

## **METHOD OF SURVEY**

### **6.1 Line Ranging**

The seismic lines were predominately situated along existing roads. Any line clearing and/or ranging was carried out independently of the surveyors.

### **6.2 Surveying and Chaining**

The lines were surveyed using DSS' RT2 real-time kinematic surveying technique. This enables both position and elevation coordinates to be acquired in real-time and on the appropriate datum.

The survey method utilised phase data received from US Navy NAVSTAR Satellites to provide three-dimensional positioning. One receiver was set up as a base station at a known location while another receiver was used as remote rover.

To obtain real-time capabilities, VHF telemetry is required between the base and the remote GPS receiver. Numerous remote receivers can be used at any given time with any base station.

NovAtel real-time kinematic methods can achieve accuracies of better than +/-0.05m in position and elevation, depending on base line length. The expected precision for locating pegged positions is better than 0.3 metres and is generally better than 0.2 metres.

Initialisation of the RT2 rover GPS usually takes as little as 1-2 minutes, although this is greatly dependant on satellite geometry, availability and base line length.

In some instances, the conditions for GPS were not ideal. This was caused by trees blocking the sky view in combination with bad satellite geometry and availability. The chain was used to complete these sections and were later observed when the GPS conditions were favourable. Conditions for GPS were optimal in the early morning.

### **6.3 GPS Processing and Quality Control**

When using RT2, all data is recorded internally using a Tablet PC and downloaded to the office computer each evening.

Quality of the satellite data is monitored by careful examination of the various on-screen quality control statistics produced by the software.

These checks on data integrity are in the form of standard deviation (or sigma) values for Easting, Northing and Height and are generally better than 0.05 metres.

Any recording of positions when the standard deviation values are in excess of 0.1 metres is highlighted to the surveyor at the time of recording, and the GPS may be re-initialised until a more accurate solution is calculated.

Any position which falls outside the required tolerances is flagged for further investigation and re-recording if necessary.

Numerous checks on pre-recorded marks were observed during each days survey. These observations confirm the integrity of the GPS base receiver and the placed markers.

The coordinates are then checked by determining point to point direction and distance. Profile plots are examined to identify any height anomalies.



7

## ***DATA PRESENTATION***

All line files were checked and finalised before the survey crew demobilised from the prospect.

All final data was in UTM grid coordinate format on the MGA94 datum on the GDA94 reference spheroid. All elevations were on the Australian Height Datum (AHD71).

Files produced were:

<b>07IND-XX.seg</b>	Line data in SEG format
<b>07IND-XX.uka</b>	Line data in UKOOA format.
<b>07IND-0x.pdf</b>	Line Trace diagrams
<b>Intersections Directory</b>	Line Intersection Diagrams

All files are backed up on digital disks in the Yeppoon office for future reference.

No hard copy data was provided.



8

## ***SAFETY***

DSS personnel are aware of safety conditions concerning all exploration seismic surveys. The DSS “**Quality Policy Statement**” and “**Health, Safety and Environment Policy**” were adhered to at all times.

The vehicle was fitted with a UHF radio, shovel, first-aid kit, and vehicle recovery equipment.

No accidents or incidents occurred during this project.



# 9

## **OPERATIONAL ASPECTS**

The conditions in the field were not always ideal for GPS and VHF telemetry. Along all of the lines surveyed, the sections along the road were predominately accompanied by trees on both sides. This resulted in parts of the sky being blocked from GPS and the absorption of the VHF radio signal. Consequently, line sections had to be chained at first, then observed later when GPS constellations could accommodate these blockages.

Due to the lack of distance between the survey and seismic crews, if a problem was to occur (eg. abnormal radio coverage) there was no time to investigate a remedy without downtime for the seismic crew. This meant that the chain was used and pegs and pin flags were requested to be left in the ground to be surveyed when time permitted, which happened to be once all lines had been completed.

It was noted that the GPS geometry was noticeably stronger in the early morning. This was the time of day that all areas with bad conditions were observed successfully.

Due to the bad conditions for the VHF telemetry a repeater radio was used throughout the survey to further its range. The terrain in the area also hindered the radio coverage due to the lack of elevated areas to transmit from. Distances of no greater than 6-7 kilometres from the base station were possible.



At the start of the job, data was received stating that the job was to be approximately seventy-eight kilometres. The peg and pin flag stocks were deemed to be sufficient to complete this number of kilometres with some recycling of pin flags.

Mid-way through the job, it was mentioned that there were to be additional kilometres added to the job. This resulted in stocks of pin flags and pegs being exhausted. Subsequently, due to the short notice, pin flags had to be obtained from the seismic crew during the day and also used as the numbered stations.

Trace diagrams for the seismic lines were unable to be completed before the seismic crew were on site. Therefore, any access was flagged to assist in directing the crew through detours. Other important information, such as vibe skips and wet terrain, was relayed to the crew via the Dog Box or Party Manager.



# 10

## ***CONCLUSIONS AND RECOMMENDATIONS***

The job ran relatively smoothly, considering the distance between the seismic and survey crews. The seismic crew easily completed greater production per day than had earlier been estimated.

The total distance for the prospect was **106.575 kilometres**. Pegs were placed in the ground over a span of eight days. There were two (2) further days to complete the survey and retrieval of chained sections.

On inspection of data received from the client on the eve of starting the prospect, it was noted that there were no coordinates that specified the start, end and bends in the proposed seismic lines. It would help considerably in the planning and execution of the survey if this information was obtained well before the start of any prospect in the future.

The addition of further kilometres within a prospect once the job had already begun meant extra supplies were required to be ordered, and extra survey control was required to be installed. It would be ideal to have the seismic lines confirmed well ahead of the starting date. This would give everyone involved sufficient time to plan and make decisions about the work that would be undertaken. In this case, more than a third of the total distance was added to the approximate length stated in early information supplied. This resulted in peg and pin flag shortages and further time spent on the job.

Signed,

**Dynamic Satellite Surveys Pty Ltd**

*Terry Hamilton*

**Surveyor**



# 11

## ***APPENDICES***

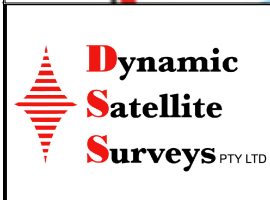
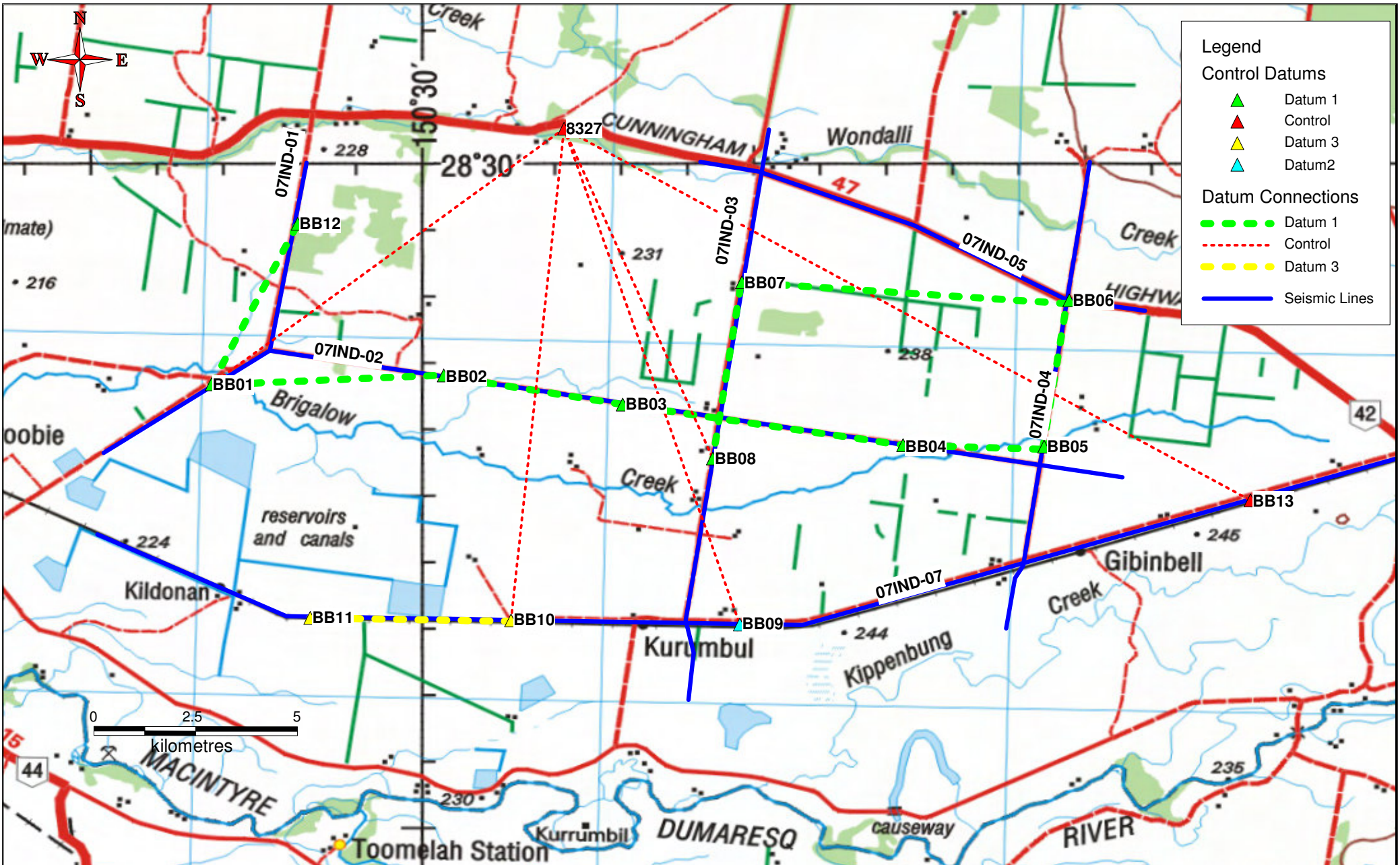
## ***Survey Control***

### Survey Control

All values are MGA 94 (Zone 56), AHD71

<b>Station</b>	<b>Easting</b>	<b>Northing</b>	<b>Height</b>	<b>Comment</b>
8327	258748.82	6845907.97	227.92	Datum
BB01	250223.58	6838605.55	221.13	
BB08	262591.55	6836797.13	229.49	
BB09	263352.04	6832184.84	234.31	
BB10	257722.68	6832181.67	232.71	
BB13	275835.00	6835891.71	244.02	

## ***Control Network Diagram***



The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

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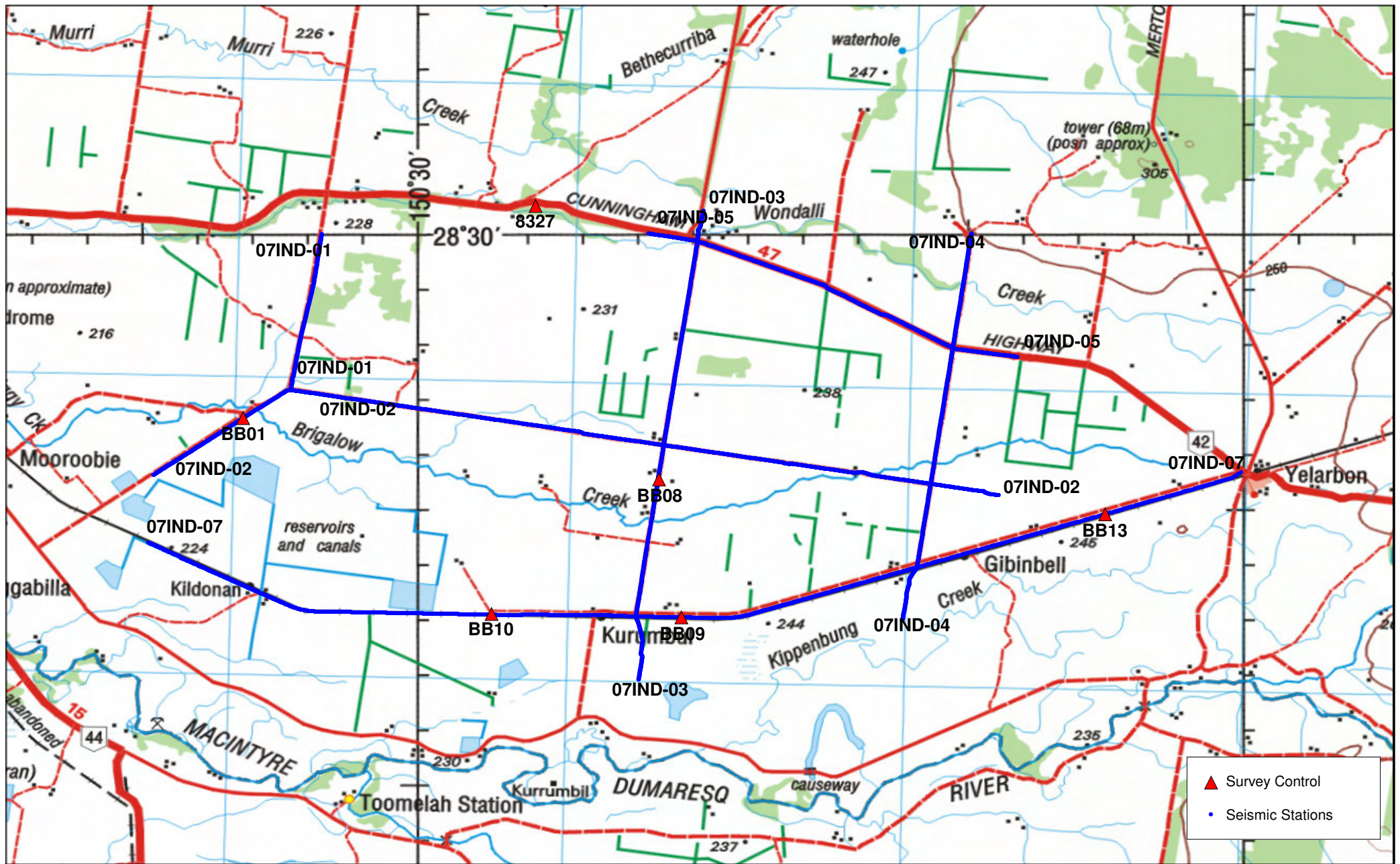
**INDIGO 2007 Blue Energy / Terrex Seismic**



**Control Network**

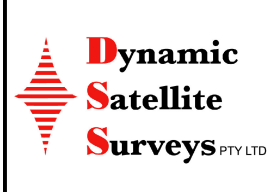
Scale	1:125000 (A4)
Drawn	T. Hamilton
File	control-network
Rev:	0.0
Date	10/12/2007



***Prospect Map***



	Survey Control
	Seismic Stations



The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

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**TERREX SEISMIC PTY LTD / BLUE ENERGY LIMITED**

**2007 INDIGO 2D SEISMIC SURVEY**

Scale	1:150,000 (A4)
Drawn	DW
File	07089 Map
Rev:	0.0
Date	29-11-2007

## ***Line Length Summary***

## Line Length Summary

### 2007 Indigo 2D Seismic Survey

Station Interval = 15 metres

Line	SOL Station	EOL Station	Line km
07IND-01	200	555	5.325
07IND-02	200	1955	26.325
07IND-03	200	1273	16.095
07IND-04	140	1020	13.200
07IND-05	200	992	11.880
07IND-07	450	2700	33.750
<b>TOTAL =</b>			<b>106.575</b>

## ***Line Intersection Listing and Diagrams***

**Line Intersection Listing**

Coordinates are Map Grid of Australia 1994 (MGA Zone 56) and AHD71

<b>Line / Station</b>	<b>Line / Station</b>	<b>Easting</b>	<b>Northing</b>	<b>AHD</b>
07IND-02/1280+07	07IND-03/732+04	262715.93	6837954.12	230.30
07IND-02/1816+14	07IND-04/453+10	270653.89	6836812.86	236.22
07IND-03/271+14	07IND-05/299+09	263579.20	6844800.44	231.30
07IND-03/1126+08	07IND-07/1451+12	262007.78	6832187.84	234.07
07IND-04/760+12	07IND-05/862+13	271220.74	6841383.49	242.05
07IND-04/264+07	07IND-07/2023+14	270294.48	6833998.81	238.30



Dynamic

INTERSECTION DIAGRAM

DSS-FF-14

Satellite

REV 4.0

May 1998

Surveys

PROJECT / JOB # 07089 CLIENT Blue Energy DATE 11/07

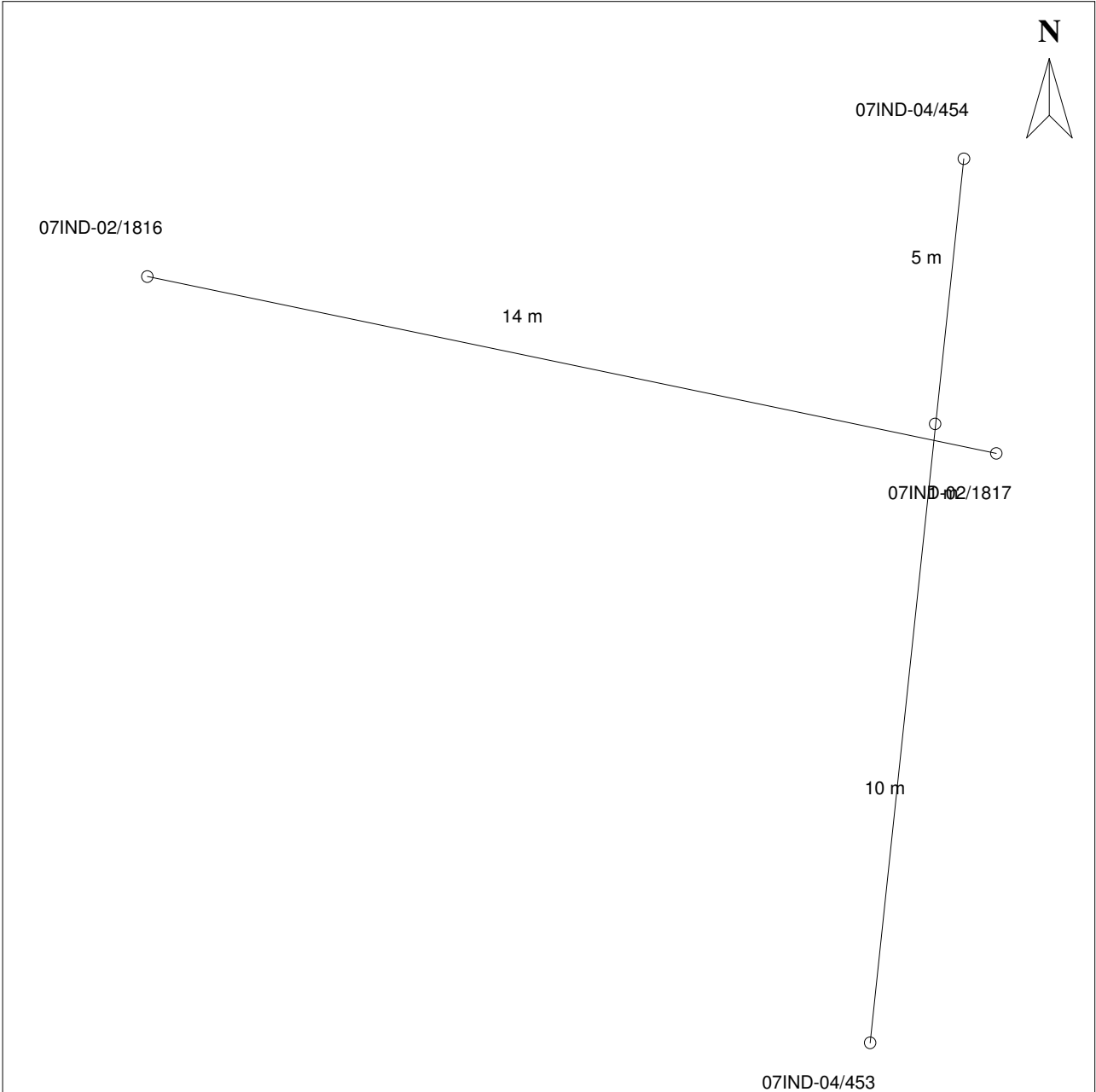
INTERSECTION LINES: 07IND-02 / 07IND-04

AREA: IND2007

PROJECTION: MGA Zone 56

STATION INTERVAL: 15

DATUM: GDA94 AHD



LINE INTERSECTION: 07IND-02/1816+14 = 07IND-04/453+10

Easting	270653.89	RL1 =	236.17
Northing	6836812.86	RL2 =	236.26
RL	236.22	MEAN:	236.22



Dynamic

Satellite

Surveys

INTERSECTION DIAGRAM

DSS-FF-14

REV 4.0

May 1998

PROJECT / JOB # 07089 CLIENT Blue Energy DATE 11/07

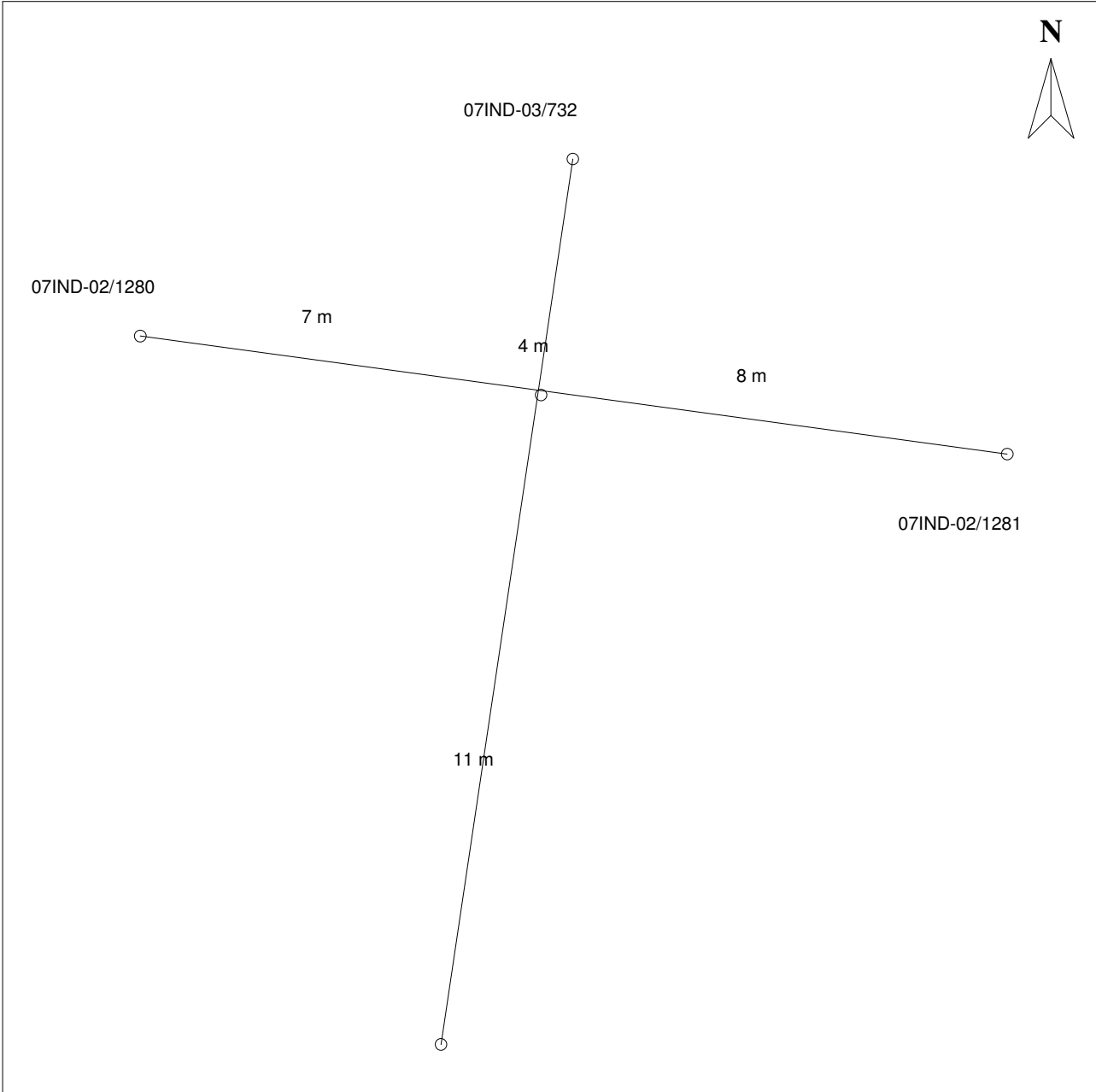
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AREA: IND2007

PROJECTION: MGA Zone 56

STATION INTERVAL: 15

DATUM: GDA94 AHD



LINE INTERSECTION: 07IND-02/1280+07 = 07IND-03/732+04

Easting	262715.93	RL1 =	230.31
Northing	6837954.12	RL2 =	230.30
RL	230.30	MEAN:	230.30





Dynamic

Satellite

Surveys

INTERSECTION DIAGRAM

DSS-FF-14

REV 4.0

May 1998

PROJECT / JOB # 07089 CLIENT Blue Energy DATE 11/07

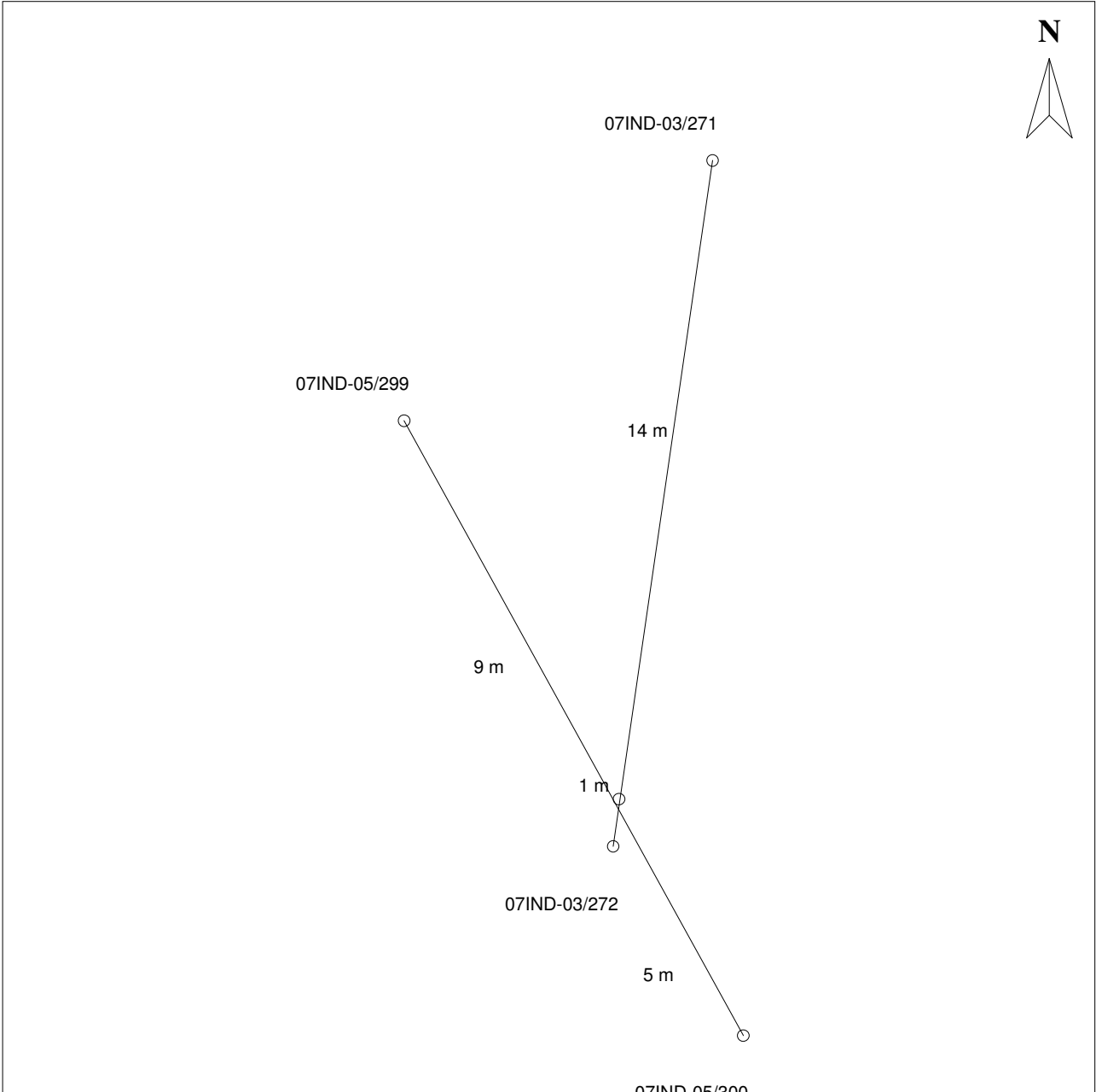
INTERSECTION LINES: 07IND-03 / 07IND-05

AREA: IND2007

PROJECTION: MGA Zone 56

STATION INTERVAL: 15

DATUM: GDA94 AHD



LINE INTERSECTION: 07IND-03/271+14 = 07IND-05/299+09

Easting	263579.20	RL1 =	231.23
Northing	6844800.44	RL2 =	231.37
RL	231.30	MEAN:	231.30



Dynamic

INTERSECTION DIAGRAM

DSS-FF-14

Satellite

REV 4.0

May 1998

Surveys

PROJECT / JOB # 07089 CLIENT Blue Energy DATE 11/07

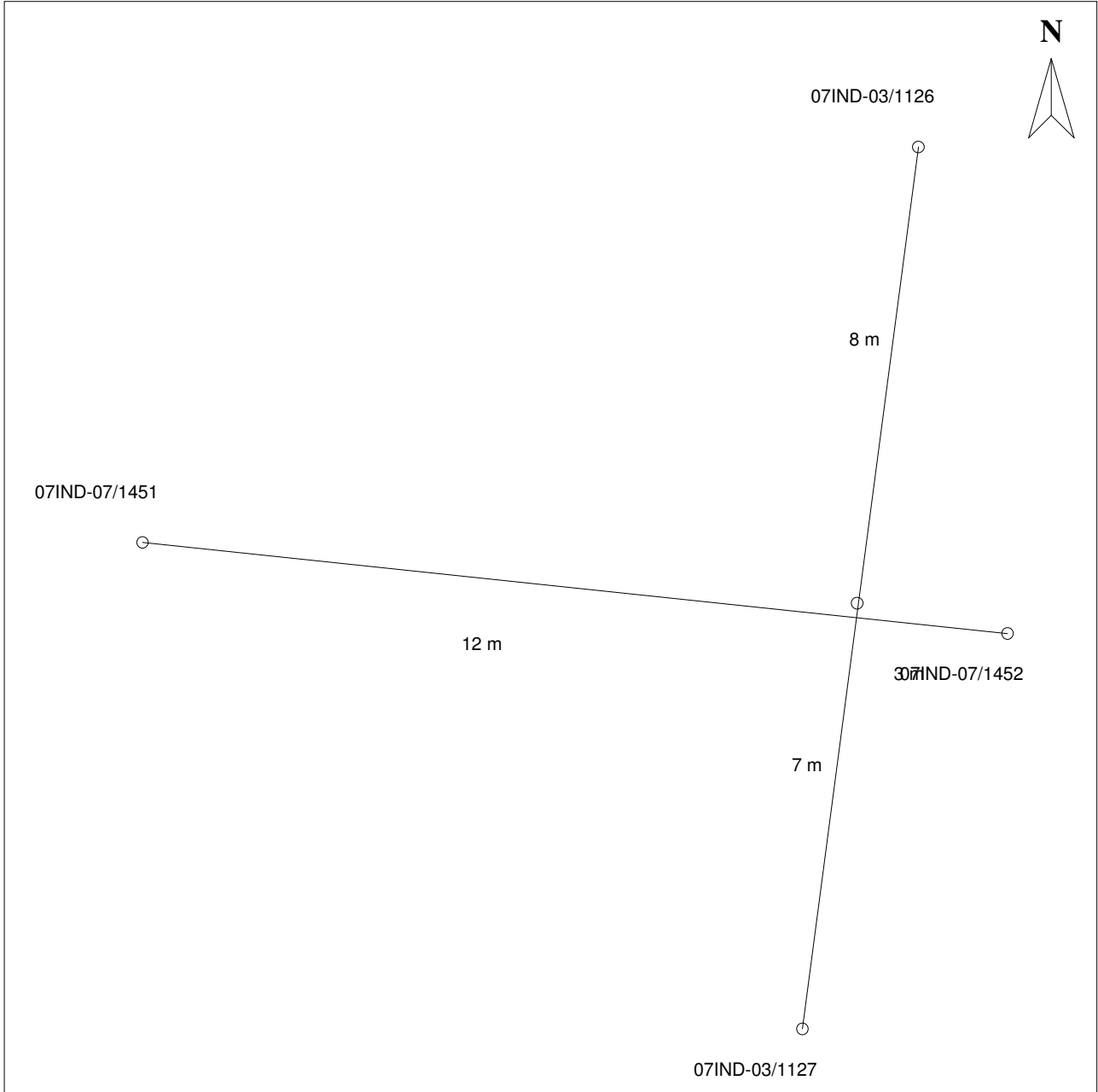
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AREA: IND2007

PROJECTION: MGA Zone 56

STATION INTERVAL: 15

DATUM: GDA94 AHD



LINE INTERSECTION: 07IND-03/1126+08 = 07IND-07/1451+12

Easting	262007.78	RL1 =	234.10
Northing	6832187.84	RL2 =	234.04
RL	234.07	MEAN:	234.07



Dynamic

INTERSECTION DIAGRAM

DSS-FF-14

Satellite

REV 4.0

May 1998

Surveys

PROJECT / JOB # 07089 CLIENT Blue Energy DATE 11/07

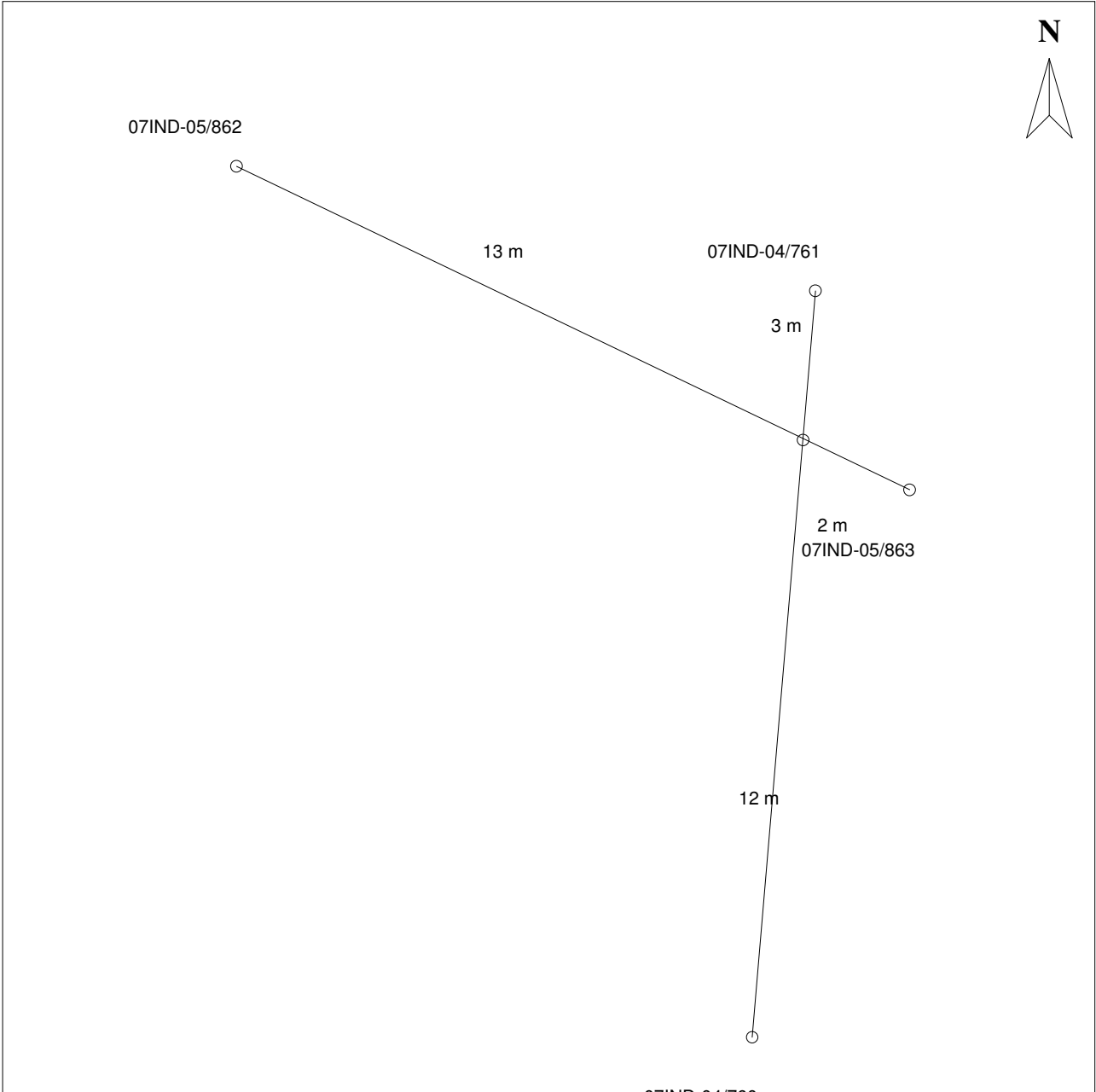
INTERSECTION LINES: 07IND-04 / 07IND-05

AREA: IND2007

PROJECTION: MGA Zone 56

STATION INTERVAL: 15

DATUM: GDA94 AHD



LINE INTERSECTION: 07IND-04/760+12 = 07IND-05/862+13

Easting	271220.74	RL1 =	242.09
Northing	6841383.49	RL2 =	242.01
RL	242.05	MEAN:	242.05



Dynamic

INTERSECTION DIAGRAM

DSS-FF-14

Satellite

REV 4.0

May 1998

Surveys

PROJECT / JOB # 07089 CLIENT Blue Energy DATE 11/07

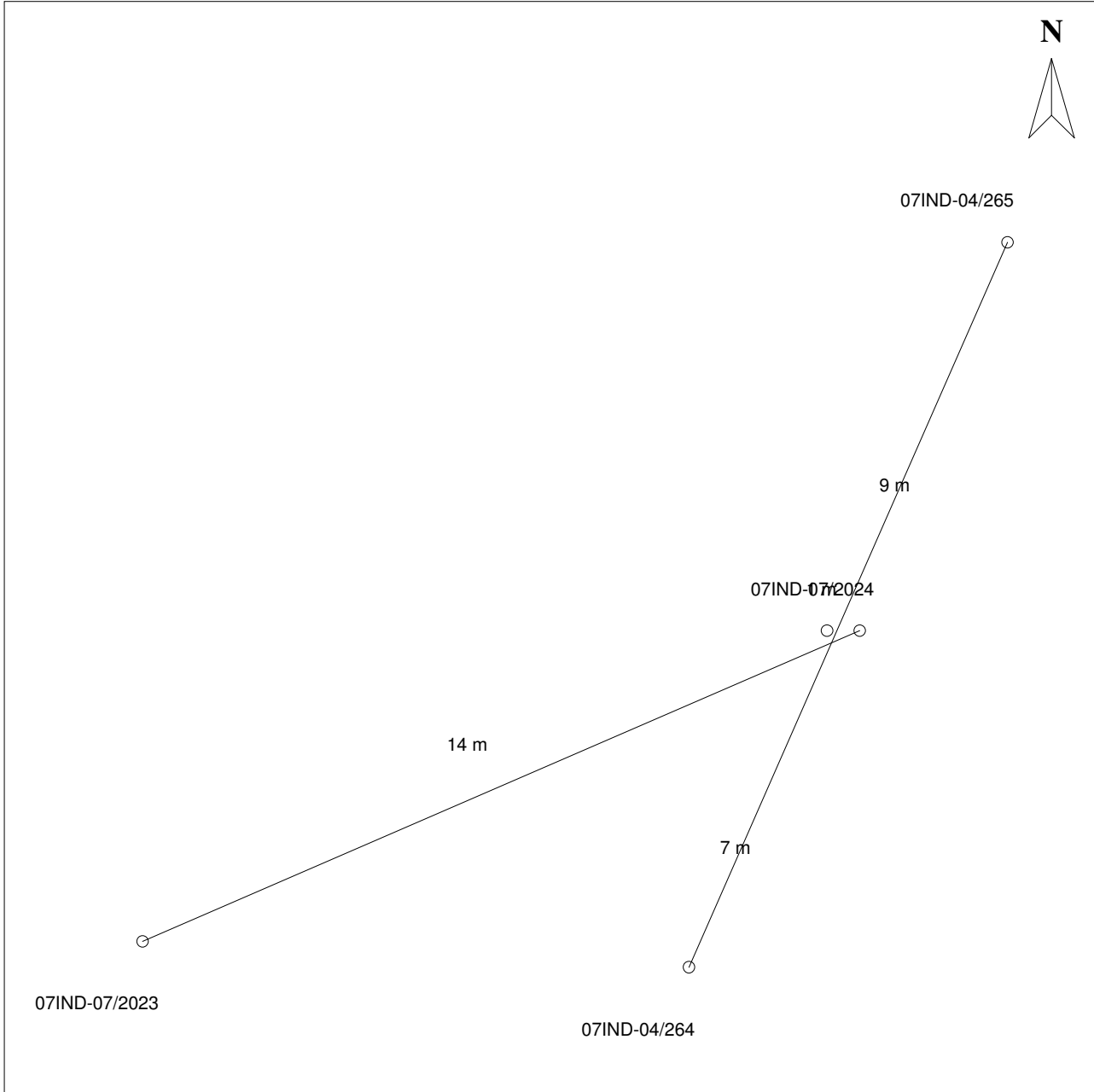
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PROJECTION: MGA Zone 56

STATION INTERVAL: 15

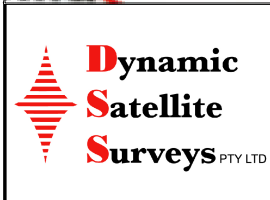
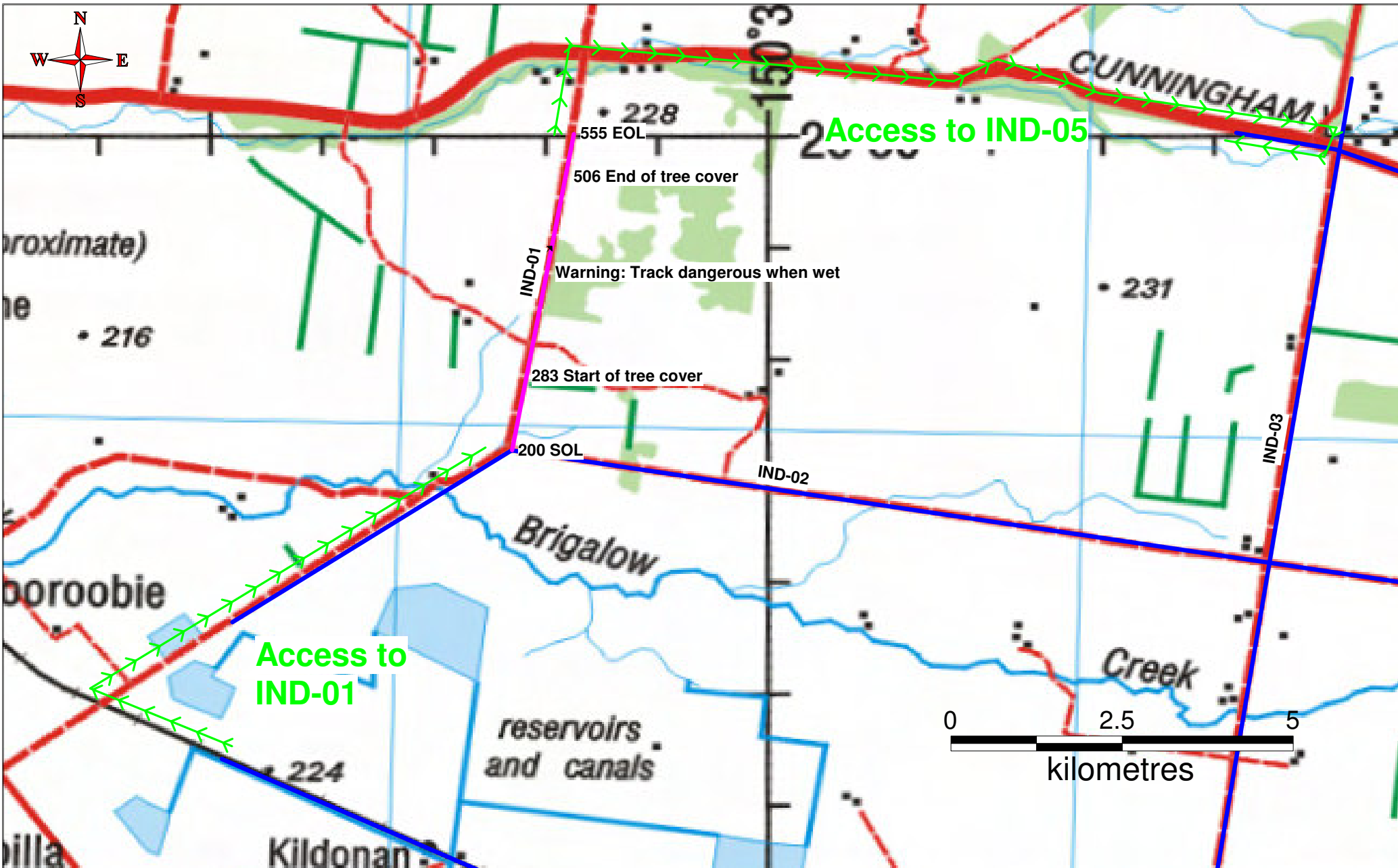
DATUM: GDA94 AHD



LINE INTERSECTION: 07IND-04/264+07 = 07IND-07/2023+14

Easting	270294.48	RL1 =	238.58
Northing	6833998.81	RL2 =	238.03
RL	238.30	MEAN:	238.30

## ***Trace Maps***



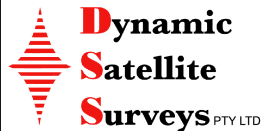
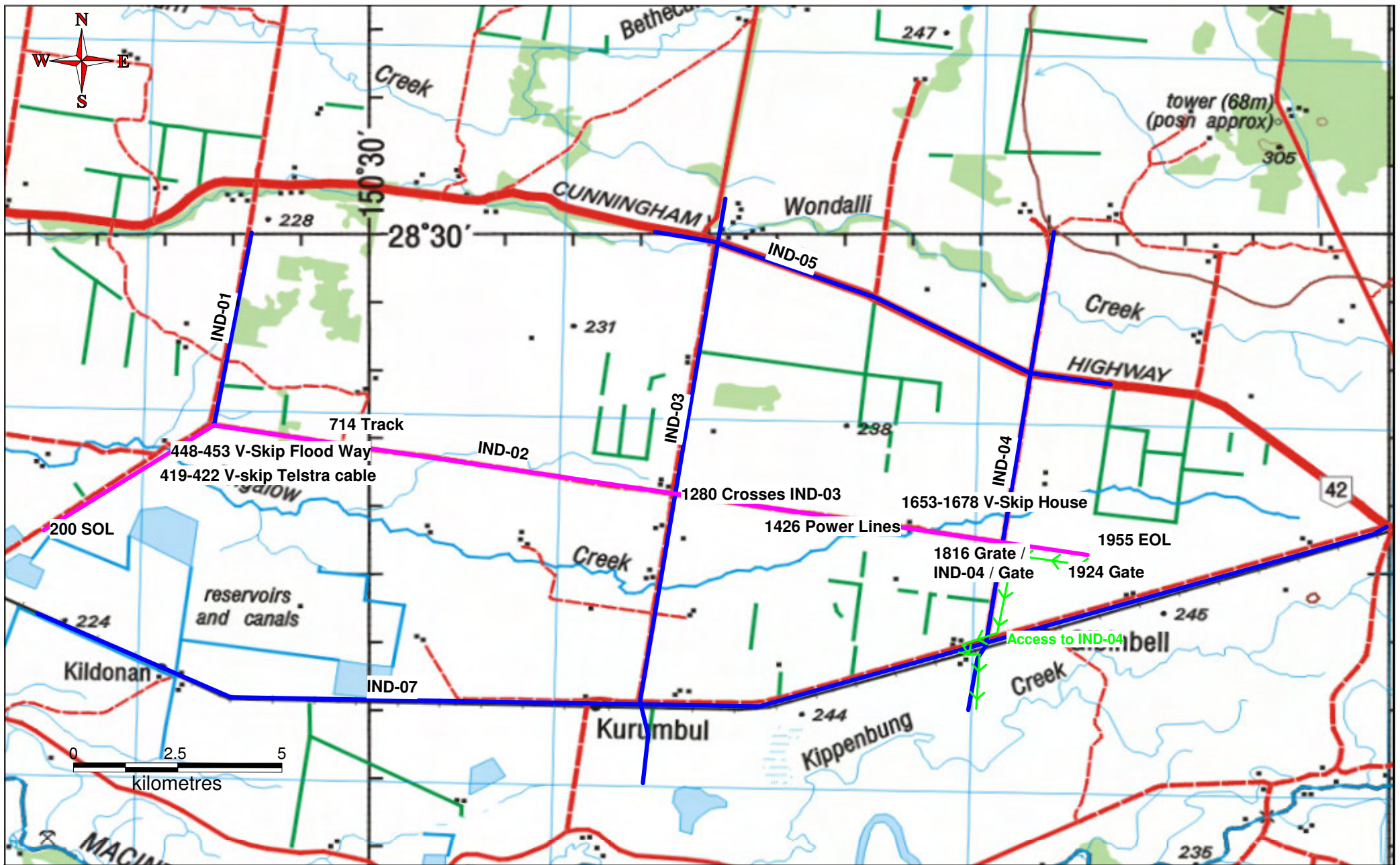
The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

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**INDIGO 2007 Blue Energy / Terrex Seismic**

**07IND-01 Trace Map**

Scale	Not to scale
Drawn	T. Hamilton
File	trace01
Rev:	0.0
Date	27/11/07



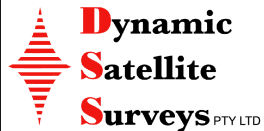
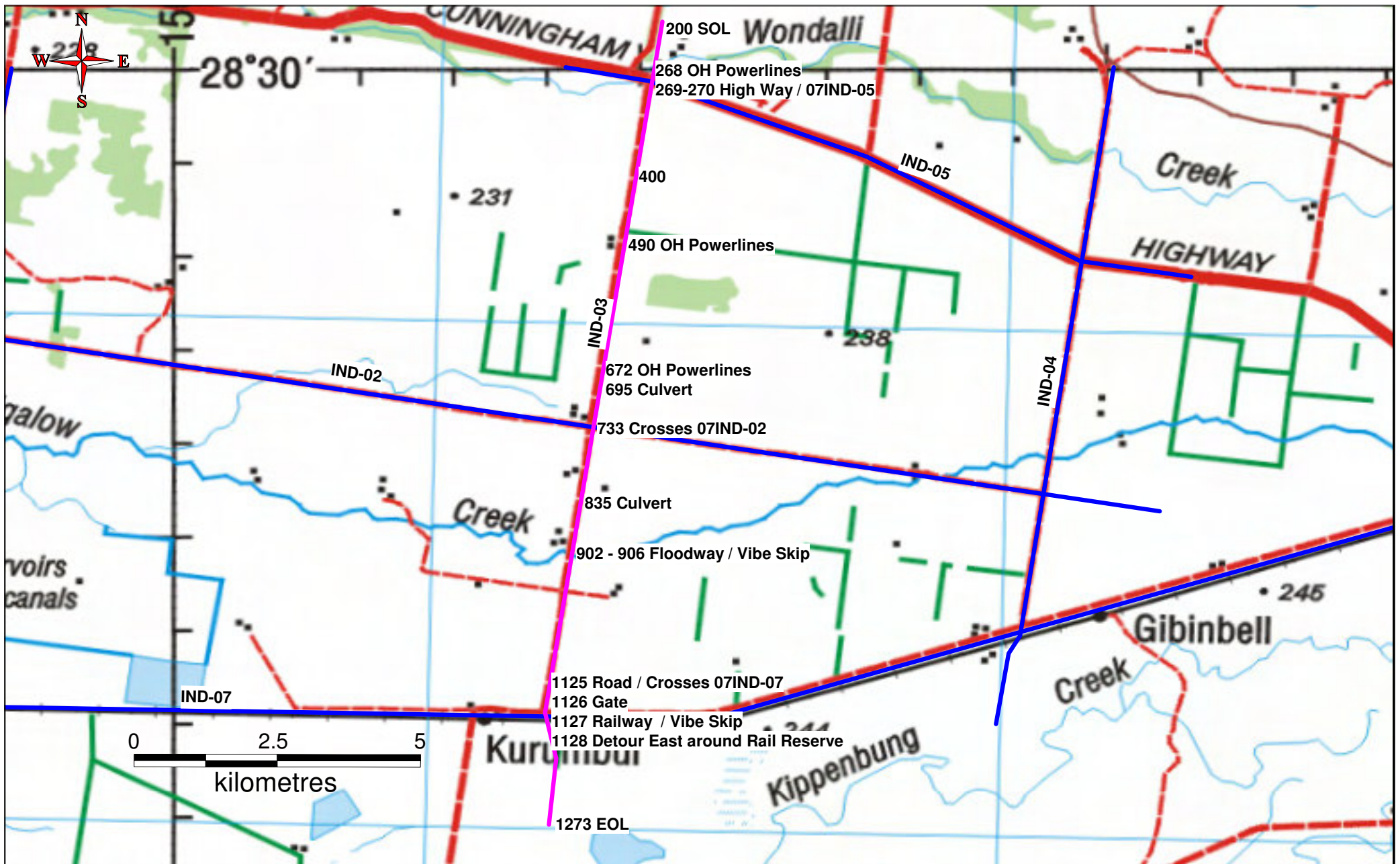
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### INDIGO 2007 Blue Energy / Terrex Seismic

### 07IND-02 Trace Map

Scale	Not to scale
Drawn	T. Hamilton
File	trace02
Rev:	0.0
Date	27/11/07



The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

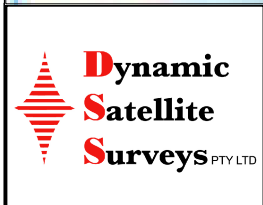
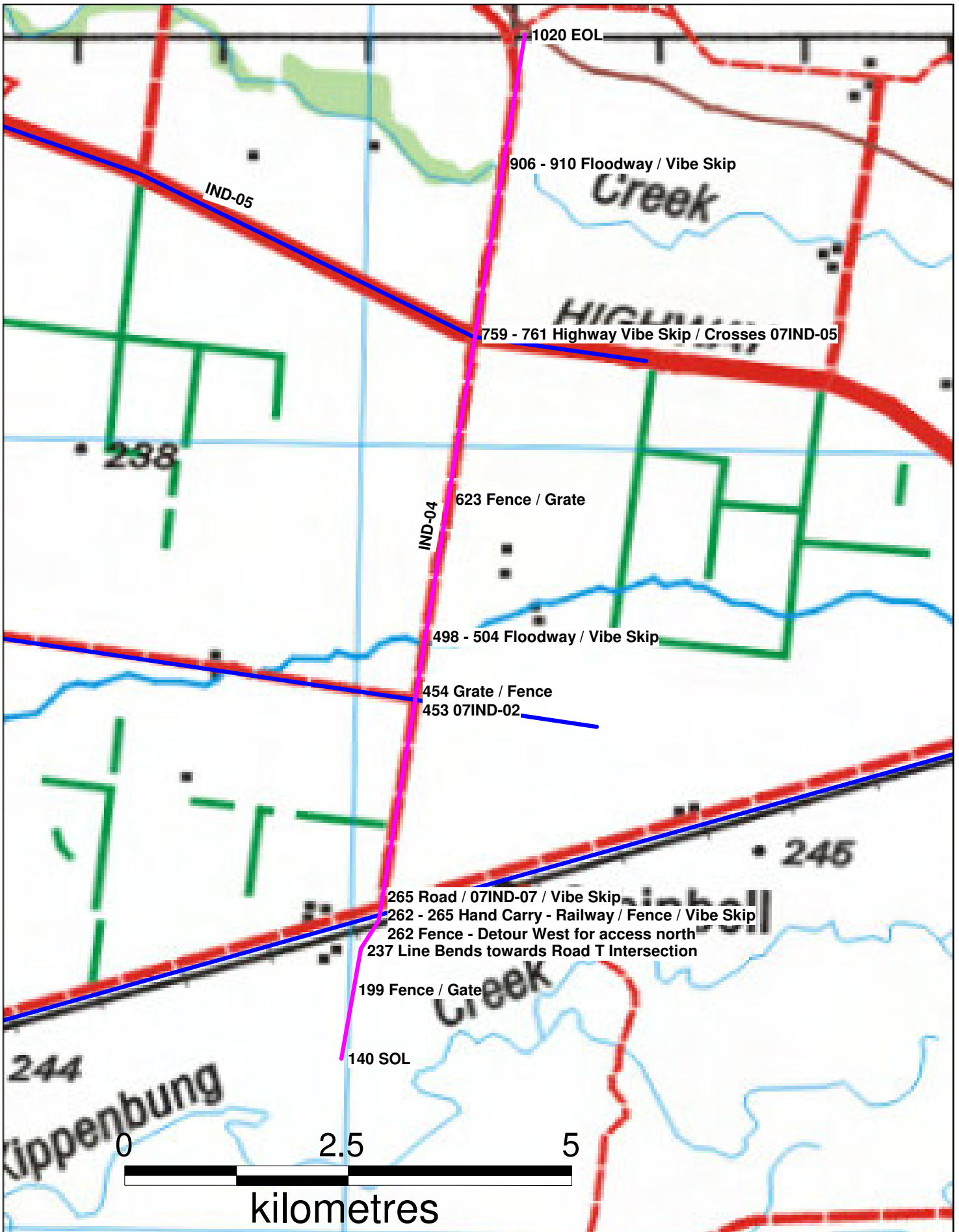
Dynamic Satellite Surveys Pty Ltd 1800 060 407

**INDIGO 2007 Blue Energy / Terrex Seismic**

**07IND-03 Trace Map**

Scale	Not to scale
Drawn	T. Hamilton
File	trace03
Rev:	0.0
Date	27/11/07





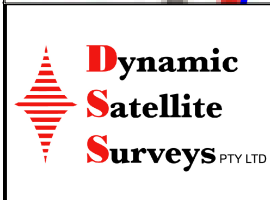
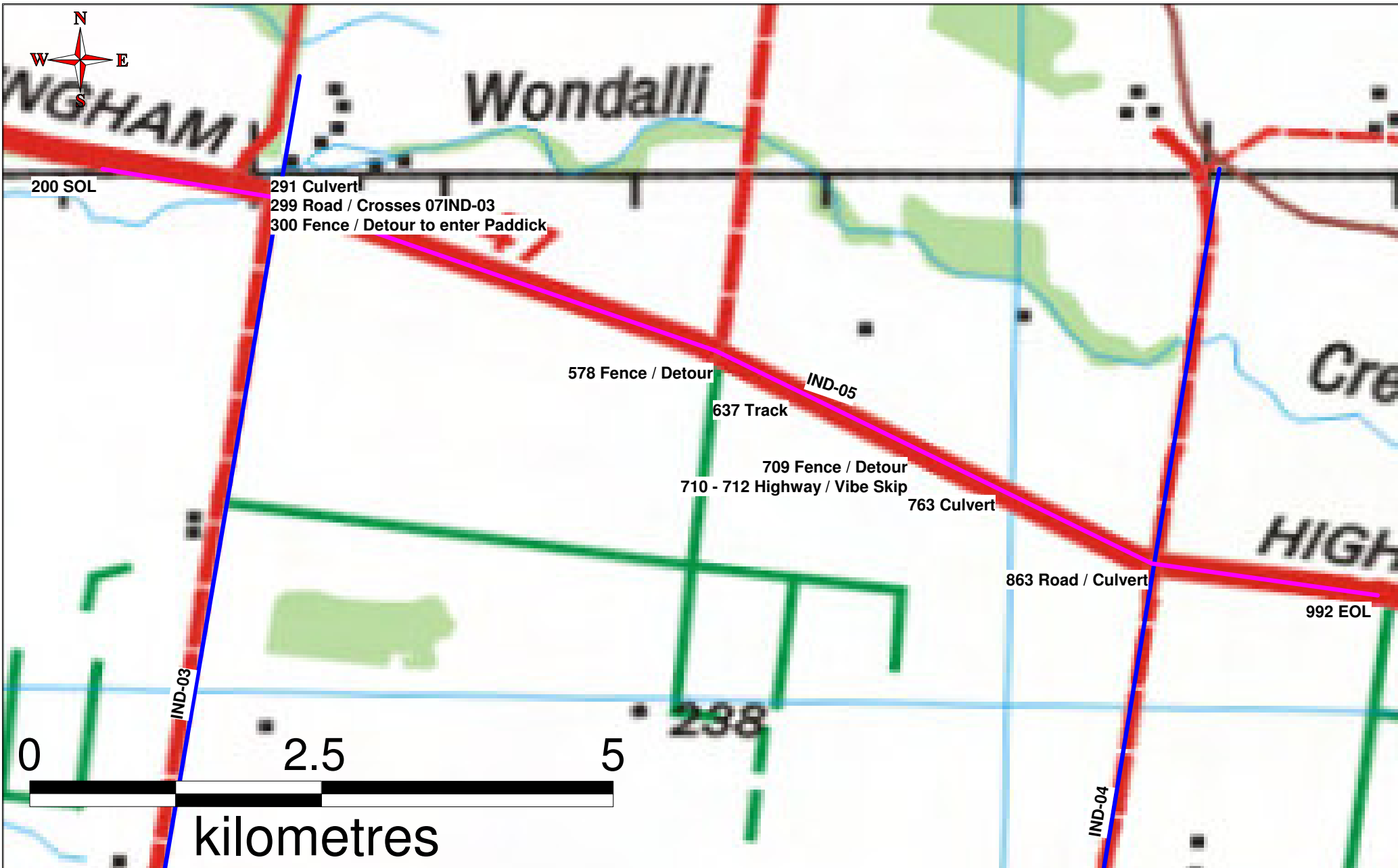
The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

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**INDIGO 2007**  
**Blue Energy / Terrex Seismic**

**07IND-04 Trace Map**

Scale	Not to scale
Drawn	T Hamilton
File	trace04
Rev	0.0
Date	



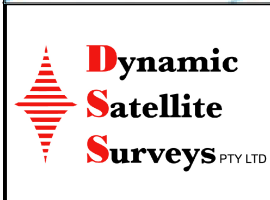
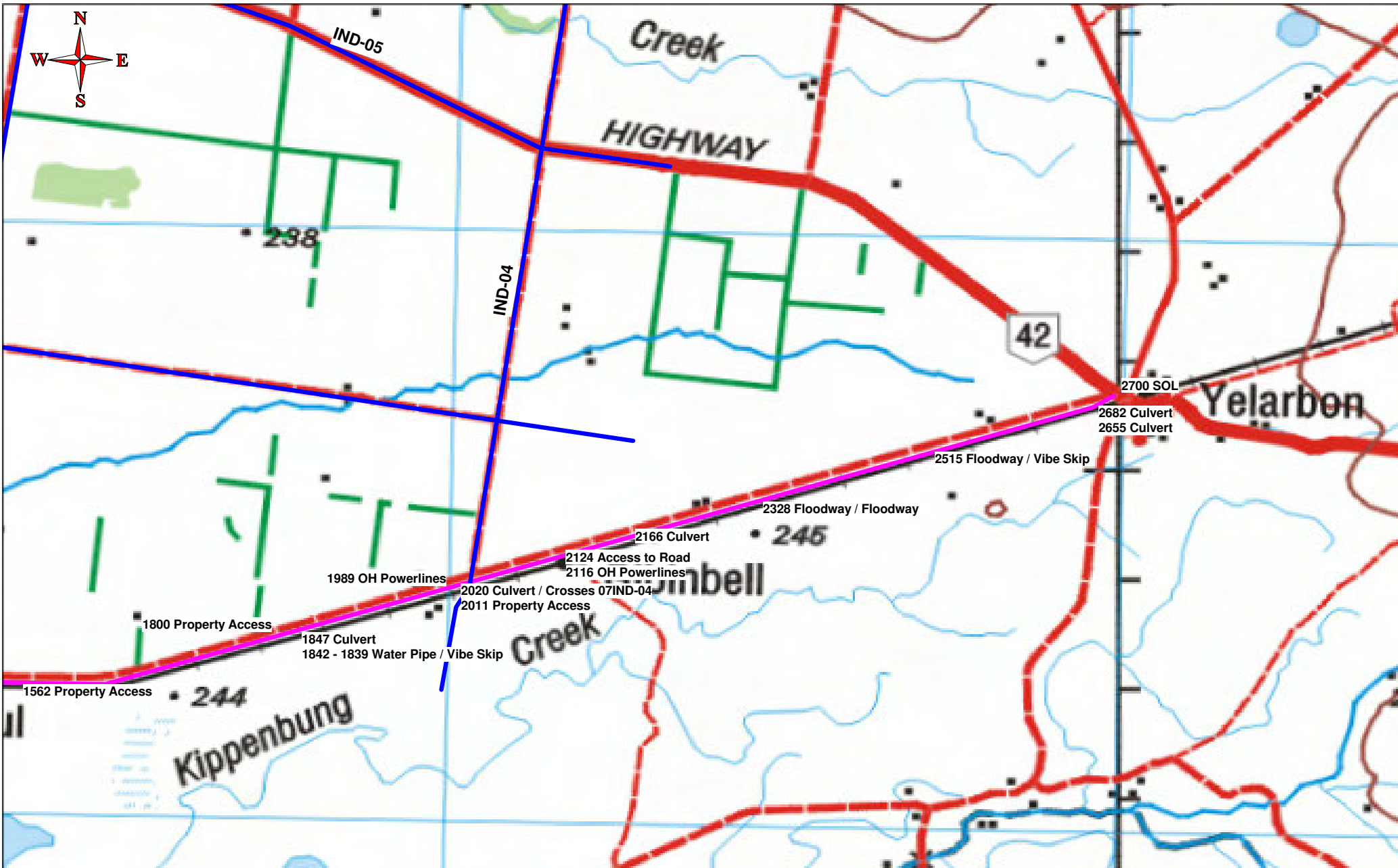
The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

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**INDIGO 2007 Blue Energy / Terrex Seismic**

**07IND-05 Trace Map**

Scale	Not to scale
Drawn	T. Hamilton
File	trace05
Rev:	0.0
Date	27/11/07



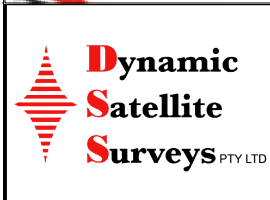
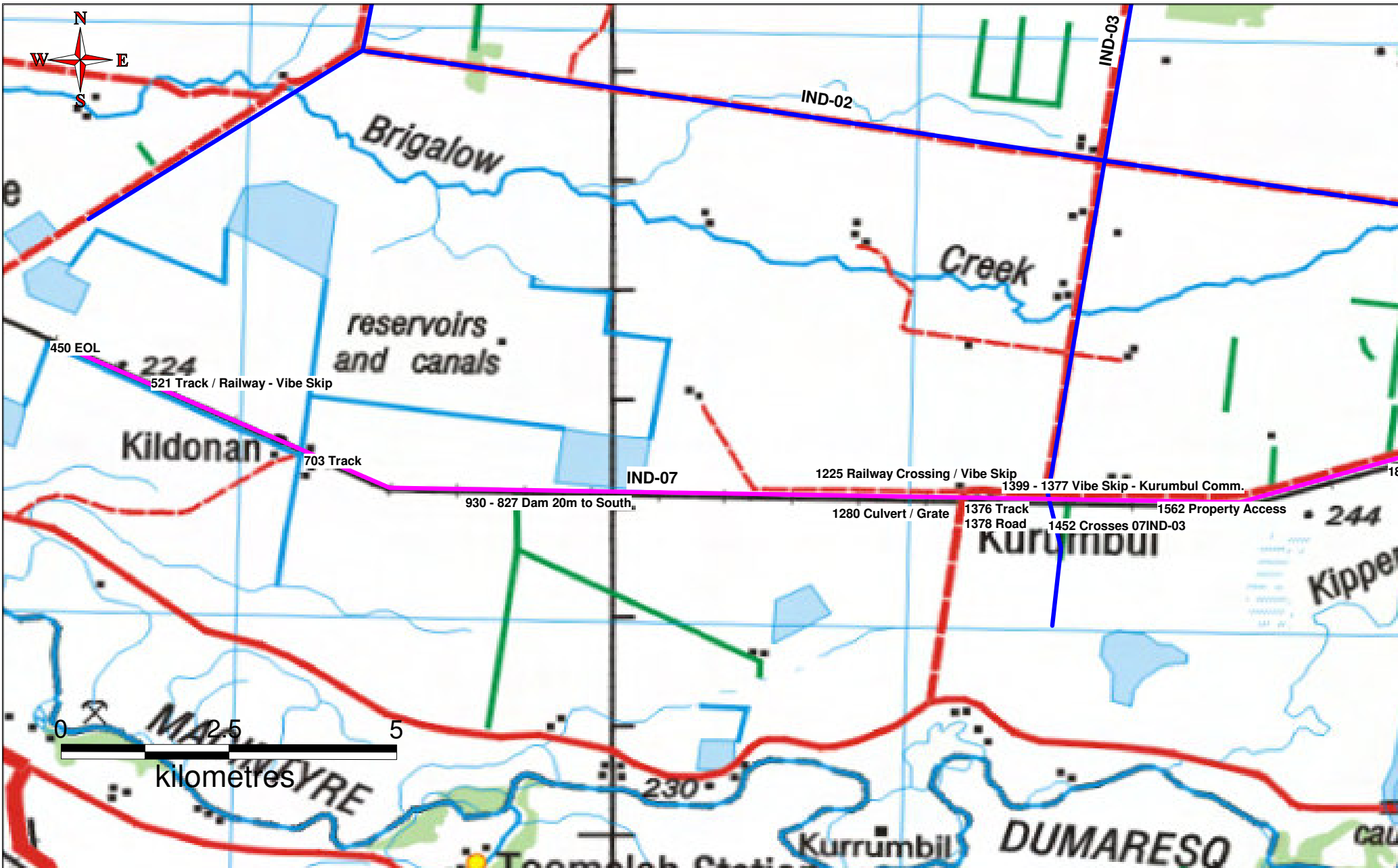
The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

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**INDIGO 2007 Blue Energy / Terrex Seismic**

**07IND-07 Trace Map 1 of 2**

Scale	Not to scale
Drawn	T. Hamilton
File	trace07-1
Rev:	0.0
Date	27/11/07



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**INDIGO 2007 Blue Energy / Terrex Seismic**

**07IND-07 Trace Map 2 of 2**

Scale	Not to scale
Drawn	T. Hamilton
File	trace07-2
Rev:	0.0
Date	27/11/07

## ***Chronological Summary***

## Chronological Summary

<b>DATE</b>	<b>OPERATIONS</b>
16 <sup>th</sup> Nov	Mobilise from Brisbane to Goondiwindi. Crew Change. Computer failure resulted in no production. Request for line data.
17 <sup>th</sup> Nov	Vehicle change: DSS to Hire. Control not found. Arbitrary datum assumed. Started 07IND-02 at 10:30am. 07IND-06 becomes redundant since a continuation of 07IND-02.
	<b>Survey Production 07IND-02: 9.390kms</b> <b>Cumulative Survey Production: 9.390kms</b>
18 <sup>th</sup> Nov	Continued pegging 07IND-02.
	<b>Survey Production 07IND-02: 14.910kms</b> <b>Cumulative Survey Production: 24.300kms</b>
19 <sup>th</sup> Nov	Completed surveying 07IND-02. Commenced surveying 07IND-04. Notification of the possibility of additional lines.
	<b>Survey Production 07IND-02: 2.025kms</b> <b>Survey Production 07IND-04: 11.700kms</b> <b>Cumulative Survey Production: 38.025kms</b>
20 <sup>th</sup> Nov	Completed surveying 07IND-04. Commenced surveying of 07IND-03. GPS coverage problems - chain used.
	<b>Survey Production 07IND-03: 10.350 kms</b> <b>Survey Production 07IND-03 (chain): 4.365kms</b> <b>Survey Production 07IND-04: 1.500kms</b> <b>Cumulative Survey Production: 54.240kms</b>

<b>DATE</b>	<b>OPERATIONS</b>
21 <sup>st</sup> Nov	Complete 07IND-03 (chain). Commenced 07IND-07 (chain).
	<b>Survey Production 07IND-03 (chain): 1.380kms</b> <b>Survey Production 07IND-07 (chain): 13.500kms</b> <b>Cumulative Survey Production: 69.120kms</b>
22 <sup>nd</sup> Nov	Continue 07IND-07 with GPS.
	<b>Survey Production 07IND-07: 15.750kms</b> <b>Cumulative Survey Production: 84.870kms</b>
23 <sup>rd</sup> Nov	Complete 07IND-07 and 07IND-01. Chain section of 07IND-01 due to tree cover. Commenced 07IND-05.
	<b>Survey Production 07IND-07: 4.500kms</b> <b>Survey Production 07IND-01: 1.125kms</b> <b>Survey Production 07IND-01 (chain): 4.200kms</b> <b>Survey Production 07IND-05: 4.695kms</b> <b>Cumulative Survey Production: 99.390kms</b>
24 <sup>th</sup> Nov	Complete 07IND-05. Connect arbitrary datum to State control.
	<b>Survey Production 07IND-05: 7.185kms</b> <b>Cumulative Survey Production: 106.575kms</b>
25 <sup>th</sup> Nov	Completed survey 07IND-01 of chained pegs. Commenced survey of 07IND-03 chained pegs.
	<b>Survey Production 07IND-01: 4.200kms</b> <b>Survey Production 07IND-03: 4.695kms</b> <b>Cumulative Survey Production: 106.575kms</b>

**DATE                      OPERATIONS**

26<sup>th</sup> Nov                      Completed survey of 07IND-03 chained pegs.  
Completed survey of 07IND-07 chained pegs.  
Started finalising data.

**Survey Production 07IND-03: 1.050kms**  
**Survey Production 07IND-07: 13.500kms**  
**Cumulative Survey Production: 106.575kms**

27<sup>th</sup> Nov                      Completed finalising data.  
Demobilised.

9<sup>th</sup> Dec                        Writing of operations report.

10<sup>th</sup> Dec                      Final Operations Report completed.